Milldale Fast-Track

29/07/2025 – Auckland Council Response

Annexure 12:

Air Discharge

Technical Memo:

Air Discharges

26/06/2025

To: Carly Hinde, Principal Project Lead, Planning and Resource Consents Dept.

From: Louis Boamponsem, Senior Specialist – Contamination, Air and Noise

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Subject: **BUN60446761: Air quality review for development at Milldale, Wainui (Milldale)**

I have reviewed the AEE and supporting information submitted for resource consent application BUN60446761, with respect to the actual and potential air quality effects of the proposal and the provisions of the:

- *Resource Management (National Environmental Standards for Air Quality) Regulations 2004* (NES:AQ)
- *Resource Management (National Environmental Standards for Greenhouse Gas Emissions from Industrial Process Heat) Regulations 2023* (NES:IGHG)
- *Auckland Unitary Plan (Operative in Part), Chapter E14: Air Quality* (AUP(OP)).

The documents I have reviewed are:

- Milldale Fastrack Approval Application – Assessment of Environmental Effects, volume 1 to 6, (AEE), prepared by B&A Consulting Limited, 28/3/2025
- Appendix 4Q AUP(OP) Activities and Standards Assessment
- Appendix 4G Air Discharge Assessment (AQR)
- Appendix 4K Wastewater Treatment Plant Design Report

Introduction and proposal

I understand that the Proposal, as relevant to air quality involves the applicant, Fulton Hogan Land Development Limited (FHLD), seeking to advance the next stages of its Milldale urban development in Wainui, Auckland. Specifically, the proposal comprises three interconnected components:

1. Milldale Stages 10–13
    - Bulk earthworks and subdivision to create:
        - 623 residential lots for detached housing
        - 27 “superlots” sized for terraced dwellings (≈296 homes)
        - A neighbourhood-centre superlot (≈855 m² commercial space)
        - Local parks, drainage reserves and connecting roads
    - Realignment/diversion of minor streams and reclamation of low-value wetlands
    - Extension of roading, three-waters and active-transport networks
2. Milldale Stage 4C
    - Two-phase development:
        - Phase 1: Civil works and subdivision creating 21 residential superlots (plus roads and accessways)

        - Phase 2: Integrated residential land-use consent enabling Build Partners to deliver 168 terraced dwellings, followed by subdivision into fee-simple lots
3. Temporary Wastewater Treatment Plant (WWTP)
    - A precautionary on-site WWTP (hard-stand, treatment tanks, building and discharge system) activated only if capacity constraints arise at the existing Army Bay WWTP
    - Located on Lysnar Road within the same title as Stages 10–13

Under section 42(4) of the Fast-Track Approvals Act 2024 (FTAA), FHLD is applying for the various resource Consents as shown in the table below;

Project Component	Statutory Framework	Consent Type
Stages 10–13	AUP(OP)	Land-use (s 9); Subdivision (s 11)
	AUP(OP)	Streamworks (s 13/14); Groundwater take and diversion (s 14)
	NES–Freshwater (2020)	Streamworks (s 13/14)
	NES–Contaminants in Soil (2011)	Discharge of stormwater runoff (s 15)
Stage 4C	AUP(OP)	Land-use (s 9); Subdivision (s 11)
Temporary WWTP	AUP(OP)	Land-use (s 9); Discharge of contaminants (s 15); Air discharge (s 15)

Table adapted from Table 6 of the Overview AEE Report (Volume 1)

In combination, these consents will allow FHLD to deliver approximately 1,155 new dwellings (detached and terraced), supporting local commercial services and infrastructure.

I recommend that the consent application can be granted subject to conditions similar to those proposed in Volume 6 of the supporting documents (detailed at the end of this memo). The reasons for this recommendation are:

- I consider the AQR has been prepared by a suitably qualified and experienced air quality practitioner in accordance with best practice guidance to appropriately assess the site's air discharges and resulting adverse effects.

- I agree with the conclusions of the AEE and AQR, that the Site's air discharges are not likely to cause significant adverse effects at any location beyond the Site boundary.

- The AQR's assessment includes FIDOL that I consider has been undertaken by a suitably experienced specialist with adequate regard to the recommendations of the Good Practice Guide for Assessing Discharges to Air from Industry (GPG:Industry, Ministry for the Environment, 2016), and other relevant guidelines.

- Discharges of odour from the proposed Wastewater Treatment Plant (WWTP) are not likely to cause significant amenity effects:

    - Fugitive odours from raw sewage handling (screening, grit removal) and from waste-activated-sludge (WAS) processing due to anaerobic decomposition (H_2S, NH_3). Draft odour management plan (OMP) sets out point-source mapping, inspection regimes, carbon-bed saturation testing, complaint handling, and contingency procedures. In brief;

        - Enclosure & Negative-pressure Extraction: All high-risk units (headworks screens, grit hopper, sludge dewatering centrifuge, WAS tanks, main plant room) are fully enclosed and ducted under negative pressure to the central odour-control unit.
        - Active Odour Scrubber (Carbon Bed): A caustic-doped activated-carbon scrubber treats extracted air. Pre-heating reduces moisture to maximise adsorption; carbon media will be routinely tested and replaced every 1–3 years.
        - Process-based Controls:

            - MABR/Anoxic Tanks: Continuous recycle of nitrate-rich mixed liquor and ORP monitoring prevents anaerobic pockets.
            - Aeration Tanks: Fine-bubble diffusers maintain positive dissolved-oxygen levels; duty/standby/jockey blowers (×3) with auto-start backup generator and UPS ensure uninterrupted aeration.
            - Post-anoxic & MBR Tanks: Forced scouring aeration in the MBR tanks and continuous ORP/DO monitoring in all biological stages eliminate odour-forming conditions

    - Discharges of odour are not likely to cause ‘offensive or objectionable’ effects at any location outside of the site boundary, given the likely level and character of these discharges (refer to the ‘FIDOL’ assessment at Table 3 of the AQR).

    - The risk of abnormal discharges of odour can be adequately controlled and/or remedied by adherence to the proposed mitigation measures and consent conditions.

- Discharges of dust from all phases of the project’s construction are not likely to cause significant amenity effects if controlled in accordance with the proposed measures in the AEE:

    - Proposed mitigation measures include the use of a dust management plan (DMPO), erosion & sediment controls, on-site monitoring and adaptive Management, and Integration with Wider Construction Management

- I concur with the applicant that with these measures in place—capturing and treating odorous air at source, maintaining optimal biological conditions, designing robust bypass and redundancy, servicing the emergency generator, and implementing industry-standard dust controls—the residual air-quality effects of the Milldale WWTP and associated works are assessed to be less than minor. Continuous monitoring, robust management plans and clear consent conditions will ensure the Council can verify ongoing compliance and respond swiftly to any unforeseen issues. The proposed air quality related conditions (Volume 6) are appropriate to avoid, remedy or mitigate adverse effects in accordance with the relevant provisions of the Auckland Unitary Plan (E14) and the RMA.

Applicant's proposed consent conditions (Comments and suggestions in green texts)

79. Beyond the boundary of Lot 4 DP 353309, there must be no odour and/or dust caused by the discharge which, as verified by the Council assessor, is the cause of a noxious, dangerous, offensive or objectionable effect. [*Could be deleted if AQ1 is adopted*].

> *AQ1. Beyond the boundary of the Site, there must be no dust and/or odour caused by discharges from the Site, which in the opinion of the council, is the cause of a noxious, dangerous, offensive or objectionable effect.*

80. Beyond the boundary of Lot 4 DP 353309 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.

81. Discharges from any activity on site must not give rise to visible emissions, other than water vapour or heat haze, to an extent which, in the opinion of the Council, is the cause of a noxious, dangerous, offensive or objectionable effect.

82. All processes on site must be operated in general accordance with the Operations and Maintenance Manual (OMM) required by Condition 96 (OMM). All processes must be operated, maintained, supervised, monitored, and controlled to ensure that all emissions authorised by this consent are maintained at the minimum practicable level.

83. 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 (OCU):
a) Headworks screens;
b) Sludge storage tanks and skips;
c) Sludge dewatering equipment; and
d) WWTP sump.

84. All Odour Control Units (OCU) used to treat mechanically ventilated air must incorporate one or more carbon adsorber units designed, constructed, operated and maintained in general accordance with Condition 86 (carbon adsorber units).

85. All carbon adsorber units must be designed, constructed, maintained and operated in general accordance with the following:

(a) In-line duct heating must be provided on the inlet side of each adsorber unit to ensure that the temperature of the saturated air to the OCU can be raised to achieve reduced humidity to prevent condensation and promote optimal adsorption in the activated carbon bed. The capacity of heaters used for this purpose must be sufficient to reduce the relative humidity of the maximum design inlet air flow to no greater than 70% from 100% at 20 degrees Celsius;

(b) The absorptive media must comprise activated carbon that is steam activated and impregnated with sodium hydroxide or potassium hydroxide, potassium iodide or copper oxide;

(c) The depth of adsorptive media must be such that the minimum residence time of airflow through the media is no less than 3 seconds at the maximum design airflow;

(d) The adsorptive media must be evenly distributed in the bed so that no bypassing or short circuiting of inlet airflow occurs; and

(e) The media is to be replaced as soon as practicable (and no later than within one month) where testing conducted indicates that saturation may occur within two months of testing.

86. The Dissolved Oxygen (DO) concentration in any aeration tanks must not remain below 0.1 ppm for more than 12 consecutive hours.

87. If the DO concentration in an aeration tank is less than 0.2 ppm for more than 8 consecutive hours the Consent Holder must notify the Council within 24 hours and investigate and determine the cause and take the action necessary to ensure the compliance limits are not breached. The Consent Holder must document each trigger level exceedance and investigation and provide summaries in the annual report and provide to the Council within 48 hours of a request.

88. The Consent Holder must monitor and record operational parameters of WWTP units as follows:

(a) Continuous flow metering of all influent flows to the WWTP;

(b) Continuous monitoring of DO concentration in each aeration tank;

(c) Continuous monitoring of Oxidation-reduction potential in each anoxic tank; and

(d) Continuous monitoring of operation of fans of the mechanical ventilation system.

The data must link to the WWTP SCADA system with alarms to indicate alert level exceedances as set out in the Operations and Maintenance Manual (OMM) prepared in general accordance with Condition 96 (OMM).

All data, including flow records, must be recorded for a minimum of five years and provided to the Council within 48 hours of a request.

89. The WWTP must be designed such that the operational parameters of the air ventilation system and OCUs are as follows:

(a) For carbon adsorber units, saturation of the adsorptive media can be checked on at least a monthly basis.

90. Prior to commissioning of the WWTP, the Consent Holder must install and thereafter operate and maintain a meteorological monitoring station at or within 500 m of the WWTP 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 manufacturer's recommendations for each instrument, with the documentation of the calibration retained and must be provided to the Council within one week of a request.

91. 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.

92. The Consent Holder must implement a system of scheduling, undertaking and documenting preventative maintenance on all equipment critical to the effective operation of the odour control systems and other plant processes that affect odour as set out in the Operations and Maintenance Manual (OMM) prepared in general accordance with Condition 96 (OMM). An updated copy of the maintenance schedule must be provided with the annual report each year. Information which demonstrates compliance with this must be provided to the Council within 5 working days of a request.

93. The following management measures for power outages must be implemented:
A power outage alarm system must be installed and maintained which provides electronic notification of (via SMS and email at a minimum) of any loss of mains power supply to the WWTP;
The Consent Holder must maintain a generator on site that is configured to automatically start upon loss of mains power supply. The generator must be of sufficient capacity to power all aeration systems, recycle pumps, odour control and air extraction systems, at a minimum; and
The alarm system, DO probe and supporting data telemetry system must be powered by an uninterruptable power supply with a minimum 4-hour battery life.

94. The Consent Holder must implement the following, such that the equipment critical to the effective operation of the WWTP, OCUs and air extraction system and ongoing compliance with the conditions of this consent is operational as soon as practicable and no later than 24 hours after any failure or outage:
Hold onsite or maintain reliable access to spare equipment critical to the effective operation of the WWTP, OCUs and air extraction system and ongoing compliance with the conditions of this consent; and
Retain staff or contractors capable of installation and maintenance of the equipment.

95. Within 3 months of the date of commencement of the WWTP an Operations and Maintenance Manual (OMM) must be submitted to the Council, to confirm that the activities undertaken in general accordance with the OMM will achieve the objectives of the plan and compliance with the relevant consent conditions. The OMM must incorporate a series of monitoring, management and operational procedures, methodologies and contingency plans, and together must accurately record all information required to comply with the conditions of this consent. The OMM must include the following:
(a) An overview description of WWTP processes and activities and associated sources of odour and other air contaminants;
(b) Identification of potential odour sources (including potential fugitive odour sources), risks of odour impacts associated with each source and procedures for minimising risks as far as practical:

(i) For each odour source and emission control system, this is to include identification of key process operating parameters for odour management, how these will be monitored, alert level thresholds, and procedures to respond to alert level exceedances;

(ii) Identification of critical spares and procedures to ensure availability of critical spares;

(iii) Contingency procedures for each emergency, plant breakdown, equipment failure and malfunction scenario that could result in an increase in emissions to air;

(c) Procedures for implementing the monitoring requirements of this consent;
(d) Training and induction of personnel operating the WWTP;
(e) Procedures for responding to and investigating complaints relating to odour or other air contaminants emitted from the WWTP;
(f) Roles and responsibilities of personnel for implementing the requirements set out in the OMM;
(g) Contact details of key personnel including after hours; and
(h) Procedures for reviewing and/or improving the OMM.

96. The Consent Holder must notify the Council as soon as practicable, and as a minimum requirement within 24 hours, of the Consent Holder becoming aware of any accidental discharge, mechanical failure, or other circumstances which has resulted in, or is likely to result in, a breach of any condition of this consent. [Could be deleted if AQ2 is adopted].

AQ2. 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.

97. The Consent Holder must, within 7 days of the incident occurring, provide a written report to the Council, identifying the condition breached, possible causes, steps undertaken to remedy the effects of the incident and measures that will be undertaken to ensure future compliance. [*Could be deleted if AQ2 is adopted*]

98. The Consent Holder must maintain a log of all complaints (including those received via third parties including the Council) regarding odour. The Consent Holder must notify the Council of each complaint as soon as practicable. 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 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 91 (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.

99. The Council may, within one month following each anniversary of commencement of this consent, serve notice on the Consent Holder under section 128(1) of the Resource Management Act 1991, of its intention to review the conditions of this resource consent for the following purposes:

(a) Deal with any significant adverse effects on the environment arising from the exercise of the consent which was not foreseen at the time the application was considered and which is appropriate to deal with at the time of the review.

(b) Consider the adequacy of conditions which prevent nuisance and adverse effects beyond the boundary of the Site, particularly if regular or frequent complaints have been received and validated by an enforcement officer.

(c) Consider developments in control technology and management practices that would enable practical reductions in the discharge of contaminants to air.

(d) Alter the monitoring requirements, including requiring further monitoring, or increasing or reducing the frequency of monitoring.

Or, the consent may be reviewed by the Manager Resource Consents at any time, if it is found that the information made available to the Council in the application contained inaccuracies which materially influenced the decision and the effects of the exercise of the consent are such that it is necessary to apply more appropriate conditions. [*Could be deleted if AQ3 is adopted*].

AQ3. Under section 128 of the RMA, the conditions of this consent may be reviewed by the Manager Resource Consents at the consent holder's cost in September 2025 and annually thereafter in order to:

a. Deal with any significant adverse effects on the environment arising from the exercise of the consent which was not foreseen at the time the application was considered and which is appropriate to deal with at the time of the review.

b. Consider the adequacy of conditions which prevent nuisance and adverse effects beyond the boundary of the Site, particularly if regular or frequent complaints have been received and validated by an enforcement officer.

c. Consider developments in control technology and management practices that would enable practical reductions in the discharge of contaminants to air.

d. Alter the monitoring requirements, including requiring further monitoring, or increasing or reducing the frequency of monitoring.

e. Take into account any Act of Parliament, regulation, national policy statement, regional policy statement or relevant regional plan that relates to limiting, recording or mitigating emissions by this consent.

Or, the consent may be reviewed by the Manger Resource Consents at any time, if it is found that the information made available to the council in the application contained inaccuracies which materially influenced the decision and the effects of the exercise of the consent are such that it is necessary to apply more appropriate conditions.

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Date: 26/6/2025