1.0 APPLICATION DESCRIPTION

Application and property details

Fast-Track project name:	Auckland Surf Park Community Stage 2
Fast-Track application number:	FTAA-2606-1246
Council reference number:	BUN60467823

2.0 Technical Specialist Memo – Earthworks & Erosion and Sediment Control

To:	Brooke Dales, Consultant Planner Warwick Pascoe – Principal Project Lead
From:	Louis Boamponsem - Senior Specialist
Qualifications & Relevant Experience:	I hold a PhD in Environmental Science degree from The University of Auckland (specialising in air quality monitoring and assessment). I have 14 years' experience in air quality monitoring, research and broad environmental science lecturing including more than 20 published articles. I am employed as a Senior Specialist within the Contamination, Air and Noise team of the Specialist Unit, Planning and Resource Consents Department, Auckland Council. I have held this role since May 2024 and am principally involved in evaluating and preparing specialist and technical input to resource consenting issues and proposals. I was previously employed by the Research and Evaluation Unit (RIMU), Auckland Council as an Air Quality Scientist.
Preparation in Accordance with the Code of Conduct:	I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.

Signature:	
Date:	2/10/2026

3.0 Executive Summary

The main operational air quality matters associated with the proposal are odour from the Wastewater and Water Treatment Plant (WWTP) Precinct and combustion emissions from the emergency generators serving Data Centre Precincts 1 and 2. Construction dust is also relevant, given the scale and duration of the proposed earthworks, but can be managed through appropriate construction controls.

The discharge of contaminants to air from the WWTP requires consent as a discretionary activity under Rule E14.4.1(A163) of the Auckland Unitary Plan. The applicant's air quality assessment identifies the main potential odour sources, nearby existing dwellings and future sensitive activities within the development. The proposed Live/Work Precinct contains the closest future dwellings, some of which may be located within approximately 50 m of potential WWTP odour sources.

The applicant proposes to enclose and mechanically extract air from higher-risk sources, treat the extracted air using activated carbon, monitor key process parameters, provide backup power and operate the plant under an Odour Management Plan. These measures are appropriate and should reduce odour effects during normal operation.

The updated assessment does not clearly identify the closest future dwelling to each principal WWTP odour source. It also does not adequately assess the effects that could arise during reasonably foreseeable commissioning, abnormal or emergency conditions, such as extended storage of untreated wastewater, loss of aeration, process upset, sludge-handling events or failure of the odour extraction or treatment system. Further information is needed before the potential odour effects at the closest future dwellings can be fully established.

The applicant relies on Rule E14.4.1(A48) for discharges from the data centre emergency generators. However, the application does not clearly identify the total number or combined capacity of generators proposed, any change from the Stage 1 consented arrangement, the final stack configuration or the maximum number of generators that may operate concurrently. Emissions during routine testing and emergency operation have not been assessed at the nearest existing and future sensitive receptors. The permitted activity status of the generator discharges under AUP Chapter E14 therefore cannot be confirmed from the information currently available.

Based on the information currently available, I am unable to support the application from an air quality perspective. A final recommendation can be made once the applicant has provided sufficient information to confirm the status and effects of the data centre generators and to establish the potential WWTP odour effects at the closest future dwellings.

4.0 Documents Reviewed

The following documents have been reviewed in preparing this memorandum:

- Auckland Surf Park Community Stage 2, Assessment of Environmental Effects and Statutory Analysis, prepared for AW Holdings 2021 Limited by Barker & Associates Limited, Final Revision C, dated 8 June 2026. *(AEE)*
- Appendix 8: Rules Assessment, prepared in support of the Auckland Surf Park Community Stage 2 application. *(Rules Assessment)*
- Appendix 29: Infrastructure Report, prepared by McKenzie & Co, Revision F, dated 8 June 2026. *(Infrastructure Report)*
- Appendix 30: Water and Wastewater Servicing Report, prepared in support of the Auckland Surf Park Community Stage 2 application. *(Water and Wastewater Servicing Report)*
- Appendix 47: Data Centre Environmental Management Plan, prepared by ENGEO, draft dated 20 January 2026. *(Data Centre EMP)*
- Appendix 50: Technical Assessment of Discharges to Air from Proposed Wastewater Treatment Plant, Auckland Surf Park, Dairy Flat, prepared for Apex Water Limited by Air Matters Limited, Final, dated 24 August 2026. *(WWTP Air Discharge Assessment)*
- Appendix B to the WWTP Air Discharge Assessment: Meremere Wastewater Treatment Plant Odour Survey, prepared by Air Matters Limited, based on an odour survey undertaken on 16 January 2025. *(Meremere Odour Survey)*
- Appendix 53: Wastewater Treatment Plant Odour Control Plan, prepared in support of the Auckland Surf Park Community Stage 2 application. *(Odour Control Plan)*
- Appendix 26: Civil Drawings, including the overall civil layout, stormwater infrastructure, wastewater infrastructure and constructed wetland drawings. *(Civil Drawings)*
- Appendix 59: Stage 1 BUN60429155 Conditions, comprising the conditions applying to the consented Stage 1 development. *(Stage 1 Conditions)*
- Appendix 60: Stage 1 Variations to Conditions, setting out the proposed changes to the Stage 1 consent conditions. *(Stage 1 Condition Variations)*
- Appendix 61: Stage 2 Land Use, Discharge and Water Permit Conditions, comprising the applicant's proposed conditions for the Stage 2 development. *(Proposed Conditions)*
- Appendix 68: Stage 1 and Stage 2 Comparison Table and Drawings, identifying the relationship between the consented Stage 1 development and the activities proposed under Stage 2. *(Stage Comparison)*

5.0 Additional Reasons for Consent Not included in AEE / Incorrect Reasons for Consent

N/A

6.0 Specialist Assessment

The main operational air quality matters associated with the proposal are emissions from the emergency generators serving Data Centre Precincts 1 and 2, and odour from the Wastewater and Water Treatment Plant Precinct. Dust will also be generated during construction, particularly during bulk earthworks. Construction dust is temporary and should be manageable through standard controls, so this assessment focuses primarily on the operational discharges.

The proposal will introduce residential dwellings, Live/Work units, apartments, visitor accommodation and a childcare facility within the wider development. These are sensitive activities from an air quality perspective. Their location within the application boundary does not make them less sensitive than existing dwellings outside the site. Potential effects therefore need to be assessed at the closest future dwellings, instead of limiting the assessment to the wider development boundary.

6.1 Auckland Unitary Plan provisions

Chapter E14 of the Auckland Unitary Plan manages discharges of contaminants to air. The relevant objectives and policies seek to protect human health, property and the environment, avoid significant adverse effects, manage cumulative effects, and avoid offensive or objectionable dust and odour. The provisions also recognise the importance of maintaining adequate separation between activities that discharge contaminants and activities that are sensitive to those discharges.

The applicant relies on Rule E14.4.1(A48) for discharges from the emergency generators associated with the data centre campus. Emergency generator operation, including maintenance and testing, may be a permitted activity under this rule where the relevant requirements are met. However, the application needs to provide enough information for Council to verify that the proposed generator arrangement is consistent with the rule and any applicable permitted activity standards.

The discharge of contaminants to air from the municipal wastewater treatment plant is a discretionary activity under Rule E14.4.1(A163). Odour effects from the WWTP must therefore be assessed at existing and future sensitive receptors.

6.2 Data centre emergency generators

The application proposes two data centre precincts that will together form a hyperscale AI data centre campus. Data Centre Precinct 1 relates to the data centre authorised under the Stage 1 consent, with internal changes proposed to support AI data centre use. Data Centre Precinct 2 is an additional AI data centre module.

Diesel-powered emergency generators will provide backup electricity during interruptions to the normal power supply. The generators will also operate during routine maintenance and testing. The application indicates that each generator may be tested monthly for approximately one hour.

Generator operation can discharge oxides of nitrogen (including nitrogen dioxide), particulate matter, carbon monoxide and other combustion products. The scale and location of these

effects depend on several factors, including the number and capacity of generators, engine specifications, fuel quality, operating load, stack height, exhaust velocity and the number of units operating at the same time.

The application does not clearly state the total number of generators proposed across the two data centre precincts. It also does not provide a clear comparison with the generator arrangement authorised under Stage 1. As a result, it is not known whether Stage 2 will increase the number or combined capacity of generators, change the stack arrangement, alter the testing regime, or increase the overall emissions profile.

Information has also not been provided on the maximum number of generators that could operate concurrently during a power outage, the expected duration of emergency operation, or whether more than one generator may be tested at the same time. Generator emission rates and predicted concentrations at the nearest existing and future dwellings have not been presented.

The applicant's reference to Rule A48 does not, on its own, demonstrate that the proposed generator arrangement is permitted. Without the number and capacity of generators, stack details, operating assumptions and expected emissions, I am not able to verify that the activity falls within the scope of Rule A48 or complies with the relevant requirements of Chapter E14. The effects of routine testing and maximum credible concurrent emergency operation at the nearest future dwellings also cannot be determined from the information available.

Further information is therefore required on the total number and capacity of generators proposed for Data Centre Precincts 1 and 2.

6.3 Wastewater treatment plant (WWTP)

The proposal includes a centralised WWTP to receive and treat wastewater generated by the development. The principal air quality issue associated with the plant is odour.

Potential odour sources include the raw wastewater balance tank, inlet screening, screened-solids handling, biological treatment tanks, wastewater sumps, waste activated sludge storage, sludge dewatering, dewatered-sludge storage, acetic acid storage and emergency wastewater storage. Odour may also arise during commissioning, maintenance, equipment failure or process upset.

The applicant's updated air discharge assessment identifies existing dwellings and a number of future sensitive activities within the development. The Live/Work Precinct is the closest future residential area, and some proposed dwellings may be located within approximately 50 metres of potential odour generating parts of the WWTP. The assessment also considers local wind conditions and acknowledges that wastewater odour could be offensive or objectionable at the closest receptors if it is not adequately controlled.

The proposed mitigation includes enclosure and extraction of higher-risk sources, treatment of extracted air through activated carbon, monitoring of dissolved oxygen and oxidation-reduction potential, equipment redundancy, alarms and telemetry, backup power, preventative

maintenance and an Odour Management Plan. These are appropriate measures and provide a reasonable basis for expecting odour effects during normal operation to be manageable.

The applicant has also relied on an odour survey undertaken at the Meremere WWTP. The survey was originally used in support of another wastewater treatment plant assessment but is now presented as comparative evidence for this application. Apex and Air Matters Limited advise that the Meremere plant is similar in size, scale and treatment technology to the proposed ASP WWTP.

The Meremere survey is relevant and can be given some weight. It provides useful information on the character of odour and the distances at which odour was detected at an operating municipal wastewater treatment plant. It may also provide a conservative comparison because Meremere reportedly does not have the active extraction and odour treatment proposed for this project.

However, the survey is not a direct assessment of the current site. It represents a short survey undertaken at a different plant, under the operating and meteorological conditions present at the time. The plant layout, receptor locations and operating conditions are not identical to those proposed here. The survey did not assess commissioning, extended wastewater storage, loss of aeration, failure of the extraction system or other abnormal conditions that could occur at the proposed WWTP. It should therefore be treated as supporting evidence, not a proof that odour effects at the closest future dwellings will be acceptable.

The updated assessment identifies broad receptor areas and measures separation from a representative point within the WWTP. It does not clearly identify the closest future dwelling to each principal odour source. For example, the shortest distance from a dwelling to the balance tank, sludge dewatering area, sludge storage, acetic acid vent or odour control unit discharge may be different from the distance measured from the representative centre point.

The assessment also relies mainly on the proposed controls operating as intended. It does not clearly assess the effects that could arise during worst-case reasonably foreseeable normal, abnormal and emergency conditions. Relevant scenarios include commissioning, biological process instability, extended storage of untreated wastewater, loss of aeration, process upset, sludge handling, loss of power, failure of backup generation, failure of the extraction fan and ineffective or saturated carbon media.

These scenarios do not need to assume an unrealistic combination of failures. The assessment should instead consider credible events that could reasonably occur during the life of the plant, the likely duration of the resulting discharge and the time needed for operators to restore effective control.

The applicant should therefore identify the closest future dwelling to each principal WWTP odour source and assess the potential effects at those dwellings under worst-case reasonably foreseeable normal, abnormal and emergency operating conditions. The assessment should apply the FIDOL factors and clearly state the source-to-receptor distances and meteorological assumptions. It should also identify whether additional separation, design controls, monitoring,

staging requirements or consent conditions are needed to avoid offensive or objectionable odour effects.

Until this information is provided, the effects of the WWTP on the closest future dwellings cannot be fully established.

6.4 Conclusion

The main operational air discharges from the proposal are combustion emissions from the data centre emergency generators and odour from the WWTP.

The applicant relies on Rule E14.4.1(A48) for the generators, but the information currently available is not sufficient to verify the permitted activity status. The total number and capacity of generators, the change from the Stage 1 baseline, the stack arrangements and the maximum concurrent operating scenario have not been clearly established. Emissions during routine testing and emergency operation have also not been assessed at the nearest future dwellings.

The WWTP discharge requires consent under Rule E14.4.1(A163). The applicant has identified the main odour sources, sensitive receptor areas, local wind conditions and a generally appropriate range of odour control measures.

Odour effects during normal WWTP operation are likely to be manageable if the proposed controls are incorporated into the final design, operated reliably and secured through enforceable conditions. However, the closest future dwelling to each principal source has not been clearly identified, and the effects of credible commissioning, abnormal and emergency conditions have not been adequately assessed.

Further information is therefore required before the permitted activity status of the data centre generators and the effects of the WWTP on the closest future dwellings can be confirmed.

7.0 Section 67 Information Gap

Regarding the proposed data centre and the WWTP, I have identified the following section 67 information gaps.

1. Applicant to confirm the total number and capacity of emergency generators proposed across Data Centre Precincts 1 and 2 and identify whether the number, capacity, fuel storage, stack configuration, testing regime or operating profile represents any increase or change from the Stage 1 consented arrangement. Applicant to provide a technical assessment demonstrating that stack discharges during maximum credible concurrent emergency operation and routine testing would comply with all applicable permitted activity standards in AUP E14 and would not result in unacceptable air quality effects at the nearest existing and future sensitive receptors, including future dwellings within the development; atmospheric dispersion modelling should be provided where compliance and effects cannot otherwise be demonstrated robustly.

2. Applicant to identify the closest future dwelling to each principal WWTP odour source and assess the potential effects at those dwellings under worst-case reasonably foreseeable normal, abnormal and emergency operating conditions, including commissioning, extended wastewater storage, loss of aeration, process upset, sludge handling and partial or complete failure of the odour extraction or treatment system. The assessment should apply the FIDOL factors, state the source-to-receptor distances and meteorological assumptions, and identify any additional separation, design controls, monitoring, staging requirements or consent conditions needed to avoid offensive or objectionable odour effects.

8.0 Recommendation

Based on the information currently available, I am unable to support the application from an air quality perspective.

9.0 Proposed Conditions

Table 1 below contains the air quality related conditions proposed by the applicant. Find my comments on each condition below;

Table 1 – Applicants Proposed Consent Conditions.

Condition #	Proposed Condition	Comment or suggestion
9	**Construction Management Plans (CMP)** For each Project stage (or sub-stage) of construction, the Consent Holder must prepare and submit a CMP, to the Council for certification at least ten (10) working days before commencement of works on the site. The purpose of the CMP is to detail the management procedures and construction methods to be undertaken to avoid, remedy or mitigate potential adverse effects on the environment arising from earthworks and construction works (where they are not already managed	I suggest including construction dust management plan

	by the CNVMP or CTMP). The CMP must include the following as applicable to the Project stage: (a) Details of the project manager, including their contact details; (b) The location of notice boards that clearly identify the name, telephone number and address for service of the site manager or project manager; (c) Construction methodology; (d) An outline construction programme of the works; (e) Measures to be adopted to maintain the land in a tidy condition in terms of disposal/storage of rubbish, storage and unloading of building materials and similar construction activities; (f) Location of workers' offices, conveniences and parking; (g) Procedures for avoiding the deposit of soil debris on public roads, and procedures for the removal of soil debris and demolition and construction materials from public roads and places; (h) Location and layout of construction yards, including associated buildings, fencing and site access; (i) Means of maintaining safety of the general public; (j) Erosion and sediment control; and (k) The process for amending and recertifying any changes to the CMP.	
41	**Dust:** During earthworks all necessary action must be taken to minimise dust generation and sufficient water must be available and must be used where needed to dampen exposed soil, and/or other dust suppressing measures must be available to minimise dust formation and discharge beyond the boundary.	I agree with this condition.

325	Prior to commissioning of the WWT Plant, the Consent Holder must install and thereafter operate and maintain a meteorological monitoring station at or within 500m of the WWT Plant site to record wind speed, wind direction, ambient air temperature and relative humidity. At a minimum: (a) The monitoring station must include an ultrasonic anemometer or equivalent measurement device capable of measuring wind speeds at a resolution of no greater than 0.1 m/s and capable of measuring wind direction at a minimum wind speed of no greater than 0.1 m/s; (b) Weather parameters must be measured continuously, at a frequency of not more than 1-minute intervals; and (c) 10-minute averaged meteorological data must be retained in the form of an electronic record for a minimum of five years. Meteorological data must be provided to the Council within 48 hours of a request. The monitoring station must be calibrated in general accordance with the manufacturers' recommendations for each instrument, with the documentation of the calibration retained and must be provided to the Council within one week of a request.	I agree with this condition.
326	An Odour Management Plan must be submitted to the Council for certification prior to the commissioning of the WWT Plant. The Odour Management Plan must detail the maintenance and inspection procedures for the odour control system, as well as the procedures for the receipt, recording, and handling of odour complaints.	I agree with this condition.

329	The WWT Plant and land disposal system must be maintained in good working order at all times.	I agree with this condition.
334	Maintenance of the infiltration device and disposal field must be carried out at a minimum 3 monthly and a record of any maintenance carried out must be kept on site and available for review upon request by the Council. At a minimum, maintenance must include: (a) A walkover to check for blockage, runoff, overflow, or broken lines; (b) Inspection for weeds or other potential sources of blockages; and (c) Check for odour.	I agree with this condition.
336	On completion of the final commissioning of the WWT Plant, the Consent Holder must engage the services of a suitably qualified person or third party organisation to be responsible for the day to day operational and maintenance requirements of the plant.	I agree with this condition.
337	An appropriately trained wastewater operator must be available twenty-four hours a day and seven days per week to respond to any plant contingencies that may cause an adverse odour nuisance effect outside the site boundary.	I agree with this condition.
338	The site must be operated and managed in general accordance with the WWT Plant EMP certified under Condition (313) for the duration of the consented activity.	I agree with this condition.
339	The WWT Plant EMP certified under Condition (313) must be reviewed and updated after 12 months from the date of commissioning to the WWT	I agree with this condition.

	Plant, to ensure all components of the EMP are still relevant.	
344	Beyond the boundary of there must be no hazardous air pollutant, caused by discharges, which is present at a concentration that causes, or is likely to cause adverse effects to human health, ecosystems or property.	Incomplete: Amend. e.g could be; *Discharges from the site must not give rise to any hazardous air pollutant, to an extent that, in the opinion of an enforcement officer, is noxious, dangerous, offensive or objectionable.*
345	Discharges from any activity within the WWT Precinct must not give rise to visible emissions, other than water vapour or heat haze, to an extent which, as verified by the Council assessor, is the cause of a noxious, dangerous, offensive or objectionable effect.	I agree with this condition.
346	The Council must be notified as soon as practicable in the event of any significant discharge to air which results, or has the potential to result, in a breach of the odour emission management as detailed in Condition (326). The information must include details of the nature of the discharge, an explanation of the cause, and remedial action being undertaken.	I agree with this condition.
347	A ventilation system must be designed and operated to minimise fugitive emissions of odour from the ventilated sources or ventilation system. At a minimum the following processes must be enclosed and mechanically ventilated to an Odour Control Unit: (a) Headworks screens; (b) Sludge storage tanks and skips; (c) Sludge dewatering equipment; and (d) WWT Plant sump.	I agree with this condition.

351	The Consent Holder must prepare and, if requested by Council, forward an annual report in writing to the Council by 30 June each year. The annual report must cover the preceding 12-month period, from 1 April the preceding year until 31 March of the current year, and must report on compliance with this consent. As a minimum, the report must include: (a) Comments on compliance with this consent, and actions taken where there has been non-compliance; (b) A summary of any complaints received, the validity of each complaint and the corrective action taken; (c) A summary of any malfunctions or breakdowns and the corrective action taken; (d) Any other issues considered relevant by the Consent Holder; and (e) Any other reports conducted in the previous year.	I agree with this condition.
352	The Council must be notified as soon as practicable in the event of any significant discharge to air, which results or has the potential to result in a breach of air quality conditions or adverse effects on the environment. The following information must be supplied: (a) Details of the nature of the discharge; (b) An explanation of the cause of the incident; and (c) Details of remediation action taken.	I agree with this condition.
353	The Consent Holder must maintain a log of all complaints regarding odour. The compliant log must be made available to the Council at all reasonable times on request. The Consent Holder must record the following details in the complaint log: (a) Time and type of complaint	Amend. Correct “compliant log” to “complaint log” and replace “Condition XX” with Condition 325. Require prompt investigation, review of meteorological and operational data, receptor observations where practicable and

	including details of the incident, e.g. duration, location and any effects noted; (b) Name, address and contact phone number of the complainant unless the complainant elects not to supply these details; (c) Weather conditions, including approximate wind speed and direction, at time of the complaint, including the data collected from the weather station required by Condition XX (Meteorological monitoring station); (d) The likely cause of the complaint and the response made by the Consent Holder including any corrective action undertaken if applicable; (e) Future actions proposed as a result of the complaint, if applicable; and (f) The response from the Consent Holder to the complainant.	notification to Council of verified or repeated complaints.