

1.0 APPLICATION DESCRIPTION

Application and property details

Fast-Track project name:

Downtown Carpark Site Development

Fast-Track application number:

FTAA-2512-1158

BUN60460864, LUC60460865, DIS60460866 and WAT60460867

2.0 Technical Specialist Memo – Air quality

To:

Sarah Wilson – Lead Planner & Adonica Giborees - PPL

From:

Louis Boamponsem

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 ([Code](#)), 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:

24/3/2026

3.0 Executive Summary / Principal Issues

This memo provides an air quality technical assessment of the Downtown Carpark Site Development. The primary air quality risk associated with the proposal relates to demolition-generated dust due to the large scale of the structure to be demolished, the intensity of dust-generating activities, and the immediate proximity of high-sensitivity receptors, including the M Social Hotel (≤ 10 m from the northern boundary), The Sebel Hotel (≤ 30 m east), and the HSBC/Aon podium ventilation intakes adjoining the eastern boundary. These receptors are assessed as having high sensitivity to dust effects under the IAQM methodology used in the T + T's Air Quality Assessment report.

The applicant's Air Quality Assessment concludes that uncontrolled demolition represents a "high dust-risk" activity, but that with adoption of the mitigation measures set out in Table 6.3 and the updated Dust Management Plan, dust effects can be appropriately managed to comply with the permitted activity standards of the Auckland Unitary Plan, Chapter E14 (Air quality). The updated DMP incorporates all recommendations from Table 6.3 and provides a comprehensive suite of suppression, containment, material-handling, stockpile, vehicle, and contingency controls. No deficiencies were found between Table 6.3 and the measures carried through into the DMP.

However, the Air Quality Assessment identifies that the site's demolition phase qualifies as a "High-Risk" site under IAQM guidance due to scale, height, surrounding receptor sensitivity, and meteorology (frequent winds > 5 m/s capable of transporting emissions toward sensitive receptors). Under such risk categorisation, IAQM "Highly Recommended" measures include continuous particulate monitoring (PM_{10}/TSP). While T+T did not include continuous monitoring in its final recommendations, this was a professional judgement choice and not based on infeasibility.

Given the exceptionally close proximity of sensitive receivers to demolition and excavation activities, (which includes but is not limited to the Kindercare occupier that is currently operating from the Aon podium) it is my technical opinion that continuous real-time PM_{10}/TSP monitoring is warranted to provide an early-warning system, enable rapid intervention, and provide objective verification that dust effects are avoided beyond the boundary. This level of monitoring is considered necessary, reasonable, and proportionate to the potential scale of impact and aligns with the risk profile identified by the applicant's own assessment.

Accordingly, in addition to the applicant's proposed air quality related conditions (5-20, 35-37, 99-104, 146 and 152), I recommend the inclusion of a condition requiring real-time continuous particulate monitoring during all structural demolition and basement excavation, with monitors located at the site boundaries closest to M Social, The Sebel, and the HSBC/Aon intake façade, and an upwind/background location. Trigger thresholds should be linked to a Dust Trigger

Action Response Plan (TARP) within the DMP, ensuring prompt escalation and, where necessary, temporary cessation of works.

Subject to inclusion of the recommended continuous PM10/TSP monitoring condition, I am satisfied that the proposal's air quality effects can be managed appropriately, and I support the application from an air quality perspective.

4.0 Documents Reviewed

The following documents have been reviewed in preparing this memorandum:

- Downtown Carpark Site Development - Air Quality Assessment Report (AQA), prepared by Tonkin & Taylor Ltd (C. Dalziel, J. Pene, P. Millar), November 2025;
- Dust Management Plan (Appendix A to the Air Quality Assessment), prepared by Tonkin & Taylor Ltd (C. Dalziel, J. Pene, P. Millar), November 2025;
- Appendix 14 - Draft Construction Management Plan (DMP), prepared by Precinct Properties New Zealand Ltd / RCP, October 2025;
- Appendix 24 - Proposed Consent Conditions, prepared by Precinct Properties New Zealand Ltd, 2025;
- Assessment of Environmental Effects (AEE) - Downtown Carpark Site Development, prepared by Precinct Properties New Zealand Ltd, 2025
- Appendix 9A – Proposed Architectural Drawings (Part 1-6), prepared by Warren and Mahoney Architects New Zealand Ltd for Precinct Properties Holdings Ltd, 3 October 2025;
- Appendix 9B – Proposed Landscape Drawings, prepared by Warren and Mahoney Architects New Zealand Ltd / Snøhetta for Precinct Properties Holdings Ltd, 3 October 2025;
- Appendix 9C – Architecture & Landscape Report (Part 1-3), prepared by Warren and Mahoney Architects New Zealand Ltd for Precinct Properties Holdings Ltd, 3 October 2025 (Revision B, Fast-Track Approval Application);
- Appendix 22 – Rules Assessment (16 December Version), prepared by Barker & Associates, 16 December 2025.

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

N/A

6.0 Specialist Assessment

6.1 Existing Environment

The Downtown Carpark Site Development is located within Auckland's city centre and is immediately surrounded by a dense cluster of high sensitivity and medium sensitivity receptors, as identified in the Air Quality Assessment (AQA). These include the M Social Hotel directly to the north (≤ 10 m), The Sebel Hotel and apartments to the east (≤ 30 m), and the HSBC Tower and Aon House (which currently accommodates a Kindercare childcare business, with outdoor play areas) on the eastern boundary, with ventilation intakes adjacent to the service lane interface. The surrounding environment includes a mix of hotel, residential, commercial office, hospitality activities, and high pedestrian flows.

Meteorological conditions at MOTAT (used as the representative dataset) indicate winds predominantly from the southwest and northeast, with frequent occurrences of wind speeds > 5 m/s capable of transporting dust toward sensitive receptors. Seasonal dryness, particularly in summer, further elevates dust generation potential.

The existing Downtown Carpark building has a substantial above-ground bulk, and its mechanical demolition poses a large-magnitude dust risk, particularly due to demolition height (> 12 m) and building volume ($> 75,000$ m³). The AQA classifies uncontrolled demolition activities as “high risk” under the IAQM framework.

No existing continuous particulate monitoring operates in the area. The immediate boundary proximity of receptors increases the vulnerability of the receiving environment to any dust generated during demolition, excavation, and material handling.

6.2 Potential Effects

Demolition and Construction Dust

The principal air quality concern relates to nuisance dust, total suspended particulates (TSP), and PM₁₀ emissions from:

- mechanical demolition of the multi-storey structure
- excavation ($\sim 100,000$ m³ over 6,442 m²)
- stockpile handling
- vehicle movements and tracked material
- concrete cutting and breaking

The AQA concludes that without controls, demolition presents a high dust soiling and human health risk, particularly given receptor distances of < 20 m. Dust nuisance effects include visible deposition, amenity impacts, and potential respiratory irritation where fine particulate fractions are generated.

Health Effects

Although coarse particulates dominate demolition dust, fine particulate fractions (PM₁₀) may still be present. A minority component of respirable crystalline silica (RCS) may be generated through concrete processing. These effects are manageable but require strict suppression measures.

Discharges Beyond the Boundary

The AUP(OP) E14 permitted activity standards require that dust must not be noxious, dangerous, offensive, or objectionable beyond the site boundary. Given the constrained CBD environment, the potential for off-site transport is elevated during dry and windy conditions unless robust mitigation and monitoring are implemented.

Risk Summary

- Uncontrolled risk - high
- Controlled risk (with DMP controls) - low to medium
- Residual risk – low, subject to continuous monitoring during the high-risk phases

6.3 Proposed Mitigation

Dust Management Plan (DMP)

The Updated DMP (Appendix A to the AQA) incorporates all recommendations from Table 6.3 of the AQA. Measures include:

- wet suppression (continuous water sprays, wet cutting, fogging)
- full-building shade-cloth enclosure during demolition
- stockpile height limits, dampening, covering, and minimisation of handling
- speed restrictions (≤ 20 km/h) and no-idling requirements
- wheel wash and regular vacuum sweeping of sealed surfaces
- high-wind contingency triggers, including staged work cessation
- daily visual inspections, stockpile checks, and weather monitoring

These measures are consistent with the MfE Dust GPG (2016), as required by consent conditions.

Continuous PM₁₀/TSP Monitoring (Recommended Additional Mitigation)

The AQA acknowledges that IAQM good practice guidance recommends continuous particulate monitoring for high-risk demolition activities; however, the DMP relies solely on visual

monitoring.

Given the very close proximity of high-sensitivity receptors ($\leq 10\text{-}30\text{ m}$), the frequency of winds capable of transporting emissions toward these receivers, the classification of demolition as a high dust-risk activity, and the need to ensure that offensive or objectionable dust does not occur beyond the site boundary, continuous real-time PM_{10} /TSP monitoring at boundary locations is considered necessary. This additional measure represents an essential enhancement to the mitigation package and reflects best practice for managing dust emissions in constrained urban demolition settings.

Recommended Monitoring Condition

A condition requiring continuous PM_{10} /TSP monitoring at:

- the northern boundary (M Social),
- the eastern boundary (The Sebel + HSBC/Aon podium intakes), and
- an upwind/background location,

with integration into a Dust Trigger Action Response Plan (DTARP), is recommended to ensure rapid detection and management of potential exceedances.

6.4 Alignment with AUP (E14 - Air Quality) Objectives

The AQA concludes that with implementation of the DMP measures, discharges will comply with the AUP (OP) E14 permitted activity standards, avoiding noxious, dangerous, offensive, or objectionable dust.

The additional continuous monitoring condition further strengthens compliance certainty.

6.5 Overall Position

Subject to the inclusion of a condition requiring real-time continuous PM_{10} /TSP monitoring during all structural demolition and basement excavation activities, I am satisfied that dust effects can be appropriately managed and can be maintained within acceptable levels under the Auckland Unitary Plan and National Environmental Standards for Air Quality.

With the recommended additional condition, I support the application from an air quality perspective.

7.0 Section 67 Information Gap

N/A

8.0 Recommendation

Based on the information provided in the application, I am satisfied that the potential air quality effects arising from the demolition, excavation, and construction activities can be appropriately managed subject to the inclusion of one additional condition.

The application presents a high-risk demolition environment, with sensitive receptors located within 10–30 m of the site, including hotels and commercial buildings with mechanical ventilation intakes. Although the Updated Dust Management Plan incorporates all recommendations from the Air Quality Assessment report and aligns with the Ministry for the Environment’s dust management guidance, it relies solely on visual monitoring. Given the high-risk context, real-time PM₁₀/TSP monitoring at key boundary locations is considered necessary to ensure rapid detection and response to dust emissions.

Accordingly, I support the application from an air quality perspective, provided that the consent includes the recommended condition requiring continuous real-time particulate monitoring during structural demolition and basement excavation activities.

If this condition is included, the proposed mitigation measures will be robust, enforceable, and in line with good practice for managing dust effects in a constrained urban environment.

9.0 Proposed Conditions

In my opinion, Conditions 5-20, 35-37, 99-104, 146, and 152 collectively provide an appropriate and effective framework for the management and mitigation of potential adverse air quality effects associated with the Downtown Carpark Site Development. These conditions establish clear requirements for the preparation, certification, implementation, and review of the Construction Management Plan and Dust Management Plan, and they reflect the Ministry for the Environment’s Good Practice Guide for Assessing and Managing Dust (2016). They also set out expectations for dust control practices, incident response, and avoidance of offensive or objectionable discharges beyond the site boundary.

To strengthen this framework further, I recommend the inclusion of an additional condition requiring real-time continuous PM₁₀/TSP monitoring during structural demolition and basement excavation activities. This provides an essential early warning mechanism and aligns with IAQM guidance for high-risk demolition environments in constrained urban settings. The recommended minimum monitoring locations (one monitor on the northern boundary, one on the eastern boundary, and one upwind/background site) would be sufficient to characterise downwind dust exposure and provide robust boundary-level assurance during high-risk phases of work.

Recommended additional condition

During all structural demolition and basement excavation activities, the consent holder must employ a suitably qualified and experienced person to install and ensure the operation of

real-time continuous particulate monitoring (PM₁₀ and/or TSP) at site boundary locations proximate to the most sensitive receptors, including at least:

- (a) one monitor on the northern boundary adjacent to the M Social Hotel;
- (b) one monitor on the eastern boundary adjacent to the HSBC/Aon podium ventilation intakes; and
- (c) one upwind/background monitor, with the location determined based on prevailing wind conditions.

Prior to installation of the real-time continuous monitoring and prior to any demolition works commencing the Consent Holder must submit for certification by the council the locations of monitoring as required by (a)-(c) above and any other monitoring locations determined necessary.

The monitoring system must:

- record 1-minute and 15-minute average particulate concentrations;
- issue automatic alerts when the pre-defined trigger levels in the Dust Trigger Action Response Plan (DTARP) are exceeded;
- be integrated with the DTARP to ensure appropriate investigation, mitigation, or stop-work actions; and
- operate continuously during all active dust generating works, including demolition, excavation, stockpile handling, and truck load-out.

The Consent Holder must ensure monitoring instruments are located in accordance with the certified locations and maintained in good working order, including through daily functionality checks and retention of all monitoring data for a minimum of 12 months.

Monitoring data must be made available to the council upon request, within 5 working days.

Minor amendments to conditions 36 and 146 are recommended as below. Insertion is shown in green, and deletions are shown in ~~strike through~~ text:

36. The objective of the DMP is to manage and **monitor** dust related effects from **demolition**, earthworks and construction onsite in accordance with the "Ministry for the Environment Good Practice Guide for Assessing and Managing the Environmental Effects of Dust Emissions" dated November 2016.

104. The Council must be notified as soon as practicable in the event of any significant discharge to air, which results in or has the potential to result in a breach of air quality conditions listed in Condition **101 – 103** ~~102~~ or cause significant 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 any remediation action taken.

146. During earthworks all necessary action must be taken to prevent dust generation and sufficient water must be available to dampen exposed soil, and/or other dust suppressing measures must be available to avoid dust formation. The consent holder must ensure that dust management during the excavation works ~~generally~~ complies with the Good Practice Guide for Assessing and Managing Dust (Ministry for the Environment, 2016).