Luddenham Advanced Resource Recovery Centre Submissions Report

Prepared for Coombes Property Group & KLF Holdings
May 2021

EMM
creating opportunities

COOMBES
PROPERTY GROUP

KLF GROUP
BUILDING WASTE RECYCLING

Luddenham Advanced Resource Recovery Centre

Submissions Report

Report Number

J190749 RP38

Client

Coombes Property Group and KLF Holdings Pty Ltd

Date

27 May 2021

Version

v3 Final

Prepared by

Janet Krick
Associate Environmental Planner
27 May 2021

Approved by

Dr Philip Towler
Associate Director
27 May 2021

Table of Contents

Tables

Figures

Plates

1 Introduction

1.1 Overview

In late 2019, CFT No 13 Pty Ltd, a member of Coombes Property Group (CPG), acquired the property at 275 Adams Road, Luddenham New South Wales (NSW) (Lot 3 in DP 623799, 'the subject property') within the Liverpool City Council municipality. The subject property is host to an existing shale/clay quarry (the quarry site). CPG owns, develops, and manages a national portfolio of office, retail, entertainment, land, and other assets. The company's business model is to retain long-term ownership and control of all its assets. CPG has the following staged vision to the long-term development of the subject property:

- Stage 1 Quarry Reactivation: **Solving a problem**. CPG intends to responsibly avoid the sterilisation of the remaining natural resource by completing the extraction of shale which is important to the local construction industry as raw material used by brick manufacturers in Western Sydney. Following the completion of approved extraction activities, the void will be prepared for rehabilitation.

- Stage 2 Advanced Resource Recovery Centre and Quarry Rehabilitation: **A smart way to fill the void**: CPG in partnership with KLF Holdings Pty Ltd (KLF) and in collaboration between the circular economy industry and the material science research sector, intends to establish a technology-led approach to resource recovery, management, and reuse of Western Sydney's construction waste, and repurposing those materials that cannot be recovered for use to rehabilitate the void. This will provide a sustainable and economically viable method of rehabilitating the void for development.

- Stage 3 High Value Employment Generating Development: **Transform the land to deliver high value agribusiness jobs**. CPG intends to develop the rehabilitated quarry site into a sustainable and high-tech agribusiness hub supporting food production, processing, freight transport, warehousing, and distribution, whilst continuing to invest in the resource recovery research and development (R&D) initiatives. This will deliver the vision of a technology-led agribusiness precinct as part of the Aerotropolis that balances its valuable assets including proximity to the future Western Sydney Airport (WSA) and M12.

This Submissions Report relates to the new Advanced Resource Recovery Centre (ARRC) development application relating to the delivery of Stage 2 above.

1.2 Background

CPG and KLF ('the applicants') are seeking a development consent to construct and operate an ARRC within the subject property to the north of the existing quarry void. The ARRC will predominately accept construction and demolition waste, with some commercial and industrial waste, including tyres. No special, liquid, hazardous, restricted solid waste or general solid waste (putrescible), as defined in the *NSW Protection of the Environment Operations Act 1997* (POEO Act) and the *Waste Classification Guidelines Part 1: Classifying Waste* (EPA 2014a), will be accepted by the ARRC with the exception of tyres meeting the recovered tyres order (EPA 2014c).

The ARRC has been designed to comply with local, State and Federal environmental and planning legislation and guidelines. The design takes into consideration the likely interactions between the ARRC and the existing and future site components and activities (ie Stage 1 and Stage 3 of the long-term vision for the subject property outlined in Section 1.1). As outlined in Section 3.5 of the EIS, with further detail provided in Section 3.5 below, the ARRC has been designed to be compatible with surrounding future Agribusiness land uses and its operations will not impact airport operations.

The ARRC will provide an environmentally beneficial means of dealing with non-putrescible solid wastes by recycling up to 90% of the waste received, contributing to meeting of NSW government recycling targets.

The subject property, being located at the northern end of the future Western Sydney Airport and readily accessible from major transport links including Elizabeth Drive, M4 Motorway, M7 Motorway, The Northern Road and the future M12 Motorway, is strategically located to provide recycling service to meet the projected demand associated with future development activities within the Aerotropolis and surrounding areas. The regional context of the ARRC is shown in Figure 1.1. The ARRC would provide 20% of the required additional processing capacity required in the Sydney Metropolitan Area (MRA 2019).

In addition to the 'stand-alone' benefits that the ARRC would provide, the development of the ARRC is integral in achieving the intended future agribusiness/industrial land use for the subject property as the project provides a commercially viable means to fill the quarry void (subject to separate development consent). This will support the Western Sydney Airport and ongoing development of the Western Sydney Aerotropolis. Without a practical and economically viable method of rehabilitating the quarry site, the void will remain. The void will prevent the realisation of the Western Sydney Aerotropolis Plan's vision at the subject property, as about half of the property would be sterilised from future land uses compatible with the WSA and the proposed agribusiness land zoning. Instead, the void will remain a liability to future generations with water collecting in the quarry void potentially attracting wildlife, presenting a future ongoing risk to airport operations.

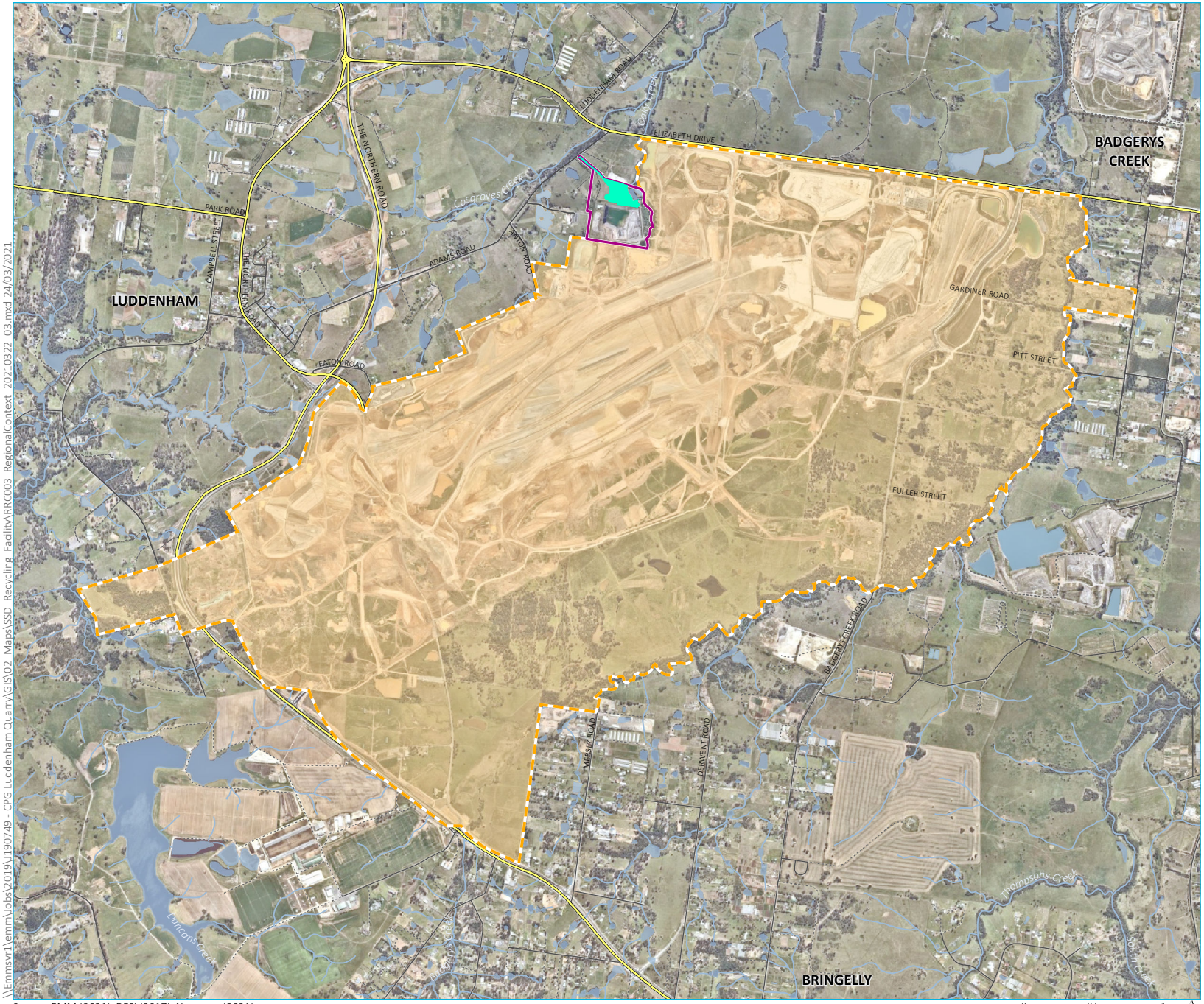
Separate to the ARRC project, the applicants submitted a modification application to modify the existing quarry consent to allow quarry operations on the subject property to recommence (Modification 5, also referred to as MOD 5). This application was approved on the 24 May 2021. The applicants intend to lodge a future modification application to modify the quarry consent to allow infilling of the quarry void with non-recyclable construction and demolition waste from the ARRC. Quarry extraction will be carried out concurrently to ARRC construction and operation until December 2024 after which time, pending approval of a future modification application, quarry infill will be carried out concurrently to the ARRC operations until such time as the quarry void is filled and rehabilitated ready for final agribusiness land use (refer to Sections 4.1.13 and 4.1.14 for further details regarding quarry infilling).

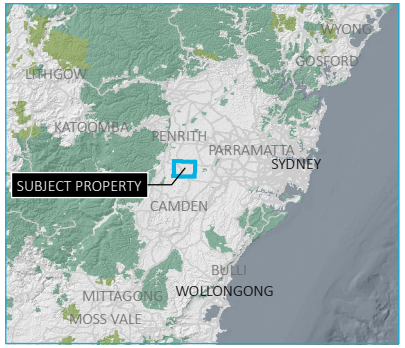
1.3 Project overview

A detailed description of the project was provided in Chapter 2 of the Environmental Impact Statement (EIS) (EMM 2020a). An overview of the ARRC project is shown in Figure 1.2. The key components of the project are:

- construction and operation of an advanced construction and demolition resource recovery centre;
- all acceptance, processing, storage and dispatch of waste and recycled product will be carried out within an enclosed warehouse;
- accepting and processing up to 600,000 tonnes per annum (tpa) of waste for recycling;
- dispatch of up to approximately 540,000 tpa of recycled product;

- dispatch of approximately 60,000 tpa of non-recyclable residues either to an offsite licensed waste facility or to the adjacent quarry void (following approval of quarry rehabilitation activities);
- use of the access road from the subject property to Adams Road; and
- ARRC operations up to 24 hours a day, 7 days per week.





KEY

- Subject property
- ARRC site
- Western Sydney International (Nancy-Bird Walton) Airport
- Major road
- Minor road
- Vehicular track
- Watercourse/drainage line

\\Emmsvr1\emm\Jobs\2019\J190749 - CPG Luddenham Quarry\GIS\02 Maps\SSD Recycling Facility\RRC003 RegionalContext 20210322 03.mxd 24/03/2021

Regional context

Luddenham Advanced Resource Recovery Centre
Submissions Report
Figure 1.1

EMM
creating opportunities

KEY

- Subject property
- ARRC site
- Indicative detailed layout

Proposed element

- ARRC warehouse
- Awning
- Carpark
- Drainage outlet
- Fuel store
- Hand unloading area
- Hardstand
- Internal road
- Kerb/pedestrain area
- Landscaping
- Office over ground floor
- On-site detention
- Product bay
- Site office
- Ticketbooth
- Unloading/processing
- Water treatment infrastruture
- Weighbridge
- Workshop and hazardous materials storage

Product bays

1. Concrete/rubble masonry
2. Clean timber
3. Rigid plastics
4. Paper/cardboard/film
5. Stumps/asphalt/metal
6. Heavy residual
7. Fines screened
8. Soil audit
9. Ferrous
10. Non-ferrous
11. Non-recyclables

Source: EMM (2021); DFSI (2017); GA (2011); Nearmap (2020); Indesco (2021)

0 50 100 m

GDA 1994 MGA Zone 56

N

\\Emmsvr1\emm\Jobs\2019\J190749 - CPG Luddenham Quarry\GIS\02 Maps\SSD Recycling Facility\RRC002 DetailedDesign 20210325 10.mxd 25/03/2021

Project overview

Luddenham Advanced Resource Recovery Centre
Submissions Report
Figure 1.2

EMM
creating opportunities

1.4 Approval process

The project requires State significant development (SSD) consent under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).

A Scoping Report was submitted to the NSW Department of Planning, Industry and Environment (DPIE) on 30 March 2020. The Secretary's environmental assessment requirements (SEARs) (SSD 10446) were subsequently issued for the project on 24 April 2020.

The development application (DA) for the project and accompanying environmental impact statement (EIS) was submitted to DPIE on 22 July 2020 and then publicly exhibited for four weeks, from 30 July 2020 to 26 August 2020. A total of 21 submissions were received during the public exhibition period, including 16 submissions from agencies/Liverpool City Council, six submissions from the community and one from an organisation. Further information was also requested by DPIE. An analysis of the submissions, including matters raised, is provided in Chapter 2.

1.5 Purpose of this report

DPIE wrote to the applicants on 3 September 2020, requesting responses to the matters raised in the submissions to the EIS. Following the commencement of the Western Sydney Aerotropolis State Environmental Planning Policy (Aerotropolis SEPP), DPIE wrote to the applicants on 16 October 2020 outlining further comments on the project and requesting a response to these additional matters. This correspondence also contained a further submission from the Western Sydney Planning Partnership (WSPP).

Accordingly, this Submissions Report has been prepared by EMM Consulting Pty Limited (EMM) generally in accordance with the draft DPIE document *State Significant Development Guide - Preparing a Submissions Report* (DPIE 2020). The purpose of this report is to consider and respond to submissions made by various agencies, organisations, and the community, in relation to the EIS for the project.

This report also describes the additional activities undertaken relating to the project since exhibition of the EIS, including a summary of project refinements, further technical studies undertaken, and stakeholder and community engagement activities.

1.6 Document structure

The Submissions Report consists of the main document and supporting appendices and is structured as follows:

- **Chapter 1 – Introduction**: provides background to the applicant's vision for the subject property, an overview of the project, approval process, and the purpose and structure of this report.
- **Chapter 2 – Analysis of submissions**: provides a detailed summary of the submissions received on the project, including from where the submissions were received, and the key issues raised.
- **Chapter 3 – Actions taken since exhibition**: describes the activities undertaken by CPG and KLF since exhibition of the EIS, including the project refinements, additional technical studies and stakeholder engagement activities undertaken.
- **Chapter 4 – Response to Government agency submissions**: provides responses to matters raised by government agencies in their submissions on the EIS and the accompanying technical studies undertaken for the project.

- **Chapters 5 – Response to community and organisation submissions**: provides responses to matters raised by community members and organisations on the EIS and the accompanying technical studies undertaken for the project.
- **Chapter 6 – Updated evaluation of project.**
- **Appendices**: The appendices to the Submissions Report which support the main document:
  - Appendix A Submissions register;
  - Appendix B Updated statement of commitments;
  - Appendix C Preliminary concept Elizabeth Drive/Adams Road intersection;
  - Appendix D Updated ARRC design;
  - Appendix E Addendum Traffic Impact Assessment;
  - Appendix F Addendum Air Quality Impact Assessment;
  - Appendix G Revised BDAR;
  - Appendix H Concept design and filling strategy;
  - Appendix I Revised Aeronautical Impact Assessment;
  - Appendix J Aboriginal Cultural Heritage Assessment;
  - Appendix K Addendum Noise and Vibration Impact Assessment; and
  - Appendix L Capital Investment Value.

2 Analysis of submissions

2.1 Breakdown of submissions

A total of 24 submissions were received during the public exhibition period of the EIS. An additional submission was received from the WSPP following the commencement of the Aerotropolis SEPP. For the purpose of this report the submissions have been categorised as follows.

2.1.1 Agency submissions

Commonwealth agency submissions

A submission was received from the Commonwealth Department of Infrastructure, Transport, Regional Development and Communications (DITRDC).

NSW agency submissions

Sixteen submissions (including two from WSPP) providing comment were received from the following NSW Government agencies:

- DPIE Environment, Energy and Science (EES);
- DPIE Crown Lands;
- Department of Primary Industries (DPI) Agriculture;
- DPI Fisheries;
- Endeavour Energy;
- Environment Protection Authority (EPA);
- Fire and Rescue NSW;
- Geological Survey of NSW;
- Heritage NSW;
- NSW Rural Fire Service;
- Regional NSW – Mining, Exploration and Geoscience (MEG);
- Sydney Water;
- Transport for NSW (TfNSW);
- Western Sydney Airport (WSA); and
- WSPP.

The Department of Planning, Industry and Environment (DPIE) also requested additional information.

Local Government submissions

A submission was received from the Liverpool City Council (LCC). The subject property is located within the LCC local government area.

2.1.2 Organisation submissions

The Luddenham Landowners Consortium provided a submission objecting to the proposed development.

2.1.3 Individual public submissions

Six objections to the proposed development were received in the form of individual public submissions.

2.2 Categorisation of issues

Matters raised in the submissions have been classified as one of the following five categories in accordance with the DPIE (2020):

- the project;
- procedural matters;
- the environmental, social or economic impacts of the project;
- the evaluation of the project as a whole; and
- issues that are beyond the scope of the project assessment.

Each of these categories has been divided into sub-categories as outlined in Table 2.1.

Table 2.1 Categories of matters raised

Category	Sub-category
The project	Water management system
	Road upgrades
	Site access
	Project traffic numbers and management
	Infrastructure requirements
	Landscaping
	ARRC operations
	Hazardous goods storage and use
	Bushfire management

Table 2.1 Categories of matters raised

Category	Sub-category
Procedural matters	Requirements under *Biodiversity Conservation Act 2016* (BC Act)
	Agency advice on the SEARs
	Permissibility
	Statutory context
Environmental, social or economic impacts	Traffic
	Air quality
	Airport safeguarding
	Noise
	Biodiversity
	Surface water
	Agriculture
	Contamination
	Hazards and risks
	Aboriginal Heritage
Evaluation of the project as a whole	Strategic planning - alignment with Aerotropolis SEPP
	Strategic planning alignment with the Draft Aerotropolis precinct plan
Issues beyond the scope of the project	Matters relating to infilling the quarry void
	Matters relating to the reactivation of the quarry
	Final land use of subject property

3 Actions taken since exhibition

3.1 Project refinements

Refinements to the project as described in Chapter 2 of the EIS have been made in response to submissions received and further detailed design of the project. These refinements are detailed below. Additional environmental assessment of these refinements has been conducted where necessary.

3.1.1 Revised transport strategy and proposed road upgrades

i Revised transport strategy

The ARRC is centrally located and will service demand for resource recovery services from existing and developing areas in Western Sydney and the Aerotropolis. Access is required from the north via Elizabeth Drive to service existing areas in the north and east. Access is also required to the south via The Northern Road to service existing and developing areas in the Aerotropolis (ie the Aerotropolis Core to the south).

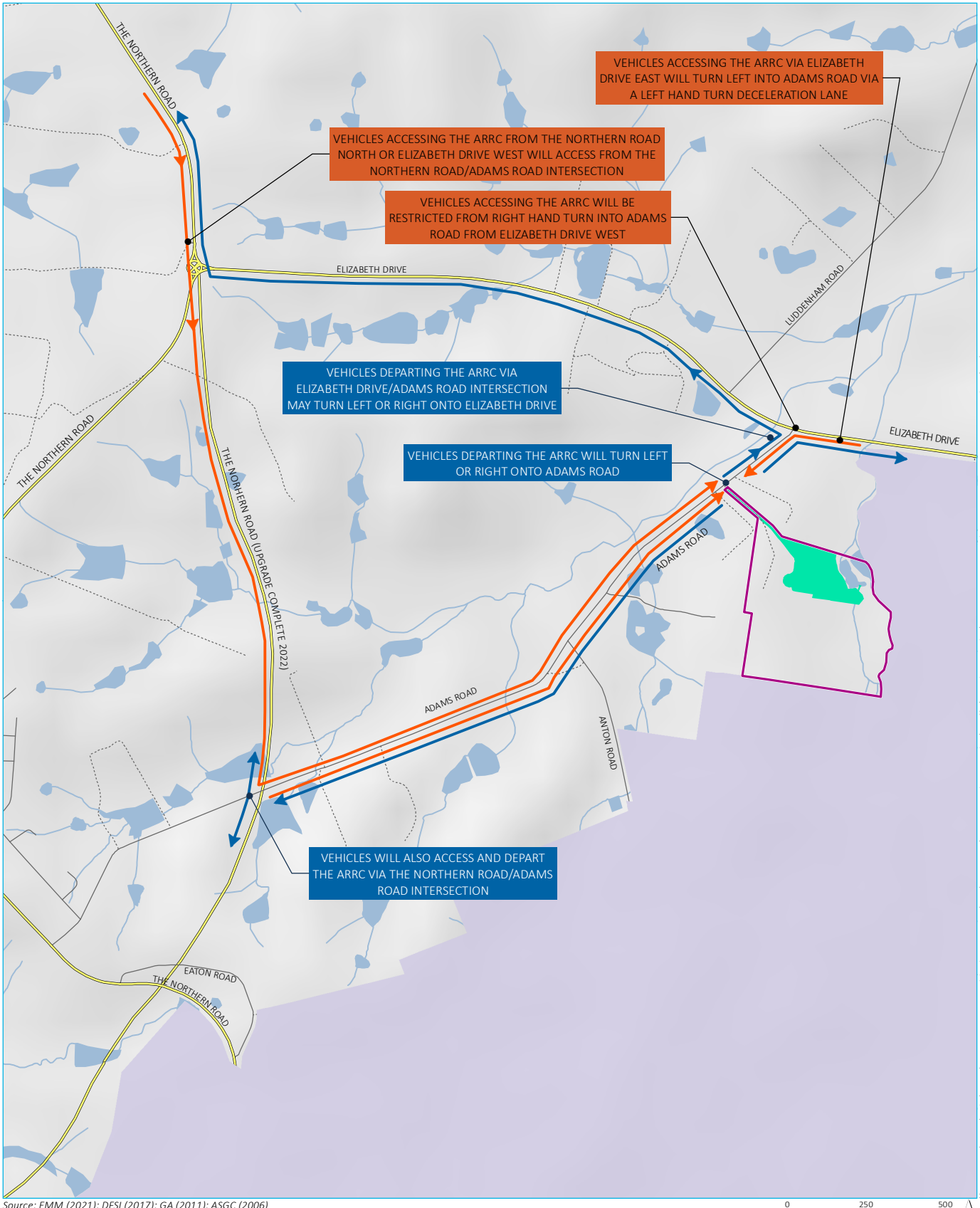
The Traffic Impact Assessment (EMM 2020b) prepared for the EIS (EIS TIA) presented two traffic distribution scenarios for the ARRC development. The first scenario accounted for ARRC-related vehicles (that are greater 3 tonnes accessing the ARRC via Elizabeth Drive only. This scenario assumed the existing load limit on Adams Road would remain south of the site access pending future upgrades. The second traffic distribution scenario accounted for ARRC traffic accessing the site with an even distribution from Elizabeth Drive and The Northern Road following the upgrade and subsequent lifting of the load limit of Adams Road south of the site access.

Consultation with TfNSW and Liverpool City Council has continued since the submission of the EIS. TfNSW raised safety concerns in relation to the right hand turn for heavy vehicles into Adams Road from Elizabeth Drive.

In response to TfNSW's concerns, CPG and KLF have updated their approach to ARRC access and have developed a revised transport strategy for the ARRC. The revised transport strategy was discussed at a meeting with TfNSW, Liverpool City Council and DPIE on 25 March 2021 (refer Section 3.2).

The revised strategy is shown in Figure 3.1 and proposes heavy vehicle and light vehicle access via Elizabeth Drive with the exception that no vehicles will access the site via Elizabeth Drive west. Access would also be provided via The Northern Road. Lifting the load limit on Adams Road south of the site would be enabled by CPG and KLF upgrading the pavement between the site access and Anton Road and upgrading the pavement between south of Anton Road by other parties.

The existing culvert on Elizabeth Drive directly west of the Elizabeth Drive/Adams Road intersection is a constraint to providing a right-hand turn treatment capable of meeting Austroads standards. Accordingly, the right-hand turn movement from Elizabeth Drive into Adams Road will be restricted for ARRC heavy and light vehicle traffic. The intersection will be upgraded by CPG and KLF to improve the other turn movements (left turn into Adams Road, and left and right turns out of Adams Road).



Source: EMM (2021); DFSI (2017); GA (2011); ASGC (2006)

0 250 500 m

GDA 1994 MGA Zone 56

N

KEY

- Study area
- Inbound traffic
- Outbound traffic
- Western Sydney airport
- ARRC impact area
- Waterbody
- Major road
- Minor road
- Track
- Watercourse/drainage line

Proposed transport strategy

Luddenham Advanced Resource Recovery Centre
Submissions Report
Figure 3.1

EMM creating opportunities

\\Emmsvr1\emm\Jobs\2019\J190749 - CPG Luddenham Quarry\GIS\02_Maps\SSD_Recycling_Facility\Traffic\Road_upgrades\RU003_SDDUpgradesOverview_20210526_06.mxd 27/05/2021

ii Road upgrades

The proposed transport strategy will require the following upgrades:

- Upgrade of turn treatments at the Elizabeth Drive/Adams Road intersection and restriction of the right- hand turn from Elizabeth Drive west into Adams Road as follows (refer preliminary concept sketch in Appendix C):
  - provision of a 90 m deceleration left-hand turn lane into Adams Road to meet the Austroads guidelines;
  - provision of short left hand turn lane on Adams Road into Elizabeth Drive to minimise queuing on Adams Road;
  - widening of existing Elizabeth Drive/Adams Road intersection to accommodate B-double swept paths; and
  - prohibiting the right-hand turn from Elizabeth Drive west into Adams Road for inbound ARRC vehicles –requiring these vehicles to access the ARRC using The Northern Road and the Adams Road south of the ARRC.
- Pavement upgrades on Adams Road between Elizabeth Drive and Anton Road to enable the existing road load limit to be lifted. It is noted pavement upgrades will be carried out between the site access and Elizabeth Drive as part of the approved quarry reactivation. Pavement upgrades on Adams Road between The Northern Road and Anton Road will be carried out as part of road upgrades required for the WSA.
- Road widening will also be required at the site access/Adams Road intersection to allow B-doubles to turn into the ARRC site without encroachment.

The revised transport strategy ensures safe access for heavy and light vehicles to the ARRC, minimise impacts on the road network and ensure accessibility to future ARRC customers.

An Addendum TIA has been prepared to assess the impact of the updated ARRC transport strategies on the road network (refer Section 3.3.2 and Appendix E).

3.1.2 Revised traffic numbers

The TIA assumed extremely conservative incoming average load of 4.4 t based on weighbridge records from KLF's Camellia recycling facility which accepts waste from existing residential and commercial areas. The ARRC will accept some loads from similar sources to KLF's Camellia recycling facility. However, it is expected to accept a far larger portion of waste in large trucks (eg truck and dogs) from industrial, commercial and major infrastructure construction/demolition projects in the rapidly developing areas around the ARRC.

The traffic assumptions were inconsistently reported in the TIA and Section 2.2.3 of the EIS project description.

The EIS project description outlined the following, more realistic assumptions regarding incoming waste:

- approximately 150,000–200,000 tpa bulk waste transfer from other facilities within the KLF group and other recycling facilities that do not have the ability to recycle to level that will be achieved by the ARRC (assumed to arrive in 30 t loads);
- approximately 100,000–200,000 tpa waste from construction, industrial and commercial sites logistically close to the ARRC (conservatively assumed to arrive in 4.4 t loads);
- approximately 100,000–200,000 tpa bulk general solid waste/excavated materials from projects logistically close to the facility (assumed to arrive in 30 t loads).

Accordingly, the traffic assessment has been updated to account for these more realistic operational assumptions (refer Section 3.3.1 and the Addendum TIA contained in Appendix E).

While light vehicles (ie utility vehicles and car and trailers) will access the ARRC and will be accommodated within the designated hand unloading area (refer Section 4.1.6vii below), the numbers of these vehicles will be low due to the ARRC's location in the vicinity of existing and developing commercial and industrial areas rather than large residential developments. KLF's operational experiences at its other facilities also note a generally low patronage of light vehicles. Around 10 light vehicles a day are expected to delivery waste. In addition, there will be around 42 light vehicle movements a day associated with ARRC staff and visitors to the ARRC (ie sales representatives).

3.1.3 ARRC layout and design refinements

Minor refinements to the ARRC layout and design have also been made in response to submissions received and further detailed design. These refinements in comparison to the ARRC layout presented in the EIS are shown in Figure 3.2 and described below. The refined ARRC design overview is contained in Appendix D.

- Refinements to the size and footprint of the onsite detention basin. These refinements have slightly increased the biodiversity impacts of the project. This minor increase in impact has been assessed in the Revised BDAR (refer Section 3.3.4 and Appendix D).
- The overflow structure from the onsite detention basin has been designed since submission of the EIS and will include a control pit and overflow pit and discharge pipe. Stormwater will discharge via the discharge pipe and outfall structure to a small depression immediately adjacent to Oaky Creek. The outfall structure includes scour protection and suitable energy dissipation measures (refer drawings contained in Appendix D).
- Addition of another inbound weighbridge to remove the potential for queuing to occur on the internal ARRC access road.
- Minor refinements to the location of ARRC warehouse entry and exit points to accommodate the safe movement of B-doubles through the ARRC site.
- Minor refinements to the layout and access arrangements of the light vehicle carpark in response to meet car park compliance with the relevant Australian standards.

  Minor updates to indicative fixed processing equipment (refer Section 4.1.4iii).

KEY

- Subject property
- ARRC site
- Indicative detailed layout

Proposed element

- ARRC warehouse
- Awning
- Carpark
- Drainage outlet
- Fuel store
- Hand unloading area
- Hardstand
- Internal road
- Kerb/pedestrain area
- Landscaping
- Office over ground floor
- On-site detention
- Product bay
- Site office
- Ticketbooth
- Unloading/processing
- Water treatment infrastruture
- Weighbridge
- Workshop and hazardous materials storage

Product bays

1. Concrete/rubble masonry
2. Clean timber
3. Rigid plastics
4. Paper/cardboard/film
5. Stumps/asphalt/metal
6. Heavy residual
7. Fines screened
8. Soil audit
9. Ferrous
10. Non-ferrous
11. Non-recyclables

Source: EMM (2021); DFSI (2017); GA (2011); Nearmap (2020); Indesco (2021)

0 50 100 m

GDA 1994 MGA Zone 56

N

\\emmsvr1\EMM\Jobs\2019\J190749 - CPG Luddenham Quarry\GIS\02 Maps\SSD Recycling Facility\Submissions report\SUR004 DesignChange 20210325 02.mxd 13/05/2021

Comparison of EIS and refined ARRC layouts

Luddenham Advanced Resource Recovery Centre
Submissions Report
Figure 3.2

EMM
creating opportunities

3.2 Stakeholder engagement

Stakeholders consulted since the preparation of the EIS are outlined in Table 3.1.

Table 3.1 Stakeholder consultation

Stakeholder	Consultation method	Purpose	Key outcome
DPIE - Industry Assessments	Meetings held on 8 December 2020 and 19 February 2020	Meetings discussed residual noise, traffic and strategic planning matters and the progress of the Submissions Report.	Residual traffic and noise issues to be further considered within Submissions Report (refer Section 3.1, Section 3.3.2 and Section 3.3.3).
DPIE - Industry Assessments	Meeting held on 11 May 2021	Meeting to discuss applicable noise criteria and negotiated agreements.	Rural criteria to be applied in the assessment of noise levels at residential receptors. Negotiated agreements to be offered to R2, R3 and R6.
LCC	Email correspondence and meetings 18 December 2020 and 10 February 2021	Meetings to discuss scope of MOD 5 (now approved) and ARRC road upgrades required to facilitate the lifting of the existing load limit on Adams Road.	Council communicated a separate application will be required to lift the load limit for the ARRC in addition to the application lodged for the approved quarry. Confirmed need for ongoing consultation.
WSPP	Meeting held 19 March 2021	Meeting discussed the planning pathway for the future infill of the quarry void as well as traffic and noise matters related to the ARRC.	Future approval for the infill of the quarry void is addressed in Section 4.6.3. Noise and traffic matters are addressed in Section 3.1, Section 3.3.2 and Section 3.3.3. Confirmed need for ongoing consultation.
TfNSW	Email correspondence and meeting held 12 February 2021	Meeting to discuss proposed MOD 5 (now approved) and ARRC road upgrades - particularly with respect to the Elizabeth Drive/Adams Road intersection. Refer to Section 3.1.1.	ARRC related traffic will not be permitted to turn right into Adams Road from Elizabeth Drive due to the existing culvert constraint on Elizabeth Drive west. TfNSW the TIA be revised to account for a new version of the TfNSW forecast model (STFM version 18).
DPIE - Industry Assessments, TfNSW, LCC	Meeting held 25 March 2021	Meeting to discuss ARRC route options and road upgrade options.	Revised transport strategy (refer Section 3.1.1).
WSA	Meeting held 1 January 2021	Meeting discussed MOD 5 (now approved), the ARRC and quarry infilling, including the status of the applications. Traffic, air quality and aircraft safety aspects were discussed amongst other matters.	Air quality impacts of the combined operation of the combined ARRC and infilling activities addressed in Section 3.3.1 and Appendix F. Potential impact of ARRC traffic on WSA construction and operations is addressed in Section 3.3.2, 4.6.2 and Appendix E. Quarry rehabilitation is addressed in Section 3.3.7, 4.1.14 and Section 4.6.3.

Table 3.1 Stakeholder consultation

Stakeholder	Consultation method	Purpose	Key outcome
Airservices Australia	Meeting held 17 December 2021 and email correspondence	Meeting and email correspondence regarding the ARRC development.	Airservices noted that while it is not usual practice for Airservices to provide an indicative response for development proposals, Airservices recognise that assessment of the ARRC in terms of aeronautical safety is a unique set of circumstances where neither the airport, airport infrastructure, nor any Instrument Flight Procedures (IFPs) currently exist physically. Notwithstanding, Airservices reviewed the report 'Aeronautical Impact Assessment – Future land use at 275 Adams Road Luddenham, NSW' and believe that at the location specified, and to a maximum height of 16 m AGL or 80 m AHD, the proposed ARRC warehouse appears unlikely to affect any sector or circling altitude, nor any instrument flight procedures at the future WSA. Airservices noted the above response is to provide an indication only and does not constitute a formal Airservices reply. As such, Airservices reserves the right to amend this indicative advice following a further review of the proposed development when it is formally submitted to DITRDC for approvals and once we have completed the design of the IFPs to service WSA, along with the installation of any required CNS facilities.
FRNSW	Email and phone correspondence	Consultation to follow up on FRNSW submission on the EIS and to determine whether FRNSW has specific concerns relating to the ARRC design or proposed fire management.	Additional email advice reiterated the need for the ARRC to be developed in accordance with the relevant FRNSW guidelines and FRNSW's recommendation in their submission on the EIS that if the development proposes to incorporate a fire engineered solution (FES), FRNSW should be engaged in the fire engineering brief (FEB) consultation process at the preliminary design phase, following approval of the development application.

Table 3.1 Stakeholder consultation

Stakeholder	Consultation method	Purpose	Key outcome
Landowner of R3	Email, phone message and letter.	The houses on the property north of the subject property (R3) has been vacant for over 12 months. It is understood that this landowner intends to develop the property for commercial/industrial land use. Attempts have been made to re-engage with the landowner of R3 since the exhibition of the EIS. CPG/KLF continue to seek a discussion with the landowner regarding the application. To facilitate such a discussion, a letter was posted to the landowner's business address on 18 March 2021. A follow up text message was sent to confirm receipt of the letter. At this stage, mitigation has not been offered due to the applicants understanding that R3 will no longer be used for residential purposes.	Text message response received confirming receipt of letter however declined offer to discuss the potential establishment of an agreement.
Landowner of R6	Email, phone consultation and letter	The landowner of north-west of the subject property (R6) has been contacted since the exhibition of the EIS. This consultation aimed at progressing a negotiated agreement. The property owner declined to enter into discussions. CPG/KLF are open to progressing a negotiated agreement with this land holder. A letter was sent to this landowner on 18 March 2021 with the objective of re-engaging with this landowner regarding a negotiated agreement offering noise attenuation. A follow up text message was sent to confirm receipt of the letter.	No response received.
Landowner of R2	Letter and text messages	The landowner directly north-east of the Elizabeth Drive/Adams Road intersection was sent a letter outlining predicted impacts of the ARRC with the objective of engaging with this landowner regarding a negotiated agreement offering noise attenuation.	An initial response has been received from this landowner. Further progress will be communicated to DPIE in due course.
Luddenham Landowners Consortium	Email and phone correspondence	A phone conversation was held with a member of the Luddenham Landowners Consortium with the objective of arranging a meeting to discuss the Landowners Consortium's concerns with the project.	The member of the Landowners Consortium communicated that the Consortium did not wish to engage further at the time. The applicants would be happy to meet with the Landowners Consortium to discuss the project in the future should the Consortium wish.

3.3 Further technical assessment and investigation

The following subsections summarise the findings of further technical assessments and investigations carried out since the submission of the EIS.

3.3.1 Addendum Air Quality Impact Assessment

Since the submission of the ARRC EIS, there have been refinements to the operational assumptions for the ARRC, primarily in relation to truck movements and proposed equipment operating within the ARRC. Accordingly, an *Addendum Air Quality Impact Assessment* (Addendum AQIA) (EMM 2021a) has been prepared (refer Appendix F). This Addendum AQIA also assessed an additional cumulative scenario (cumulative scenario 3 which accounts for quarry infilling (subject to future planning approval).

i Refinements to operational assumptions

Since the submission of the EIS, changes have been made to the assumptions for truck movements in and out of the site. The majority of waste (approximately 400,000 tonnes (t)) will be brought in by truck and dog, semi-trailer and B-doubles, with an average load of between 30 to 50 t. The emission inventory was therefore updated to account for a revised split for truck movements which results in a reduction to the total number of truck movements (as the larger incoming loads require less trips) and consequently a small decrease to the emission estimates for wheel generated dust from access roads.

More significantly, the allocation of emissions from truck movements across the day has also been updated to reflect the operations of the site more accurately. The previous modelling presented in the EIS assumed an even split of truck movements across the day and night; however, this does not reflect how the site would operate, with the majority of truck movements occurring during the day. The revised modelling presented therefore assumes that 80% of the truck movements occur between the hours of 6 am and 6 pm with the remaining trucks (20%) entering from 6 pm to 6 am. This is consistent with how KLF's other facilities operate.

Finally, the emission estimates for diesel have been revised in response to EPA's submission on reducing emissions from non-road diesel equipment. The proponent has confirmed that most of their existing fleet is US EPA Tier 4 compliant and they have committed to using similar equipment for the ARRC. Emission estimates for diesel are therefore updated using US EPA Tier 4 emission factors (0.02 g/kWh).

ii Cumulative assessment

The Addendum AQIA assessed the following cumulative scenarios:

- Cumulative scenario 1: ARRC operations + quarry extraction + background + construction of WSA;
- Cumulative scenario 2: ARRC operations + background + operation of WSA; and
- Cumulative scenario 3: ARRC operations + background + operation of WSA + quarry infilling.

It is noted that the concurrent operation of the ARRC with the construction phase of the WSA without quarry operations (ie, between the end of quarry extraction in December 2024 and the commencement of WSA operations in 2026) has not been modelled as this scenario was not considered representative of potential air quality impacts as the ARRC is unlikely to be operating at maximum throughput prior to WSA operations (ie still ramping up throughput) and because the majority of bulk earthwork activities for the WSA, which feature the highest potential for particulate matter emission generation, are expected to completed by the end of 2022 (WSA Co 2018).

The emission inventory developed for quarry infilling (subject to future planning approval) for cumulative scenario 3 was based on assumptions drawn from (or consistent with) the concept design and filling strategy CDFS (InSitu Advisory 2020) (refer Section 3.3.7). It is noted the modelling predictions for scenario 3 are based on a conservatively high rate of quarry infill. The quarry infill scenario will be refined and mitigated if needed in a future planning application.

The updated modelling results for the ARRC are lower than the modelling predictions presented in the EIS. The main reason is the change in the assumptions for diurnal profiles for truck movements. Allocating the majority of emissions during daytime hours, when dispersion potential is greatest, results in a significant reduction in predicted concentrations.

With the exception of R3, air quality criteria are predicted to be met at all assessment locations.

Air quality criteria are predicted to be met at R3 with the following exceptions:

- for all cumulative assessment scenarios, an exceedance of the annual average $PM_{2.5}$ criterion of 8.0 µg/m³ (8.6 µg/m³ for Scenario 1, 8.3 µg/m³ for Scenario 2 and 8.5 µg/m³ for Scenario 3);
- for Scenario 1, three additional days per year (with reference to the existing exceedances in the background dataset) that the 24-hour PM_{10} criterion of 50 µg/m³ will be exceeded (but no additional exceedances predicted for Scenario 2 or Scenario 3); and
- for all cumulative assessment scenarios, two additional days per year (with reference to the existing exceedances in the background dataset) that the 24-hour $PM_{2.5}$ criterion of 25 µg/m³ will be exceeded.

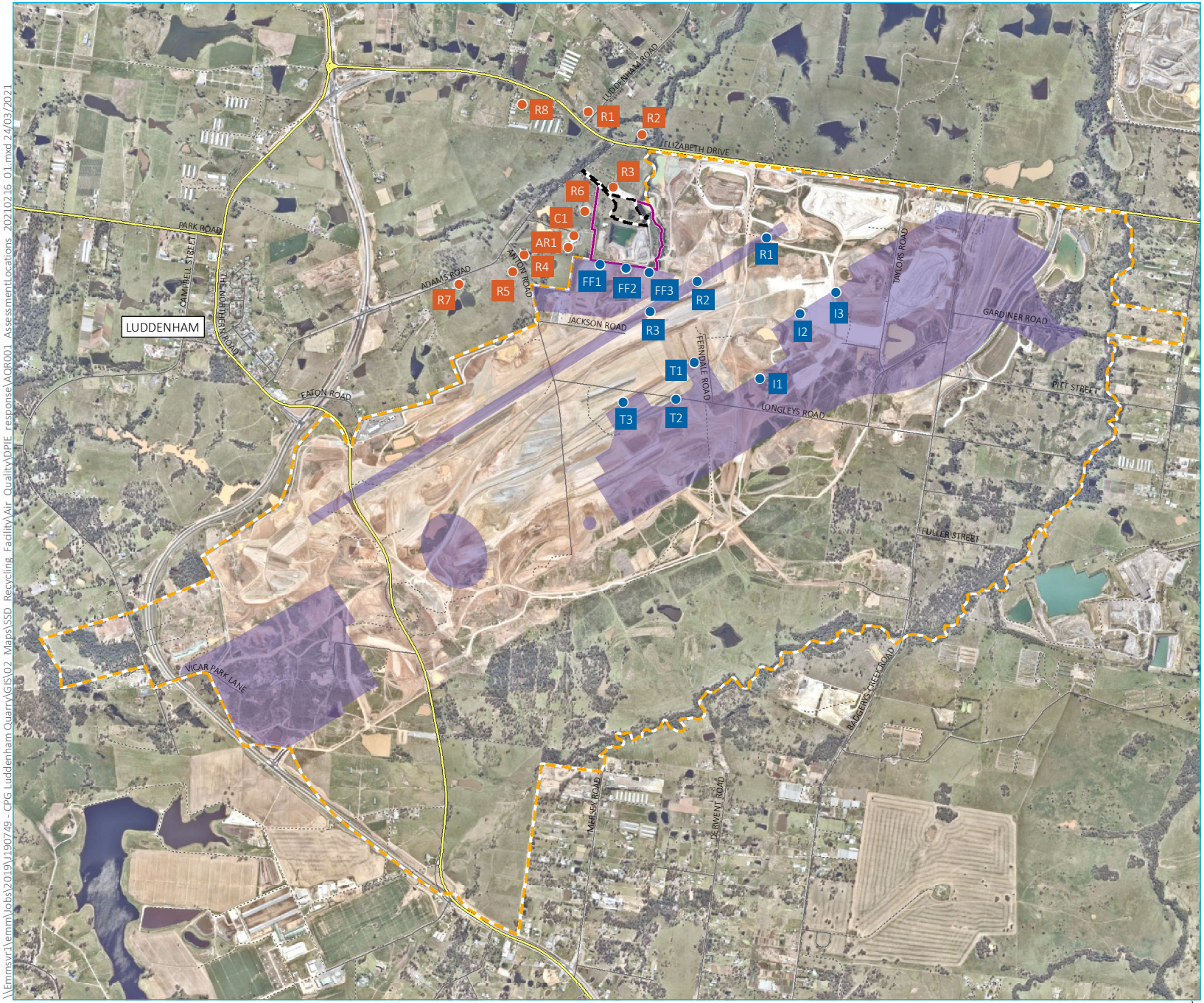
As noted in Table 3.1, R3 has been unoccupied for over 12 months and the property owner intends to develop the property for commercial purposes in line with the recent rezoning to Agribusiness under the Aerotropolis SEPP. Therefore, it is considered that assessment location R3 is unlikely to be a sensitive residential location for the operation of the ARRC noting the continuance of and limitations on existing use provisions in Section 4.66 of the EP&A Act.

The Addendum AQIA also modelled air quality predications at future receptors associated with the WSA. The airport assessment locations along with residential and recreational assessment locations are shown in Figure 3.3.

Modelling predictions for a number of future airport receptors indicate that there would be no air quality impact for the operation of the WSA, with exceedances of the impact assessment criteria limited to the boundary between the fuel farm and the subject property where exposure risk will be minimal.

iii Worst-case odour assessment

The odour modelling predicts that all sensitive assessment locations are below the adopted odour goal of 5 Odour Units (OU), with most locations at or below 1 OU (the theoretical level at which no odour would occur). The exception is the fuel farm area, which is adjacent to the quarry boundary, however the predicted odour concentration at these locations is less than the design criterion of 7 OU, therefore nuisance odour impacts are unlikely.



Source: EMM (2021); DFSI (2017); Nearmap (2021)

\\Emmsvr1\emm\Jobs\2019\190749 - CPG Luddenham Quarry\GIS\02 Maps\SSD Recycling Facility\Air Quality\DPIE response\AQR001 AssessmentLocations 20210216 01.mxd 24/03/2021

Air quality assessment locations

Luddenham Advanced Resource Recovery Centre
Submissions Report
Figure 3.3

EMM
creating opportunities

3.3.2 Addendum Traffic Impact Assessment

An *Addendum Traffic Impact Assessment* (EMM 2021b) (Addendum TIA) has been prepared to account for the revised ARRC transport strategy and traffic numbers (refer Sections 3.3.1 and 3.3.2) and TfNSW's request for the most recent TfNSW forecast future traffic model to be used (refer Table 3.1). This Addendum TIA is appended as Appendix E.

i Development traffic

The revised ARRC traffic volumes are summarised in Table 3.2.

Table 3.2 Revised ARRC traffic volumes

Assumptions	EIS TIA	Addendum TIA
Daily heavy vehicle traffic movements	1,224	525
AM peak hourly heavy vehicle traffic movements	184	79
PM peak hourly heavy vehicle traffic movements	62	27
Daily light vehicle traffic movements	84	104
AM peak hourly light vehicle traffic movements	42	44
PM peak hourly light vehicle traffic movements	0	2

ii Cumulative subject property traffic

The Addendum TIA considered two scenarios for the future years 2024 and 2029:

- baseline traffic cases – including surveyed/STFM adjusted traffic; and
- cumulative subject property development traffic cases – including baseline traffic, ARRC development traffic and
  - for 2024, the quarry reactivation traffic; and
  - for 2029, the quarry rehabilitation traffic.

The ARRC and the cumulative subject property traffic generation in 2024 and in 2029 is presented in Table 3.3.

Table 3.3 Cumulative subject property traffic generation

Year	Development	Vehicle type	Daily movements	AM peak hourly movements	PM peak hourly movements
2024	ARRC	Light vehicles	104	44	2
		Heavy vehicles	263	40	14
	Quarry reactivation	Light vehicles	30	15	0
		Heavy vehicles	100	10	10
2029	ARRC	Light vehicles	104	44	2
		Heavy vehicles	512	77	26
	Quarry infilling	Light vehicles	0	0	0
		Heavy vehicles	33	4	4

iii Intersection performance

The key intersections were modelled with the SIDRA Intersection 8.0 software. SIDRA provides performance indicators based on degree of saturation (DOS), average delay (DEL), level of service (LOS) and the 95 percent queue lengths (Q95). The LOS is a good indicator of overall performance for individual intersections, with rating levels from A to F.

The SIDRA results for the cumulative traffic assessment for the key intersections are presented in Appendix E. In summary:

- The Northern Road/Adams Road intersection will operate at a LOS C in the AM and PM peak hours in 2024 and 2029, with or without the ARRC and other cumulative traffic;
- The Elizabeth Drive/Adams Road intersection will operate at LOS A in the AM and PM peak hours in 2024 and 2029 without the ARRC and cumulative traffic. With ARRC and cumulative traffic, the intersection will operate at LOS B or better in the AM and PM peak hours with ample spare capacity (56%); and
- The Elizabeth Drive/Adams Road intersection will operate at LOS B or better in the AM and PM peak hours in 2024 and 2029, with or without the ARRC and cumulative traffic.

iv Road capacity

A detailed mid-block capacity analysis was conducted for Adams Road to determine the future LOS. In 2024, Adams Road will operate at a LOS B north of the site access and LOS C south of the site access, with or without the ARRC and other subject property cumulative traffic. In 2029, Adams Road will operate at a LOS D with or without the ARRC.

v Onsite vehicle movements

The proposed movement of vehicles through the ARRC site has been revised since the submission of the EIS. Inbound vehicles dropping off waste will access the ARRC warehouse via the inbound weighbridge, entering the warehouse via the second entrance of the warehouse's eastern side and exiting via the southern warehouse exit. The majority of vehicles picking up recycled product are expected to have their tares pre-recorded. Accordingly, vehicles picking up recycled product or non-recyclable residues for disposal at a licensed facility, will enter the western entrance of the ARRC and be loaded directly from the product bays before exiting the warehouse via the northern exit on the eastern side and travelling around the outside of the ARRC warehouse to access the outbound weighbridge. A low proportion of vehicles picking up product (ie 1-2 per hour) will need to have their tare's recorded prior to picking up product. These vehicles will drive directly through the warehouse via the western entrance and do a loop around to the outbound weighbridge before re-entering the western warehouse entrance to be loaded.

The swept paths for vehicles delivery and picking up waste and recycled product are shown on the revised design overview in Appendix D and in detail in Appendix D of the Addendum TIA.

3.3.3 Addendum Noise and Vibration Impact Assessment

An *Addendum Noise and Vibration Impact Assessment* (EMM 2021e) (Addendum NVIA) has been prepared to account for the project refinements detailed in Section 3.1. This Addendum NVIA is appended as Appendix K.

i Operation noise criteria

Extensive consultation has been carried out with DPIE and EPA in regard to the applicable noise criteria for existing residential assessment locations considering the recent rezoning of the area surrounding the subject site (including the assessment locations) and the changing acoustic environment. EPA has advised rural zoning should be assumed for noise assessment purposes as this was the zoning and land use at the time the development application was submitted.

Accordingly, operational noise limits were established using the NPfI methods for determining project specific intrusiveness and amenity levels. The NPfI intrusiveness noise triggers require that $L_{Aeq,15min}$ noise levels (energy average noise level over a 15-minute period) from the ARRC site do not exceed the rated background level (RBL) by more than 5 dB during the relevant operational periods. The intrusiveness noise levels are only applicable at existing residential assessment locations. For residential land-uses, the project noise trigger level (PNTL) is the lower of the calculated intrusiveness or amenity noise level.

ii Best-achievable noise

The applicants propose to use the latest electrically-powered plant and equipment for the sorting and processing of waste materials in combination with conventional diesel-powered plant where alternatives are not currently available. Furthermore, receival, processing and dispatch of materials will be conducted wholly within a warehouse building to minimise noise emission and provide current best achievable noise levels. The updated equipment inventory assumed in the Addendum NVIA is outlined in Table 4.1 of the Addendum NVIA.

The ARRC will implement a range of best practice noise management design and operational measures including:

- using quietest plant available that can perform the required task, including constant review of available technology;
- minimising the number of plant and equipment operating simultaneously while still meeting processing requirements;
- switching off idle plant;
- using noisy plant (shredder and crusher) at least sensitive times of the day when incoming waste streams allow;
- implementing a regular maintenance schedule for all plant and equipment; and
- providing staff education and tool box talks on impacts of noise and quiet work practices.

iii Revised operational noise assessment

The operational noise model has been revised to assess the potential noise and vibration impacts of the refined project, including consideration of the revised ARRC traffic numbers, traffic movements within the ARRC site and minor refinements to the indicative ARRC plant and processing equipment inventory.

Consistent with the EIS NVIA (EMM 2020e), the revised noise model also considered cumulative noise associated with concurrent ARRC and approved quarry operations. The assumptions in the revised noise model are detailed in Section 4.2 of the Addendum NVIA.

Predicted operational noise levels at each assessment location are provided in Table 3.4, for day, evening and night ARRC operations. The daytime noise levels from the combined ARRC and approved quarry are also provided. The levels presented for each assessment location represents the energy-average noise level over a 15-minute period and assumes all plant and activities operating concurrently.

Table 3.4 Predicted operational noise levels – ISO9613

Assessment location	Classification	Period	PNTL, $dBL_{Aeq,15min}$	Predicted ARRC and (ARRC + quarry) noise level[1], dB $L_{Aeq,15min}$
R1	Residential	Day	51	42 (44)
		Evening	45	41
		Night	43	41
R2	Residential	Day	51	46 (48)
		Evening	45	46
		Night	43	**46**
R3[2]	Residential	Day	44	**61 (62)**
		Evening	43	**60**
		Night	40	**60**

Table 3.4 Predicted operational noise levels – ISO9613

Assessment location	Classification	Period	PNTL, dB $L_{Aeq,15min}$	Predicted ARRC and (ARRC + quarry) noise level[1], dB $L_{Aeq,15min}$
R4	Residential	Day	42	41 (**47**)
		Evening	42	41
		Night	38	**41**
R5	Residential	Day	42	40 (**46**)
		Evening	42	40
		Night	38	**40**
R6	Residential	Day	42	**52 (55)**
		Evening	42	**51**
		Night	38	**51**
R7	Residential	Day	42	36 (**43**)
		Evening	42	36
		Night	38	36
R8	Residential	Day	51	38 (43)
		Evening	45	38
		Night	43	38
AR1	Active recreation	When is use	58	44 (51)
C1	Commercial	When is use	68	47 (52)

Notes: 1. Exceedances of the PNTL are shown in bold.

2. Currently unoccupied.

3. Calculated levels from cumulative approved quarry + ARRC operations are in brackets () for day-time operations up to 2024.

The predicted noise levels at assessment locations are up to 1 dB higher than predicted in the EIS NVIA (EMM 2020e) as a result of minor updates to the indicative schedule of plant and a global update to the iNoise modelling software (iNoise 2021.1).

For the operation of the ARRC alone, it is predicted that the PNTLs at most assessment locations will be met. The predicted exceedances are at:

- day: R3 (unoccupied) (+17 dB) and R6 (+10 dB);
- evening: R3 (unoccupied) (+17 dB) and R6 (+9 dB); and
- night: R2 (+3 dB), R3 (unoccupied) (+20 dB), R4 (+3 dB) and R6 (+13 dB).

Under the definitions of Section 4.2 of NPfI, the predicted noise exceedances of the PNTLs (intrusiveness noise level) (refer Table 3.4) are defined as **marginal** at R2 and R4, whilst for R3 the exceedances are defined as **significant** for all periods, and at R6 exceedances are defined as **moderate** during the day and **significant** during the evening and night.

Exceedances of the noise criteria for residences in a rural area were predicted at R3, R4, R5 and R6 during the day under ISO9613 noise enhancing conditions for approved quarry operations (EMM 2020).

For the operation of the combined ARRC and quarry (Table 3.4), it is predicted that the PNTLs at assessment locations will be exceeded (daytime only) at the following residences:

- R3 (+18 dB) (unoccupied);
- R4 (+5 dB);
- R5 (+4 dB);
- R6 (+13 dB); and
- R7 (+1dB)

The day amenity level (53 dB) is predicted to be satisfied at all assessment locations, with the exception of R3 and R6.

Residences R3 and R6 are eligible for at-receiver noise mitigation under *Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Developments* (VLAMP) procedures associated with approved quarry operations consent conditions (DA No. 315-7-2003).

The applicants have offered a negotiated agreement with the property owner of R6 in recognition of increased noise impacts associated with the ARRC and quarry operations and to the property owner of R2 in recognition of predicted increased noise levels during the night-time period associated with ARRC operations. While a letter has also been sent to the property owner of the uninhabited property to the north (R3) to facilitate further discussions, mitigation has not been offered at this time due to the applicants understanding that R3 will no longer be used for residential purposes.

The modelling predicts that the applicable amenity noise levels will be satisfied at the active recreation (AR1) and commercial (C1) components of the Hubertus Club for the ARRC alone and for cumulative ARRC and approved quarry operations.

The results of the revised modelling for intermittent maximum noise events at night confirm compliance with the sleep disturbance screening level for most residential assessment locations with the exception of R3, which has been unoccupied for over 12 months and is likely to be redeveloped for commercial or industrial use.

iv Revised road traffic noise assessment

Potential road traffic noise impacts on Adams Road (classified as a sub-arterial road) and Elizabeth Drive (classified as an arterial road) were remodelled based on the changes to the proposed traffic generation from the site (see Section 3.3.2 and Addendum TIA in Appendix E), a reassessment of when the traffic movements will occur (daytime versus night-time), and the updated background traffic projections provided by TfNSW.

Road traffic noise levels from the project have been assessed by calculating TfNSW-projected traffic and TfNSW-projected plus project traffic, including potential for 50% of truck trips south on Adams Road at representative residential assessment locations.

A summary of the calculated existing and future daytime and night-time road traffic noise levels are presented in Table 3.5 and Table 3.6, respectively, based on the ARRC at full production (EMM 2021b) and the traffic distribution based on the revised transport strategy (refer Section 3.1) intersection upgrades.

Table 3.5 Road traffic noise calculations – Day (7 am to 10 pm)

Road segment	Approximate distance of residential façade from nearest carriageway	Existing movements[1]	Existing plus project movements	RNP Criteria[2,3] L_{Aeq}, dB	Noise level increase due to the Project, $L_{Aeq,15hr}$, dB
		Calculated level, $L_{Aeq,15hr}$, dB	Predicted level, $L_{Aeq,15hr}$, dB		
Operation - 2024					
Adams Road (north)	205 m	45.6	46.4	60	0.8
Adams Road (south)[4]	35 m	66.8	67.3	60	0.5
Elizabeth Drive[5]	45 m	65.6	65.9	60	0.3
Operation - 2029					
Adams Road (north)	205 m	46.9	48.0	60	1.1
Adams Road (south)	35 m	67.9	68.7	60	0.8
Elizabeth Drive[4]	45 m	64.2	64.6	60	0.4

Notes: 1. Projected future traffic volumes 2024 and 2029 (TIA, EMM 2021b).

2. Adams Road is a sub-arterial road and is assessed as $L_{Aeq,15hr}$ 60 dB.

3. Elizabeth Drive is an arterial road and assessed as $L_{Aeq,15hr}$ 60 dB.

4. Noise measurements at 2111 Elizabeth Drive were reviewed in conjunction with the classified traffic counts and FHWA predictions and confirmed levels within 1 dB.

Daytime road traffic noise levels are predicted to comply with the RNP <2 dB allowance criterion where levels exceed the base 60 dB $L_{Aeq15hour}$ RNP target for Adams Road (north), Adams Road (south) and Elizabeth Drive.

Table 3.6 Road traffic noise calculations, Night (10 pm to 7 am)

Road segment	Approximate distance of residential façade from nearest carriageway	Existing movements[1]	Existing plus project movements	RNP Criteria[2,3] L_{Aeq}, dB	Noise level increase due to the Project, $L_{Aeq,9hr}$, dB
		Calculated level, $L_{Aeq,9hr}$, dB	Predicted level, $L_{Aeq,9hr}$, dB		
Operation - 2024					
Adams Road (north)	205 m	41.8	42.6	55	0.8
Adams Road (south)	35 m	63.0	63.5	55	0.5
Elizabeth Drive[4]	45 m	66.3	66.4	55	0.1

Table 3.6 Road traffic noise calculations, Night (10 pm to 7 am)

Road segment	Approximate distance of residential façade from nearest carriageway	Existing movements[1]	Existing plus project movements	RNP Criteria[2,3] L_{Aeq}, dB	Noise level increase due to the Project, $L_{Aeq,9hr}$, dB
		Calculated level, $L_{Aeq,9hr}$, dB	Predicted level, $L_{Aeq,9hr}$, dB		
Operation - 2029					
Adams Road (north)	205 m	43.1	44.2	55	1.1
Adams Road (south)	35 m	64.1	64.9	55	0.8
Elizabeth Drive[4]	45 m	64.9	65.2	55	0.3

Notes: 1. Projected future traffic volumes 2024 and 2029 (TIA, EMM 2021b).

2. Adams Road is a sub-arterial road and is assessed as $L_{Aeq,9hr}$ 55 dBA.

3. Elizabeth Drive is an arterial road and assessed as $L_{Aeq,9hr}$ 55 dBA.

4. Noise measurements at 2111 Elizabeth Drive were reviewed in conjunction with the classified traffic counts and FHWA predictions and confirmed levels within 1 dB.

Night-time road traffic noise levels are predicted to comply with the RNP <2 dB allowance criterion where levels exceed the base 55 dB $L_{Aeq9hour}$ RNP target for Adams Road (north), Adams Road (south) and Elizabeth Drive.

DPIE has requested consideration of the Roads and Maritime's Noise Criteria Guideline (NCG) for the road traffic noise assessment, with Adams Road considered as a new road as a result of its change in functional class based on additional traffic projections from TfNSW. It is noted that the change in functional class is associated with road network changes by TfNSW and future traffic generation from the WSA and associated activities, and not a result of the proposed ARRC.

Consideration of the requirements of the NCG would result in the relevant road traffic noise criteria of 55 dB $L_{Aeq15hour}$ day and 50 dB $L_{Aeq9hour}$ night for Adams Road with the project-generated traffic. Consistent with the procedures of the RNP, the NCG states that additional increase in total traffic noise level should be limited to 2 dB or less.

With the exception of Adams Road (north) assessment location, the baseline noise criteria of the RNP for additional traffic on sub arterial and arterial roads or the application of the NCG for new road classification are exceeded by the existing future road traffic volumes. Therefore, the relative increase of <2 dB is the determining factor for assessing potential road traffic noise impacts of the proposal.

The revised assessment of road traffic noise has demonstrated that the <2 dB criteria is satisfied for all road segments assessed as a result of traffic from the proposal.

v Road upgrade construction noise and vibration assessment

Construction work associated with any road upgrade works is anticipated to be minor and to occur over approximately four to six weeks. The upgrade works will be principally at the site entry, the intersection of Adams Road and Elizabeth Drive and on Adams Road between Elizabeth Drive and Anton Road. Typical plant and equipment associated with the works is expected to be similar to that utilised for the upgrade to the site road access as summarised in Table 4.2 of the Addendum NVIA.

Preliminary assessment of the construction activities, considering only distance between source and assessment location and the cumulative sound power level of 114 dBA confirmed predicted noise levels of L_{Aeq} 52–64 dB. The levels exceed the standard hours NML's established in the NVIA by 2–17dB, however they do not approach the highly affected noise level.

It is not uncommon for construction projects to exceed NMLs. For this reason, they are not considered as noise criteria, but as a trigger for all feasible and reasonable noise mitigation and management to be considered, once exceeded.

There is limited opportunity due to proximity of assessment locations, construction location, duration of works and local topography to provide significant noise mitigation. Residents will be notified prior to works commencing.

Should works be required to be conducted outside of the standard ICNG hours, further assessment would need to be considered, suitable justification provided and an out of hours work permit obtained.

The potential for vibration impacts on residents and vibration sensitive structures near road upgrade construction is assessed in the Addendum NVIA. The nearest residence to road upgrade construction activity is assessment location R2 which is approximately 100 m away from closest construction activities. This assessment location is outside of the safe working distances of likely plant, required to maintain acceptable human response and structural vibration levels. Vibration impacts from construction at any residential assessment locations are therefore highly unlikely.

vi Operational vibration

The EIS NVIA assessed construction vibration including potential use of vibratory rollers. The assessment of ground vibration in the NVIA confirmed that vibration levels were below the levels for human comfort as defined by British Standard BS 6472-1.

Vibration generated by operational plant and equipment associated with the ARRC is significantly lower than generated by the vibratory rollers that will be used during construction. The construction vibration assessment found that there will be no vibration impacts above the relevant criteria for human comfort as defined by British Standard BS 6472-1 and will be well below the structural damage limit as defined in BS 7385 Part 2-1993. Accordingly vibration from the operation of the ARRC would not generate vibration at assessment locations that exceed the levels.

3.3.4 Revised BDAR

The Biodiversity Development Assessment Report (BDAR) has been revised (EMM 2021c) to account for the refinements in ARRC footprint and the clearance of vegetation associated with proposed road upgrades including widening on Adams Road at the site access to accommodate a B-double turn path and upgrades to the Elizabeth/Adams Road intersection (refer Section 3.1). The revised BDAR is contained in Appendix G. The footprint assessed for the purposes of the BDAR is shown in Figure 3.4. No clearance of native vegetation beyond the footprint shown in Figure 3.4 will be required to facilitate pavement upgrades on Adams Road between Elizabeth Drive and Anton Road.

Following the implementation of avoidance and minimisation measures, the project will remove approximately 0.42 hectares of native vegetation, of which 0.11 ha is *Biodiversity Conservation Act 2016* (BC Act) listed Cumberland Plain Woodland critically endangered ecological community (CEEC) (Plant community type (PCT) 849) and 0.31 ha is BC Act listed Swamp Oak Floodplain Forest endangered ecological community (EEC) (PCT 1800).

Potential Green and Golden Bell Frog and Southern Myotis Habitat associated with PCT 1800 and PCT 849 will also be directly and indirectly impacted by the project (refer Figure 5.3 and Figure 5.4 of the Revised BDAR). It is noted, that while targeted surveys were carried out for Green and Golden Bell Frog on the subject property (which found the Green and Golden Bell Frog did not occur), presence was assumed for the road upgrade works on Adams Road and the Elizabeth Drive/Adams Road intersection.

Two ephemeral ponds within the ARRC site, referred in the revised BDAR as pond 1 and pond 4, will need to be removed. A dewatering protocol will be developed as part of the approved biodiversity management plan prior to the start of construction. It is noted that pond 4 will be replaced by an onsite detention basin in approximately the same location as the current pond. Due to the development of the WSA, the new onsite basin will be required to be netted, to reduce the risk of bird or bat strike on planes utilising the airport once operational.

Due to potential for these ephemeral waterbodies to provide foraging habitat for Southern Myotis, it is proposed to compensate for the loss of these ponds, which are 0.04 ha and 0.08 ha in area respectively. It is unknown to what degree these ponds are utilised for foraging by Southern Myotis, and due to their small area and shallow depth they may be of limited value. Furthermore, the BAM does not contain any formal requirement for offsets to be delivered for impacts on areas that are not mapped as a PCT. Nonetheless, a total of 6 additional Southern Myotis credits are proposed to be retired, treating both ponds as if they were ideal habitat for Southern Myotis.

KEY

- Subject property
- Direct impact area
- Indirect impact area
- Waterbody
- Cadastral boundary

\\Emmsvr1\emm\Jobs\2019\I190749 - CPG Luddenham Quarry\GIS\02 Maps\SSD Recycling Facility\Submissions report\SUR001 BiodiversityImpacts 20210322 01.mxd 25/03/2021

Source: EMM (2021); DFSI (2017); GA (2011); Nearmap (2021); DOE (2019)

0 100 200 m

GDA 1994 MGA Zone 56

N

Biodiversity impact footprint

Luddenham Advanced Resource Recovery Centre
Submissions Report
Figure 3.4

EMM
creating opportunities

The project will require the following biodiversity credits:

- PCT 849 - Grey Box – Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion – 4 credits;
- PCT 1800 – Swamp Oak open forest on riverflats of the Cumberland Plain and Hunter valley – 7 credits;
- Green and Golden Bell Frog – 5 credits; and
- Southern Myotis – 16 credits (10 credits as determined by the BAM calculator and 6 credits to account for prescribed impacts).

3.3.5 Revised Aeronautical impact assessment

The aeronautical impact assessment prepared for the EIS (Landrum and Brown 2020a) has been updated to account for the revised air quality modelling and in response to further consultation with WSA and Airservices Australia. The updated assessment (Landrum and Brown 2020b) is appended as Appendix I. The revised assessment also contains further information regarding the potential location for the northern WSA Ground Based Augmentation System (GBAS) site. The EIS aeronautical impact assessment identified that the ARRC may infringe the building restricted area (BRA) for the GBAS for the WSA Stage 2 airport development, if the GBAS is located adjacent to the ARRC site. It is understood that the proposed location is one of the options under consideration and that a GBAS in this location would need be raised to allow signal propagation to be clear of proposed terminal buildings, the fuel farm (adjacent to the ARRC), other airport infrastructure and potentially development within the Aerotropolis Agribusiness Zone (to the west) and Enterprise Zone (to the north). It is also understood that there are other suitable GBAS sites within the airport site.

The conclusions of the revised aeronautical assessment were consistent with the EIS assessment (Landrum and Brown 2020a) which determined the project would not have adverse impacts on the operation of the WSA.

3.3.6 Aboriginal cultural heritage assessment

A draft Aboriginal cultural heritage assessment (ACHA) (EMM 2020d) for the project was included as Appendix P of the EIS. Since the submission of the EIS, the ACHA has been completed through the carrying out of planned test excavations and consultation with the registered Aboriginal parties (RAPs). The final ACHA (EMM 2021d) is appended as Appendix J of this report.

Seven stone artefacts were recovered during the test excavation program consisting of unretouched flakes and flake fragments distributed unevenly across the project area. In total, 42 test excavation units were dug with artefacts all found in different excavation units. Six of the artefacts were found in the top 10 cm of soil with the seventh in the next 10–20 cm.

The test excavation program was sufficient to characterise the nature of, and potential for, Aboriginal artefacts in the project area. The ACHA identified the distribution of the artefacts were ‘sparse’ and ‘random’ and therefore suggests the area was occupied occasionally with nearby creeks providing more reliable water sources than the subject site.

RAP site officers requested that the artefacts recovered during the test excavation be retained at the Gandangara Local Aboriginal Land Council Keeping Place. Consultation with RAPs in conjunction with their review of the ACHA, indicated RAP support for the proposal to retain the artefacts at the GLALC Keeping Place. A Care Agreement will be lodged with Heritage NSW for the recovered objects.

3.3.7 Concept design filling strategy

The infilling of the quarry void on the subject property with non-recyclable residues from the ARRC will be subject to a separate modification application of the existing quarry consent and therefore is outside of the scope of the ARRC project. Notwithstanding, in response to DPIE's request for further information regarding the infilling of the void and to respond to matters raised in government agency submissions, the applicants have commissioned InSitu Advisory to prepare a concept design and filling strategy (CDFS) (InSitu 2020) (contained in Appendix H). This CDFS provides an overview of this future activity and demonstrates the feasibility of infilling the quarry void with construction and demolition non-recyclable residues to achieve a geotechnically stable developable landform to accommodate future agribusiness land use aligned with the strategic objectives of the Aerotropolis SEPP. The CDFS provides infilling design considerations, the potential for gas generation (if any) and design requirements for final capping. It also provides an indicative filling methodology, including indicative plant that would be required for infilling and compaction activities.

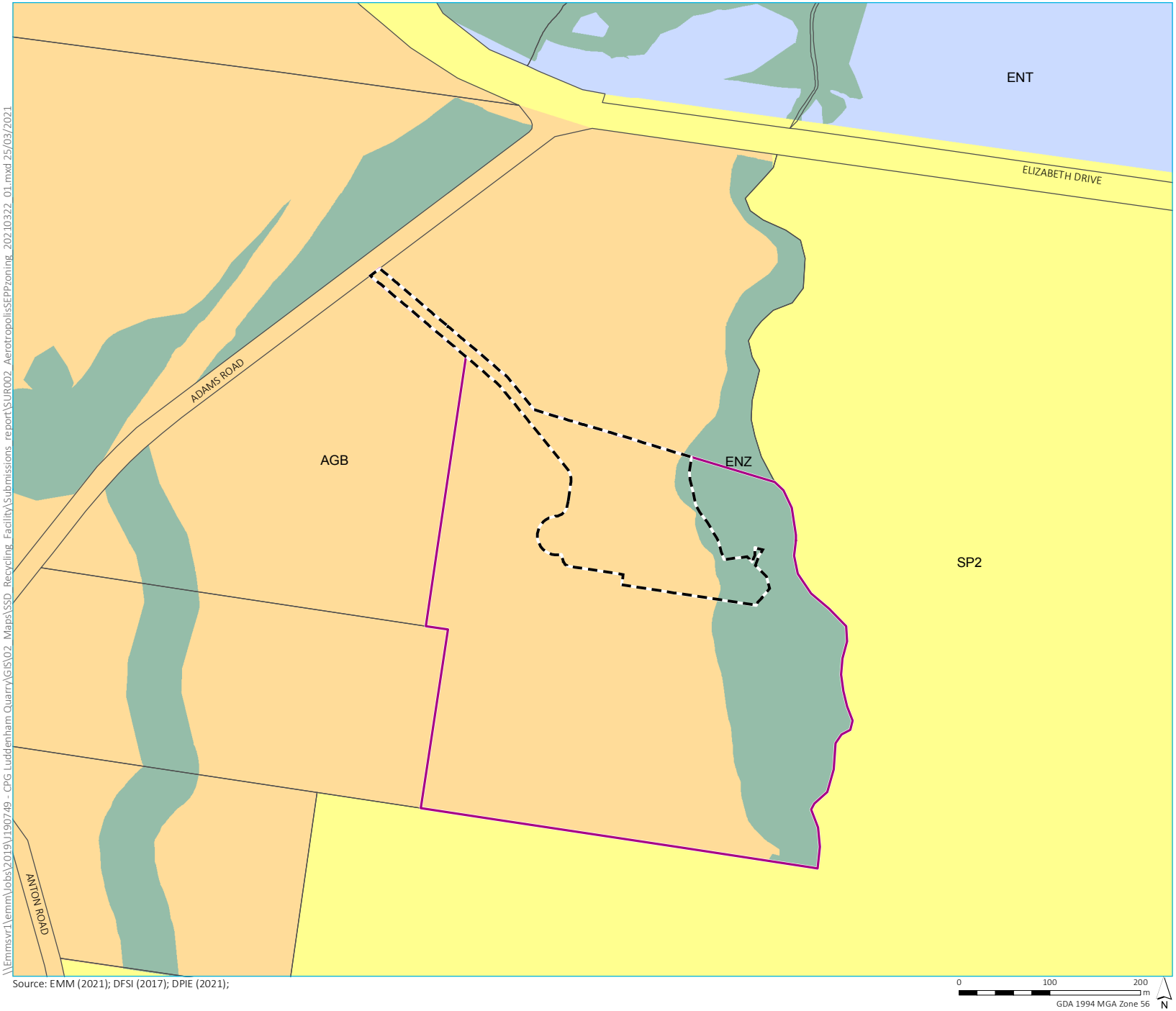
3.4 Statutory context

Since the submission of the EIS, there have been a change to the statutory context as described in Chapter 4 of the EIS with the commencement of the Aerotropolis SEPP. This SEPP is now the environmental planning instrument in force for the subject property. The ARRC site in the context of the revised zoning for the subject property is shown in Figure 3.5. Pursuant to Clause 53(1) of the Aerotropolis SEPP, the proposed ARRC continues to be permissible development as:

> a development application for development on land to which this Policy applies that was lodged and not finally determined before the commencement of this Policy is to be determined as if this Policy had not commenced.

Accordingly, under the former zoning, the site was zoned RU1 primary production. Clause 121 of the State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) provides that development for the purpose of waste or resource management facilities (which includes resource recovery facilities), may be carried out by any person with consent on land in a prescribed zone. A prescribed zone includes RU1 Primary Production.

There are no other changes to the statutory context as described in Chapter 4 of the EIS.



\\Emmsvr1\emm\Jobs\2019\J190749 - CPG Luddenham Quarry\GIS\02_Maps\SSD_Recycling_Facility\Submissions_report\SUR002_AerotropolisSEPPzoning_20210322_01.mxd 25/03/2021

Source: EMM (2021); DFSI (2017); DPIE (2021);

Aerotropolis SEPP zoning

Luddenham Advanced Resource Recovery Centre
Submissions Report
Figure 3.5

EMM
creating opportunities

3.5 Strategic context

The strategic context for the project, including the alignment with strategic planning instruments including the draft Aerotropolis planning package (now finalised) and the need for waste and resource recovery infrastructure is outlined in Chapter 3 of the EIS.

Key changes in the strategic context include the finalisation of the Western Sydney Aerotropolis Plan (Aerotropolis Plan) (WSPP 2020a) and the release of the draft Western Sydney Aerotropolis Precinct Plan (draft Precinct Plan) (WSPP 2020b).

The key considerations and strategic outcomes for the Agribusiness zone outlined in the draft Aerotropolis Plan are generally consistent with the final Agribusiness zone key considerations and strategic outcomes in the finalised Aerotropolis Plan. Accordingly, there is no significant change to the compatibility of the ARRC with these considerations and strategic outcomes as outlined in Table 3.2 of the EIS.

Since the submission of the EIS, CPG has furthered its commitment to achieving agribusiness land-use on the subject property through a partnership with ACFS Port Logistics to use other areas within the subject property, including the rehabilitated quarry as a logistics distribution centre.

The ARRC is considered generally consistent with the vision of the draft Precinct Plan with the ARRC warehouse design consistent with the bulk and scale of the warehouse developments depicted in the draft Precinct Plan (refer Figure 3.6) with the ARRC site being located close to areas identified for employment generation.

Figure 3.6 Vision of agribusiness zone in vicinity of ARRC site (source WSPP 2020b)

The ARRC's compatibility with the objectives of the Agribusiness Precinct as outlined in the draft Precinct Plan are considered in Table 3.7.

Table 3.7 ARRC's compatibility with the draft objectives of the Agribusiness precinct

	Objective	Consideration
1	Provide an Agribusiness Precinct that will deliver fresh and value-added Australian food production from farm gate to the global market, and support Australia's value-add agribusiness export industries	The project, as the second step in CPG's vision (refer Section 1.1) provides an economically viable pathway to infill the quarry void (subject to approval to infill the void) to facilitate future agribusiness land use on the subject property. The design of the ARRC as a fully enclosed warehouse is in keeping with the warehouses that are envisaged for the zone and will not preclude the use of the remaining subject property or surrounding land parcels for agribusiness land use. There will be extensive development within the Aerotropolis to over the coming decades to deliver these outcomes. The ARRC will be a vital local service for these construction projects.
2	Provide an integrated intensive production and state-of-the-art integrated logistics hub to deliver a supply chain solution for Greater Sydney, NSW and Australia.	The project, as the second step in CPG's vision (refer Section 1.1) provides a pathway for a viable future agribusiness land use on the subject property. Separate to the ARRC project, the applicant has formed a memorandum of understanding with ACFS Port Logistics to use other areas within the subject property, including the rehabilitated quarry as a logistics and freight distribution centre.
3	Appropriately locate agricultural value-added industries and freight and logistics facilities that potentially benefit from access to the Outer Sydney Orbital and air-side access to the Airport.	As above, the ARRC provides an economically viable mechanism to infill the quarry void with non-recyclable C&D waste, thereby achieving in the medium to long term a stable developable landform close to the WSA and proposed Outer Sydney Orbital for agribusiness land use.
4	Integrate sustainable energy, waste and water as well as a circular economy into development and operations.	The proposed resource recovery centre will contribute to the realisation of a circular economy. The ARRC will assist waste from development within the Aerotropolis and Western Sydney to be recycled locally. Rain will be harvested from the warehouse roof for use within the ARRC and the WTP will allow the reuse of process water preventing it from being discharged to the environment.
5	Protect and celebrate the rural, agricultural village character of Luddenham Village and promote its role in providing services to support growth of the Precinct.	The project will not impact the character and history of the Luddenham Village. ARRC traffic will generally not travel through Luddenham Village apart from traffic arising from businesses or construction projects within Luddenham Village.
6	Encourage education opportunities related to agriculture and agribusiness.	The ARRC will complement the recently announced Aerotropolis' Advanced Manufacturing Research Facility. Education opportunities relating to agribusiness logistics may be further explored as an extension to the proposed collaboration with UNSW (refer Section 4.1.17).

Table 3.7 ARRC's compatibility with the draft objectives of the Agribusiness precinct

	Objective	Consideration
7	Embrace tourism opportunities presented by the development of the Airport.	Not applicable.
8	Protect the operations of the Airport, including 24-hour operations and provide appropriate protection for the community.	The revised Aeronautical impact assessment confirms the ARRC will not impact on WSA operations (refer Section 3.3.5 and Appendix I).
9	Support connectivity and staging throughout the Precinct, such that the Precinct can support temporary uses and develop over time in a manner that minimises the potential for isolated parts of the Precinct.	The overall staged approach to the land use transformation and development of the subject property, as outlined in Section 1.1, contributes to this objective.
10	Support efficient operations of export-related industries and operations around the Aerotropolis through integrated and intelligent logistics design.	Separate to the ARRC project, the applicant has formed a memorandum of understanding with ACFS Port Logistics to use other areas within the subject property, including the rehabilitated quarry as a logistics distribution centre.
11	Facilitate the potential future alignment of the Outer Sydney Orbital to connect to the Precinct.	The ARRC site is centrally located to access existing and future major transport corridors.
12	Preserve and enhance significant landscaped vistas within and from the Precinct towards the Blue Mountains, Cosgroves Creek and Wianamatta-South Creek Corridor.	While this objective is not directly relevant to the subject property, the ARRC has been designed to avoid the riparian corridor of Oaky Creek.
13	Promote the role of water within Wianamatta-South Creek and Nepean Corridors to support healthy, liveable and sustainable communities.	As above.
14	Identify and protect remnant vegetation, tree canopy and other areas of significant vegetation to develop within the Agribusiness Precinct to be built around landscape elements.	Impacts to biodiversity have been minimised as far as practical, through the avoidance of the Oaky Creek riparian zone.

3.6 Revised statement of commitments

Appendix C of the EIS included a table of commitments made to negate or minimise potential environmental impacts arising from the ARRC. Appendix B of the Submissions Report provides updated commitments for the ARRC, reflecting the updates outlined in this response to submissions. The management measures will be included as part of a construction environmental management plan (CEMP), operational environmental management plan (OEMP), supporting plan/s to the CEMP or OEMP, or otherwise undertaken prior to the commencement of construction or operations. New commitments are highlighted in bold in Appendix B.

4 Response to organisation submissions

Responses to the comments contained within the Commonwealth, State and local government agency submissions received are provided in the following subsections. Comments from the government agencies are presented in text boxes, with each respective comment followed directly with a response.

4.1 Department of Planning, Industry & Environment

4.1.1 Air quality

An Addendum AQIA has been prepared in response to changes to the operational assumptions for the ARRC and to respond to comments received from DPIE and the EPA. The Addendum AQIA is included in Appendix F and summarised in Section 3.3.1.

i Exceedances of air quality criteria

The Air Quality Impact Assessment (AQIA) modelling results reported exceedances for 24- hour average PM_{10}, annual, 24-hour average $PM_{2.5}$, and annual average TSP at the nearby sensitive receptors, R3 and R6 associated with the cumulative scenarios, including Scenario 1 (concurrent operation of the RRF [resource recovery facility] with the quarry, and construction of the Airport) and Scenario 2 (concurrent operation of the RRF with the operation of the Airport following the rehabilitation of the quarry). Provide details on the air quality mitigation measures proposed for exceedances identified at sensitive receptors R3 and R6.

As outlined in Section 3.3.1 above, the revised ARRC air quality modelling predictions are lower than the predictions presented in the EIS. The main reason for this is due to the change in the assumptions for diurnal profiles for truck movements. Allocating the majority of emissions during daytime hours, when dispersion potential is greatest, results in a significant reduction in predicted concentrations.

Exceedances for the revised modelling are now limited to assessment location R3. As noted in Section 3.3.1, R3 has been unoccupied for over 12 months and the property owner intends to develop the property for commercial purposes in line with the recent rezoning to Agribusiness under the State Environmental Planning Policy (Western Sydney Aerotropolis) 2020 (Aerotropolis SEPP). Therefore, it is believed that assessment location R3 is unlikely to be sensitive residential location for the operation of the ARRC.

The proposed dust mitigation measures for the site are in accordance with best management practice for the resource recovery and waste industry, as discussed in Section 7.1 of the EIS AQIA (EMM 2020c). In the absence of exceedances at sensitive residential locations, further mitigation (beyond best practice) is not considered reasonable or feasible. All mitigation measures will be formally documented in an air quality management plan, prepared following approval of the ARRC.

ii Construction air quality impacts

The air quality impacts have not been considered for construction works associated with the development within the AQIA modelling.

The construction phase for the ARRC is expected to take around 18 months and would comprise construction of the following main components:

- sealed site access via Adams Road;
- internal sealed roads (including weighbridge and wheel wash);
- hard surfacing for the warehouse floor and external areas;
- a 13,230 m^2 metal clad warehouse, with a maximum elevation of 16 m;
- two site offices with the larger office (400 m^2) located in the outside parking area and the smaller office (140 m^2) located over the car parking area on the western side of the ARRC warehouse;
- surface water drainage system; and
- road upgrades on Adams Road and the Elizabeth/Adams Road intersection.

The main air quality impacts during construction would occur during ARRC site preparation and road upgrade activities, from activities such as vegetation clearing, soil stripping, excavation and bulk earthworks. The extent and duration of these activities is expected to be relatively short lived and minor. Individual construction activities are expected to be relatively short in duration and relatively easy to manage through commonly applied dust control measures. Procedures for controlling dust impacts during construction will be documented in the CEMP.

iii Onsite plant and machinery

The AQIA provides details on the dust management and control measures for the proposed RRF and access road, however no details have been provided on the proposed pollution control technology to be installed on operational plant/machinery and site. Please provide details on the operational pollution control measures for the site.

All waste, recycled products and non-recyclable residues will be handled, processed and stored within the enclosed ARRC warehouse with misting water sprays operating at each entry and exit point of the warehouse. Within the warehouse, water sprays would be applied directly to the crusher and screens.

KLF have confirmed that the majority of their existing fleet at other sites is US EPA Tier 4 compliant and commit to using similar equipment for the ARRC. Therefore, plant and equipment will be operated in accordance with best practice in terms of pollution control equipment.

iv Odour assessment

It is understood that general solid waste (putrescible) will not be accepted at the development. The AQIA states that as no putrescible waste will be accepted at the RRF and no sources of odour emissions identified from the RRF operations, odour was not quantitively assessed in the EIS. A quantitative assessment of odour impacts, as per the SEARs requirements should be provided to provide baseline data and conservatively assess and provide mitigation measures for potential odour impacts to future sensitive receptors, including the Western Sydney Airport and approved/future developments in the vicinity.

Chapter 4 of the Addendum AQIA presents a worse-case odour assessment for potential odour emissions from the ARRC facility and from the future activity of quarry infilling (Appendix F).

The incoming waste would not generally be odorous therefore odour impacts during operation of the ARRC are not expected. Notwithstanding, a small proportion of the incoming waste would be potentially odorous, such as wood waste, garden waste, wet paper, wet cardboard and glass.

The odour modelling predicts that all sensitive assessment locations are below the adopted odour goal of 5 OU, with most locations at or below 1 OU (the theoretical level at which no odour would occur). The exception is the fuel farm area, which is adjacent to the quarry boundary, however the predicted odour concentration at these locations is less than the design criterion of 7 OU, therefore nuisance odour impacts are unlikely.

v ARRC design

The EIS notes that the proposed RRF warehouse will be fitted with four doors providing vehicle access points. Provide further details on whether these doors will be automated and closed to minimise emission impacts associated with the development operations to the surrounding environment.

The ARRC warehouse entrances will remain open during operations. Each entrance will be installed with a water misting system to minimise dust emissions from the ARRC warehouse. Misters will also be installed within the ARRC warehouse.

vi Air quality impacts on WSA

The AQIA further states that the air quality associated with the proposed Western Sydney Airport were considered in the air quality modelling, and included the future terminal areas, runaway area, fuel farm area and airport infrastructure area. Please incorporate the Airport modelling receptor locations in site figures relating to the assessment locations for air quality within the EIS and AQIA.

Future receptors associated with the WSA are shown in Figure 3.3 above along with receptors modelled in the EIS AQIA and Addendum AQIA.

With reference to future WSA receptor, the updated modelling predicts:

- there would be no exceedances of the annual average impact assessment criteria for PM_{10} at the airport terminal, runway, infrastructure or fuel farm areas;
- there would be no exceedances of the annual average impact assessment criteria for $PM_{2.5}$ at the airport terminal, runway or infrastructure areas;

- exceedances of the annual average impact assessment criteria for $PM_{2.5}$ are limited to the fuel farm area for cumulative scenario 3 (ARRC operations + background + operation of WSA + quarry infilling); and
- exceedances of the 24-hour average impact assessment criteria for PM_{10} and $PM_{2.5}$ are limited to the fuel farm area (2–4 additional days per year over the impact assessment criteria) for cumulative scenario 3.

It is noted that the health-based air quality criteria for particulate matter are designed to offer protection for periods of exposure ranging from 24-hours to annual averages. It is expected that exposure risk at the WSA fuel farm area would be minimal as employees would not spend significant periods of time within this area.

Furthermore, modelling predictions are based on a conservatively high rate of quarry infill. The quarry infill scenario will be refined and mitigated if needed in a future development application.

4.1.2 Construction noise and vibration

i Construction noise management and mitigation

The EIS states construction noise levels from the project are predicted to exceed noise management levels (NMLs) at sensitive receptors, R3 and R6 at greater than 10 decibels (dB). The Department requires further details on mitigation/management measures to undertake an adequate assessment of the proposed development.

The exceedances of greater than 10 dB is acknowledged based on noise modelling for R3. As noted, R3 is derelict and has been unoccupied for over 12 months. The property owner intends to develop the property for commercial purposes in line with the recent rezoning to Agribusiness under the Aerotropolis SEPP. Therefore, assessment location R3 is unlikely to be a sensitive residential location for the construction and operation of the ARRC.

A potential 9 dB exceedance of the construction noise management level (NML) is predicted at R6. Standard procedures as outlined in section 6.2 of the EIS Noise and Vibration Impact Assessment (NVIA) (EMM 2020e) would be adopted for the management of construction noise and vibration. The noise level is not predicted to exceed the 'highly noise affected' level at any assessment locations. All construction activities would be conducted within the standard construction hours to limit noise impacts.

ii Construction vibration

Section 5.3 of the NVIA provides an assessment of the construction vibration impacts on residents and surrounding sensitive structures during the construction of the development. It is unclear whether the vibration assessment included the combined impacts from the construction of both the RRF and road upgrades associated with the development. Please clarify.

The internal access road will be the first element of the ARRC constructed (if it has not been previously upgraded as part of approved quarry operations). The EIS NVIA found that vibration impacts from ARRC construction works, including the access road upgrade will satisfy the human response limits at 40 m, and will be well below the structural damage limit.

The addendum noise and vibration assessment (see Section 3.3.3) assessed vibration from the proposed public road upgrades. Vibration impacts associated with these proposed works are predicted to be below the relevant human and structural damage criteria.

4.1.3 Operational noise

i Project amenity noise levels

Project amenity noise level of 65 dB(A) for industrial premises has been adopted for residential receivers in the agribusiness precinct. Irrespective of the rezoning of surrounding land to agribusiness under the Aerotropolis SEPP, intrusiveness noise levels (ie based on the existing background noise level) and amenity noise levels for residential receivers in each noise amenity area (corresponding to rural, suburban, urban) apply to existing residential dwellings. Please provide justification for this approach.

In Section 7.1 of the NVIA, the daytime amenity level for a 'suburban' noise amenity area has been adopted to evaluate sparsely spaced rural residential receivers. It is noted that the rural and suburban amenity evening and night noise criteria are the same, however the daytime is different. Please provide justification for this approach.

As outlined in Section 3.3.3, EPA has advised rural zoning should be assumed for noise assessment purposes as this was the zoning and land use at the time the development application was submitted.

Accordingly, the Addendum NVIA has established operational noise limits using the NPfI methods for determining project specific intrusiveness and amenity levels (refer Section 3.3.3 and Appendix K).

ii Reasonable and feasible mitigation

Significant exceedances of project noise trigger levels have been reported at nearby residential receivers (R3 and R6) for the 'unmitigated' scenarios associated with the operation of the ARRC alone as well as both ARRC and quarry together. Please provide further details on the reasonable and feasible mitigation measures such as heavy vehicle/ time restrictions and engineering controls, as this has not been considered in detail in the NVIA nor incorporated into the project design to minimise operational noise impacts.

The Addendum NVIA considers the existing western quarry earth bund and the locating of all processing equipment associated with the ARRC within a warehouse building (with the lower portion of warehouse walls comprising 250¬–300 mm thick precast or in-situ concrete), both of which provide noise mitigation.

Further discussion on best practice noise management design and operational measures is contained in Section 3.3.3ii.

The applicants are open to progressing negotiated agreements with R6 the nearest inhabited residence and R2 as requested by DPIE (refer Table 3.1) offering noise attenuation. A letter was sent the landowner of R6 on 18 March 2021 with the objective of re-engaging with this landowner regarding a negotiated agreement offering noise attenuation. A letter has also recently been sent to the landowner of R2 on the 15 May 2021, similarly regarding a negotiated agreement offering noise attenuation. As noted in Table 3.1, while a letter has been sent to the landowner of R3 regarding a negotiated agreement, mitigation has not been offered at this stage, due to the applicants' understanding that R3 will no longer be used for residential purposes.

4.1.4 ARRC operations

i Resource recovery rate

The EIS identifies the project is proposing a 90% recovery rate. However, the EIS also states up to 120,000 tpa of non-recyclable waste would be disposed off-site which would achieve a worst-case recovery rate of 80%. It is requested the Applicant clarify the proposed resource recovery rates and demonstrate how the proposed project would achieve the nominated rate.

The processing technology proposed to be used the ARRC is leading practice and combines a range of well-proven technologies to provide a reliable and efficient resource recovery operation which will be amongst the most advanced construction and demolition processing facilities in both Australia and internationally.

The technology has demonstrated success in achieving 90% recovery of recyclable streams. The processing plant would be designed to enable future provision for robotic sensor sorting and other developing technologies to be incorporated as the technology matures and further process efficiencies are pursued.

While the ARRC targets a recovery rate of 90%, this may not be achieved immediately and will vary depending on the wastes being received. Therefore, the recovery rate is expected to vary between 80% and 90%. Off-site disposal 120,000 tpa of non-recyclable waste has been considered as a worst-case scenario.

ii Maximum waste storage

The EIS does not identify the proposed maximum waste storage limit for the development. It is requested the Applicant consult with the EPA and provide this information.

Indicative stockpile masses and capacity of product bays are detailed in Table 2.7 of the EIS, with an indicative maximum total of 34,515 t of waste and recycled product being stored on site at any one time.

iii Operational plant and equipment

The EIS does not list or describe the proposed operational waste processing plant and equipment (screens, shredder, separators etc.) to be installed or used to undertake operations (dozers, wheel loaders, excavators etc.). It is requested details of all waste plant processing plant and equipment is provided including diagrams (and any images).

The ARRC will use leading technology for processing operations. This will include the use of electricity-driven plant, where it is available, which generally has lower noise (and fume) emissions compared to diesel plant. The updated equipment inventory assumed in the Addendum NVIA (refer Section 3.3.3 and Appendix K) reflects the applicant's commitment to invest in leading technology and to minimise impacts. For example, the revised plant and equipment inventory does not include a noisy trommel screen as assumed in the EIS NVIA assessment. Notwithstanding, the exact specifications of the equipment installed will depend on practical and commercial decisions and therefore the revised estimate of noise emissions in the Addendum NVIA is considered a suitable basis for modelling potential noise impacts. Indicative locations of fixed processing plant are shown in the updated design plan contained in Appendix D. The processing plant will be upgraded during the life of the ARRC as technology improves.

The key elements of technology proposed in the ARRC comprise the following indicative processing stages:

- **Pre-sort** – prior to mechanical separation and sorting, a defined pre-sort area enables NSW EPA Standards for managing construction waste in NSW to be achieved and contaminated loads to be easily isolated and quarantined.

- **Primary finger screen** – this unit performs two functions, namely, receival of material into the process plant and primary screening into two preliminary size fractions for subsequent processing (refer Plate 4.1).

- **Secondary & tertiary screens** – subsequent screening using vibratory equipment enables the waste stream to be divided into particular size fractions and more easily processed streams, enabling further processing and sorting based upon weight, shape & density.

- **Ferrous & non-ferrous separator** – large industrial electromagnets and eddy current separators will be used to mechanically separator all ferrous and non-ferrous metals (refer Plate 4.2 - indicative eddy separator and Plate 4.3 indicative belt separator).

- **Density separators** – once material is initially screened, density separators will be used to remove 'light' fractions such as paper and light plastics from the heavier fractions, therefore recovering cleaner concrete, aggregate and timber streams (refer Plate 4.4).

- **Ballistic separation** – once large fractions are removed and fine materials are screened out, mid fraction material will be processed using ballistic separation, which will sort materials according to shape, eg 3D material (bricks, timber, hard plastics) will be separated from 2D materials such as cardboard, gyprock or sheets. This provides consistent shaped material categories suitable for final sensor sorting and quality control.

- **Shredding** – it is anticipated that the larger fraction materials and complex waste items (eg furniture, demolition materials, etc.) will be shredded to enable increased material recovery, mechanisation of sorting and efficient transportation of recovered materials. The shredder will be integrated into the plant to enable multiple processing applications, such as finer shredding of recoverable materials such as timber, in addition to primary shredding applications (Plate 4.5).

- **Sensor sorting** – prior to final quality control of finished recycling materials, streams such as timber and aggregates can be 'polished' using sensor sorting technology or X-ray sorting. This enables a >90% efficiency recovery of recyclable streams.

- **Manual sorting** – following mechanisation and automated separation technologies, final 'quality control' will be achieved through manual labour pickers on the key product lines.

Conveyors will be used to transport material from one processing stage to the next. In addition to the fixed plant, front- end loaders (FELs), excavators, a small articulated dump truck will operate to move material between stockpiles, fixed processing equipment and product bays. Key components of the processing fixed plant are shown in Plates 4.1-4.6.

In addition to the above, processing equipment to facilitate soil washing and crushing activities have also been assumed in the technical assessments.

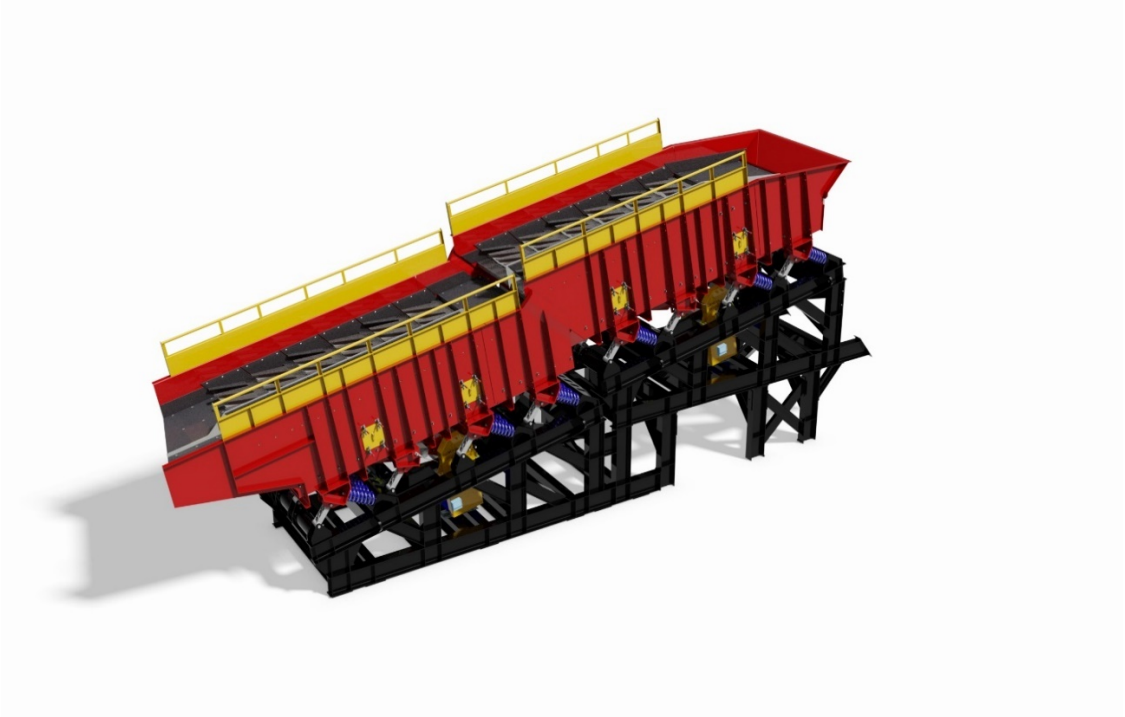


Plate 4.1 Indicative primary finger screen

Plate 4.2 Indicative eddy current separator (ferrous & non-ferrous separator)

Plate 4.3 **Indicative belt separator**

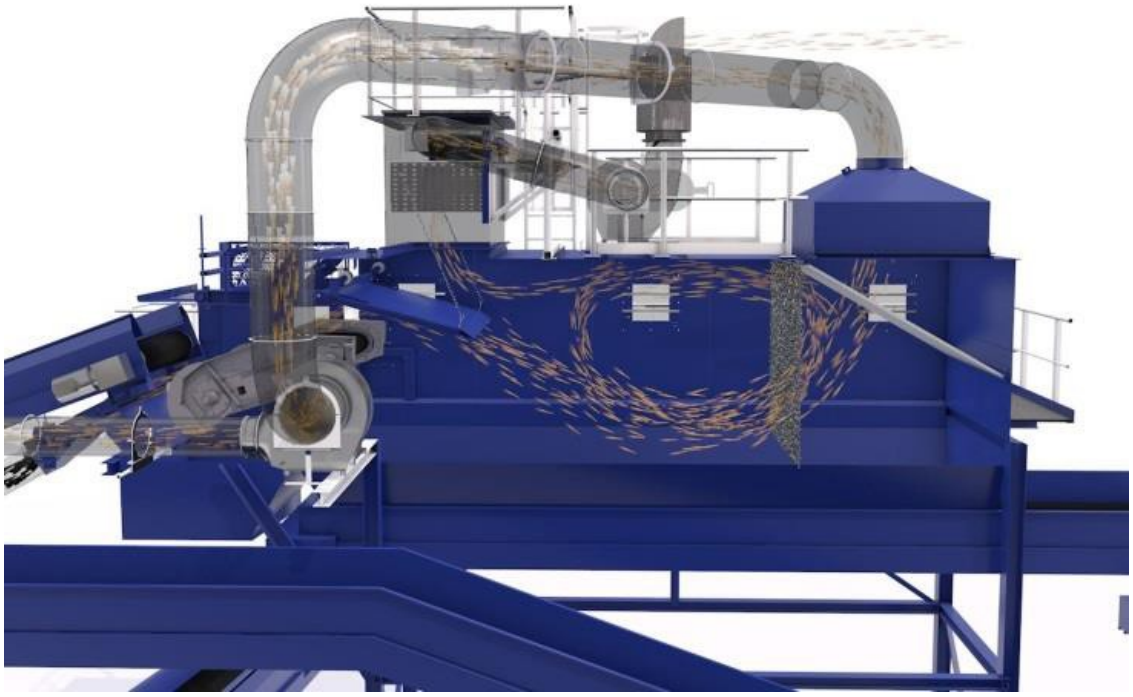


Plate 4.4 **Indicative density separator**

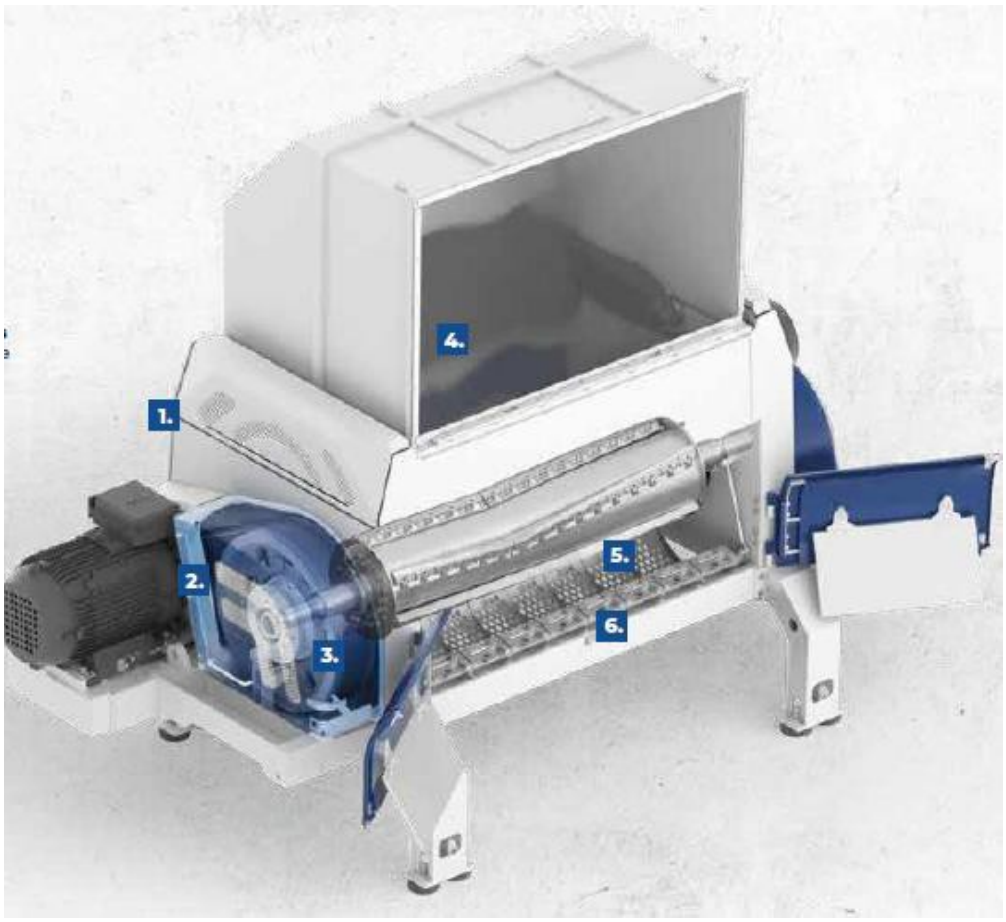


Plate 4.5 Indicative shredder

Plate 4.6 Indicative sensor sorter (near infrared (NIR) spectrometer based)

iv Contingencies for plant breakdown

The EIS has not detailed the contingencies the Applicant would put in place in the event of machinery breakdown and ensure no delays or backlog of waste processing. It is requested those contingency measures are provided.

Measures to manage ARRC traffic during an emergency shutdown or incident on site are detailed in Section 4.1.4iv. In the unlikely event of prolonged fixed plant breakdown, KLF will transfer waste to another KLF facility.

The proposed processing technology will process on average 100 t per hour. At peak throughput, the ARRC will accept and dispatch on average 1,650 t per day of material. As outlined in Section 2.4 of the EIS, it is anticipated that processing operations will occur over two eight hour shifts allowing for around 1,600 t of material to be processed each day. The unloading area has a stockpile area of 1,100 m^2 and an indicative stockpile capacity of 9,900 t providing sufficient stockpiling capacity for around 6 days of waste deliveries.

v Unloading/processing areas

The site plans (1190066_DA-100) identify unloading/processing area, however the EIS also refers to a 'tip and spread area'. It is requested clarification is provided on the difference between the two areas and site plans updated accordingly.

In the EIS the term "tip and spread area" has been used interchangeably with the term "unloading area". In the revised ARRC overview figure (refer Figure 1.2) the indicative unloading area (ie for heavy vehicles) has been distinguished from the indicative hand unloading area. It is noted that this proposed hand unloading area has been flagged for "future processing" on the revised design overview in Appendix D.

To maintain operational flexibility and allow the adoption of future processing technologies, the layout of the ARRC warehouse and location of unloading, processing and dispatch operations within the warehouse may change. Changes will be documented in the OEMP and relevant subplans.

vi Waste streams and resource recovery orders

It is noted the EIS has not identified or provided any details of the processed waste the Applicant is likely to generate nor provided details of the resource recovery orders the Applicant would produce including those that would be required to rehabilitate the quarry void. It is requested further detail is provided on the processed waste to be generated.

Provide further details on the types of materials which would be accepted at the RRF that are deemed 'non-recyclables'.

a Non-recyclable residues

Non-recyclable residues refer to general solid waste (non-putrescible) as defined in the *NSW Protection of the Environment Operations Act 1997* (POAO Act) and the *Waste Classification Guidelines Part 1: Classifying Waste* (EPA 2014a) which are unable to be economically recovered. At the ARRC, this will be the component of co-mingled waste that will not be recovered as products. It will contain materials that are part of comingled loads such as plastic film; blown polystyrene; wet and/or dirty paper and cardboard; plaster board; treated timber; some glass (eg window glass); and ceramics.

As outlined in Section 2.2.5 of the EIS, non-recyclable residues will be dispatched to an offsite licensed waste facility or to the adjacent quarry void (following approval of quarry rehabilitation activities).

b Resource recovery orders

The ARRC products will meet the following resource recovery orders:

- The mulch order (EPA 2016);
- The "continuous process" recovered fines order (EPA 2014b);
- The "batch process" recovered fines order (EPA 2014c);
- The recovered aggregate order (EPA 2014d);
- The recovered tyres order (EPA 2014e);
- The recovered plasterboard order (EPA 2014f); and
- The recovered glass sand order (EPA 2014g).

vii Waste acceptance

Section 2.2.4i of the EIS states that a preliminary inspection of incoming waste will be undertaken, and suspected contaminated loads will be rejected. It is requested the following be provided:

- procedures for inspecting incoming waste and identifying suspected contaminated loads;
- detail on the criteria of a 'suspicious load' and how it is identified or determined during the inspection; and
- the management measures the Applicant will employ to ensure that no contaminated waste is to be accepted at the site, such as the receipt of waste classification documentation etc.

An outline of the inspection process is provided in Section 2.2.4i(a) of the EIS.

A review of the inspection process against to the EPA's *Standards for Managing Construction Waste in NSW* (EPA 2019) is provided in Table 2.6 of the EIS and is reproduced below.

Table 4.1 EPA's Standards for Managing Construction Waste in NSW

Requirement	AARC operations – incoming waste plan and proposed waste recycling steps
Standard 1: Inspection requirements	
1.1 Inspection point 1 – verified weighbridge inspection	A preliminary inspection of the incoming waste on the vehicle at the weighbridge (refer Section 2.2.4i).
1.2 Inspection point 2 – tip and spread inspection area	An inspection of the incoming waste after it is unloaded, spread, and turned over but before it is added to the appropriate feed stockpile (refer Section 2.2.4i). The customer will be required to wait until the waste load has passed the inspection.

Table 4.1 EPA's Standards for Managing Construction Waste in NSW

Requirement	AARC operations – incoming waste plan and proposed waste recycling steps
1.3 Training requirements for personnel	Prior to beginning work, employees will be required to successfully completed an accredited asbestos awareness course and demonstrate an understanding of: • the requirements of the POEO Act and its regulations applicable to the ARRC; • the requirements of the EPL for the ARRC, with reference to the waste conditions and wastes permitted to be received by the facility; and • the requirements of the EPA's *Standards for Managing Construction Waste in NSW* (EPA 2019). Waste inspectors will be empowered to reject loads suspected of containing waste that cannot be accepted by the site (eg asbestos containing material) or that is odorous.
1.4 Rejected loads register	Any incoming waste loads that are suspected to contain contaminants will be rejected and the customer will be required to take the contaminated load out of the ARRC immediately. Among other details, vehicle number plates will be recorded in a 'rejected load' register (refer Section 2.2.4i).
Standard 2: Sorting requirements	
2.1 Sorting	Co-mingled and other pre-classified waste will be directed to the unloading and processing area within the warehouse so that the materials can be spread, inspected, and manually unloaded safely in an area away from trucks, heavy machinery and mobile plant (refer Section 2.2.4ii). Segregated loads will be directed to the appropriate dedicated product bay area.
Standard 3: No mixing of waste	
3.1 No mixing of inspected and sorted construction waste with waste that has not been inspected and sorted	Waste requiring sorting will be sorted by screen and/or hand-picking line. Inspected or sorted construction waste will not be mixed with waste that has not yet been inspected or sorted. Screening will be performed by a range of screening and separating equipment, utilising the latest technology and innovation in the overall plant design. Sorted/screened waste will be either transported to product bays via front end loader or conveyor or if requiring further processing, stockpiled in intermediate stockpiles in the sorting or processing area.
Standard 4: Waste storage requirements	
4.1 Waste storage area	Material processed in the warehouse will be stockpiled in segregated product bays or temporary stockpile areas prior to dispatch. Generally, stockpiles will be: • waste stockpiles (ie truck tipping area and hand unloading area); • product stockpiles; • intermediate stockpiles; or • non-recyclable residues stockpiles. Intermediate stockpiles formed during sorting and transfer will be stockpiled in the unloading and processing area or within bins beneath processing equipment.

Table 4.1 EPA's Standards for Managing Construction Waste in NSW

Requirement	AARC operations – incoming waste plan and proposed waste recycling steps
4.2 Inspection point 3 – waste storage area	Employees will carry out regular inspections, including: • inspection of waste storage labelling; • inspection of waste stockpiles to ensure the waste is labelled correctly, and that it is not contaminated with any other type of waste; and • recording observations, such as incidents of waste stored in the wrong area, and including the date, time, and the name and role of the trained personnel carrying out the inspection.
Standard 5: Transport requirements	
5.1 Transport requirements	Construction waste will not be transported from the ARRC unless it has been inspected, sorted, and stored in accordance with the EPA's Standards for Managing Construction Waste in NSW (EPA 2019), or it has been rejected from the facility upon initial inspection. The load of waste to be transported is to consist of a listed waste type or waste that meets the requirements of a resource recovery order of the recovered fines specifications.

A waste management plan will be prepared in accordance with the EPA's *Standards for Managing Construction Waste in NSW* (EPA 2019) following approval of the ARRC. The plan will include detailed procedures for inspecting incoming waste and identifying suspected contaminated loads. It will need to be approved by DPIE prior to the commencement of operations.

4.1.5 Proposed hours of transporting materials

The EIS states that the proposed hours of operation for the RRF will be 24 hours, 7 days per week. Please clarify the proposed hours for transporting materials, including the receipt of incoming waste materials, and the distribution of processing/recycled materials, as well as unsuitable materials to be transported off site for landfill disposal (ie non-recyclables).

The applicants are seeking approval for 24-hour per day operations to allow the ARRC to accept waste and provide recycled products to civil construction and night-time infrastructure works in Western Sydney. This includes approval to accept waste, process waste and dispatch products.

The environmental assessments assume that 80% of the ARRC throughput will arrive and be despatched during standard daytime hours and 20% will arrive and be dispatched during the evening and night-time periods. While there will be less heavy vehicle movements during the weekends, due to less commercial activity and construction occurring during weekends, it is assumed there will be a similar breakdown of throughput during the daytime and night time period on weekends as the ARRC will service weekend 24 hour infrastructure works.

Transfer of waste and recycled product to and from other KLF facilities (approximately 100,000 to 200,000 tpa) will generally occur during daytime hours only. Dispatch of non-recyclable residues prior to approval of infilling and following rehabilitation of the quarry, will also occur in daytime hours only.

The 24-hour per day operations will commence as soon as commercially viable. It is noted that the neighbouring WSA will also operate 24-hours per day.

4.1.6 Traffic and transport

i Road upgrades

The TIA notes the northern section of Adams Road and the Adams Road/Elizabeth Drive intersection will need to be upgraded. Please clarify whether these upgrades form part of this development application and include all relevant details required by the roads authority to undertake an assessment. It is noted the TIA relies on these upgrades being completed prior to operation.

Further clarification is required on the extent of works proposed (for example, whether the proposal include upgrades to the Adams Road/Elizabeth Dr Intersection) and staging of the works.

The revised transport strategy and proposed roadworks required are outlined in Section 3.1.1.

ii Project traffic

Provide a breakdown of heavy vehicle and light vehicles, including in AM and PM timeframes. The EIS states that the RRF will generate up to 1,386 vehicle movements during full production.

Revised ARRC vehicle numbers, including a breakdown of heavy vehicles movements in the AM and PM peak are presented in Section 3.3.

iii Potable water and septic waste heavy vehicle movements

Provide details of the frequency of trucks which will be bringing potable water to the site and trucks attending the site to remove septic waste. This information will also need to be factored into the traffic impact assessment.

The water balance carried out as part of the surface water assessment for the EIS (Appendix K of the EIS) estimated in a typical median rainfall year, 2.6 ML/year of potable water would be required for ARRC operations. This equates to approximately 0.05 ML (50,000 L) per week. Prior to the subject property being connected to the Sydney Water mains, potable water will be delivered to the site by a water tanker. These generally have a capacity of approximately 18,000 L equating to up to 3 potable water deliveries per week (ie 6 heavy vehicle movements per week).

It is noted that soil washing (high water demand scenario outlined in Appendix K of the EIS) would not be carried out until Sydney Water mains are connected to the site.

The wastewater system will require pumping out on a monthly basis (ie 2 traffic movements per month).

Due to low number of traffic movements associated with potable and wastewater servicing, these movements have not been explicitly accounted for in the traffic impact assessment as they would be negligible compared to overall site traffic. It is noted that these movements would be scheduled as far as practicable to occur outside of peak hours.

iv Internal access road

Section 2.1 of the EIS notes the project would involve the construction and upgrade of the internal access road connecting the proposed RRF to Adams Road and this would include minor widening. However, the EIS does not provide details or design plans on what those proposed upgrades would entail. It is requested further information (and any engineering plans) are provided.

Appendix B of the EIS contained design plans for the proposed ARRC internal access road. Page 15 of this Appendix shows the extent of the ARRC site roadworks, while Page 16 shows a bulk earthworks plan outlining the required cut and fill to establish the ARRC site internal access road (and overall ARRC site). Page 20 and 21 of Appendix B of the EIS show a longitudinal section of the internal access road and cross-sections respectively.

v Duration of ARRC waste acceptance and despatching activities and maximum vehicles on site

Provide further breakdown of vehicle waiting and activity duration during peak operations for:

- vehicles waiting to access the site and the RRF;
- vehicles at the weighbridge;
- vehicles within the RRF, waiting to access unloading areas;
- vehicle unloading/loading times;
- vehicles exiting the site; and
- the differences between weekdays and weekends.

A breakdown of times for vehicles accessing the ARRC, unloading/loading within the ARRC warehouse and exiting the ARRC site is provided in Table 4.2.

There will be less heavy vehicle movements during the weekends as there will be less commercial activity at weekends.

Table 4.2 Delivery and dispatching activities

Task	Maximum time to complete task
Delivery	
1. Incoming vehicles will enter the site and be weighed and inspected at the weighbridge. Any loads suspected to contain material that cannot be accepted by the site will be rejected and directed to the exit weighbridge.	2 minutes
2. Vehicles will travel to the tipping areas and be unloaded and inspected. If unacceptable waste is identified, they will be re-loaded and directed to the exit weighbridges.	10 minutes
3. Outgoing vehicles will be weighed and invoiced at the weighbridges and leave the site.	1.5 minutes
Total time on site:	***13.5 minutes***

Table 4.2 Delivery and dispatching activities

Task	Maximum time to complete task
Dispatching	
1. Incoming empty vehicles will enter the site. Most of these vehicles will have their tare pre recorded and therefore will enter the ARRC warehouse directly from the western ARRC warehouse door (refer Figure 4.1). Vehicles requiring their tare to be recorded will proceed to the inbound weighbridge where they will be processed in 1.5 minutes (less time than vehicles despatching waste as no inspection required).	1.5 minutes
2. Vehicles will travel to the stockpile area and be loaded from stockpiles as required, receive a docket and travel to the weighbridge.	10 minutes
3. Outgoing vehicles will be weighed and invoiced if necessary at the weighbridge and leave the site.	1.5 minutes
Total time on site:	***13 minutes***

As identified in the Addendum TIA (Appendix E), at peak operations up to 39 heavy vehicles per hour will access the site comprising of:

- 29 heavy vehicles for waste receivals; and
- 10 vehicles for dispatch of recycled product and non-recyclable residues.

In addition one light vehicle will access the site to deliver waste.

A snapshot of the maximum number of heavy vehicles on site, based on the peak hour operation traffic volumes and the maximum time a vehicle would be on site is provided in Table 4.3.

The ARRC site's capacity to accommodate the predicted maximum number of vehicles on site is shown on Figure 3.1.

KEY

- Subject property
- ARRC site
- Indicative detailed layout

Proposed element

- ARRC warehouse
- Awning
- Carpark
- Drainage outlet
- Fuel store
- Hand unloading area
- Hardstand
- Internal road
- Kerb/pedestrain area
- Landscaping
- Office over ground floor
- On-site detention
- Product bay
- Site office
- Ticketbooth
- Unloading/processing
- Water treatment infrastruture
- Weighbridge
- Workshop and hazardous materials storage

Vehicles on-site

- Heavy vehicles (dispatch)
- Heavy vehicle (receival)
- Light vehicle (receival)

Maximum number of vehicles on site

Source: EMM (2021); DFSI (2017); GA (2011); Nearmap (2020); Indesco (2021)

0 25 50 m

GDA 1994 MGA Zone 56

N

\\Emmsvr1\emm\Jobs\2019\J190749 - CPG Luddenham Quarry\GIS\02 Maps\SSD Recycling Facility\Submissions report\SUR006 MaxVehicleCap 20210325 02.mxd 25/03/2021

Luddenham Advanced Resource Recovery Centre
Submissions Report
Figure 4.1

EMM
creating opportunities

Table 4.3 Maximum number of heavy vehicles

Vehicle	Number of ARRC peak hour vehicles	Number of vehicles during 13.5 minute snapshot	Maximum number of vehicles on site at same time
Heavy vehicle (waste receival)	29	6.5	7
Heavy vehicle (waste dispatch)	10	2.3	3
Light vehicles (waste receival)	1	0.2	1

vi Emergency shutdown

Provide further details regarding the proposed operational measures to manage all traffic arriving at the site during peak operations and during an emergency plant shutdown or similar.

All site staff would be immediately notified of an emergency plant shutdown and a traffic controller/s would prevent all vehicles from entering the ARRC site and on-site vehicles would remain on site until the incident has been resolved or they are cleared to exit. In the event of a plant shutdown, vehicles would be directed to the cul-de-sac at the southern extent of the site access road where they can turn and exit via the internal access road avoiding the potential for any queuing impacts on the road network.

In the event of a minor incident (eg a FEL breakdown), the site will remain open in a limited capacity, as appropriate for the incident. This may include turning away heavy vehicles and allowing only hand unloading operations until the issue is resolved.

Emergency shutdown and incident management procedures will be documented in the OEMP, operational traffic management plan (OTMP) and Emergency and Incident Management Plan.

vii Segregation of designated hand unloading area

Update the site plans to identify the location of where heavy vehicles with comingled waste and segregated loads would be directed and the location of the light vehicles designated hand unloading area.

The indicative location of the hand unloading area is shown on Figure 1.2.

Heavy vehicles with comingled waste will be directed to the unloading processing area. Light vehicles will be directed to the designated hand unloading area so that they can be manually unloaded safely in a location that is away from trucks, heavy machinery and mobile plant. The location of the hand unloading area may vary over time due to operational requirements. Notwithstanding, this area will be segregated from the other areas of the ARRC warehouse through the use of concrete bollards or similar to ensure the safety of ARRC staff and patrons.

viii Swept path analysis

The Department notes swept path analysis was provided for the largest vehicle proposed to enter the site and the product bay. Swept paths must also be provided for heavy vehicles in the 'tip and spread area' and for light vehicles manoeuvring around the site including but not limited to:

- on site car parking areas to demonstrate safe manoeuvrability in and out of car park; and
- light vehicle movements throughout the site including the designated hand unloading area to to ensure no conflict with heavy vehicles.

Revised swept paths for B-doubles and light vehicles entering and moving through the ARRC warehouse and site are contained in Appendix D of the Addendum TIA contained in Appendix E.

ix Onsite vehicle stacking analysis

Please provide an analysis of the worst case vehicle stacking/queuing/waiting scenario (including any stacking/queuing/waiting on the internal access road) based on the proposed processing capacity, peak delivery times (including quarrying operations) and the duration of time a vehicle is on site. This should be in the form of scaled plan with supporting information.

The refined ARRC site layout includes a second inbound weighbridge to allow faster processing of inbound vehicles (refer Figure 1.2 and Section 3.1.3). A queuing analysis based on the maximum processing times outlined in Table 4.2 in Section 4.1.6v above is provided in the Addendum TIA in Appendix E.

During peak operations, there will be about 29 heavy vehicles per hour delivering waste. These will move through the inbound weighbridges. The maximum queue length at each weighbridge is predicted to be 1.5 heavy vehicles (ie 3 heavy vehicles waiting to be weighed). These will be accommodated on roadway north of the warehouse and queueing on the main access road will not be required.

At the same time, there will be 10 vehicles per hour loading recycled product. These will enter the western entrance of the warehouse. Assuming a maximum loading time of 10 minutes (refer Section 4.1.6v), there will be no queuing of heavy vehicles entering the western ARRC warehouse as three B-doubles can be accommodated concurrently in this portion of the ARRC warehouse (refer Figure 4.1).

These vehicles will leave via the outbound weighbridge. With a 1.5-minute maximum processing time at the outbound weighbridge, there will be up to 8 vehicles in the queue. This would be 120 m long, conservatively assuming all vehicles are B-doubles. This queue will be accommodated on the approach to the outbound weighbridge on the eastern and southern side of the warehouse.

Vehicles that have entered the western entrance and picked up product will give way to inbound vehicles before turning right out of the ARRC warehouse, these vehicles travelling around the south-east corner of the ARRC warehouse will then give way to vehicles exiting the southern entrance of the warehouse (ie vehicles that have just unloaded). These priority movements are shown on the revised design overview contained in Appendix D.

4.1.7 Surface water

i ARRC water management

a Water treatment system

It is noted a leachate tank is proposed to be located within the RRF for the capture of dirty water from processing operations. Please update the site plans to show the location of the internal leachate collection system. Furthermore, please provide details on the following:

- the process in which dirty water/leachate will be collected within the warehouse;
- the capacity of the leachate tank;
- the amount of leachate generated from operational activities;
- the frequency in which leachate will be pumped out and removed from the tank/ disposed off-site; and
- how the leachate tank will be stored within the warehouse.

Provide further details on the proposed water quality monitoring methodology for treated water which is proposed to be reused for site operations, including frequency of sampling and appropriate water quality criteria.

Water will be used within the ARRC warehouse for dust suppression and washdown of operational areas. Approval is also sought for soil washing. Water will drain via drains in the floor of the ARRC warehouse to a leachate tank within the water treatment plant located in the water management infrastructure area to the south of the ARRC warehouse (refer Figure 1.2).

As outlined in the EIS Surface Water Assessment (EIS SWA) (EMM 2020f) appended as Appendix K to the EIS, the capacity of the leachate tank will be approximately 130 kL.

Prior to the start of soil washing (dependant of connection with Sydney Water and market demand), the quantity of water collected in the leachate tank from activities within the ARRC will be approximately 2.7 ML/year. Once soil washing is carried out, the quantity of water collected will be approximately 33.9 ML/year.

Leachate will be treated in the water treatment plant which has a treatment rate of up to 6 L/s. The water balance carried out as part of the EIS SWA, did not identify any overflows from the water treatment plant or water reuse tanks.

There will be scheduled maintenance of the water treatment plant of up to 12 hours per week which will include a monitoring procedure including testing of outflow. Refill of chemicals and sludge removal will also occur during this time. A detailed operations and maintenance manual will be documented during the detailed design process which will detail frequency and predicted quantity of sludge removal. At this stage, it is anticipated that sludge will required removal on a monthly basis to a licenced landfill or waste water treatment plant.

Treated water will be stored in the reuse tanks within the water management infrastructure area ready for reuse within the ARRC warehouse. Treated water will not be discharged to Oaky Creek.

b Wheel wash

Provide further clarification on the management of wheel wash water, including details on where the wheel wash water will be stored, treated and/or discharged or reused. Please also provide further details on how the tracking of mud within the RRF and site will be managed from incoming/outgoing vehicles.

All vehicles accessing the ARRC will travel to the site via the public road network and the sealed site access road. All areas of the ARRC site trafficked by vehicles and machinery will be hardstand and therefore there will be minimal potential for mud to be tracked into or out of the ARRC site.

As outlined in the response above, operational areas (ie unloading and sorting areas) within the ARRC will be washed down as required to prevent fine materials building up on the floor of the warehouse. This wash-down water collected in the warehouse drains and treated prior to reuse.

All vehicles delivering waste or dispatching products will exit vi the outgoing weighbridge. As outlined in Section 2.1.4 of the EIS, the exit weighbridge will be fitted with a self-contained wheel wash that will wash sediment from the outgoing vehicles.

The wheel wash will be regularly topped up with water as it loses water continually on vehicle tyres moving through it. If the wheel wash needs to be emptied for maintenance, the water will be pumped to the water treatment system for treatment and reuse on site. Alternatively, a contractor suction truck will pump out the water and remove to a licenced facility.

c Fire water

Section 6.4.3 of the EIS details that after a fire event, retained fire water would be tested to determine if safe to discharge into the stormwater system. Provide further details on the proposed water quality monitoring methodology and appropriate water quality criteria which would be used to assess the fire water prior to discharge.

An operational environmental management plan will be prepared in consultation with the EPA following the approval of the project. This plan will include details on the monitoring program and performance criteria (including water quality trigger levels), as well as monitoring reporting procedures and plans to respond to any exceedances of the performance criteria. Monitoring parameters for retained fire water will be consistent with the surface water monitoring program proposed in Section 8.1 of the EIS SWA.

d Stormwater

It is understood stormwater overflows from the proposed onsite detention storage basin will discharge to Oaky Creek. Provide details on how water quality will be assessed and monitored from the overflow of the stormwater detention basin. Please update site plans to show the location of the stormwater discharge point into Oaky Creek.

The onsite detention basin will contain runoff from external paved areas of the site. Water from within the warehouse will be directed to the water treatment plant and not the detention basin.

Monitoring parameters for the onsite detention basin are proposed in Section 8.1 of the EIS SWA. An operational environmental management plan will be prepared in consultation with DPIE and the EPA following the approval of the project. Water quality trigger values will be developed as part of the management plan and water quality monitoring of the onsite detention basin will be evaluated against trigger values through a Trigger Action Response Plan.

The discharge point to Oaky Creek from the onsite detention basin is shown on Figure 1.2 with a concept plan provided in Appendix D.

e Riparian corridor

The EIS states the development has been designed to avoid potential impacts to the Oaky Creek riparian zone. Provide details on the established riparian buffer and specify the minimum distance between the RRF and the Oaky Creek riparian corridor. Update site plans to clearly show the location of the Oaky Creek riparian corridor.

NRAR (2018) provides guidance on riparian corridors based on the stream order. Oaky Creek is a third order stream. The guidelines require a 30-m wide riparian corridor, measured from the top of bank, on each side of a third order stream.

The top of bank of Oaky Creek has been located using GIS. The 30-m wide Oaky Creek Riparian zone, measured in accordance with NRAR (2018) is shown in Figure 4.1. The Aerotropolis SEPP Environment and Recreation zone boundaries are also shown for reference.

The riparian corridor for Oaky Creek is fully within the new Aerotropolis SEPP Environment and Recreation zone. As shown in Figure 4.1, the ARRC site does not encroach on the 30 m wide riparian corridor.

f Erosion and sediment controls

Provide details on the sediment and erosion controls and measures to be implemented through the various stages of construction works proposed for the development.

Section 7.11.5 of the EIS outlines the sediment and erosion control management measures to be implemented during construction of the ARRC. These management measures are based on the principles of erosion and sediment control detailed in Landcom (2004).

A detailed erosion and sediment control plan will be prepared as part of the construction environmental management plan.

4.1.8 Aboriginal cultural heritage

The Department notes that a draft Aboriginal Cultural Heritage Assessment Report (ACHAR) which includes the test excavation methodology was submitted in the EIS. The test excavation activities and results are still pending following further consultation with the Registered Aboriginal Parties (RAPs). As per the comments from NSW Heritage, it is requested that the details of the consultation with the RAPs and results of the test excavations are provided for review.

The finalised ACHA is contained in Appendix J of this report and summarised in Section 3.3.6 above.

4.1.9 Contamination

A Preliminary Site Investigation (PSI) was prepared to identify potential contamination at the site which may impact the proposed development and intended use of the site as an RRF. The PSI does not provide a definitive conclusion that the site is suitable for the intended use. Further information is required in this regard as per the requirements of SEPP 55.

There is a low potential for contamination on the site and any unexpected finds will be managed in accordance with the relevant statutory guidelines and be remediated or removed offsite to a licensed facility, making the site suitable for the proposed resource recovery facility land use.

KEY

- Subject property
- ARRC site
- Oaky Creek riparian zone
- Cadastral boundary
- Oaky Creek top of bank survey

Land zoning

- ENZ - Environment and Recreation

\\Emmsvr1\emm\Jobs\2019\J190749 - CPG Luddenham Quarry\GIS\02 Maps\SSD Recycling Facility\Submissions report\SUR005 RiparianCorridor 20210323 01.mxd 25/03/2021

Source: EMM (2021); DFSI (2017); DPIE (2021);

0 100 200 m

GDA 1994 MGA Zone 56

N

Oaky Creek riparian corridor

Luddenham Advanced Resource Recovery Centre
Submissions Report
Figure 4.2

EMM
creating opportunities

4.1.10 Airport safeguarding

The Aeronautical Impact Assessment concludes that the proposed RRF development is likely to infringe on the Building Restricted Areas (BRA) for the WSA Ground Based Augmentation System (GBAs) during the second stage of the airport development, if the GBAs are located adjacent to the site. Provide further details on whether further consultation has been sought with the WSA Corporation regarding the placement of the Airport GBAs and whether this will have implications on the design and operation of the development.

As noted in Section 3.3.5, the Aeronautical impact assessment has been revised in response to further consultation with WSA and Airservices Australia. The updated assessment is appended as Appendix I and contains further information regarding the potential location for the northern WSA GBAS site. It is understood that the proposed location is one of the options under consideration and that a GBAS in this location would need be raised to allow signal propagation to be clear of proposed terminal buildings, the fuel farm (adjacent to the ARRC), other airport infrastructure and potentially development within the Aerotropolis Agribusiness Zone (to the west) and Enterprise Zone (to the north). No design or specification is available for detailed assessment and no decision has been made by WSA on the final location and timing of the GBAS. It is understood that there are other suitable GBAS sites within the airport site.

4.1.11 Fire management

Section 2.1.8 of the EIS details the proposed fire safety measures to be installed however the EIS has not identified the separation distances or size/volumes of waste stockpiles. Please demonstrate the proposal is consistent with the NSW Fire and Rescue's document "Fire Safety Guideline: Fire Safety in Waste Facilities", 2020, including minimising fire spread and facilitating emergency vehicle access.

As described in Appendix B of the EIS, the walls of the recycled product bays (11 m) have been designed to be 1 m higher than the maximum stockpile height (10 m) within these product bays in accordance with FRNSW (2020). The walls will be concrete.

Intermediate bays and temporary stockpiles will be limited to a maximum stockpile size of 1,000 m^3 in accordance with FRNSW (2020). All stockpile areas and product bays will be directly accessible to a fire appliance (refer swept paths in Addendum TIA).

4.1.12 Hazardous materials storage

The EIS states hazardous chemicals will be stored in bunded facilities within the RRF in accordance with relevant government guidelines and Australian Standard 1940:2004. Please update the relevant site plans to show the storage location of the hazardous chemical.

Hazardous materials will be stored in a designated area immediately adjacent to the fuel store on the eastern internal wall of the ARRC warehouse as shown on Figure 1.2.

4.1.13 Timing of site development stages

As per comments from the DITRC the timing of the various stages of the development and other development on site over the medium to long-term in unclear.

The indicative staging of CPF/KLF's vision as outlined in Section 1.1 is as follows:

- Stage 1 – Quarry extraction will be carried out as per the approved quarry consent until December 2024;
- Stage 2 – Construction and operation of the ARRC and infilling of the quarry void;
    - the ARRC will be constructed and commence operations immediately following the granting of all necessary approvals; and
    - the infilling of the quarry (including installation of an appropriate liner and a leachate collection system), pending approval of the future modification application, will commence following completion of quarry extraction in December 2024. As noted, the rate of filling is unknown at this stage and will be dependent on market forces and the demand for resource recovery as the Aerotropolis develops. It is anticipated, however that the void could take in the order of 15 years to fill subject to market conditions.
- Stage 3 – Final agribusiness land use and ongoing ARRC operations;
    - the ARRC will continue to operate following final rehabilitation of the void, with non-recyclable residues being removed to a licensed offsite facility for disposal; and
    - an agribusiness hub will be developed on the site of the rehabilitated quarry, supporting food production, processing, freight transport, warehousing, and distribution.

4.1.14 Infilling the quarry void

Provide details on the anticipated volume of non-recyclable materials that would be required to rehabilitate the quarry void, and who will be responsible for overseeing the mobilisation and disposal of wastes from the RRF to the quarry.

The infilling of the quarry void with non-recyclable residues from the ARRC will be subject to a separate modification application of the existing quarry consent and therefore is outside of the scope of the ARRC project. Preliminary design work has commenced (refer Appendix H) with the modification application expected to be lodged sometime in 2022.

Notwithstanding, it is expected approximately 2,800 kilotonnes of material will be required to fill the void. This will consist of non-recyclable residues as well as daily cover and intermediate cover material (refer Appendix H).

KLF will be responsible for the dispatch of non-recyclable residues to the quarry void.

Notwithstanding that infilling of the quarry void is outside the scope of the application for the ARRC, cumulative air quality and traffic impacts of concurrent ARRC and infilling operations have been assessed in the Addendum TIA and Addendum AQIA (refer Appendix E and Appendix F respectively). Both assessments assumed an indicative infilling timeframe of 15 years although the Addendum AQIA assumed a higher annual infill rate to assess a worst-case scenario. These assessments did not identify any significant adverse impacts on WSA airport operations. The predicted LoS of the road network will not decrease as a result of ARRC or quarry infill traffic (refer Section 3.3.2) and predictions for a number of future airport receptors indicate that there would be no air quality impact for the operation of the WSA, with exceedances of the impact assessment criteria limited to the boundary between the fuel farm and the subject property where exposure risk will be minimal (refer Section 4.1.1vi). Detailed technical assessments will be carried out as part of the future modification application for the infilling activities.

Prior to completion of the resource extraction by 31 December 2024 or approval to rehabilitate the void, and following the completion of quarry rehabilitation, non-recyclable residues will be transported off-site to a facility that is licenced to accept this waste.

4.1.15 Applicant roles and responsibilities

Section 1.2 of the EIS states that the project Applicants include a subsidiary of the Coombes Property Group (CPG) and KLF. Please clarify and provide further details on the roles and responsibilities of each Applicant, including (but not limited) to the land ownership, construction and operations of the RRF.

The landowner of the subject property is CFT No. 13 Pty Ltd, a member of the Coombes Property Group.

The ARRC will be developed jointly by CPG and KLF.

KLF will be responsible for ARRC operations through its trading entity KLF Recycling Park Luddenham Pty Ltd.

4.1.16 Site history

Provide further details on the site history, including land-use and development approvals, including Council development consents and environment protection licences (if any).

Prior to the use of the subject property for extractive purposes, the property was used for agricultural purposes, predominately grazing and horse training.

The subject property is subject to SSD consent DA No. 315-7-2003 which allows for the development and operation of a clay/shale quarry extracting up to 300,000 tpa until December 2024. Consent for the quarry was granted in 2004, however operations did not commence until January 2010 (DPE 2015).

It is understood that operations ceased under the previous operator in early 2018. The previous Environment Protection Licence (EPL 12863) for the quarry was suspended on the 9 August 2019 as the previous site owners had not paid the annual licence fees. The EPA EPL 12863 in May 2020. A new EPL will be required for the ARRC.

4.1.17 Collaboration with UNSW

It is requested further details are provided on the proposed collaboration with NSW Circular and UNSW Material Sciences.

Using principles of the circular economy, the applicants' collaboration with the University of NSW Material Sciences seeks to explore research opportunities to divert construction and demolition waste from fill to create building products using advanced manufacturing processes. This collaboration to date has included working together to identify funding opportunities (including grants).

4.1.18 Clarification of proposed zoning boundaries

An overlay is requested to show how the development is located in relation to the existing and proposed zoning boundaries.

The ARRC site in the context of the new Aerotropolis SEPP zoning is shown in Figure 3.5.

4.1.19 Capital investment value

It is noted the Quantity Surveyor (QS) report does not include the cost of operational plant and equipment to be installed on site in the capital investment value (CIV). In accordance with the definition of CIV under the EP&A Regulation 2000 these costs must be included as they are costs necessary to establish and operate the development. Furthermore, should upgrades works to the northern section of Adams Road and the Adams Road/Elizabeth Drive intersection form part of this development application, these costs must also be included in the CIV.

The capital investment value (CIV) has been updated to account for the operational plant and equipment and the required road upgrades and is contained as Appendix L. It should be noted that a further update of the CIV will be required once the scope of road works has been confirmed in consultation with TfNSW and Liverpool City Council.

4.2 Western Sydney Planning Partnership

4.2.1 Aerotropolis SEPP

i Permissibility

The subject site (Lot 3, DP 623799) is located within the Agribusiness Precinct and zoned part 'Agribusiness' and part zoned 'Environment and Recreation' (see Figure 1 below) under the SEPP. Resource Recovery Facilities are listed as a prohibited use within both the Agribusiness Zone and the Environment and Recreation Zone under the Aerotropolis SEPP.

As noted in Section 3.4, the ARRC is permissible pursuant to Clause 53(1) of the Aerotropolis SEPP.

ii Compatibility with the Agribusiness zone

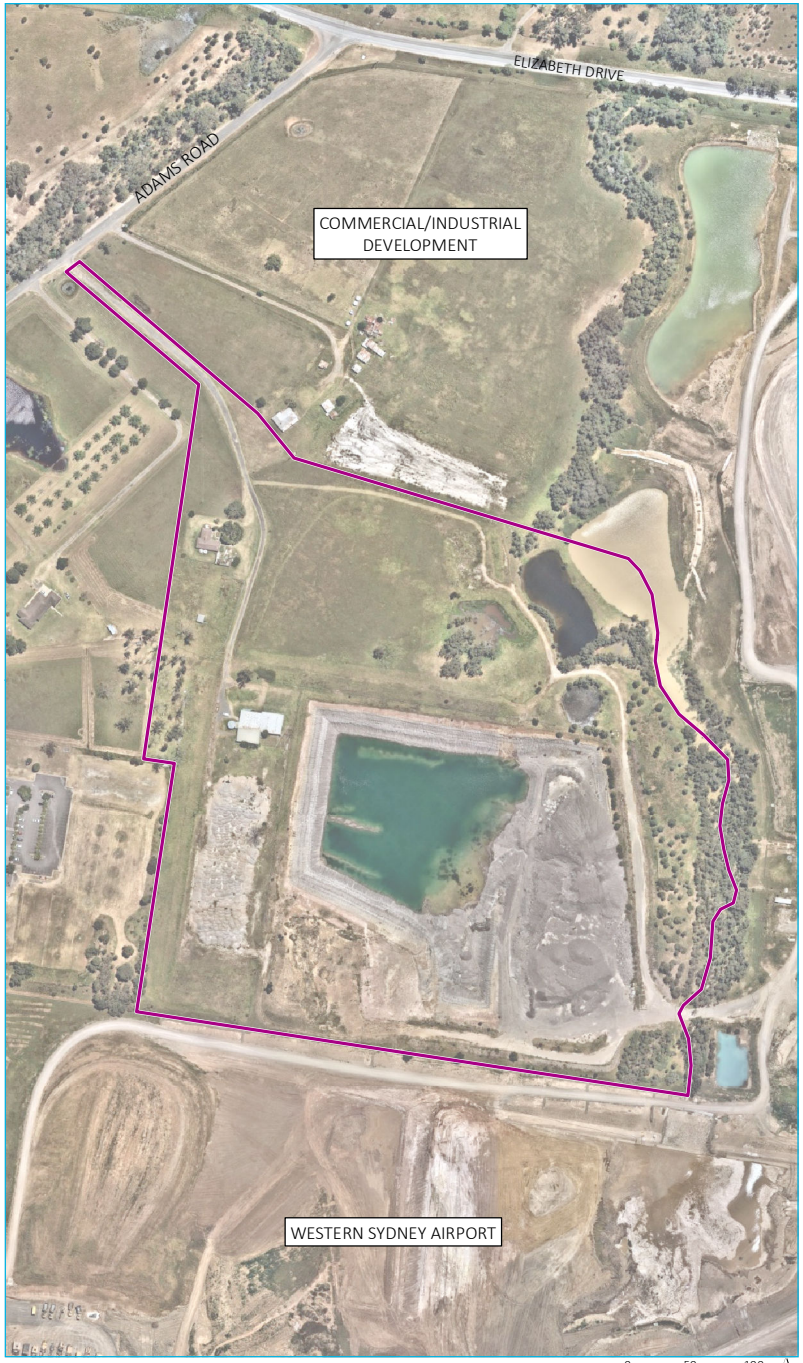
The Aerotropolis SEPP lists the following objectives for the Agribusiness zone:

- To encourage diversity in agribusiness, including related supply chain industries and food production and processing that are appropriate for the area.
- To encourage sustainable and high technology agribusiness, including agricultural produce industries.
- To enable sustainable agritourism.
- To encourage development that is consistent with the character of Luddenham village.
- To maintain the rural landscape character and biodiversity of the area.

Based on the above objectives, the Partnership is of the view the proposed use is not in keeping with the objectives and desired outcomes of the Agribusiness zone and therefore should not be supported.

The subject property, with a substantial, unrehabilitated quarry, presents a unique situation which is not envisaged in the Aerotropolis SEPP. There are no obligations under the existing quarry consent to fill the quarry void. In its current state, the subject property is not compatible with the Western Sydney Aerotropolis vision.

The ARRC provides a viable solution to in filling the void and enabling a staged long-term transformation of the subject property from the existing quarry to a final land use aligned with the objectives of the Agribusiness zone. Without the ARRC project, the quarry void will remain and over 50% of the site sterilised from future agribusiness development. The 'do nothing' scenario compared to the final land use vision is shown in Figure 4.3.



KEY

Subject property

\\Emmsvr1\emm\Jobs\2019\190749 - CPG Luddenham Quarry\GIS\02 Maps\SSD Recycling Facility\Submissions report\SUR003 ConceptPlan 20210322 01.mxd 25/03/2021

Source: EMM (2021); DFSI (2017); Indesco (2020); Nearmap (2021)

0 50 100 m

GDA 1994 MGA Zone 56

N

Conceptual final land use: staged development versus the 'do nothing' option

Luddenham Advanced Resource Recovery Centre

Submissions Report

Figure 4.3

EMM creating opportunities

The ARRC's compatibility with the Agribusiness zone objectives is considered in Table 4.4.

Table 4.4 Compatibility with the Agribusiness zone objectives

Objective	Consideration
• To encourage diversity in agribusiness, including related supply chain industries and food production and processing that are appropriate for the area.	The project, as the second step in CPG's vision (refer Section 1.1), provides a pathway for a viable future agribusiness land use on the subject property. Separate to the ARRC project, CPG's commitment to achieving agribusiness land-use on the subject property in the long term is evidenced through the applicants' partnership with ACFS Port Logistics to use other areas within the subject property, including the rehabilitated quarry as a logistics distribution centre. CPG will own, develop and manage the warehouses constructed on the rehabilitated quarry and ACFS Port Logistics and its customers will use the warehouses for the purposes of an agribusiness logistics hub.
• To encourage sustainable and high technology agribusiness, including agricultural produce industries.	As per the above response. As a fully enclosed, leading practice facility, the ARRC will not adversely affect existing or developing agribusiness enterprises or agricultural produce industries in the area. Furthermore, the ARRC will contribute to a circular economy, including research and product development to produce high value sustainable construction materials.
• To enable sustainable agritourism	The ARRC will not adversely impact on WSA operations or conflict with agritourism enterprises in the area. Road upgrades carried out for the ARRC will benefit other existing or developing businesses in the area.
• To encourage development that is consistent with the character of Luddenham village	The project will not impact on the character of Luddenham Village. The ARRC is located approximately 3 km to the north-east of Luddenham Village. ARRC traffic will not travel through Luddenham Village (unless servicing a business or construction project within Luddenham Village). The project is expected to have a number of socio-economic benefits such as employment opportunities, providing local construction and demolition waste services, resource recovery for use in construction, and economic benefits to the local area and Western Sydney economy.
• To maintain the rural landscape character and biodiversity of the area	The subject property, with an existing quarry and immediately adjacent to the construction of the WSA is not considered to have a strong rural character. The ARRC has been designed to avoid the Oaky Creek riparian corridor. The warehouse is in keeping with the land uses for the surrounding area as envisaged by the draft Precinct Plan (see Section 4.2.4).

iii Environment and Recreation zone

The Partnership is concerned the impact the development may have on the Environment and Recreation zone. As such, it is recommended the Proponent provides an overlay to demonstrate how the proposed development compares to the zoning of the subject site.

The ARRC site in relation to the Environment and Recreation zone is shown in Figure 3.5 above.

4.2.2 Aerotropolis Plan

i Vision of the Aerotropolis Plan

The WSAP establishes a vision, objectives and principles for the development of the Aerotropolis. The Agribusiness Precinct is identified primarily for agricultural and agribusiness land uses. A resource recovery facility does not align with the precinct's vision or intent. The Precinct will build on existing agricultural operations and natural landscape character, acting as a catalyst for agricultural export from the region.

The proposed land use is not considered to be a desirable land use in this precinct. Such a use would be better placed in the Enterprise Zone.

As noted above, the subject property, with a substantial, unrehabilitated quarry, presents a unique situation which is not envisaged in the Aerotropolis SEPP or Aerotropolis Plan.

The ARRC provides a viable solution to infilling the void and fulfilling the vision of the Aerotropolis Plan. This will be achieved through a staged, long-term transformation of the subject property into an employment generating agribusiness hub while contributing directly to the realisation of a circular economy (Objective 5 of the Aerotropolis Plan).

The proposal may meet the outcomes on ‘enable smart city and digital integration into research, education and logistics’, this is due to a proposed collaboration with NSW Circular and UNSW Material Sciences. The proposal may also ‘integrate sustainable energy, waste and water as well as circular economy design principles into development and operations’. Waste from within the Aerotropolis and Western Sydney can be recycled and repurposed on site. The proposal will also harvest rain from the warehouse roof for internal use.

As suggested, the applicants are aligned with these components of the Aerotropolis vision to realise a smart city and will integrate sustainable energy, waste and water, as well as circular economy design principles into development and operations of the ARRC.

It is acknowledged Stage 3 of the development on the proposed site (not part of this current application) for a sustainable and high-tech agribusiness hub supporting food production, processing, freight transport, warehousing, and distribution may meet the vision and objectives of the Agribusiness precinct.

As noted above, the ARRC project, as part of the staged development of the subject property, provides a financially viable approach for quarry rehabilitation and the staged delivery of agribusiness warehousing and logistics hubs, alongside the ongoing contribution to the realisation of a circular economy via the ARRC.

ii Agribusiness precinct key matters for consideration and strategic outcomes

The WSAP identifies numerous key matters for consideration regarding the Agribusiness precinct, that should be addressed when contemplating the development of the precinct. The proposed development does not demonstrate how it will support the existing rural industry, nor does it address how it will minimise land use conflicts with these industries or the desired future land uses permitted in the zone. It is also unclear how it will incorporate the existing rural landscape of the subject site and surrounding area. The proposal also fails to address key issues related to the site, including but not limited to that of aircraft noise, safeguarding for airport operations, wildlife attraction, biosecurity and recognising of existing communities such as the Luddenham Village. A separate comment in relation to heritage is found later in the assessment.

The WSAP also lists numerous strategic outcomes for the Agribusiness precinct. Of the relevant matters related to proposed development, it is submitted the proposal does not satisfy the following:

- provide a world-class agriculture and agribusiness precinct that will deliver fresh and value-added Australian food production from farm gate to the global market;
- provide an integrated intensive production hub and state of the art integrated logistics hub to deliver a multi-modal supply chain solution for agricultural products to Greater Sydney, NSW and Australia;
- accommodate agricultural value-added industries and freight and logistics facilities that benefit from access to the proposed Outer Sydney Orbital and air-side access to the Airport;
- support and add value to the effective ongoing agricultural industry operations and viability across the Western Parkland City and beyond (across NSW);
- provide for the movement and storage of agricultural commodities that should be connected to the commercial entrance of the Airport;
- allow for the development of integrated food supply chain related industries particularly those that rely on the skills of and proximity to a growing population in the Western Parkland City;
- facilitate education, research and development and high technology land uses associated with food production and processing;
- capitalise on the increasing domestic and international demand for high-quality fresh food and value-added pre-prepared meals;
- enable a road layout and subdivision pattern that supports the movement, storage and processing of agricultural goods and produce into and out of the Western Parkland City;
- address any potential for land use conflict between adjoining land uses as a result of future development, including airport operations; and
- enable innovative approaches to sustainability outcomes including water sensitive design, resource and liquid and solid waste management and adaptable and durable credentials as a key driver for the design and function of the precinct.

Discussion of the Aerotropolis Plan's key matters of consideration and strategic outcomes for the Agribusiness Precinct is contained in Section 3.5.

iii Implementation strategies

The proposal may prevent the following implementation strategies of the WSAP being achieved:

- establish a transport network layout that facilitates the timely movement and processing of goods and produce, as well as supporting public transport, cycling and pedestrians with appropriate amenity; and
- address the interface and relationship with the WSA freight services and airport logistics through precinct planning.

Road upgrades carried out for the ARRC will benefit the broader road network within the developing Aerotropolis, particularly through the upgrade of Adams Road to enable lifting of the existing load limit and upgrade to the Elizabeth Drive/Adams Road intersection.

Consultation is ongoing with TfNSW and LCC regarding the road upgrades proposed as part of the ARRC to ensure that the upgrades are aligned with broader road network upgrades proposed as part of the developing Aerotropolis. Future consultation regarding road upgrades will include WSPP.

The draft Precinct Plan is discussed in Section 4.2.4.

4.2.3 Aerotropolis DCP

Consideration of the WSA Development Control Plan Phase 1 Section 2.5.2 of the DCP has the following objectives regarding the Agribusiness precinct:

a) Provide a world class agribusiness precinct that will deliver fresh and value-added Australian food production from farm gate to the global market;

b) Provide an integrated intensive production and state-of-the-art integrated logistics hub to deliver a multi modal supply chain solution for Greater Sydney, NSW and Australia;

c) Accommodate agricultural value-added industries and freight and logistics facilities that benefit from access to the Outer Sydney Orbital and air-side access to the Airport;

d) Integrate sustainable energy, waste and water as well as a circular economy into development and operations

e) Allow for the successful implementation of the blue-green grid for the Western Parkland City;

f) Incorporate the values of Aboriginal people of Western Sydney into building design and landscaping;

g) Luddenham Village will provide local services supporting the precinct;

h) encourage education opportunities related to agriculture and agribusiness;

i) embrace tourism opportunities presented by the development of the Airport;

j) ensure development of the precinct in a logical and staged manner;

k) innovative development embraces and promotes new and emerging technologies;

l) protect the operations of the Airport, including 24-hour operations and provide appropriate protections for the community;

m) achieve high levels of water retention in the landscape to achieve healthy waterways, facilitate and support effective flood mitigation; and

n) ensure that design minimises energy and optimises water management providing pathways to net zero emissions and enhancement of environment across the entire Aerotropolis.

The proposed development of the subject site fails to meet the above stated objectives.

The ARRC's compatibility with the Aerotropolis Development Control Plan (DCP) objectives for the Agribusiness Precinct is considered in Table 4.5.

Table 4.5 Compatibility with Aerotropolis DCP objectives for the Agribusiness Precinct

Aerotropolis DCP Objective	Consideration
a) Provide a world class agribusiness precinct that will deliver fresh and value-added Australian food production from farm gate to the global market	The ARRC provides a pathway for a viable future agribusiness land use on the subject property.
b) Provide an integrated intensive production and state-of-the-art integrated logistics hub to deliver a multi modal supply chain solution for Greater Sydney, NSW and Australia	CPG has partnered with ACFS Port Logistics to use other areas within the subject property, including the rehabilitated quarry as a logistics distribution centre. CPG will own, develop and manage the warehouses constructed on the rehabilitated quarry and ACFS Port Logistics and it is envisaged that its customers will use the warehouses for a range of purposes, including for agribusiness logistics.
c) Accommodate agricultural value-added industries and freight and logistics facilities that benefit from access to the Outer Sydney Orbital and air-side access to the Airport	As above.
d) Integrate sustainable energy, waste and water as well as a circular economy into development and operations	The ARRC directly contributes to this objective.
e) Allow for the successful implementation of the blue-green grid for the Western Parkland City	The ARRC has been designed to avoid impact on the Oaky Creek riparian zone.
f) Incorporate the values of Aboriginal people of Western Sydney into building design and landscaping	The local Aboriginal community has been consulted with regard to the project as part of the ACHA (refer Section 3.3.6 and Appendix J).
g) Luddenham Village will provide local services supporting the precinct	The project is expected to have a number of socio-economic benefits such as employment opportunities, providing local construction and demolition waste services, resource recovery for use in construction, and economic benefits to the local area including Luddenham Village.
h) encourage education opportunities related to agriculture and agribusiness	The collaboration between the applicants and UNSW has the potential to encourage educational opportunities not only relating to a circular economy but also agribusiness (ie through the development of a recycled product to be used in the agricultural industry.
i) embrace tourism opportunities presented by the development of the Airport	While the ARRC will not directly contribute to achieving this objective, it will not impact on WSA operations or result in land use conflict with tourism opportunities in the Aerotropolis.
j) ensure development of the precinct in a logical and staged manner	The staged development of the subject property meets this objective.
k) innovative development embraces and promotes new and emerging technologies	The applicants' have partnered with UNSW to develop next generation technologies such as advanced manufacturing techniques and robotics to divert waste from fill, creating high value products.
l) protect the operations of the Airport, including 24-hour operations and provide appropriate protections for the community	The ARRC will not impact on WSA operations (refer Section 3.3.5 and Appendix I).

Table 4.5 Compatibility with Aerotropolis DCP objectives for the Agribusiness Precinct

Aerotropolis DCP Objective	Consideration
m) achieve high levels of water retention in the landscape to achieve healthy waterways, facilitate and support effective flood mitigation	The ARRC will not extract water from adjacent waterways (ie Oaky Creek) for use on site. Stormwater from hardstand areas external to the ARRC warehouse will be treated in an onsite detention basin before being discharged to Oaky Creek. The ARRC will include a water treatment plant to allow any water draining from wastes within the warehouse and for process to be treated and re-used within the warehouse.
n) ensure that design minimises energy and optimises water management providing pathways to net zero emissions and enhancement of environment across the entire Aerotropolis	The ARRC will high technology, efficient processing technologies and Tier 4 diesel plant to minimise emissions and energy use onsite. Water will be recycled for reuse through a water treatment plant.

4.2.4 Draft Precinct Plan

Precinct Planning for the Agribusiness precinct is being undertaken by the Partnership, with the draft precinct plans and supporting technical studies to be exhibited in Quarter 4 of 2020.

This application has not been able to benefit from the outcomes of this process.

The Partnership is of the firm review the proposed use is not in keeping the objectives and desired outcomes of the Agribusiness precinct and related zones.

The draft Agribusiness Precinct Plan was released in November 2020. The draft plan envisages commercial warehouse type developments in the immediate vicinity of the subject property, similar to the architecturally designed built form of the ARRC and the final land use of the site (ie Stage 3 of the subject property development).

Further discussion of the compatibility of the project with the objectives of the draft Precinct Plan is contained in Section 3.5.

4.2.5 Visual and interface matters

The subject site is irregular in shape, serviced by access handle. Despite the proposed development not fronting the street, details are required to demonstrate how any buildings will contribute in positive manner to the future streetscape envisaged by precinct plans and surrounding area.

The DCP also requires development responds to the existing topography. The EIS advises the ARRC will not encroach on the Oaky Creek riparian corridor which provides an interface between the WSA and the ARRC site. The Oaky Creek riparian corridor provides a visual buffer between the ARRC and the airport land. However, treatments to adjacent properties within the Agribusiness precinct have not been addressed.

As noted above, the architecturally designed built form of the ARRC is considered consistent with the commercial warehouse type developments envisaged in the vicinity of the subject property.

A landscape concept design was included as Appendix T of the EIS. A key design principle of the concept plan was landscape identity in the acknowledgement that landscape will be critical to making positive contribution to the changing identity and character of Western Sydney.

4.2.6 Aboriginal heritage

An AHIMS site within the subject property (#45-5-2280) is outside the area that will be impacted by the project and is currently protected by fencing. The site has heavy ground disturbance as a result of modern industrial activities. Nevertheless, the Aerotropolis is being planned with an emphasis on the conservation and celebration of Aboriginal Cultural Heritage and should the modification be given consent all processes to mitigate loss of heritage should be met, including the statutory requirements outlined in the *Heritage Act 1977* and *National Parks and Wildlife Act 1974*.

The finalised ACHA is contained in Appendix J of this report and summarised in Section 3.3.6 above.

4.3 Department of Infrastructure, Transport, Regional Development and Communities

4.3.1 Airport safeguarding

The Department would reiterate the importance of those comments from an aviation safety perspective. The Department's view remains, that the proponent has not adequately addressed concerns raised previously; this includes concerns raised by WSA, the airport operator.

AIA states the proposed development is assessed as not adversely affected aviation safety; however, the AIA does not appear to adequately substantiate these claims with evidence. This Department is concerned about the consultant's claim that quarries are "low risk", given International Civil Aviation Organisation wildlife management guidance identifies quarries and waste facilities as key potential off-airport attractants.

The applicants have met with WSA, DITRDC and Airservices Australia since the exhibition of the EIS. The purpose of this consultation has been to further understand the concerns of WSA and DITRDC as raised in their respective submissions on the EIS and to provide clarification around the scope and timing of the different development stages proposed for the subject property.

The ARRC project entails the construction and operation of a construction and demolition resource recovery centre on the subject property. It is separate from the existing quarry consent and proposed modification to restart quarrying operations. As noted, it is also separate from the future application to infill the quarry void.

The revised Aeronautical Impact Assessment (refer Appendix I) provides a detailed assessment of the potential impact on WSA of the ARRC component of the proposed developments. This assessment concludes that the ARRC does not pose a risk to WSA's operations.

4.3.2 Wildlife assessment

The wildlife assessment submitted as part of the AIA states that the 2015 EIS for WSA (prepared by this Department) did not identify any risks associated with the development site. It is important to note that when the 2015 EIS was prepared the development site was not being proposed as a waste management facility and was therefore not assessed as such. The 2015 EIS cannot be used to justify the safety of the proposed development.

This submission is noted. Notwithstanding, the Wildlife Strike and Birdstrike Risk Review (EMM 2020g) contained as Appendix B of the Aeronautical Impact Assessment (Appendix H of the EIS) found independently of the WSA EIS, that the ARRC development will reduce the wildlife risk and bird-strike risk of the subject property by reducing access to standing water on the property and developing a grass paddock into a fully enclosed warehouse.

A guiding principle of the Landscape Concept Design presented in Appendix T of the EIS is to minimise bird and wildlife attraction.

While the subject of a future application, the birdstrike risk associated with infilling the void is also considered in the Wildlife Strike and Birdstrike Risk Review and subsequently in the CDFS (refer Appendix H). The Wildlife Strike and Birdstrike Risk Review concludes that infilling activities and rehabilitation of the quarry would remove a potential wildlife risk. The CDFS outlined that facilities that dispose of general solid waste (non-putrescible) waste, specifically construction and demolition residual wastes, with good operational practices do not normally attract wildlife, specifically birds or scavengers due to the nature of the waste handled at the facility. Unlike putrescible waste facilities that do attract these pests due to food scraps and other organics being present. Non-recyclable construction and demolition residual waste will be deposited within the quarry void, spread, compacted and covered in soil in accordance with an approved OEMP and in accordance with the relevant guidelines.

4.3.3 Airservices Australia assessment

The EIS and AIA also state that Airservices Australia will need to conduct their own analysis of the project's impact on navigation aids and that the Proponent will provide Airservices Australia with detailed plans once they are available. The Department recommends that detailed plans also be provided to the airport operator.

As noted above, the applicants have met with Airservices Australia who subsequently responded by email on 27 January 2021 as follows:

> Airservices have reviewed the report 'Aeronautical Impact Assessment – Future land use at 275 Adams Road Luddenham, NSW' and believe that at the location specified, and to a maximum height of 16m (53ft) AGL or 80m (263ft) AHD, the proposed warehouse development appears unlikely to affect any sector or circling altitude, nor any IFPs at the future Western Sydney Airport (WSA).
>
> As final approvals for any developments at and around WSA are the responsibility of the Department of Infrastructure, Transport, Regional Developments and Communications (DITRDC), all future requests for assessment should be referred to planning@wsaco.com.au in the first instance, who will then refer on to Airservices and/ or CASA as required under the Airports (Protection of Airspace) Regulations 1996.

This response is given to provide an indication only and does not constitute a formal Airservices reply. As such, Airservices reserves the right to amend this indicative advice following a further review of the proposed development when it is formally submitted to DITRDC for approvals and once we have completed the design of the IFPs to service WSA, along with the installation of any required CNS facilities.

Detailed design plans will be forwarded to Airservices Australia WSA prior to finalisation.

4.3.4 Timing and scope of future planned projects

It remains unclear from the documents provided what is ultimately proposed for the development site and what are the timings of the various stages of development and operations over the medium to long term.

The Department notes that a separate application to modify the Luddenham Quarry consent under Section 4.55(1A) of the EP&A Act is also currently under consideration by DPIE. The Department would like more information on the Proponent's long-term plans for the site to better consider the potential impacts on the Airport.

The indicative staging of CPF/KLF's vision to develop the subject property is detailed in Section 4.1.13 above.

4.3.5 Alternative land use

The WASP and SEPP for the Western Sydney Aerotropolis have been developed in consultation with Commonwealth and NSW Government agencies and local councils to set out a vision for the Aerotropolis and provide for land use and development controls that will, inter-alia;

- Promote sustainable, orderly and transformational development in the Western Sydney Aerotropolis areal and
- Ensure development in the Western Sydney Aerotropolis is compatible with the long-term growth and development of the Airport (including in relation to the operation of the Airport 24 hours a day).

The draft SEPP and the preceding discussion paper make it clear that waste or resource management facilities will be prohibited within the Agribusiness Zone. This is expected to remain the case when the draft SEPP is finalised, so it would therefore be producent to await the outcome of the SEPP development process before considering the proposed development.

Recommendations:

The Department recommends that the Proponent consider alternative uses for the subject site that are consistent with the soon to be finalised SEPP for the Western Sydney Aerotropolis and compatible with airport operations.

Discussion regarding permissibility of the project and alignment with the Aerotropolis SEPP and Plan is included in Section 4.2.

4.4 Environment Protection Authority

4.4.1 Air quality

i Measures to manage predicted exceedances

Assessment has not sufficiently identified the measures to manage predicted exceedances.

The AQIA concludes that "The most effective way to control potential exceedances will be to control wheel generated dust from trucks entering and existing the site, which is the largest contributing source. This will be achieved through the installation of a wheel wash (which has not been incorporated into emission reduction measures for modelling) and through deployment of a street sweeper twice a day. Both measures will act to reduce the silt loading of the road surface and will significantly reduce dust emissions from truck movements." EPA notes that:

- Vehicle movements on sealed roads account for ~45% of total $PM_{2.5}$ emissions assessed from the premises. Diesel emissions from onsite equipment account for ~51% of $PM_{2.5}$ emissions from the premises. As such particulate emissions from diesel combustion represent the highest $PM_{2.5}$ emission source from the Premises.
- A 70% control factor has been applied to the estimated emissions for vehicle generated dust emissions. The 70% control factor adopted is stated as being for water flushing/street sweeping. As such the assessment has accounted for the measures discussed in the conclusion portion of the AQIA.
- No assessment of reductions in particulate matter emissions from diesel equipment that could be achieved has been conducted. Diesel particulate matter emissions represent the highest uncontrolled PM2.5 emission source in the emission inventory.

The AQIA has not benchmarked proposed non-road diesel emissions performances against best practice, considered the emission reductions that could be achieved through implementation of better performing diesel engines, or demonstrated that particulate matter emissions have been reduced as far as practicable.

The EPA recommends the AQIA be revised to:

i) Identify additional mitigation measures to manage predicted exceedances, and:

- reduce $PM_{2.5}$ annual average contributions from the premises;
- reduce 24-hour average $PM_{2.5}$ and PM_{10} contributions from the premises;

ii) Revise the assessment accounting for the additional mitigation measures identified in;

- to reduce incremental ground level concentrations; and

iii) Demonstrate that particulate matter emissions have been reduced as far as practicable.

An Addendum AQIA has been prepared with updated air quality modelling results for the ARRC. The Addendum AQIA is included in Appendix F with the results summarised in Section 3.3.1. The revised modelling considers additional mitigation, including use of larger trucks to reduce the number of truck movements, more accurate allocation of truck movements across the day and commitment to using US EPA Tier 4 compliance plant and equipment.

The updated modelling results predict lower airborne $PM_{2.5}$ and PM_{10} concentrations than presented in the EIS and exceedances are now limited to assessment location R3. As noted previously, R3 is vacant and it is understood that the property owner intends to develop the property for commercial purposes. A letter has been sent to the property owner (refer Section 3.2) outlining impacts of the ARRC to facilitate further discussions. At this stage, mitigation has not been offered due to the applicant's understanding that R3 will no longer be used for residential purposes.

The proposed dust mitigation measures for the site are in accordance with best management practice for the resource recovery and waste industry as discussed in Section 7.1 of the EIS AQIA (Appendix I of the EIS).

In the absence of exceedances at sensitive residential locations, further mitigation (beyond best practice) is not considered reasonable. Best practice mitigation measures will be formally documented in an air quality management plan for the ARRC.

ii Predicted exceedance of annual average TSP

Predicted exceedances of annual average total suspended particles (TSP) requires further discussion and assessment. The AQIA predicts an exceedance of the annual average impact assessment criteria (IAC) for TSP at R3. However, it is noted that no exceedances of the annual average PM_{10} IAC are predicted. It would not be expected that annual average TSP impacts would be predicted without having predicted exceedances of annual average PM_{10}. As such, further analysis, discussion and assessment of the predicted TSP exceedance must be provided. The EPA recommends that the AQIA be revised to include further analysis, discussion and assessment of the predicted TSP exceedance.

The updated modelling results predict lower airborne TSP concentrations than presented in the EIS. The annual average TSP is no longer predicted to exceed the criterion at R3, largely because of the change in the assumptions in the diurnal truck movements profiles as the majority of emissions from truck movements will be during daytime hours, when the dispersion potential is greatest.

Notwithstanding, the following explanation is provided regarding an exceedance for annual average TSP in the absence of an exceedance for annual average PM_{10}. Under normal circumstances, compliance with the annual average PM_{10} impact assessment criterion can infer compliance with the annual average TSP impact assessment criterion. This is because the TSP criterion is 3.6 times higher than the PM_{10} criterion, whereas for most fugitive emission sources TSP emissions are 2 to 3 times higher than PM_{10} emissions. If emission of PM_{10} comply with the impact assessment criteria, so will emissions of TSP. However, in the case of emissions from sealed roads, TSP emissions are more than 5 times higher than PM_{10} emissions and at assessment location R3 the predicted concentrations are dominated by emissions from the sealed access road. In this situation, it is possible to have an exceedance for annual average TSP and not for annual average PM_{10}.

4.4.2 Noise

The EPA is unable to provide recommended conditions because the exceedances of the PNTLs for the intervening period between the proposed start of operations and the rezoning are too significant to be licensed. Table 5.1 of the NVIA indicates large exceedances of the PNTLs at several residential receivers. The table presents PNTLs for what is termed “current zoning”, which is to say identifying the receivers at residential dwellings, as well as a future industrial zoning. There is as yet no fixed date for the rezoning of these residential dwellings. Further, Receiver 3 (R3), which is marked with the “4” subscript, refers to the fact that the dwelling is not currently occupied.

It is considered unlikely that reasonable and feasible measures will be able to be incorporated into the development to solve this issue. We also note that whether or not a dwelling is occupied should not factor into the investigation of reasonable and feasible mitigation. As such, we anticipate that a negotiated agreement will be required between the owners/occupants of the dwellings and the proponent.

Refer Section 3.3.3 and Section 4.3.2 for discussion regarding applicable noise criteria and reasonable and feasible measures incorporated into the project.

As noted, in Section 3.3.3, for the operation of the ARRC alone, it is predicted that the PNTLs at most assessment locations will be met. The predicted exceedances are at:

- day: R3 (unoccupied) (+17 dB) and R6 (+10 dB);
- evening: R3 (unoccupied) (+17 dB) and R6 (+9 dB); and

- night: R2 (+3 dB), R3 (unoccupied) (+20 dB), R4 (+3 dB) and R6 (+13 dB).

Under the definitions the NPfI, the predicted noise exceedances of the PNTLs are defined as marginal at R2 and R4, at R6 exceedances are defined as moderate during the day and significant during the evening and night, and at R3 the exceedances are defined as significant for all periods.

Attempts have been made to re-engage with the landowner of R3 since the exhibition of the EIS. CPG/KLF continue to seek a discussion with the landowner regarding the application. To facilitate such a discussion, a letter was posted to the landowner's business address on 18 March 2021. This was followed up with a text message on 14 April 2021. The owner responded by text message that the letter had been received but that his position had not changed regarding preparing any written response. The residence at the R3 assessment location is derelict and has been unoccupied for a period of over 12 months. At this stage, mitigation has not been offered as the applicants understand that R3 will no longer be used for residential purposes.

As noted in Section 3.2, the landowners of R2 and R6 have been contacted since the exhibition of the EIS. This consultation has been aimed at progressing negotiated agreements offering noise attenuation with each landowner. Discussions with the landowners of R2 are continuing, while R6 has not responded to the 18 March letter or follow-up text message.

4.4.3 Surface water

i Leachate management

The EPA provides following comments and recommended conditions relating to leachate management, water treatment plant discharges and the onsite detention basin.

Leachate management

The SWA and EIS details that leachate from within the warehouse will drain to the Leachate Tank (130 KL). Contained water within the Leachate Tank will be directed to the Water Treatment Plant, and then stored within the Reuse Water Tank (100 KL) prior to reuse onsite. The maximum treatment rate of the Water Treatment Plant is 6 L/sec. The EIS has not demonstrated that there is enough holding capacity int eh leachate and water reuse tanks.

There is no contingency measures if the treatment plant is offline, operating at a reduced efficiency or unable to treat water to the appropriate quality for the nominated end-uses.

To account for this issue, the EPA recommends that the consent, if granted, include a condition where the Proponent must develop a Leachate Management Plan that includes contingency measure if the treatment plant is offline or unable to treat water to the appropriate quality for the nominated end-uses.

This submission is noted. Leachate management will be incorporated into the overarching water management plan for the ARRC. This plan will be prepared in consultation with the EPA.

ii Water treatment plant discharges

The EIS however, also includes landscape irrigation as a proposed end-use for treated wastewater. Use of treated wastewater for irrigation requires that the water quality is characterised and the sustainability of irrigation considered and safely managed.

To clarify, only rainwater collected onsite and potable water will be used for landscape irrigation on the ARRC site.

iii On-site detention basin

The overflow discharge quality from an on-site detention OSD basin (OSD) has not been characterised. However, the EIS indicates that the OSD will only contain uncontaminated stormwater runoff from the site and will not receive any water from the Reuse Water Tank. If the OSD receives treated leachate water, the applicant will be required to characterise the discharges from the OSD and potentially apply for a licenced discharge point.

The onsite detention basin will only contain uncontaminated stormwater runoff from hardstand areas external to the ARRC warehouse. The water balance contained in the *Surface Water Assessment* (EMM 2020f) (Appendix K of the EIS) did not identify any overflows from the water treatment plant or reuse water tanks to the onsite detention basin in any modelled scenario.

Notwithstanding, if a future water management strategy requires discharges of treated water to the onsite detention basin, this will be documented in the approved water management plan for the ARRC. A discharge assessment will be carried out and application for a licensed discharge point granted prior to discharge occurring.

4.5 Transport for NSW

4.5.1 Traffic impact assessment

i Clarifications

Transport for NSW has noted some minor discrepancies in the EIS, and TIA.

In TIA, 514 vehicles carrying average load of 4.4 tonne, but generating 1,082 trips. The numbers provided also do not add up to 1,368 movements.

Daily heavy vehicles (4.4 t vehicles + larger trucks) number provided in the EIS is 585 (page 43), however, in TIA (page 23) the number used is 612.

Car parking spaces varying between 45 and 47 spaces in the EIS< TIA and site plans.

It is requested the proponent clarify the above discrepancies and take into consideration all the following components when updating the TIA modelling and required improvements to support the development.

Refer Section 3.3.2 and the Addendum TIA for discussion regarding revised ARRC development traffic.

To clarify, the ARRC will have 45 car spaces as shown on Figure 1.2.

ii Elizabeth Drive

Page 24 makes the assumption that Elizabeth Drive will be upgraded as part of the M12 and completed before the airport opening. TfNSW met with the proponent last year at which time it was clearly advised that there is no funding to upgrade Elizabeth Drive and it is not envisioned to be completed before the opening of the airport. The mid-block capacity also assumes that Elizabeth Drive will be upgraded and would be sufficient.

To clarify, the TIA prepared for the EIS (Appendix L of the EIS) and the Addendum TIA (Appendix E) assessed the project with reference to the existing road conditions, including Elizabeth Drive, with the exception of The Northern Road/Adams Road intersection which was assessed as per the new intersection which has recently been constructed.

iii Western Sydney Aerotropolis future traffic volumes

The TIA does not project a realistic and factual picture of the projected traffic volumes for future scenarios in the Western Sydney Aerotropolis including:

- The projections in the TIA seem very low with little growth from 2029-2039 and in some cases volumes even going down. With all the proposed development in the area this seems unlikely.
- The TIA modelled the STFM (Model TZ11LU 16V 151STMV 362) forecasts for the 2029, 2034 and 2039 traffic modelling. As the version of the STFM model used in the assessment is based on known data in 2016, it is not representative of all known proposals and developments approved after this date.
- The TIA does not include the traffic generated by the fuel farm that would use Adams Road for the Nancy Bird Walton Western Sydney Airport. This was also communicated in the meeting with TfNSW to the proponents.

It is requested that the proponent revisit and provide an updated TIA which:

- Addresses the above comments and recommendations.
- Demonstrates Traffic Modelling and analysis for the application considers the cumulative traffic impact of the development on the surrounding roads and intersections in the context of any other known planning proposals and developments in the precinct and surrounds.

The future predicted traffic volumes used in the EIS TIA were provided by TfNSW following a meeting with TfNSW in February 2020 (STFM version 16).

At the request of TfNSW at a meeting on the 12 February 2020 (refer Section 3.2), the Addendum TIA has used updated TfNSW future predicted traffic volume data (STFM version 18).

4.5.2 Stacking analysis

Truck marshalling area is not identified in the site plan. The TIA states that the access road from Adams Road to ARRC is over 200 m long and should be able to accommodate waste vehicles without queuing on the public road. It is not clear if this area will also be used for heavy vehicle staging/queuing. If so, then the proponent should consider upgrading the access road wide enough to accommodate parked heavy vehicles as well as incoming and outgoing heavy vehicles.

Recommendation: It is requested the updated TIA demonstrate the ability of the access road to accommodate waste vehicles without queuing on the public road, and if the access road will be used for staging/queuing heavy vehicles, the internal road design be able to accommodate a heavy vehicle of Performance Based Standards (PBS) Level 2B. This aligns with the NSW Heavy Vehicle Access Policy Framework.

Section 4.1.6ix contains a stacking/queueing analysis which confirms there will be no queuing on the ARRC internal access road and therefore no queuing on the public road network.

4.5.3 Management of vehicles using western ARRC exit

The TIA fails to demonstrate how outgoing vehicles exiting via the western exit will be managed (both in terms of weight and compliance) as these will bypass to the outbound weighbridge and wheel-wash area.

Recommendation: It is requested the updated TIA demonstrate how outgoing vehicles exiting via the western exit will be managed (both in terms of weight and compliance) as these bypass to the outbound weighbridge and wheel-wash area.

As outlined in Section 3.3.1 and the Addendum TIA, the proposed movement of vehicles through the ARRC site has been revised since the submission of the EIS. All outbound vehicles will travel through the outbound weighbridge and wheel-wash area.

The proposed movement of vehicles through the ARRC is shown on the updated design overview in Appendix D and in detail in swept paths contained in the Addendum TIA (Appendix E).

4.5.4 Road network considerations

i Adams Road access

The turning paths provided for Adams Road entrance indicate that a 19 m vehicle cannot turn left-in at the same time that another 19 m vehicle is turning right-out.

Recommendation: As Adams Road is a local road under the care and control of Penrith City Council, this should be raised with Council to ensure that Council is satisfied with the design limitations.

As outlined in Section 3.1.1 it is proposed to widen Adams Road at the subject property entrance to allow a 26 m B-double access to the ARRC. As shown in the revised swept paths contained in the Addendum TIA (Appendix E), this upgrade will accommodate a 26 m B-double turning left into the site access concurrently with a B- double turning right out of the site access.

Consultation with LCC and the National Heavy Vehicle Regulator regarding required road upgrades and the lifting of the load limit on Adams Road for the ARRC is ongoing.

ii Adams Road and Elizabeth Drive intersection upgrades

The intersection of Adams Road and Elizabeth Drive is likely to require some upgrades to facilitate the turn movements of the larger vehicles using this intersection related to this development.

Recommendation:

It is requested that the proponent review the intersection of safety grounds and provide a short-term safety upgrade to facilitate the additional traffic from this development accessing Adams Road.

The applicants proposed approach to upgrading the Elizabeth Drive/Adams Road intersection is outlined in Section 3.1.1.

iii Construction and traffic management plan

The TIA presented a Concept construction traffic management plan (CTMP) and stated a detailed CTMP will be prepared following project approval in consultation with the relevant authorities and the nominated construction contractor.

The CTMP should investigate the use of vehicles that carry higher capacity such as PBS combinations, or those enrolled in the Safety, Productivity and Environment Construction Transport Scheme. Using vehicles with a higher carrying capacity will reduce the number of heavy vehicle movements for the given freight task.

Recommendation: It is requested that the applicant be conditioned to prepare a detailed Construction and Traffic Management Plan (CTMP), in accordance with TfNSW requirements, detailing construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control. The CTP should be submitted to the relevant consent authority for approval prior to the issue of a Construction Certificate.

This submission is noted. A construction traffic management plan will be prepared as part of the CEMP.

4.6 Western Sydney Airport

4.6.1 Noise and vibration

i Vibration impacts on WSA infrastructure

The SEARs require that the EIS assess the potential vibration impacts from construction and operations. The EIS only assesses vibration impact during construction. It does not assess operational vibration impacts. This is important as the site interfaces with WSA's proposed fuel farm. Accordingly, the vibration impacts on Airport infrastructure from crushing, grinding, and shredding operations on the Site need to be assessed.

The assessment documented that vibration impacts from envisaged construction works satisfied the human response limits at 40 m, and well below the limited for structural damage. The WSA fuel farm is located well beyond the 40 m distance to the construction works and therefore would clearly satisfy both human response and structural damage criteria.

Levels of vibration from crushing, grinding and shredding equipment used as part of operations will be well below vibration levels generated by vibratory rollers that will were included in the construction works vibration assessment (refer Section 3.3.3vi). Therefore, the vibration impacts from operations will be less than the vibration impacts from construction and will not impact the fuel farm.

4.6.2 Traffic and transport

i Consideration of heavy vehicles

The Proposed Development anticipates a trip generation of 1,368 vehicle movements a day, with 183 heavy vehicles during the AM peak hour. The Proposed Development will involve a significant volume of heavy vehicle trips, including B-doubles. This will result in a significant volume of traffic on Adams Road, which is currently a weight limited rural road at the entrance to the Proposed Development. Further, it is unclear whether the traffic impact assessment considered the potential of heavy vehicles associated with the Proposed Development and their interaction with heavy vehicles assessing the Airport via upgraded sections of Anton Road and Adams Road during the construction and operation of both facilities.

The proposed upgrades to Adams Road and revised ARRC traffic volumes are presented in Section 3.1.1 and 3.1.2 respectively.

The future predicted traffic volumes used in the EIS TIA were provided by TfNSW in early 2020. At the request of TfNSW, the Addendum TIA has used updated TfNSW future predicted traffic volume data (STFM version 18).

It is noted, WSA development traffic on Adams Road associated with the fuel farm was unable to be determined from a review of publicly available information. It is assumed traffic associated with the WSA has been accounted for in the TfNSW traffic volume data.

ii Elizabeth Drive

The EIS should assess the impacts of the Proposed Development based on the current design and capacity of Elizabeth Drive, including the suitability of the proposed use occurring before any upgrade to Elizabeth Drive. In particular, the intersection of Adams Road and Elizabeth Drive may need to be upgraded as a result of the Proposed Development to ensure the safe operation of this intersection.

Refer to the updated proposed transport strategies and proposed upgrade to the Elizabeth Drive/Adams Road intersection in Section 3.1.1.

iii Consideration of future development envisaged by the WSPP

The traffic assessment, particularly the traffic volumes do not appear to have taken into account future development envisaged by the WSPP and therefore the impact to network capacities and intersection performances may not have been properly assessed. In addition, it is unclear if the assessment has taken into account construction traffic associate with the major infrastructure projects occurring in the vicinity of the site such as the Airport, M12 and Metro Rail.

Refer response to Section 4.4.1iii.

It is assumed construction traffic associated with the construction of the WSA, M12 and Metro Rail has been accounted for in the TfNSW traffic volume data used in the Addendum TIA (refer Appendix E).

4.6.3 Final land use and rehabilitation

i Approval to fill the quarry void

The EIS references the intent to dispose of some wastes on-site to fill the quarry void. It is unclear if the application is seeking approval for this, noting that the Applicant is also currently seeking to recommence quarry operations and continue them through to 2024 and will be required to prepare or update a Site rehabilitation plan. The applicant is required to rehabilitate the quarry regardless of the Proposed Development.

The ARRC application is not seeking approval to infill the quarry void. As noted in Section 1.2, approval to infill the void with construction and demolition waste as part of the rehabilitating the void will be sought under a separate application to modify the quarry's consent.

Currently there is no approval or obligation to infill the quarry void under the existing quarry consent. When the original quarry DA and EIS were lodged in 2003, it was envisaged that the void would be rehabilitated by filling with inert waste. However, because it was recognised that there was a significant period between commencement of quarrying and commencement of rehabilitation by filling, the original EIS proposed that a separate application would be lodged for the infilling and rehabilitation closer to the time when it was to be undertaken. The quarry development consent issued by the Minister and the Department's Assessment Report in 2004 recognised that the approval of the extraction did not include the long-term rehabilitation.

Condition 33 of the quarry consent requires the preparation of a Site Rehabilitation Plan. This plan was prepared and submitted to the Department of Planning in 2009. It describes the battering and treatment of the slopes of the quarry to leave a safe, stable non-polluting final void.

Condition 36 of the quarry consent require a report on final land use and treatment of the final void. In essence, these provisions address the situation where there was no subsequent application to the fill the void.

CPG and KLF are committed to filling the quarry void following the extraction of the regionally significant clay and shale resource. This will allow the quarry site to be put to a long-term use consistent with the Agribusiness zoning of the subject property. Alternatively, the disused quarry void will sterilise over 50% of the subject property from productive land use aligned with the Aerotropolis SEPP.

ii Quarry infill

The application states "This ARRC application seeks approval to transfer non-recyclable residues to the void. It does not seek approval for the placement of this material, which will be subject to a separate approval." WSA seeks clarification regarding the Applicant's intent on how it proposed to manage and dispose of waste that is not recycled.

As discussed above, infilling of the quarry void will be subject to separate detailed environmental assessment as part of the future modification application.

A conceptual filling strategy is contained in Section 4 of the CDFS (refer Appendix H). The CDFS has been prepared to provide further information regarding this future activity and demonstrate the feasibility of infilling the quarry void with construction and demolition non-recyclable residues to achieve a geotechnically stable developable landform.

Prior to completion of the resource extraction by 31 December 2024 or approval to rehabilitate the void, and following the completion of quarry rehabilitation, non-recyclable residues will be transported off-site to a facility that is licenced to accept this waste.

iii Garden, wood and vegetative waste

The EIS states that it is the intent of the facility to receive garden waste, wood waste and vegetative waste, but does not provide detail of how this waste is to be managed or disposed of. These types of waste are organic waste and if disposed of in the quarry void would likely result in the generation of land fill gas as the waste break downs. This would require management of land fill gas and may give rise for the need for flaring or plumes to manage land fill gases. Management of any land fill gas (eg flaring) need to be assessed as it can create a hazard to Airport operations. In addition, wildlife hazards associated with landfilling will need to be assessed. Further information and clarification on this matter is required.

Garden waste, wood waste and vegetative waste will generally be recoverable and turned into recycled products. Small amounts of comingled vegetative waste may be contained in non-recyclable residues. This may be infilled into the void, pending approval of this activity. The potential for landfill gas to be formed will be assessed as part of the quarry rehabilitation modification application.

Notwithstanding, the CDFS does not expect a gas collection and treatment system will be required for infilling.

4.6.4 Statutory and strategic planning matters

i Aerotropolis SEPP, Plan and draft precinct plan

The WSAP sets out a vision for the Aerotropolis, established precincts and proposed initial precincts for development. The site of the Proposed Development is located within the Agribusiness Precinct. The WSAP sets out a range of Strategic Outcomes and the Proposed Development is not consistent with the Strategic Outcomes for the Agribusiness Precinct. The EIS does not demonstrate how the proposal is consistent with the strategic outcomes envisaged for the Agribusiness Precinct and only proposes that other development in the Aerotropolis will deliver the agribusiness outcomes. The Proposed Development is not consistent with, nor achieve the desired strategic outcomes for the Agribusiness Precinct.

One of the key implementation strategies for implementing the vision of the WSAP is preparing individual Precinct Plans under the Draft SEPP. The intent of the Precinct Plan is to provide more detailed outcomes for each Precinct, including Indicative Layout Plans. The future development of the site should be in accordance with the vision for the Agribusiness Precinct and in accordance with detailed Precinct Plans.

Specifically, the draft SEPP prohibits permit waste management facilities on the site. Whilst WSA supports circular economy strategies and waste minimisation, recovery and reuse, such facilities should be appropriately located and be consistent with strategic and statutory plans that apply to land. The WSAP and draft SEPP have made strategic decisions in relation to future location of waste management facilities and have established that this use is not suitable for the Agribusiness zone and should be located on other land.

In addition, the application does not address the draft objectives for the Agribusiness zone, which encourage high technology agribusiness, agricultural production and agribusiness enterprises. The Proposed Development is a prohibited land use under the Draft SEPP and inconsistent with the Agribusiness zone objectives. The Draft SEPP is a matter for consideration that should have been properly assessed in the EIS and must be taken into account by the consent authority.

The ARRC is permissible pursuant to Clause 53(1) of the Aerotropolis SEPP (refer Section 3.4).

The subject property, with a substantial, unrehabilitated quarry, presents a unique situation which is not envisaged in the Aerotropolis SEPP or Aerotropolis Plan (refer Section 4.2.5). In its current state the subject property is not compatible with the Western Sydney Aerotropolis vision.

The ARRC provides a viable solution to infilling the void and delivering a staged long-term transformation of the subject property from the existing quarry into an employment generating agribusiness hub consistent with the objectives of the Agribusiness zone, while contributing directly to the realisation of a circular economy (Objective 5 of the Aerotropolis Plan).

Consideration of the ARRC's compatibility with the draft Precinct Plan is provided in Section 3.5.

ii Consistency with Liverpool Local Environmental Plan

The application has not addressed, nor demonstrated, how the Proposed Development is consistent with the Liverpool Local Environmental Plan 2008 (Liverpool LEP) RU1 Primary Production zone. The Liverpool LEP prohibits waste management facilities in the RU1 Primary Production zone. Whilst State Environmental Planning Policy (Infrastructure) may make the development permissible, the application must demonstrate consistency with the RU1 zone objectives. It is not consistent with the RU1 zone objectives and the EIS does not assess the Liverpool LEP controls in any substantive detail.

At the time of submitting the development application, the subject property was zoned RU1 primary production. While development for a resource recovery facility is not permissible in this zone under Liverpool Local Environmental Plan (LEP), clause 121 of the ISEPP provides that development for the purpose of waste or resource management facilities (which includes resource recovery facilities), may be carried out by any person with consent on land in a prescribed zone. A prescribed zone includes RU1 Primary Production.

The Aerotropolis SEPP is now the relevant environmental planning instrument (EPI) for the subject property.

The ARRC is not considered to impact on the viability of existing primary industry enterprises in the area and is an integral component to enable the final agribusiness land use of the subject property encouraging diversity in primary industry enterprise and systems appropriate for the area. The ARRC will not hinder the development or operation of the airport. The ARRC will also preserve native vegetation through the protection of the Oaky Creek riparian corridor.

4.6.5 Aviation impact assessment

i Exhaust plume

Similarly, in relation to plume rise, the Aviation Impact Assessment (AIA) makes a statement that the Proposed Development is unlikely to produce an exhaust plume that will require an assessment by CASA. No information is provided to substantiate the conclusion regarding assessment of the types of activities that could result in a plume, and if so, what the plume impacts may be.

The proposed waste processing technology that will be used inside the ARRC warehouse is detailed in Section 4.1.9iv. None of the components of this processing system will produce an exhaust plume that will emit from the ARRC's ventilation system (refer Appendix I).

The applicants are committed to ensuring that all ventilation systems are designed such that any exhaust velocity is less than 4 m/s.

ii Airport safety committee

The AIA states that WSA has agreed to include the operators of the ARCC as a participant in an airport safety committee. WSA has not yet established a safety committee, nor its terms of reference nor held any discussion regarding membership of such a committee. WSA has engaged with the landowner regarding the Proposed Development and will engage with the landowner in relation to future development proposals on its Site. However, the statement incorrectly implies WSA is supportive of the Proposed Development and that the applicant would be a member of an airport safety committee.

This submission is noted. The Aeronautical Impact Assessment has been amended to read "the ARRC operator would be a willing participant on an airport safety committee, if established." (refer Appendix I).

iii Ground Based Augmentation Systems

Ground Based Augmentation Systems (GBAS) are a critical component of WSA's proposed navigation system for the Airport, primarily for precision aircraft approach and landing. The AIA notes that the Applicant discussed potential impacts GBAS with WSA. The AIA infers that WSA has indicated that the GBAS site may not be suitable. For clarification, WSA advises that a potentially GBAS-suitable location in the north-west corner is yet to be fully assessed; this will require WSA to seek the advice of Air Services Australia and the manufacturer on its preferred arrangement of antennas at the location. Whilst the AIA has undertaken an assessment of impacts, it is unclear where the AIA has assumed the location of GBAS will be for the Stage 1 Development of the Airport.

This submission is noted. Refer Section 3.3.5 and the revised Aeronautical Impact Assessment (Appendix I) for further discussion regarding the Stage 2 GBAS.

The GBAS location assumed for the Stage 1 Development of the Airport is shown in Appendix A page 32 of the Aeronautical Impact Assessment.

iv Wildlife assessment

The wildlife assessment submitted as part of AIA refers to the Western Sydney Airport EIS and that Western Sydney Airport EIS did not identify the Proposed Development site as a risk. When the Western Sydney Airport EIS was prepared a waste management facility was not proposed for the site and therefore it is not relevant that the Western Sydney Airport EIS did not identify the site as an area of concern.

The EIS states the project is unlikely to increase the potential of wildlife collisions as the site will be less attractive than other surrounding areas. However, the assessment does not consider the potential cumulative impacts of the waste management facility being located in close proximity to other existing and proposed waste management facilities in the immediate vicinity of the airport and the potential for wildlife to move between facilities and transit across future operational airspace.

Refer to response provided in Section 4.2.2.

4.7 Environment, Energy and Science

4.7.1 ARRC design and construction

i On-site detention storage

Regarding the onsite detention (OSD) storage, the surface water assessment (EMM 17 July 2020) state (page ES.2) "Discharges are predicted to occur from the onsite detention storage into Oaky Creek. Scour protection and energy dissipation will be constructed at the discharge location and at the confluence with Oaky Creek to reduce erosion potential associated with the increase flow rates from the immediate site." It is not stated in the BDAR or in the surface water assessment how the water will be delivered to Oakey Creek to reduce erosion potential associated with the increased flow rates from the immediate site." It is not stated in the BDAR or in the surface water assessment how the water will be delivered to Oakey Creek but the final drawing of the surface water assessment shows a structure for this (see the drawing titled 'Stormwater Catchment Plan', drawing no. 030, AMDT D). Figure 1.2 of the BDAR shows no such structure and its impacts have not been considered.

The full impacts of the OSD storage needs to be assessed in the BDAR.

The overflow structure from the onsite detention basin will include a control pit and overflow pit and discharge pipe (refer drawings in Appendix D). Stormwater will discharge via the discharge pipe and outfall structure to a small depression immediately adjacent to Oaky Creek. The outfall structure includes scour protection and suitable energy dissipation measures.

The changes in the project footprint as a result of the overflow structure and changes to the onsite detention basin size are assessed in the BDAR (refer Appendix G).

ii Construction of ARRC

Although the BDAR does not mention dewatering dams, it is conceivable that this will be needed for some of the ponds shown in Figure 5.2. This needs to be confirmed and the impacts assessed; accordingly, mitigation measures also need to be addressed.

No construction footprint is given in the BDAR and the potential impacts associated with construction, like the stockpiling of materials and the storage of plant and equipment, has not been considered; this could have negative implications for any retained vegetation and habitat on the subject property.

As such, the BDAR needs to include a construction footprint and needs to assess any associated impacts and include appropriate mitigation measures.

Pond 1 and 4 shown in Figure 5.2 of the BDAR will be removed as part of the construction of the ARRC. Their removal is assessed in the revised BDAR (Appendix G).

Construction of the ARRC will be contained within the direct impact biodiversity footprint as shown in Figure 3.5. Any storage of plant and equipment or stockpiling of material that cannot be accommodated within the direct impact footprint will be stockpiled on the subject property in areas of exotic vegetation to the west of the ARRC site.

4.7.2 Biodiversity

i Targeted surveys for Green and Golden Bell Frog

The biodiversity development assessment report (BDAR) contains inconsistent information relating to the targeted surveys for Green and Golden Bell Frog (GGBF). Importantly, Table 5.12 states “egg mass were detected during the nocturnal searches listed above” while Table 5.16 states “Not recorded during targeted surveys”.

Figure5.2 shows the survey effort was confined to the vegetation near the dams on the ARRC site and subject property, and along those parts of Oaky Creek in the vicinity of the subject property. This survey effort is inadequate because potential habitat was not surveyed.

Also, the Threatened species survey and assessment guidelines: filed survey methods for fauna Amphibians (DECC, April 2009) states, for survey methods and effort (page 15). “Combination of tadpole surveys, call surveys (this species has a distinctive call) and active searching both during the day and night.” However, diurnal searches for this species were not carried out (see Table 5.12).

Furthermore, Table 5.12 states “Green and Golden Bell Frog confirmed calling at a reference population” but no information is given about the reference population (including location) and how and when it was observed.

As such: targeted surveys need to be completed to cover all available habitat on the subject property for this species; diurnal surveys need to be carried out; and information needs to be given on the location of the reference population and when and how it was observed, and what was observed.

Green and Golden Bell Frogs (GGBFs) or egg masses were not detected by EMM during diurnal and nocturnal surveys targeting GGBFs, Cumberland Plain Land Snail, Dural Land Snail and threatened flora.

The GGBF survey effort is shown in Figure 5.2 of the revised BDAR. The surveys involved walking transects across the study area, listening for calls, and turning over logs/litter/rubbish where available. The survey included transects covering the entire study area, where accessible. Inaccessible areas included fenced areas, flooded areas, and the quarry pit. Although these areas were not walked, it is considered that calling frogs present in those areas would be heard during the diurnal or nocturnal surveys. Refuge habitat (eg logs and tin panels) were also checked during night surveys (refer Table 5.8 of Appendix G).

Information regarding the GGBF reference population, including location and when the reference population was survey, has been included in Table 5.8 of the revised BDAR.

ii Targeted survey for Cumberland Plain Land Snail

The BDAR contains inconsistent information relating to the targeted survey for Cumberland Plain Land Snail (CPLS). Table 5.13 shows the search was confined to the Cumberland Plain Woodland on the subject property (PCT 849) but Figure 5.2 shows transects were done across a much larger area. These transects, however, appear to be the same as those shown in Figure 5.1 (that is, there are one and the same as the targeted flora searches) and Table 5.4 states, in relation to CPLS, "Species associated with PCT 849 which is located outside of the impact area."

Considering these things, the survey effort for CPLS is considered inadequate because the Cumberland Swamp Oak Riparian Forest (PCT 1800) was not surveyed. Bionet contains at least eight records for this species from the past years, within approximately 4 km of the site. As such, a targeted survey that incorporates PCT 1800 and any areas of rubbish or coarse woody debris or grass clumps, needs to occur.

Targeted surveys were carried out for GGBF, Cumberland Plain Land Snail and threatened flora concurrently.

Both PCT 849 and PCT1800 were surveyed. As shown in Figure 5.2 of the revised BDAR, all accessible parts of the subject property were surveyed excluding a small area which was inundated in the south-eastern portion of the ARRC footprint at the time of the field surveys.

iii Prescribed impacts on species credit species (GGBF and Southern Myotis)

Prescribed impacts on habitat for species credit species The Biodiversity Assessment Method Operational Manual Stage 2 (DPIE 2019) discusses direct and prescribed impacts on species credit species. It is recommended that the approach described in Box 3 (page 20) of this manual is considered for GGBF and Southern Myotis.

The revised BDAR provides a more detailed assessment of the indirect impacts on GGBF and Southern Myotis in accordance with the BAM Operational Manual Stage 2 (DPIE 2019) (refer Appendix G).

iv Finalisation of the BAM-C

This case was checked in BOAMs on 11 August 2020 and was founded to be 'in progress'. The BAM-C needs to be finalised and the case submitted so it can be reviewed by EES.

The BAM-C has been revised and will be submitted to EES concurrently with the submission of the Submissions Report and revised BDAR.

4.7.3 Asset protection zones

The BDAR does not address asset protection zones (APZs) but the environmental impact statement (EMM 22 July 2020) states (page 18) "All areas of the ARRC site external to the ARRC warehouse will be hardstand with the exception of small landscaped areas near the ARRC site office and along the site access road (see Appendix T). Hardstand areas will accommodate internal access roads, parking and required bushfire asset protection zones (APZs)." and (page 26) "There will be 7–12 m-wide APZs maintained between the riparian corridor of Oaky Creek and the eastern wall of the ARRC warehouse (refer to Section 6.4.1). Fire and Rescue NSW will be consulted further during the detailed design of the fire protection strategy and complete the design accordingly."

The locations and impacts of APZs need to be confirmed in the BDAR.

The required asset protection zones (APZs) will be accommodated within the hardstand areas of the ARRC site. Accordingly, they are included within the direct biodiversity impact footprint as shown in Figure 3.4.

4.8 Heritage NSW

4.8.1 Aboriginal cultural heritage

Heritage NSW notes proposed area for development has previously been subject to a range of moderate and high levels of ground disturbance as part of previous quarrying and land use activities. It is noted that a level, grassed area, within 200 m of Oaky Creek in the project area, has experienced some historic disturbance from de-vegetation and use as a grazing paddock. EMM (July 2020b) noted that there is negligible potential for surface and/or subsurface material to be present in the southern and eastern boundaries of the subject property. Despite the prior disturbance, one Aboriginal site has previously been located within the project footprint.

It is understood that Aboriginal consultation for the project has been undertaken in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010). During the archaeological survey and discussion, the registered Aboriginal parties (RAPs) raised several concerns regarding the loss of land to development and the impact this has on Aboriginal cultural heritage.

As a result of the Aboriginal consultation undertaken for the project it was agreed that test excavations will be conducted to characterise the subsurface potential for Aboriginal artefacts. RAPs have been provided with a draft ACHA (pre-excavation) and a test excavation methodology for review. The results of excavation and subsequent management measures derived from the results will be formulated in consultation with RAPs.

The findings of the test excavations and outcomes of consultation is documented in the final ACHA appended as Appendix J and summarised in Section 3.3.6.

4.9 Fire and Rescue NSW

It has been the experience of RFNSW that waste recycling facilities pose unique challenges to firefighters when responding to and managing an incident. Factors such as high and potentially hazardous fuel loads, facility layout, and design of fire safety systems have a significant impact on the ability to conduct firefighting operations safely and effectively. Consultation with organisations such as FRNSW throughout the development process enables the design and implementation of more effective fire safety solutions that help to mitigate the impact of incidents when they occur.

FRNSW submit the following general comments and recommendations for consideration:

- It is recommended that the emergency plan for the waste facility in accordance with AS 3745-2010 Planning for emergencies in facilities be prepared for the development. An external consultant should be engaged to provide specialist advice and service in relation to fire safety planning and developing an emergency plan.
- It is recommended that advice and considerations contained within FRNSW's Fire Safety Guideline – Fire safety in waste facilities be addressed. Advice and recommendations contained within the guideline have been developed to enable FRNSW to adequately manage an incident at such facilities.
- It is recommended that advice and considerations contained within FRNSW's Fire Safety Guideline – Emergency Vehicle Access be addressed. This is required such that FRNSW are able to safely access all parts of the site where an incident may occur.
- It is recommended that provisions be made for the containment of contaminated fire water run-off based on the worst credible fire scenario for the site. Any system(s) provided is to be automatic in nature and should not rely upon on-site staff or emergency services personnel to access or activate provided systems or valves in the event of fire.
- It is recommended that if the development proposes to incorporate a fire engineered solution (FES), whether a building design having a performance solution in accordance with the National Construction Code (NCC) or other infrastructure where building codes are not applicable, FRNSW should be engaged in the fire engineering brief (FEB) consultation process at the preliminary design phase, post approval of the development application. FRNSW also recommend that clauses E1.10 and E2.3 be addressed where a FES is required.
- It is recommended that a Condition of Consent be included that would require the fire and life safety measures for the development to be reassessed for adequacy in the event that either; significant changes are made to the site configuration, processing capacity is increased from 600,000 tpa, or there are changes to either the accepted waste streams or a significant increase in streams that are combustible in nature.

A conceptual fire services site plan is provided in Appendix D of the Site Servicing Strategy contained in Appendix S of the EIS. Fire safety design will be finalised as part of the detailed design process in accordance with National Construction Code provisions, *FRNSW's Fire Safety Guideline – Fire Safety in Waste Facilities* (FRNSW 2020a) and *Fire Safety Guideline – Access for Fire Brigade Vehicles and Firefighters* (FRNSW 2020b).

As outlined in Section 4.1.10, the concrete walls of the recycled product bays have been designed to a height of 11 m in accordance with FRNSW (2020a) (ie 1 m higher than the maximum stockpile height within these product bays). Intermediate storage bays and temporary stockpiles will be limited to a maximum stockpile size of 1,000 m^3 in accordance with FRNSW (2020a). All stockpile areas and product bays will be directly accessible to a fire appliance (refer swept paths in Addendum TIA).

The fire hydrant system and minimum water supply capabilities will be designed to meet the ARRC's largest stockpile fire load. FRNSW will be engaged in the fire engineering brief (FEB) consultation process at the detailed design phase, post approval of the development application.

An Emergency and Incident Management Plan will be prepared prior to the commencement of ARRC operations.

4.10 Department of Primary Industries – Agriculture

4.10.1 Land use conflict and biosecurity

The ARRC EIS has not addressed all of the environmental assessment requirements identified by DPIE Agriculture. Specifically, the EIS has not:

1. included a land use conflict risk assessment with neighbour agricultural land uses;

2. adequately identified the nature of all agricultural land uses on nearby rural land and the impacts of the proposed development on those agricultural land uses;

3. adequately identified the necessary mitigation measures to address the potential impacts on agricultural land uses;

4. included a biosecurity risk assessment to assess the risk to neighbouring agricultural land uses from pests, weeds and disease that may arise from the acceptance and handling of waste at the proposed facility; and

5. included details of how the proposal will deal with identified biosecurity risks as well as contingency plans for any failures. Include monitoring and mitigation measures for weed and pest management.

The site is considered degraded agricultural land and the land and soil capability classes for the site are mapped as having 'moderate to very severe limitations' (ie they cannot support high-value agricultural land uses). The site has been surveyed and verified as non-biophysical strategic agricultural land.

There are no agricultural land uses on the properties adjacent to the subject property (see Figure 1.1).

The closest agricultural enterprise is the poultry farm at 2510 Elizabeth Drive. The residence on this property is noise and air quality assessment location R8. All air quality and noise criteria will be met on this property and no impacts to this agricultural enterprise are predicted.

Once operational, the majority of the site will be covered by sealed hardstands, buildings or landscaped areas and the risk of weed distribution will be negligible. All waste will be stockpiled and handled within the enclosed warehouse. Vehicles exiting the warehouse will travel through a wheel wash minimising the opportunity for them to carry seeds from the site. Further, the ARRC is not expected to attract wildlife as it incorporates a fully enclosed design and will not accept putrescible waste. All waste acceptance, processing, storage and dispatch activities will occur within an enclosed warehouse.

The project's construction environmental management plan (CEMP) will include the following measures to prevent impacts to neighbouring properties from weeds or vermin:

- a weed management protocol will be prepared that includes measures for the identification, management and ongoing monitoring of weeds on-site;
- weed control will be implemented in key areas prior to construction works;
- active weed control will be applied in areas where significant weeds are known to occur to reduce the cover of weeds adjacent to construction activities and prevent the spread of weeds into riparian habitat associated with Oaky Creek; and
- food waste from construction workers will be placed in waste bins that are inaccessible to birds and vermin.

4.10.2 Impacts of dust on water quality in farm dams

The impact on traffic movements including, dust and litter on the quality of the water in adjacent farm dams is a significant concern for adjoining landowners.

The emission and dispersion of traffic-generated dust has been assessed was assessed in the AQIA in the Addendum AQIA (refer Appendix F). Traffic-generated dust is primarily from the road surface and is generated as wheels travel along a road. This will occur on sealed roads on the subject property and also occurs on all public roads.

Nuisance dust impacts are evaluated by comparing against the NSW EPA's impact assessment criteria for deposited dust, expressed as grams per meter squared per month ($g/m^2/month$). The predicted dust at all surrounding properties is less than the impact assessment criteria of 2 $g/m^2/month$ (project increment) and 4 $g/m^2/month$ (cumulative total). Although the impact assessment criteria are intended to assess nuisance or amenity impacts, such as soiling of surfaces; the dust deposition level will be less than half the deposition rate that would be noticeable as soiling on a surface. Although not directly comparable to impacts on water quality, this provides a useful indication of potential impacts of deposition on adjacent farm dams.

It is not expected that there would be any contaminants in the dust that would affect water quality of the dams.

All vehicles are legally required to cover their load to prevent the generation of litter. All waste handling, stockpiling and processing will be undertaken within the warehouse preventing the generation of litter. Notwithstanding, the site will be kept in a clean state at all times.

4.11 Department of Primary Industries – Fisheries

The comments DPI Fisheries made on the Scoping Report (v.2) on 14/04/2020 requested a riparian vegetation plan be prepared and applied for the eastern side of the proposed site. Both Attachment K – Surface Water Assessment or Attachment T – Landscape Concept Design do not address this point.

DPI Fisheries requests that a riparian vegetation plan be developed and implemented on the eastern side of the proposed site.

The riparian zone of Oaky Creek within the subject property is managed by the Vegetation Management Plan (VMP) (retitled as a Biodiversity Management Plan (BMP)) required by the quarry consent. This VMP/BMP is in the process of being revised following the recent approval of MOD 5 to reactivate quarry operations.

4.12 Crown Lands

Crown Lands notes that the property boundary of the ARRC is the upper reach of Oaky Creek, which extends both upstream and downstream of the property. Aerial photos indicate that riparian vegetation is present on the eastern boundary of the property. Crown Land expect that a riparian buffer is provided on both sides along the centreline of the creek at this location to retain vegetation and function of the creek.

Consideration needs to be given to setting back buildings and retaining walls of the development from the creek line to provide a buffer zone for aquatic and riparian vegetation along the creek.

Refer to response provided in Section 4.1.5e and Figure 4.2.

4.13 Geological Survey of NSW – Mining, Exploration & Geoscience

MEG notes in Section 7.8 of the EIS, a total of 7 ecosystem credits and 6 species credits are required to offset the residual impacts of the project. We request to be consulted in relation to the proposed location of any biodiversity offset areas (both on and off site) or any supplementary biodiversity measures to ensure there is no consequent reduction in access to prospective land for mineral exploration, or potential for sterilisation of mineral or extractive resources.

Due to the comparatively small quantity of ecosystem and species credits required to be offset by the ARRC (including required road upgrades), offsets are likely to be met through payment to the Biodiversity Conservation Fund or trading on the biodiversity credit market.

4.14 NSW Rural Fire Service

The New South Wales Rural Fire Service (NSW RFS) has reviewed the EIS and provides the following recommended conditions:

Condition 1: From the start of building works, and in perpetuity to ensure ongoing protection from the impact of bush fires, the entire property must be managed as an inner protection areas (IPA) in accordance with the requirements of Appendix 4 of Planning for Bush Fire Protection 2019.

Condition 2: New construction must comply with Section 3 and Section 9 (BAL FZ) of Australian Standard AS3959-2018 Construction of building in bushfire-prone areas or the relevant BAL-FZ requirements of the NASH Standard – Steel Framed Construction in Bushfire Areas (incorporating amendment A – 2015). New Construction must also comply with the construction requirements for BAL FZ in Section 7.5 of Planning for Bush Fire Protection 2019.

Condition 3: Property access roads must comply with the requirements of Table 7.4a of Planning for Bush Fire Protection 2019.

Condition 4: The provision of water, electricity and gas must comply with Table 5.3c of Planning for Bush Fire Protection 2019.

Condition 5: A Bush Fire Emergency Management and Evacuation Plan must be prepared and consistent with the NS RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan. The Bush Fire Emergency Management and Evacuation Plan should include planning for the early relocation of occupants. A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development.

This submission is noted. NSW RFS' recommendations will be incorporated into the detailed design of the ARRC and Emergency and Incident Management Plan.

4.15 Liverpool City Council

4.15.1 Permissibility

Council notes that the site is currently zoned RU1 Primary Production under the Liverpool LEP 2008, and resource recovery facilities are not permissible within this zone. However, the proposed development is permissible under Clause 121 of SEPP (Infrastructure) 2007 (ISEPP).

The site is situated within the Western Sydney Aerotropolis boundary, and is subject to draft plans released by the WSPP in December 2019. It is anticipated that the site will be rezoned to the 'Agribusiness' and 'Environment and Recreation' flexible land use zones by 11 September 2020, once SEPP (Western Sydney Aerotropolis) 2020 has been gazetted. Under the current Draft Plans, the proposed development would not be permissible. At this point in time it is also not clear whether the permissibility for this land use under the ISEPP will continue to apply once the Aerotropolis SEPP is gazetted.

As noted in Section 3.4, the ARRC is permissible pursuant to Clause 53(1) of the Aerotropolis SEPP.

4.15.2 Traffic and transport

Recommended Requirements

1. The intersection of the access road from the site onto Adams Road is to be upgraded to Council's standards.

2. Upgrading of Adams Road is to be designed in accordance with Austroads standards and to be approved by Council.
3. Construction of Adams Road is to be in accordance with Council approved plans, with reference to relevant design standards. The upgrade is to be completed prior to the commencement of the proposed haulage activities.

4. The road pavement of Adams Road is to be reconstructed based on pavement investigation results and traffic loading information, as per the Austroads Pavement Design Guide and LCC Specifications.

5. The intersection of Adams Road and Elizabeth Drive is to be upgraded in accordance with the requirements of TfNSW.

6. Provide a concept layout of an intersection treatment to facilitate safe turning movements of heavy vehicles in accordance with Austroads Guide. An electronic copy of SIDRA models is to be submitted to Council for review.

The applicants acknowledge these requirements. Refer to description of proposed road upgrades in Section 3.1.1. Swept paths for the site access intersection and Elizabeth Drive/Adams Road intersection are contained in the Addendum TIA (Appendix E).

4.15.3 Surface water

- The proposed water management system including stormwater management and flood assessment presented in Surface Water Assessment dated July 2020 prepared by EMM is considered satisfactory.
- It is recommended that:
  - the proposed development shall not encroach into the Probable Maximum Flood extent as indicated in the SWA;
  - Water quality treatment drains shall be incorporated into the stormwater management plan. The water quality treatment system shall be in accordance with Design Plans for 275 Adams Road, Luddenham, dated 8 July 2020 prepared by Reid Campbell and shall meet council's pollutant reduction targets; and
  - Untreated water/recycled water shall not discharge to the receiving water body (Oaky Creek).

The proposed ARRC will not encroach into the probably maximum flood (PMF) extent as indicated in the Surface Water Assessment (Appendix K of the EIS) with the exception of the onsite detention storage, which is expected to be inundated by the fringe of the PMF event. The site is not expected to increase flood levels in Oaky Creek.

Council's recommendations are consistent with those contained in the Surface Water Assessment. An operational water management plan will be prepared following the approval of the project.

4.15.4 Contamination

- The document titled 'Consultants Reporting on Contaminated Land Contaminated Land Guidelines' published by the NSW EPA dated April 2020 indicates that a preliminary investigation report should: identify all past and present potentially contaminating activities; identify potential contamination types; discuss the site condition; provide a preliminary assessment of a site contamination; and assess the need for further investigations.
- The consultant did not appear to review Council records under Section 10.7 (2 and 5) (formerly Section 149) of the EP&A Act of SafeWork NSW records for current and historical dangerous goods licences. It is the responsibility of the consent authority to consider the requirements of Clause 7 of SEPP No. 55 – Remediation of Land prior to granting consent to any development of the land.

A Liverpool City Council planning certificate (Cert No. 3978) has been reviewed and no contaminated land records are reported for the subject property. A property background report is presented in Appendix A of the PSI. The database search did not identify any contamination issues or suggest the likelihood of hazardous chemical storage at the subject property.

4.15.5 Hazard and risk

1) As vehicle refuelling activities are proposed, detailed site plans are required to demonstrate compliance with the 'Practice Note Managing Run-off from Service Station Forecourts' published by the NSW EPA dated June 2019.
2) Detailed plans of the forecourt and chemical storage areas shall identify bunding, spill kit locations and drainage infrastructure. All work and storage areas where spillage may occur shall be bunded. The capacity of the bunded area shall be calculated as being equal to 110% of the largest storage or process vessel/container in the area or 10% of the total volume of vessels/containers accommodated in the area, whichever is greater. Drainage within any fuel dispensing area may need to be connected to a pre-treatment device. The canopy covering the fuel dispensing and chemical storage areas shall have an overhang by 10° to prevent rainwater intrusions.
3) The Applicant may also be required to comply with the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019, Protection of the Environment Operations (Clean Air) Regulation 2010 and industry best practice and standards including but not limited to Australian Standard AS 4897-2008: Design, installation and operation of underground petroleum storage system (AS 2008a) and The Standards and Best Practice Guidelines for Vapor Recovery at Petrol Service Stations published by the NSW EPA dated 2017.
4) Plans may also be required to demonstrate compliance with Australian Standard (AS) 1940 – 2017: The storage and handling of flammable and combustible liquids; AS/NZS 3833:2007 The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers; and if applicable, Australian Standard (AS) 1692-2006 Steel tanks for flammable and combustible liquids.

This submission is noted. Detailed plans will be prepared during the detailed design phase of the project. To clarify, no underground fuel tanks are proposed as part of the project.

4.15.6 Landscaping

The Landscaping Concept Design Plan identifies the proposed use of a small tree (*Acacia longifolia*) in an orderly lineal planting layout. This species has a fairly short life potential and is generally more appropriate for use in bush regeneration/revegetation projects. If these trees are used in a formal setting they are likely to require replacement after 5 to 10 years. Recommend revised choice of species.

This submission is noted.

4.15.7 Vehicle and equipment washing

If vehicle, trailer and/or equipment washing is proposed, adequate environmental controls comprising a fully enclosed bunded and covered wash bay must be incorporated into the design of the facility. The floor of the wash bay shall be graded to an internal drainage point connected to the sewer of Sydney Water in accordance with their requirements. Trafficable bunds shall be installed at the entry/exit of the wash bay and the roof covering the wash bay shall contain an overhang of at least 10º to prevent rainwater intrusion. Uncontaminated rainwater shall be directed from the canopy and other roofed areas into stormwater drains.

If general vehicle maintenance is proposed, these activities shall be conducted within a workshop/building constructed and operated in accordance with the 'Environmental Action for Automotive Servicing Repairs' (DECC 2008.77) The floor of the workshop/building shall be graded to an internal drainage point connected to an appropriate wastewater system. Otherwise, general vehicle maintenance and fleet servicing shall be prohibited at the site.

Plant and equipment will be washed and maintained as required within the ARRC warehouse. Water will drain via drains in the floor of the ARRC warehouse to a leachate tank located in the water management infrastructure area to the south of the ARRC warehouse (refer Figure 1.2).

Other than the wheel-wash, there will no washdown of equipment outside of the warehouse.

4.15.8 Internal roads

Unsealed roads and driveways may result in environmental impacts associated with the emission of airborne particulate matter and/or erosion, transportation and deposition of sediment off-site. Given the high number of predicted vehicle movements on-site, the property must be hard surfaced using either bitumen, concrete, or other similar materials and drained appropriately.

The ARRC site will be hardstand in its entirety, with the exception of landscaped areas. No vehicles will traverse unsealed surfaces following the completion of construction.

4.16 Endeavour Energy

4.16.1 Network capacity / connection

Endeavour Energy has noted that the Servicing Strategy Report includes Endeavour Energy's response to Technical Review Request (Endeavour Energy Ref: ENL3756 – 2014/02306/001) dated 16 June 2020. Accordingly, the applicant should continue through the application for connection of load process with Endeavour Energy's Network Connections Branch who are responsible for managing the conditions of supply with the applicant and their Accredited Service Provider (ASP). Endeavour Energy's Network Connections Branch can be contacted via Head Office enquiries on telephone: 133 718 or (02) 9853 6666 from 9am – 4.30pm.

This submission is noted. Consultation is continuing with Endeavour Energy's Network Connections Branch.

4.16.2 Padmount substations - noise considerations

Endeavour Energy has noted that the Nosie and Vibration Impact Assessment refers to the expected operational noise from the plant and equipment it does not refer to the padmount substations required to be located on the site to facilitate the proposed development. Given the type of plant and equipment operating on the site any noise from the padmount substation transformers is unlikely to be an issue but Endeavour Energy believes it is still worth considering.

Two transformers, comprising a 1,500-kVA transformer and a 500-kVA transformer are proposed to be installed during construction of the ARRC. Considering the capacities of the proposed transformers and *AS 2374.6-1994 Power transformers Part 6: Determination of transformer and reactor sound levels Appendix AA Specified Sound Levels for Transformers* confirms sound power levels (Lw) for the transformers are 68–77 dBA and 63–71 dBA respectively. These sound power levels are significantly lower than operational noise levels of plant and equipment associated with the approved quarry and SSD ARRC operations and will not contribute to the overall noise level from the subject property.

4.16.3 Contamination

Endeavour Energy has noted the Preliminary Site Investigation does not appear to identify the timber poles on the site (which will become redundant as indicated in the Technical Review Request requires the removal of the overhead power lines and the installation of ducts for the underground cables going to the padmount substations to be located on the site) as a potential source of contamination or as areas of environmental concern.

Endeavour Energy's Environmental Business Partner section have advised that the remediation of soils or surfaces impacted by various forms of electricity infrastructure is not uncommon but is usually not significant eg transformer oil associated with leaking substations, pole treatment chemicals at the base of timber poles, etc. The method of remediation is generally the removal of the electricity infrastructure, removal of any stained surfaces or excavation of any contaminated soils and their disposal at a licensed land fill. The decommissioning and removal of the redundant electricity infrastructure will be dealt with by Endeavour Energy's Network Connections Branch as part of the application for the connection of load for the new development.

This submission is noted. In the unlikely event potential contamination is encountered during construction of the ARRC following the removal of existing electrical infrastructure by Endeavour Energy, it will be managed through the CEMP and assessed and disposed of in accordance with the *NSW Waste Classification Guidelines* (EPA 2014a).

4.17 Sydney Water

Sydney Water has no objection to this proposal and our servicing requirements for this proposed development are found under the Notice of Requirements for the Feasibility application that the proponent has already lodged with us – CN 185346.

Subsequently, the proponent has also lodged a Section 73 Application with Sydney Water under CN 186748 which is currently being assessed.

Detailed servicing requirements for the proposed development will be delivered under this Section 73 Application's Notice of Requirements by the respective Account Manager.

This submission is noted. The applicants will continue to consult with Sydney Water through the Section 73 Application.

5 Response to community submissions

This chapter provides responses to the matters raised in the six community submissions and one organisation submission (Luddenham Landowners Consortium) received. Matters raised in submissions are summarised in boxes and addressed by theme.

5.1 Air quality

5.1.1 Air quality and dust impacts

Luddenham Landowners Consortium and five community members raised concerns about potential air quality and dust impacts that may arise as a result of the proposed development. Community members noted concerns including:

- impacts of air quality and dust emissions on community and airport operations have not been adequately addressed for Luddenham residents;
- the EIS indicates air quality impacts are a medium level of risk;
- the effect of dust and pollution on students and teaches of two local schools, and Luddenham Showground;
- the effect of dust and general air quality on the nearby poultry and sheep farms;
- potential impact on water quality in rainwater tanks and farm dams;
- walled product bays which will be open to the elements; and
- uncovered truck loads with building and other waste material, which may contribute to dust emissions to the surrounding environment.

The ARRC warehouse will be fully enclosed with all waste accepted, processed, stored and dispatched within the warehouse. All waste and product bays will be within the warehouse.

Air quality criteria are predicted to be met at all sensitive receptor locations (refer Section 3.3.1), during the concurrent operation of the ARRC, WSA construction and subsequent operation and quarry operations and subsequent rehabilitation; with the exception of an uninhabited residence (R3) in the northerly adjacent property (refer Section 3.3.1 and refer Appendix F). Air quality criteria will the EPA's criteria that are set at levels that protect health and amenity.

Nuisance or amenity dust impacts, such as soiling of surfaces, are evaluated by comparing against the NSW EPA's impact assessment criteria for deposited dust, expressed as grams per meter squared per month ($g/m^2/month$). Dust deposition at all surrounding properties is modelled to be less than the impact assessment criteria of 2 $g/m^2/month$ (project increment) and 4 $g/m^2/month$ (cumulative total). The predicted dust deposition will be less than half the deposition rate that would be noticeable as soiling on a surface.

It is not expected that there would be any contaminants in the dust that would affect water quality of nearby farm dams.

Additional information on air quality, including potential impacts on the airport, is provided in the Addendum AQIA (Appendix F).

It is a legal requirement for trucks operating on public roads in NSW to have their loads covered, thereby mitigating the potential for fugitive dust emissions from truck loads.

Based on the results of the air quality modelling and the distance from the ARRC site to local schools and the Luddenham Showground (more than 2.5 km to the south-west), there will be no air quality or dust impacts on these receivers as a result of the project.

5.1.2 Vehicle emission impacts

Three community submissions expressed concerns about potential air quality impacts that may arise as a result of increased heavy vehicle movements and increased use of local roads. Concerns were raised about the exhaust fumes from additional heavy vehicles movements at all hours (24 hours per day, 7 days per week) on local roads, and how these may impact local residents and road users. Specifically, concerns were raised about residents living along, Adams Road, The Northern Road, Luddenham Village and other surrounding areas.

The operation of the ARRC will result in approximately 629 vehicle movement per day, of which 525 will be heavy vehicles movements. The additional project-related traffic will contribute less than 4% of the predicted daily future traffic on Adams Road north of the site access, around 5% of the predicted daily future traffic on Adams Road south of the site access and around 1.6% of the predicted daily traffic on Elizabeth Drive. While heavy vehicles exhaust emissions for trucks on public roads were not modelled as part of the AQIA, the incremental change in air quality for local residents from trucks operating on local roads is expected to be commensurate with the percentage increased in truck movements.

ARRC traffic will not travel through Luddenham Village (unless servicing a business or construction project within Luddenham Village).

5.1.3 Air quality management measures

One community member questioned the practicality of the proposed mitigation measures of street sweepers and wheel washers, and whether these would potentially be abandoned mid-project.

In line with current standard industry practice, a wheel wash will be installed after the outgoing weighbridge and will be maintained for the life of the development.

Use of a street sweeper will be documented in the OEMP and Air quality management plan. The applicants will be required to conduct ARRC operations in accordance with the requirements of these management plans.

5.1.4 Odour impacts

Two community members raised concerns about the odour that could be caused by the ARRC, and how this would affect residential quality of life. One respondent noted that their property is less than 2 km from the proposed development and that they expect odour to impact them at this distance.

Odorous waste will not be accepted at the ARRC. The odour modelling (refer Section 3.3.1iii and Appendix F) predicts that all assessment locations are below the adopted odour goal of 5 OU, with all sensitive locations (ie residential or recreational receivers) at or below 1 OU (the theoretical level at which no odour would occur).

5.2 Noise and vibration

5.2.1 General noise impacts

Luddenham Landowners Consortium and four community members raised concerns about potential noise impacts from the project. Community members expressed concern about the effect of noise from the project on local residents, farm animals, as well as students and teachers at two local schools, Luddenham Showground, and Luddenham café strip.

Two community submission noted that local residents are already experiencing noise impacts in the area from the ongoing road works and the construction works associated with the WSA.

Two community submissions raised concerns about how noise would change the amenity of the area.

The project, alongside the construction and subsequent operation of the WSA and other developments in the Aerotropolis, will contribute to changing noise levels in the local area. The NVIA predicted some residential assessment locations in the vicinity of the ARRC are predicted to experience noise levels due to the project above existing background levels particularly during the evening and night-time periods. Residential assessment locations R3 and R6 will be the most affected due to their proximity to the ARRC site (refer Figure 3.3). As noted above, R3 is currently unoccupied and the property owner intends to redevelop this property for commercial/industrial land use in line with Agribusiness zoning.

The NVIA presented a worst-case conservative assessment of the ARRC operating at peak operations, with peak waste receival, processing and dispatch operations occurring simultaneously – which will occur rarely. It is also unlikely that the ARRC will reach maximum throughput prior to the commencement of WSA 24-hour operations in 2026.

Notwithstanding, the applicants have approached the most affected inhabited residential receiver (R6) to facilitate the establishment of a negotiated agreement offering noise attenuation. The applicants have more recently also approached residential receiver R2 to facilitate the establishment of a negotiated agreement offering noise attenuation.

The project will not result in noise impacts to local schools, Luddenham Showground or Luddenham Village due to the distance between the subject property and these receivers. Road noise from ARRC development traffic will also not impact on these receivers as ARRC traffic will not travel through Luddenham Village (unless servicing a business or construction project within Luddenham Village).

There are not farm animals on the properties adjacent to the subject property. Noise experienced by farm animals in the wider area (as indicated by the levels at at R8) resulting from all activities on the subject site is predicted to be 43 dB(A). This is towards the lower end of noise levels that are typically experienced in a quiet suburban area (see NVIA Table 7.1).

5.2.2 Assessment adequacy

Three community submissions noted that noise and vibration impacts on the community have not been adequately addressed in the EIS, in particular:

- daytime noise;
- night-time noise;
- sleep disturbance;
- vibration; and
- road traffic noise.

The community submissions also noted concern with the use of commercial and industrial noise levels to assess noise.

The EIS NVIA was prepared in accordance with the SEARs by qualified, experienced and government endorsed professionals in accordance with the NPfI, RNP and the ICNG. The NVIA included an assessment of predicted daytime, evening and night-time noise levels at surrounding residential and commercial locations. The NVIA included a sleep disturbance assessment with reference to the surrounding area. The sleep disturbance assessment found that the ARRC meets the sleep disturbance criteria at all residential assessment locations with the exception of R3 (unoccupied) that adjoins the subject property.

The EIS NVIA included an assessment of construction vibration and road traffic noise in accordance with the relevant guidelines. The road traffic noise assessment has been revised in response to revised background and development traffic volumes (refer Section 3.3.3iv and Appendix K).

The Addendum NVIA has assessed the ARRC with reference to operational noise limits for existing residences established using the NPfI methods for determining project specific intrusiveness and amenity levels (refer Section 3.3.3i).

5.2.3 Traffic noise

One community submission raised concerns about the project's contribution to noise on local roads due to increased heavy vehicle traffic. Transporting 600,000 tpa, 24 hours per day, 7 days per week would increase the number of heavy vehicles on local roads, in particular those living along Adams Road.

There will be an increase in road traffic noise levels as a result of the project, including along Adams Road. However, accounting for background traffic growth, ARRC operations are predicted to comply with the relevant RNP and NCG criteria (refer Section 3.3.3iv).

5.2.4 Vibration impacts

Three community members raised concerns about vibration impacts associated with the proposed development and transport movement, and how this would impact the local residents.

Vibration generated by operational plant and equipment and transport movement will not generate vibration at assessment locations that exceed the relevant standards for human comfort or that would result in structural damage to buildings (refer Section 3.3.3).

5.3 Traffic and transport

5.3.1 General traffic and transport impacts

Five community members raised general concerns in relation to various potential traffic and transport impacts from the project. Concerns are mostly related to impact of heavy vehicle traffic on two schools, businesses including the Hubertus Country Club, local residences and road users in close proximity to the project.

Luddenham Landowners Consortium and three community submissions opposed the use of Adams Road both for ARRC traffic and site access.

One community member noted that their property will be impacted by damage to roads.

The Addendum TIA presents an updated assessment of the potential traffic and transport impacts of the project (refer Section 3.3.2 and Appendix A). The revised assessment concludes that project related heavy and light vehicles can be accommodated on the road network following the proposed upgrades as outlined in Section 3.3.1.

The proposed upgrades include pavement upgrades to Adams Road between Elizabeth Drive and Anton Road to accommodate heavy vehicles as well as upgrades to the Elizabeth Drive/Adams Road intersection to improve road safety and road network capacity for all road users.

As noted above, ARRC traffic will not travel through Luddenham Village (unless servicing a business or construction project within Luddenham Village) and therefore traffic impacts on local Luddenham businesses or schools are not predicted.

In a wider context, it is anticipated that the ARRC will be one of the first light industrial/commercial developments in the Agribusiness zone envisaged by the NSW Government's draft Agribusiness Precinct Plan. The development of this zone will inevitably see more heavy vehicles using the roads in the area so the project-related traffic will part of the transition from the current to future land uses in the area.

5.3.2 Assessment adequacy

Three community members noted that traffic and transport have not been adequately addressed for Luddenham residents in the EIS, including:

- additional light and heavy vehicle movements;
- road safety;
- road network capacity; and
- traffic congestion (particularly to emergency services).

The EIS TIA and Addendum TIA have been prepared by qualified and experienced traffic engineers in accordance with the SEARs and in consultation with TfNSW using TfNSW supplied traffic data.

Further assessment is provided in Section 3.3.2 and Appendix E. This has included refining the project to provide further road and intersection upgrades.

5.4 Biodiversity

5.4.1 Assessment adequacy

Two community members noted that biodiversity impacts have not been adequately addressed for Luddenham residents. In particular, their concerns related to the assessment of the following:

- Impacts to native vegetation; and
- Impacts on the Oaky Creek riparian corridor.

The EIS BDAR and revised BDAR (refer Section 3.3.4 and Appendix F) have been prepared in accordance with the biodiversity assessment method (BAM OEH 2017a) as required under the *Biodiversity Conservation Act 2016*. Both the EIS BDAR and revised BDAR contain a detailed assessment of the project's direct and indirect impacts on native vegetation including within the Oaky Creek riparian corridor.

5.4.2 Impacts to wildlife

One community member expressed concerns about wildlife and how the project could endanger them. The respondent also noted that the Zambi Wildlife Retreat is only a short distance from the project and expressed concerns for animals living at the retreat.

The EIS BDAR and revised BDAR assessed the project's direct and indirect impacts on fauna (refer Section 3.3.4 and Appendix G).

The Zambi Wildlife Retreat is located approximately 4.5 km to the west of the project and will not be impacted by the project.

5.5 Agriculture

5.5.1 Impacts to existing agricultural land use

One community member is concerned about the project attracting wildlife and vermin to the area, and the impact this will have on their poultry and sheep farm. Coupled with other environmental impacts, they noted some of the issues this could cause including issues in animal husbandry, animal welfare, bio security and water bio security.

This community member also noted the presence of the site access in close proximity to agricultural enterprises and poultry sheds has potential to create significant productivity issues on the surrounding agricultural enterprises and wear on the surrounding roads will have a detrimental impact on the ability of surrounding agricultural industries to get their products to market in a safe manner.

This community member also noted that the EIS does not provide adequate detail about whether the project will impact the quality of the water in their dams that receive the run-off from the project site.

The closest agricultural enterprise is the poultry farm at 2510 Elizabeth Drive. The residence on this property is noise and air quality assessment location R8. The predicted noise level at R8 resulting from all activities on the subject site is predicted to be 43 dB(A). This is towards the lower end of noise levels that are typically experienced in a quiet suburban area (see EIS NVIA Table 7.1). All air quality and noise criteria will be met on this property and no impacts to this agricultural enterprise are predicted.

The ARRC is not expected to attract wildlife or vermin as it will only accept non-putrescible waste. A weed management protocol will be prepared that includes measures for the identification, management and ongoing monitoring of weeds on-site.

The proposed upgrades (refer Section 3.1) are expected to improve road conditions for all road users including nearby agricultural enterprises.

Measures to prevent impacts to neighbouring properties from weeds or vermin are detailed in Section 4.10.1.

The ARRC design includes a water treatment plant that will collect all water used for dust suppression and processing from within the ARRC warehouse and treat for reuse on site. All stormwater runoff from the ARRC site will be collected in the onsite detention basin prior to discharge to Oaky Creek with no runoff being discharged offsite to neighbouring properties. Water used in cleaning and processing operations within the ARRC warehouse will be collected and treated for reuse on site.

5.5.2 Biophysical strategic agricultural land

One community member identified that biophysical strategic agricultural land (BSAL) has been located in close proximity to the proposed site. The respondent noted that BSAL is a rarity in the Sydney Basin and scarce across NSW, and that it is important to encourage the continued sustainable use of natural resources in these highly important areas, and as per the zoning classification, to minimise fragmentation and alienation of resource lands.

There is no mapped biophysical strategic agricultural land (BSAL) on the subject property.

An intrusive BSAL assessment was carried out as part of the application for a site verification certificate (SVC) for the existing quarry on the subject property (Minesoils 2020). This assessment determined that the existing quarry disturbance and additional quarry components proposed under MOD 5 (ie site access infrastructure and extended stockpile footprint), inclusive of a 100 m buffer, was not BSAL. The ARRC site was almost entirely within the 100 m buffer of this BSAL assessment. The desktop review of the project soil capability carried out as part of the Land, Soil and Erosion assessment (Appendix Q of the EIS) also identified that site soils are within capability Classes 4-6, whereas BSAL only applies to soils in Classes 1-3 (OEH 2012).

5.6 Water

Three community members noted that the following water aspects have not been adequately addressed for Luddenham residents:

- erosion and sediment control;
- surface water contamination; and
- groundwater.

The potential erosion and sediment control impacts of the project are addressed in Section 7.11 of the EIS and the Land, Soil and Erosion Assessment (Appendix Q of the EIS). During ARRC construction, erosion and sediment will be managed in accordance with the erosion and sediment control plan that will be part of the CEMP.

The EIS Surface Water Assessment (Appendix K of the EIS) concluded that the proposed ARRC water management system will function to prevent any material change or degradation of the water quality of Oaky Creek due to discharges of stormwater. There will be no discharge of water used within the ARRC warehouse for dust suppression or processing as this water will be treated and reused onsite.

The project is expected to have a negligible impact on groundwater resources as the ARRC site will be completely sealed with the exception of small landscaped areas. There will be with no irrigation of landscaped areas using treated water (only rainwater and potable water will be used for irrigation).

5.7 Urban design and visual

5.7.1 Visual compatibility with surrounding land uses

Three community members objected to the visual character of the project, noting the following:

- the visual assessment has not adequately addressed the change in visual landscape character and the design of the ARRC for Luddenham residents;
- a resource recovery centre detracts from the agricultural and residential nature of the surrounds; and
- the project will cause a change in the visual landscape.

The visual impact assessment carried out as part of the EIS (Section 7.9) concluded that the ARRC warehouse will be the most prominent and visible feature for the sensitive receivers and viewpoints assessed. The EIS acknowledged that in the short term, the ARRC site will cause a significant visual impact to immediate residential receivers particularly R3 and R6. As noted in Section 3.2, the applicants have approached R6 to facilitate discussions surrounding a negotiated agreement which would include visual and noise mitigation. At this stage, visual mitigation has not been offered to R3 due to the applicants understanding that this property will no longer be used for residential purposes.

Notwithstanding, as outlined in Section 3.5 and 4.2, the architecturally designed ARRC is considered generally consistent with the vision of the draft Precinct Plan with the ARRC warehouse design consistent with the bulk and scale of the warehouse developments depicted in the draft Precinct Plan.

5.7.2 Lighting

Three community members noted that the visual assessment has not been adequately addressed the lighting impacts of the project, with one respondent noting that the ARRC will be a 24 hours per day, 7 days per week source of high levels of light.

Potential lighting impacts of the ARRC will be mitigated by the fully enclosed design of the ARRC warehouse. External lighting will be designed to meet WSA requirements and AS/NZS 4282:2019 – *Control of the Obtrusive Effects of Outdoor Lighting.*

5.7.3 Litter

Two community members noted that the visual assessment has not been adequately addressed the potential for litter from the project.

All waste will be accepted, processed, stored and dispatched within the ARRC warehouse thus mitigating the potential for litter from the ARRC. In addition, all vehicles traveling to and from the ARRC will have their loads covered, as required by law.

The ARRC and surrounds will be kept in a tidy state with any litter, such as from a customers littering from their vehicle (eg dropping a used coffee cup), removed as soon as it is observed by a ARRC employee.

5.8 Socio-economic

5.8.1 Health, safety and quality of life

Three community members expressed concerns over potential negative impacts to health, safety and quality of life to local residents.

The potential impacts of the project to health and safety, particularly as a result of changes to air quality, noise and traffic are considered in detail in the EIS and this Submissions Report. More broadly, changes to quality of life will vary between individuals and will be a balance between the benefits that the project and the wider development of the Aerotropolis will provide (for example through economic opportunities and increased recycling) and the impacts of the project and the wider commercial/industrial development of the Aerotropolis (for example by substantially changing the character of the area). This balance will be considered as part of determining the project.

5.8.2 Impacts to local businesses

Luddenham Landowners Consortium and five community members expressed concerns about the economic effects that the project will have on local businesses and Consortium lands of the project. Some respondents noted that the project would affect environmental aspects such as air quality, traffic and noise, thereby impacting the quality of local produce and amenity of local businesses.

Some community members raised concerns in regards to the Hubertus Workers Club, a business adjacent to the project, which was looking to expand its accommodation and entertainment in line with the development of the WSA. They raised concerns about the businesses' revenue, survival and job opportunities.

The ARRC will be one of the first commercial/industrial development in the area and will pave the way for future developments in the surrounding area. Along with the WSA, these developments will substantially increase employment in the areas with the Aerotropolis Plan predicting that the Agribusiness precinct will be home to around 8,000 to 10,000 jobs. The ARRC would provide an additional 70 direct jobs and an estimated 108 indirect jobs into the Western Sydney community. These workers will provide additional patronage to many local businesses. As such, the ARRC will be an early contributor to the greatly expanded economic opportunities that the development of the Aerotropolis will bring to the area.

Environmental aspects are addressed in Sections 5.1 to 5.6.

5.8.3 Property prices

Three community members noted concern over how the project would affect the price of their house/property.

The applicants consider that the ARRC is likely to have a positive effect on the values of neighbouring properties. The ARRC will be fully enclosed within an architecturally designed warehouse which will be consistent with the bulk and scale of warehouse developments depicted in the draft Precinct Plan.

As one of the first commercial/industrial development in the area, the development of the ARRC is likely to provide greater certainty for other developers in the area who may be considering purchasing land or developing properties that they own. As such, development of the ARRC will assist to increase land values from those associated with rural properties to the higher values associated with the new agribusiness zoning.

The applicants intend to commence construction of the ARRC as soon as all approvals are in place which will include road upgrades on Adams Road. These upgrades will improve access for all properties along Adams Road between Elizabeth Drive and Anton Road which may also have positive impacts on the value of neighbouring properties.

5.9 Rehabilitation and land use

One community member expressed concerns over infilling the quarry void in the future. They noted that infilling the quarry with unrecyclable materials is not appropriate in this area or for future agricultural use.

Infilling of the void will be the subject of a future planning application and is addressed in Section 3.3.7.

5.10 Airport safeguarding

Two community members noted that the EIS does not adequately address risks to safe airspace.

The EIS contained an aeronautical impact assessment prepared by Landrum and Brown (2020a), a global consultancy, specialising in aviation planning. This assessment has been revised to account for additional technical studies and in response to further consultation with WSA and Airservices Australia.

The conclusions of the revised aeronautical assessment were consistent with that in the EIS and confirms that the project would not have adverse impacts on the operation of the WSA (refer Section 3.3.5 and Appendix I).

5.11 Hazards and risks

Three community respondents noted that the EIS did not adequately address hazards and risks associated with the project, in particular:

- dangerous goods transportation;
- attraction of wildlife/vermin; and
- fire hazard.

The ARRC will not accept hazardous waste. Chapter 6 of the EIS provided a detailed evaluation of potential hazards and risks associated with the project. This chapter also include an assessment of the project against *Applying SEPP 33* [State Environmental Planning Policy No 33 – Hazardous and Offensive Development] (DoP 2011a). The quantities of dangerous goods proposed for transportation to and from the ARRC will be well below the Applying SEPP 33 transport threshold limits (refer EIS Section 6.3.1i(b)) and accordingly do not constitute a potentially hazardous development.

The ARRC will only accept non-putrescible waste that will not readily decay under standard conditions; emit offensive odours; or attract vermin or other vectors (including flies, birds and rodents). The ARRC will have management measures in place to ensure vegetation waste will not compost onsite. The site will also not accept kerbside green or putrescible waste from local council collections. Accordingly, the ARRC is not considered a potentially offensive development (refer Section 6.3.2 of the EIS).

The ARRC's fire protection system is described in Section 2.1.8 of the EIS. Fire safety design will be finalised as part of the detailed design process in accordance with National Construction Code provisions, *Planning for Bushfire Protection* (PBP) (RFS 2006 and 2018) and *Fire Safety Guideline – Fire Safety in Waste Facilities* (FRNSW 2020a) specifically in relation to fire hydrant systems, automated fire sprinklers, smoke hazard management and fire water run-off containment.

5.12 Project compatibility with existing and future surrounding development

Luddenham Landowners Consortium noted that the development will impact on future development envisaged by the Luddenham Landowners Consortium and the development is not in accordance with, or permissible under, the Aerotropolis SEPP and Aerotropolis Plan. Three community members also noted that the project is not compatible with current and/or future land uses within the proposed project area.

The compatibility of the project with surrounding existing and future land uses is considered in detail in Section 3.5 and Section 4.2.

6 Updated evaluation of merits

A detailed evaluation of merits outlining the need and justification of the project is provided in Chapter 8 of the EIS. This chapter provides an updated evaluation of the project with regard to the strategic need for the project and its environmental impacts and economic benefits.

6.1 Project design

The ARRC design takes into consideration the likely interactions between the ARRC and the existing and future activities on the subject property and surrounding land uses. The ARRC will be the first of many commercial/light industrial uses on the subject property and surrounding area. Its enclosed design will fit within the character of these developments, noting the architecturally designed warehouse is consistent with the bulk and scale of the warehouse developments depicted in the draft Precinct Plan.

The ARRC has been designed with a focus on minimising potential impacts on WSA's operations and to be compatible with the future Agribusiness land uses.

The ARRC has been sited within the subject property so as to avoid impacts on the biodiversity values of the Oaky Creek riparian corridor. The design will prevent stormwater runoff contacting waste or waste handling areas and prevent any water from these areas being discharged to Oaky Creek.

The ARRC will only accept non-putrescible general solid waste with all waste and recycled product accepted, processed, stored and dispatched within a fully enclosed warehouse.

The upgrades to the Elizabeth Drive/Adams Road intersection and to Adams Road between Elizabeth Drive and Anton Road will improve the road network for all road users.

6.2 Statutory and strategic context and site suitability

Since the submission of the EIS, there have been changes to the project's statutory and strategic context with the commencement of the Aerotropolis SEPP and finalisation of the Aerotropolis Plan. This SEPP is now the EPI in force for the subject property. Pursuant to Clause 53(1) of the Aerotropolis SEPP, the proposed ARRC continues to be permissible development.

The subject property, with a substantial, unrehabilitated quarry, presents a unique situation which is not envisaged in the Aerotropolis SEPP. In its current state, the subject property is not compatible with the Aerotropolis vision. However, there are no obligations under the existing quarry consent to fill the quarry void.

The ARRC provides a viable solution to in filling the void and enabling a staged long-term transformation of the subject property from the existing quarry to a final land use aligned with the objectives of the Agribusiness zone. Without a practical and economically viable method of rehabilitating the quarry site, the void will remain, preventing development on about a half of the subject property.

Development of the Aerotropolis is predicted to create Australia's third-largest economy by 2036. Development of the Aerotropolis over the coming decade will require a huge number of construction projects for the delivery of the required community infrastructure including roads, the Western Sydney Metro, schools, health services; for the construction of the premises for large and small businesses; and for housing construction. All of these developments will generate construction and demolition waste and many will create commercial and industrial waste once in operation.

The subject property is readily accessible from major transport links including Elizabeth Drive, M4 Motorway, M7 Motorway the Northern Road and the future M12 Motorway so is strategically located to provide recycling services to meet the projected demand associated with future development activities within the Aerotropolis and surrounding areas.

6.3 Impact assessment

Revised or addendum technical assessments have been prepared where required to assess the refined project. These have found that the refined project will generally have smaller impacts than predicted by the EIS assessments.

The updated air quality modelling predicts lower airborne particulate concentrations at sensitive receivers than those presented in the EIS. It is now predicted that air quality criteria will be met at all times at all locations, with the exception of at the unoccupied residence (R3). We understand that the owner intends to redeveloped this property for light industrial/commercial use.

The revised impacts of ARRC-related traffic on the Elizabeth/Adams Road and The Northern Road/Adams Road intersections are lower than predicted in the EIS.

Notwithstanding the rezoning of the subject property and surrounding land use to agribusiness, the EPA has advised rural zoning should be assumed for noise assessment purposes as this was the zoning at the time the development application was submitted. For the operation of the ARRC, it is predicted that the PNTLs at most assessment locations will be met. For R3 (unoccupied), the predicted exceedances are defined under the NPfI as significant for all periods. Night-time noise exceedances at R2 and R4 are defined as 'marginal' under the NPfI and at R6 exceedances are defined as 'moderate' during the day and 'significant' during the evening and night.

The applicants have offered a negotiated agreement with the property owner of the inhabited residence to the west of the ARRC (R6) in recognition of increased noise levels and visual impacts. This agreement would provide noise attenuation and landscape treatments. A negotiated agreement has also been offered to the residence immediately to the north-east of the Elizabeth Road/Adams Road intersection (R2) in recognition of predicted increased noise levels during the night-time period. While a letter has also been sent to the property owner of the uninhabited property to the north (R3) to facilitate further discussions, mitigation has not been offered at this time due to the applicants understanding that R3 will no longer be used for residential purposes.

The conclusions of the revised aeronautical assessment confirmed the project will not have adverse impacts on the operation of the WSA.

6.4 The public interest

The ARRC project represents a “shovel ready”, major private investment initiative for the area surrounding WSA. It will be one of the first new light industrial/commercial developments in the Agribusiness Zone. The project is projected to increase local area value-added economic activity generation in the order of $56 million per annum for ongoing operations (net present value of $596 million) and $11 million per annum during construction (net present value of $17 million).

The ARRC will create 70 direct jobs and project’s contribution to the Western Sydney economy will create an estimated 108 indirect jobs to create a total of 178 direct and indirect jobs. Employees will be sourced from the local area where possible, to provide local job opportunities consistent with current Government objectives.

Subject to the approval of other developments on the subject site, development of the ARRC is integral in achieving the intended future commercial/industrial land use of the subject property as the project provides a commercially viable means to fill the quarry void (subject to separate development consent).

The ‘do nothing option’ would forgo the estimated $141 million in annual direct and indirect output or business turnover contribution of the project to the Western Sydney economy. It would also forgo the potential to significantly intensify the potential cumulative economic benefits and employment numbers that the subject property would support through a fully developed Agribusiness logistics hub.

The EIS and this submission report have found that ARRC could be developed without significant impacts on the local environment within the context of the Aerotropolis. As such the ARRC is considered to be in the public interest.

References

Austroads 2017, *Guide to Road Design (Part 4A).*

Austroads 2016, *Austroads Guide to Road Design Part 3 (Geometric Design).*

BS 7385 Part 2-1993 *"Evaluation and measurement for vibration in buildings Part 2*".

BS 6472 – 2008 *"Evaluation of human exposure to vibration in buildings (1-80Hz)".*

DoP 2011a, *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33*, Department of Planning.

DPE 2015 *Assessment Report Clay/Shale Quarry Activities and Sequencing Modification (315-7-2003 Mod 3)*, NSW Department of Planning and Environment.

DPIE 2019, Biodiversity Assessment Method Operational Manual Stage 2. NSW Department of Planning, Industry and Environment.

DPIE 2020, *State Significant Development Guide - Preparing a Submissions Report,* NSW Department of Planning, Industry and the Environment.

EMM 2021a, *Luddenham Resource Recovery Centre, Addendum Air Quality Impact Assessment,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2021b, *Luddenham Resource Recovery Centre, Addendum Traffic Impact Assessment,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2021c, *Luddenham Resource Recovery Centre, Biodiversity Development Assessment Report,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2021d, *Luddenham Resource Recovery Centre, Aboriginal Cultural Heritage Assessment,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2021e, *Luddenham Resource Recovery Centre, Addendum Noise and Vibration Impact Assessment*, prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2020a, *Luddenham Resource Recovery Centre, Submissions Report,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2020b, *Luddenham Resource Recovery Centre, Traffic impact assessment,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2020c, *Luddenham Resource Recovery Centre, Air quality impact assessment*, prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2020d, *Luddenham Resource Recovery Centre, Draft Aboriginal Cultural Heritage Assessment,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2020e, *Luddenham Resource Recovery Centre, Noise and vibration impact assessment,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2020f, *Luddenham Resource Recovery Centre, Surface water assessment,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2020g, *Luddenham Advanced Resource Recover Centre, Wildlife Strike and Birdstrike Risk Review*. Prepared for Coombes Property Group and KLF Holdings Pty Ltd by EMM Consulting Pty Limited.

EMM 2020h, *Luddenham Resource Recovery Centre, Land and soil assessment,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2020i, *Luddenham Resource Recovery Centre, Preliminary site investigation,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EMM 2020j, *Luddenham Quarry Modification 5 - Modification Report,* prepared for Coombes Property Group and KLF Holdings Pty Ltd, EMM Consulting Pty Ltd.

EPA 2009, *The Interim Construction Noise Guideline* (ICNG), NSW Environment Protection Authority.

EPA 2011, *NSW Road Noise Policy*, NSW Environment Protection Authority.

EPA 2014a, *Waste Classification Guidelines: Part1: Classifying waste,* NSW Environment Protection Authority.

EPA 2016a, *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*, minor revisions November 2016, published January 2017, NSW Environment Protection Authority.

EPA 2016b, *Environmental Guidelines: Solid Waste Landfills, Second Edition 2016*, NSW Environment Protection Authority.

EPA 2017, *Noise Policy for Industry* (NPfI), NSW Environment Protection Authority.

EPA 2019, *Standards for Managing Construction Waste in NSW*, NSW Environment Protection Authority.

FRNSW 2019, *Fire Safety Guideline: Access for Fire Brigade Vehicles and Firefighters, Version 05*, Fire and Rescue NSW, Community Safety Directorate, Fire Safety Branch, issued 4 October 2020.

FRNSW 2020, *Fire Safety Guideline: Fire Safety in Waste Facilities, Version 02.02*, Fire and Rescue NSW, Community Safety Directorate, Fire Safety Branch, issued 27 February 2020.

Insitu Advisory 2020, *Concept design and filling strategy, Luddenham Quarry 275 Adams Road Luddenham, NSW.* Report prepared for CFT No.13 Pty Ltd & KLF Holdings Pty Ltd.

Landcom 2004, *Managing Urban Stormwater: Soils and Construction, Volume 1*, 4th Edition March. NSW Government.

Landrum and Brown 2020a, *Aeronautical Impact Assessment V1,* prepared by Landrum & Brown Worldwide (Aust) Pty Ltd for Coombes Property Group and EMM Consulting Pty Ltd.

Landrum and Brown 2020b, *Aeronautical Impact Assessment V4,* prepared by Landrum & Brown Worldwide (Aust) Pty Ltd for Coombes Property Group and EMM Consulting Pty Ltd.

Minesoils 2020, *Luddenham Quarry Mod5 Biophysical Strategic Agricultural Land (BSAL) Site Verification Report, Report Number: MS-03_Final*, Minesoils Pty Ltd.

MRA 2019, *275 Adams Road, Luddenham: Economic Needs Analysis*, prepared 8 October 2019 by MRA Consulting Group.

NRAR (2018) *Guidelines for controlled activities on waterfront land: Riparian corridors*, Natural Resources Access Regulator.

NSW RFS 2019, *Planning for Bushfire Protection*. *A guide for Councils, planners, fire authorities and developers,* NSW Rural Fire Service, November 2019.

OEH 2012, *The Land and Soil Capability Assessment Scheme, Second Approximation: A General Rural Land Evaluation System for New South Wales*. Office of Environment & Heritage, NSW Government.

OEH 2017a, *Biodiversity Assessment Method (BAM*), NSW Office of Environment and Heritage, Sydney.

WSA Co 2018, *Western Sydney Airport Construction Plan – Stage 1 Development,* Western Sydney Airport Co.

WSPP 2019a, *Western Sydney Aerotropolis Plan Draft - for public comment,* NSW Western Sydney Planning Partnership.

WSPP 2020a, *Western Sydney Aerotropolis Plan,* NSW Western Sydney Planning Partnership.

WSPP 2020b, *Draft Aerotropolis Precinct Plan*, Western Sydney Planning Partnership.

Abbreviations

ACHA	Aboriginal Cultural Heritage Assessment
AIA	Aeronautical Impact Assessment
ARRC	Advanced Resource Recovery Centre
AQIA	Air Quality Impact Assessment
BDAR	Biodiversity diversity assessment report
CDFS	Concept design and filling strategy
CEMP	Construction environmental management plan
CTMP	Construction traffic management plan
CPG	Coombes Property Group
DA	Development application
dB	Decibel
DCP	Dynamic cone penetrometer
DITRDC	Commonwealth Department of Infrastructure, Transport. Regional Development and Communications
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EIMP	Emergency and Incident Management Plan
EMM	EMM Consulting Pty Limited
EPA	Environment Protection Authority
EP&A Act	Environment, Planning and Assessment Act
FWD	Falling weight deflectometer
BC Act	Biodiversity Conservation Act
g/kWh	grams per kilo watt hours
ICNG	Interim Construction Noise Guideline
kL	Kilolitre
KLF	KLF Holdings Pty Ltd
L_{Aeq}	Equivalent continuous sound pressure level

LCC	Liverpool City Council
LLC	Luddenham Landowners Consortium
L/s	Litres per second
m	metre
MEG	Regional NSW – Mining, Exploration and Geoscience
MOD	Modification
ML	Mega litre
NASF	National Airport Safety Framework
NPfI	Noise Policy for Industry
NVIA	Noise and vibration impact assessment
OEMP	Operational environmental management plan
OTMP	Operation traffic management plan
OSD	Off-site detention
OU	Odour units
PSI	Preliminary site investigation
$PM_{2.5}$	Particulate matter 2.5 micrometres or less
PM_{10}	Particulate matter 10 micrometres or less
PNTL	Project noise trigger levels
QS	Quantity surveyor
RAP	Registered Aboriginal Parties
RNP	Road Noise Policy
SEAR's	Secretary's environmental assessment requirements
SEPP	State Environmental Planning Policy
SSD	State Significant Development
t	Tonnes
TIA	Traffic Impact Assessment
TfNSW	Transport for NSW
tpa	tonnes per annum
TSP	Total suspended particles

WSA	Western Sydney Airport
WSPP	Western Sydney Planning Partnership
VLAMP	Voluntary land acquisition mitigation policy
µg/m³	Micrograms per cubic metre

EMM
creating opportunities

www.emmconsulting.com.au