



Ashley Road Depot

Air Quality Technical Note

May 2025

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Document Control Sheet		Disclaimer
Report Reference	CS2133/ARD/AQTN/202503-RT	The contents of this report are based on drawings, specifications, and information provided, supplemented by assumptions made by NRG to achieve compliance. NRG bears no responsibility to third parties for any use or interpretation of this report. Third parties act on the report's contents at their own risk. The use of this report is exclusively reserved for the named client only, unless accompanied by a signed letter of reliance.
Issue Purpose	For Planning	
Report Prepared For	Formation Design & Build	
Report Author	Ryan Thrower	
Approved By	Neil Rothon	
Date of Issue	May 2025	

1 Introduction

NRG Consulting have been commissioned to undertake a Technical Note to supplement the submitted Air Quality Assessment at **Ashley Road Depot, Haringey**.

This note is for:

- An Air Quality Neutral Assessment for the proposed Gas-Boiler installation. (Building Emission Benchmarks)
- Revised Air Quality Assessment for NO₂ following the provision of on-site monitoring data.

The scheme benefits from Planning Permission under reference: *HGY/2022/0752* with the description of development:

Erection of 272 homes including 50% socially rented homes extending 4-13 storeys, 174sqm of flexible Use Class E floorspace along with a new vehicular access to the site, car parking and two pedestrian north south routes. The proposal also includes both private and public hard and soft landscaping throughout the site.

This Technical Note has been submitted to assist in the discharge of **Planning Condition 31** which states:

31) An updated Air Quality Assessment, including an Air Quality Neutral report, shall be submitted to the Local Planning Authority for its written approval prior to the commencement of above ground works for the development hereby approved. Once approved the development shall be completed in accordance with the approved details.

Reason: To Comply with the GLA Sustainable Design and Construction SPG

The development lies within the **London Borough of Haringey**. The proposed scheme is situated within an Air Quality Management Area (AQMA) but not within an Air Quality Focus (AQF) area.

1.1 Executive Summary

Based on the findings of this report relating to the Air Quality levels at the proposed development, it is considered that Air Quality levels from the operational phase of the scheme are in-line with the **Air Quality Neutral LPG** and every effort has been made to minimise the site impact in operation.

Air Quality levels on-site as part of the operational phase are below the national objective.

Therefore, based on this supplementary note, it is our opinion that Planning Condition 31 can be discharged.

2 Review of Operational Air Quality Emissions

2.1 Site Accommodation Schedule

ASHLEY ROAD DEPOT SUMMARY						
		1B	2B	3B	4B	Total Homes
SOCIAL	Homes	10	34	67	25	136
	%	7%	25%	49%	18%	50%
	Hab Rooms	20	102	335	150	607
	%	3%	17%	55%	25%	63%
PRIVATE	Homes	56	80	0	0	136
	%	41%	59%	0%	0%	50%
	Hab Rooms	112	240	0	0	352
	%	32%	68%	0%	0%	37%
TOTAL	Homes	66	114	67	25	272
	%	24%	42%	25%	9%	100%
	Hab Rooms	132	342	335	150	959
	%	14%	36%	35%	16%	100%
Total M2						21570.3

2.2 Operational Phase – Boiler Emissions

The scheme currently proposes the following in-terms of relevant plant and combustion plant:

Emission Source	Make and Model	Total predicted energy use (MWh/year)
LTHW Gas Boiler (1)	Remeha Gas 310 Eco Pro (355)	1,107
Table 2.1: Plant Schedule and Energy-Usage		

	Energy Use (MWh / year)	NOx Emission Rate (mg/kWh)	Total predicted NOx building emissions (kg/annum)
Emission Source 1	1,107	35	38,745
Total predicted building emissions for the development			39 (rounded)
Table 2.2 Building Emission Calculations - Estimated			

2.3 Operational Phase – Commercial

The commercial units are powered by electricity in the form of Air-to-Air Heat Pumps (VRF system). Therefore, they can be considered Air Quality Neutral.

2.4 Operational Phase – Generator Emissions

The scheme has a back-up generator for power. This is diesel-powered. The generator will operate in the event the scheme loses power, it will then take over and operate all Life Safety equipment, this includes;

- Lifts
- AOV
- Smoke Extraction
- Sprinkler
- Escape Stair Lighting
- Fire Alarm Panel

In terms of Air Quality, these are exempted from calculations including Air Quality Neutral as per the Air Quality Neutral LPG (March 2023) which states:

3.3.1 Backup plants installed for emergency and life safety power supply, such as diesel generators, may be excluded from the calculation of predicted building emissions. Normally, it is expected that the use of these generators for anything other than an emergency and operational testing (less than 50 hours per year) would be prevented by planning conditions. The NO_x and particulate matter emissions of generators used for purposes other than an emergency, such as selling power into the national grid, must be included in Air Quality Neutral calculations.

3 Air Quality Neutral Assessment

The air quality neutral assessment has followed the methodology outlined in the Air Quality Neutral LPG. Within this document, benchmarks have been provided in relation to building and transport emissions, together with a methodology for calculating the building and transport related emissions for a particular development.

3.1 Building Emission Benchmarks (BEBs)

The Building Emissions Benchmarks (BEBs) for the land use category applicable to residential properties are provided below. Emissions of PM₁₀ have not been considered as oil and/or solid fuel are not proposed to be used at the development.

Land Use Class	NO _x (gNO _x /m ² /annum)
C3 – Gas Boiler Network	5.7
Table 3.1: Building Emissions Benchmarks (BEBs)	

Using the method described within the London Plan Guidance, the site-specific benchmarked emissions have been calculated using the emission rate in the table above. The total building NO_x emissions have then been calculated and are summarised below.

Land Use	GIA (m ²)	Building Emissions Benchmarks (gNO _x /m ² /annum)	Benchmarked Emissions (kg/NO _x /annum)
C3	21,570	5.7	122.949 (123 - rounded)
Table 3.2: Calculation of Benchmark Building NO _x Emissions			

3.2 Comparison of Benchmark Emissions against Building Emissions

As the heating is supplied only partially by grid-electricity it cannot be considered emission-free (NO_x and PM₁₀). The figures below have been taken from the as-built energy output (BRUKL) for the scheme:

Land Use	Benchmark Emissions (kg/annum)	Total Building Emissions (kg/annum)	Difference (kg)
C3	123	39	84
Table 3.3: Calculation of Total Building NO _x Emissions			

3.3 Conclusion

Based on the above, the scheme achieves Air Quality Neutral status as per the London Plan LPG.

4 Air Quality Assessment

4.1 Updated Data Sources

Data used within the calculations here have been provided by Galcross Engineering who are the appointed dust, noise and air quality monitoring consultants for the scheme. Galcross have provided data for 2 monitoring locations over a period of several months. Based on this data, the average air quality figures for the period were:

- Location 1: 21.9 $\mu\text{g}/\text{m}^3$
- Location 2: 30.7 $\mu\text{g}/\text{m}^3$

The reports and monitor datasheet can be found in the Appendices. These results have been included in this Technical Note and used in the model verification. This is alongside 2023 data (updated) from locations HG, HR30 and HR36.

Name	Location	Distance from site (m)	Annual Average NO ₂ concentrations ($\mu\text{g}/\text{m}^3$)		
			2021	2022	2023
HR 30	Earlsmead Primary School	~1220	30.1	32.1	26.4
HR 36	Holy Trinity C of E Primary School	~648	29.1	29.3	29.8

Name	Location	Distance from site (m)	Annual Average NO ₂ concentrations ($\mu\text{g}/\text{m}^3$)		
			2021	2022	2023
HG	Haringey Roadside (639 High Rd)	~753	32	30	27

4.2 Receptor Locations

In order to assess the potential impact of the traffic emissions from the local road network, a number of receptors have been identified representing the different facades of the proposed development.

Proposed receptors above the ground floor have not been modelled for this addendum as predicted concentrations at the lower floors will provide a worst-case assessment. It also reflects the result of the original assessment where air quality levels decreased by a minuscule amount at the 1st and 2nd floors.

Table – Modelled Receptor Locations

AQA ID	Height (m)	Description
R1 – R1.1 – R1.2	1.5	Ground Floor
R2 – R2.1 – R2.2		
R3 – R3.1 – R3.2		
R4 – R4.1 – R4.2		

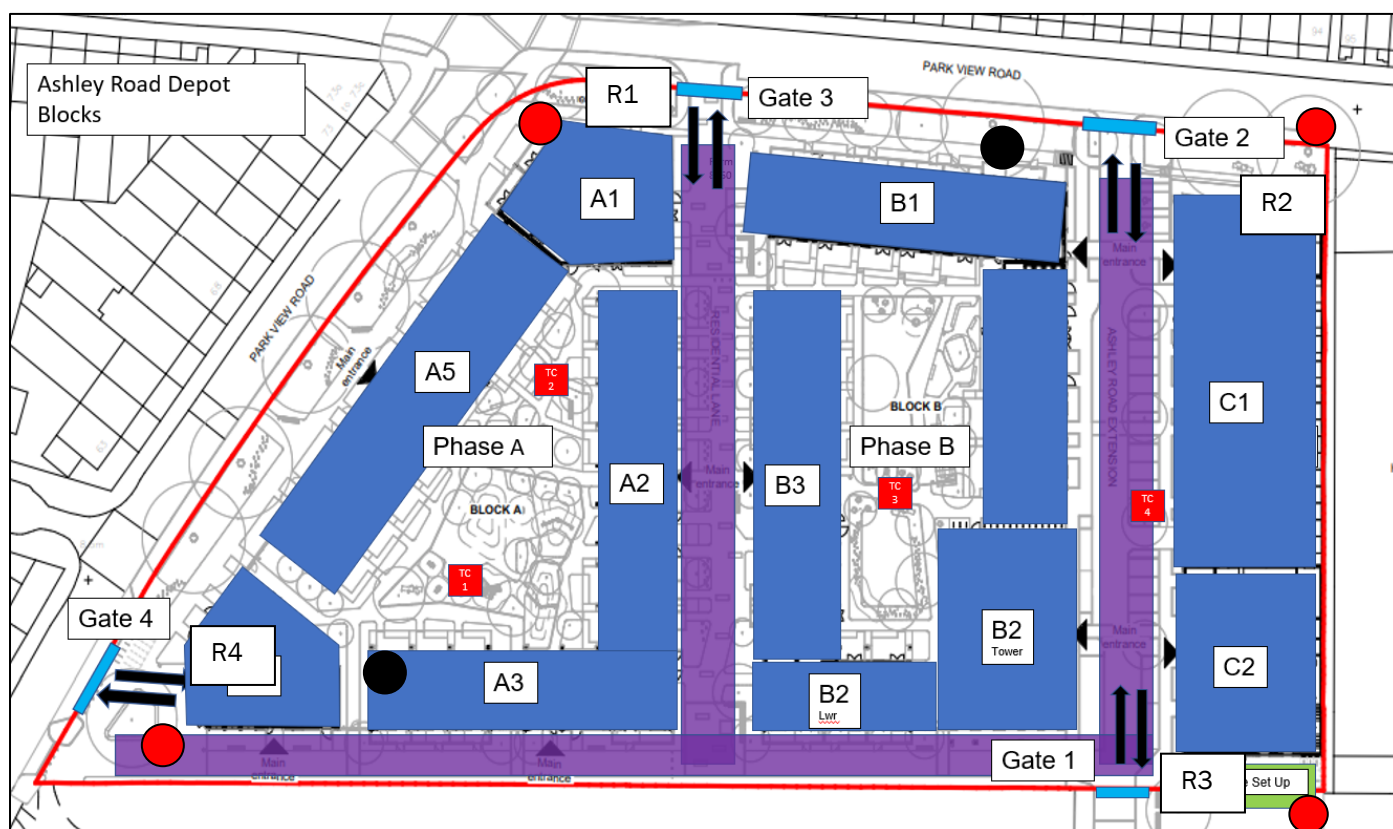


Figure 2 - Modelled (Proposed) Receptor Locations (red). Galcross Monitor Placement in Black

4.3 Nitrogen Dioxide

Predicted annual mean concentrations for NO₂ in **2023** and **2028** are provided. NO₂ concentrations have been calculated from the predicted NO_x concentrations using the latest NO_x-NO₂ conversion spreadsheet available from the Air Quality Archive.

Receptor ID	2023	DM 2028	DS 2028
	GF	GF	GF
R1	26.71	26.77	26.71
R2	26.50	26.60	26.68
R3	25.61	25.83	25.90
R4	25.49	25.66	25.69
Objective	40.0		

Table 9 – Predicted NO₂ Concentrations, Annual Mean (µg/m³)

The ADMS predictions for annual mean NO₂ concentrations in 2023 and 2028 indicate that the annual mean objective (40 µg/m³) would not be breached at any part of the development.

5 Conclusion

5.1 Air Quality

Air Quality levels are under the national objectives. On-site Air Quality monitoring was undertaken and this supplemented data from LbH monitors as well as the DEFRA and LAEQI figures which, as per the Haringey Status Reports, confirm that air quality levels within the borough are improving on a yearly basis.

5.2 Air Quality Neutral

The development is Air Quality Neutral.

5.3 Overall Summary

When read in conjunction with the original report, the scheme is fully compliant with both Air Quality and Air Quality Neutral Guidance and thus the Planning Condition can be discharged.

Appendix 1



GAS 310 ECO PRO 355

TECHNICAL SPECIFICATION SHEET

October 2017

This is a quick reference specification sheet, full details can be found in the Gas 310 Eco Pro installation/service guide via remeha.co.uk

OVERVIEW

MODEL : Gas 310 Eco Pro 355	6 sections
Rated Output kW (80/60°C)	65 - 327
Rated Output kW (50/30°C)	350
Weight (dry) kgs	398
Overall Dim WxDxH mm	716 x 1862 x 1500
SBEM Seasonal Efficiency % GCV ⁽¹⁾	96.64
Efficiency-Full Load 100% NCV: ⁽²⁾	98.1
Efficiency-Part Load 30% NCV: ⁽³⁾	109
stand-by Heat Loss % : ^(*)	0.18

BURNER TYPE PRE MIX

Std Fuel Available	Natural gas
Fuel Consumption M ³ /h	35.2 (max)
Flame protection	Ionisation
Ignition	Electronic
Gas connection size BSP	2" (F)
Acoustic level dB (A) at 1 metre ^(**)	56
NO _x (Dry, 0% O ₂) Mg/KWh	35
Min/Max Gas pressure mbar	17 - 30

CONCENTRIC FLUE/AIR INLET

Flue diameter mm I/D	250
Air inlet diameter mm I/D	250
Residual fan duty Pa	120
Mass flue gas flow rate kg/hr	114 - 560
Flue gas temperature @ 80/60°C	30 - 80

CONTROLS/OPTIONS

STANDARD -
On/Off 0-10v dc, Open Therm
High limit protection
Low water protection
Volt free common alarm
Manual override
Modulating (20 - 100%, avg.)
Safety interlocks
Hours run indication
Boiler run indication

OPTIONS -
Optimising / Compensators for multiple and single boilers
Gas leak detection option fitted to gas valve
Water Press Switch - for system pressure
Second return 65mm Flanged 80mm PN16
Air Inlet Filter connects to boiler air supply

ERP DATA - ECO DESIGN

Useful Efficiency full load GCV % ⁽⁴⁾	88.3
Useful Efficiency Part load GCV % ⁽⁴⁾	98.6
Sound Power Level L _{wa} indoors dB	69

HYDRAULICS

Water Content ltrs	60
Resistance @ 11°C mbar	364
Resistance @ 20°C mbar	110
Nom Flow Rate @ 11°C l/s	7.11
Nom Flow Rate @ 20°C l/s	3.91
Min flow Rate m ³ /h	4.2
Condensate Outlet mm I/D	32
Connection size flanged (#)	NW 80
Std operating temp °C	20 - 90
Max operating temp °C	90
High limit set point °C	110
Max operating pressure bar	7
Min operating pressure bar	0.8

ELECTRICAL

Power supply	230v - 1 ph - 50hz
Power consumption W	6 - 334
Modulating input V dc	0 - 10
Start current amps	4
Fuse rating amps	10
Controls voltage	24 (max 4va)
Insulation class IP	X1B
Run current amps	1.4

(1) In accordance with the Non Domestic Building Services Compliance Guide 2013 Edition-For use in England
(2) @ 80/60 oC Nett (EN 92/42)
(3) @ 30 oC Nett (EN 92/42)
(4) In accordance with EU 813 & 814 / 2013 Eco design regulations
(*) (EN15420) @ 30 °C T = Boiler temperature - ambient temperature (without heat exchanger insulation kit)
(**) Maximum for room sealed operation
(#) Flow 80mm return 65mm both flanged NW 80 DIN 2576 - (PN16)

Appendix 2



Machine specifications

Praxis/Urban Specifications

Sensing

- Alphasense analogue front-end (AFE) supporting up to four A4 electrochemical sensors. Additional NDIR CO2 via separate interface. Other 5 gas combinations on request.
- Ultra low-noise circuitry maximises repeatability of electrochemical sensing.
- Particulate monitoring uses Alphasense OPC-N3 particle counter.
- Sensirion temperature and relative humidity sensor.
- NXP barometric pressure sensor.
- Data correction refined through co-location with government reference equipment.

Communications

- Wired: ethernet via waterproof RJ45 connector.
- Wireless: 4G cellular modem.
- GPS receiver.

Platform

- AM335x ARM Cortex-A8 through BeagleBone Black.
- Real-time clock with battery backup. Time synchronisation is via GPS receiver, network time protocol or real-time clock, as available.

Data infrastructure

- Sense data messaging, control messaging and data storage using Amazon Web Services (AWS) or customer's own infrastructure.
- Local microSD data storage.

General

- DC power input from 7 to 12 Volts, rechargeable backup battery (≥ 1 hour operation).
- Environmental range from -40 to +50 C.
- Measures 250 x 200 x 147mm .
- Weight 4 kg.



The Praxis/Urban answers both the challenge of capturing accurate data in variable climate conditions and the need for fine grained air quality monitoring networks.

Indicative air quality monitoring ...

- Alphasense optical particle counter (OPC-N3): **PM₁**, **PM_{2.5}** and **PM₁₀**.
- Alphasense electrochemical sensors: **CO**, **H₂S**, **NO**, **NO₂**, **O₃**, **SO₂**.
- (PID): **VOCs** and (NDIR) **CO₂**.
- Temperature, humidity (**T/rH**) and barometric pressure (**p**) sensors.
- **High frequency sampling**: up to 2 samples per second.
- **Up to 2 hours operation** in event of external power loss.
- **Enclosure designed for ultra-low RF noise** and harsh climate.



... in practice

- **Ultra low noise** sensing for gases (ppb) and particulates ($\mu\text{g}/\text{m}^3$).
- **Support for multiple analysis techniques** including any sampling rate and real-time access.
- **High density air quality network** using low-cost, individually baselined devices.
- **Open source device firmware** for highly customisable sensing, data delivery and analysis.
- **Remote Diagnostics, over-the-air software update and data-correction upgrade** all available where our data infrastructure is used.



NOISE & DUST MONITORING REPORT

AUGUST 2023

LOCATION:
ASHLEY ROAD

Authored by: Michael O'Dwyer

GALCROSS
Engineering





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1. MONITORING PROCEDURE

1.1 MONITORING NOISE | METHODOLOGY

1.1.1 USED EQUIPMENT

The monitoring equipment is accredited and approved equipment. See Appendix 1.

1.1.2 SETUP PROCEDURE

All equipment is installed on site boundaries according to BS 5228.

1.1.3 LIMITS & ACTION LEVELS

To control the environmental parameters alert levels have been set up as per below. Noise 75db first action level second action 80db



1.2 MONITORING DUST | METHODOLOGY

The dust units have been configured to record Particulate Matter (PM) size data continuously at given intervals (see installation details) with a flow rate of 1 litre per minute.

The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometres in diameter pose the greatest problems because they can affect the lungs and heart. Larger particles are of less concern, although they can irritate the eyes, nose, and throat.

- **Fine particles (PM2.5):** Particles less than 2.5 micrometres in diameter are called "fine" particles. Sources of fine particles include all types of combustion, also motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. PM2.5 contains more toxic heavy metals and hazardous organic pollutants and can go directly to the lungs. It is more easily attached to bacteria and viruses in the environment, so the particles have greater impact on ecology and human health.
- **Coarse dust particles:** Particles between 2.5 and 10 micrometres in diameter are referred to as "coarse." Sources of coarse particles include crushing or grinding operations, and dust stirred up by vehicles traveling on roads.

1.2.1 MONITORING EQUIPMENT

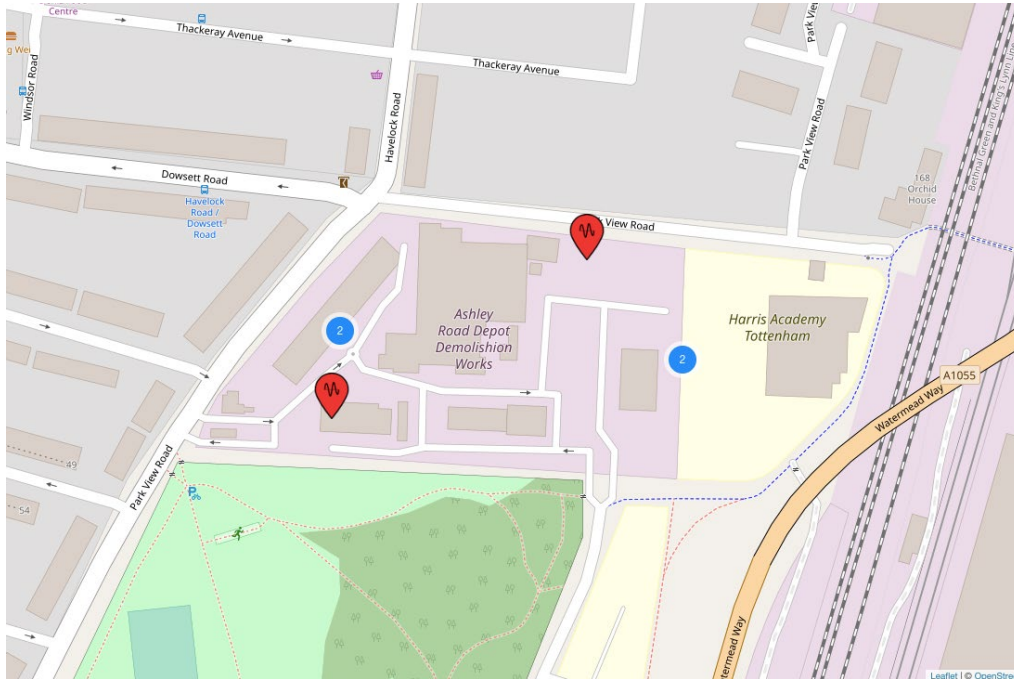
For dust (PM10) monitoring at the ASHLEY ROAD site, we have been using DM30N: Dust & Noise From Sonitus Systems. The system is a fully automated particulate monitor for measuring PM10, PM2.5 and PM1. Designed for continuous monitoring of dust levels this monitor is suitable for all applications. These monitors are certified to the MCERTS Indicate standard as required by Camden Council. Both monitors were last serviced on 13 April 2023, ahead of installation onsite.

1.2.2 MONITORING LOCATIONS

The monitoring locations are submitted have been agreed with the relevant Environmental Health Officer.

Location photos and a map showing the measurement positions are presented on page 6.

- Measurement Position 1: The monitor is positioned at the front of the site.
- Measurement Position 2: The monitor is positioned at the rear of the site



1.2.3 TRIGGER AND ACTION LEVELS

In accordance with the requirements of the planning condition and as detailed in the CMP, early warning 'alert' and 'action' levels have been set and are presented in Table 1 below. The incident response procedure, should a trigger or action level be exceeded is:

1. Informing all on the alert list
2. The actions to be taken should then comprise a method review to see if the operation cannot realistically be modified under the 'best practicable means' principle.
3. If the level identified after review is unavoidable using BPM the next action should include contacting a named person within neighbouring affected property to inform them of the activities and resulting risk and its likely duration.

Table 1 - Trigger and Action Level for PM10

Trigger / Action Level	Trigger / Action Dust Level ($\mu\text{g}/\text{m}^3$)
Alert level (as a 15 minute average)	150 $\mu\text{g}/\text{m}^3$
Action Level (as a 15 minute average)	150 $\mu\text{g}/\text{m}^3$
Action Level (as a 1-hour average)	190 $\mu\text{g}/\text{m}^3$



2. MONITORING WEB-INTERFACE

See appendix Sonitus Cloud enables you to access all your environmental monitoring data in one location from any internet-enabled device. Check real-time data, generate reports, and configure your systems to manage your projects efficiently. The simple interface means anyone can run the projects with simple calendar overviews, detailed daily data, and user-definable alerts. Sonitus Cloud also allows you to set project user and access rights to ensure everyone can see exactly what they need.

FIGURE 2.2 | SONITUS WEB-INTERFACE



Connect from any internet enabled device



User permission rights



Safe and secure



SMS and email alerts



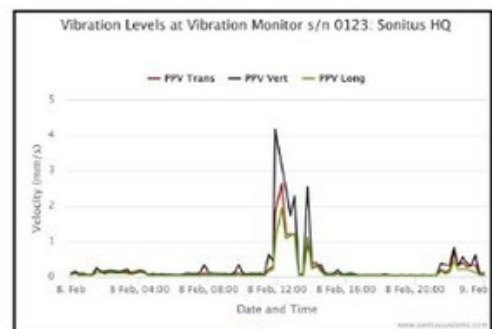
Simple reports



Calendar view



Plot data or see in real time



Week		Month		Year	
Vibration Monitor unit (VIB2) Service (VIB 2)		February		2019	
				Total	
0.00		0.00		0.00	
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0.00		0.00		0.00</	

NAME	COMPANY	EMAIL	CALENDAR ACCESS	CHARTS ACCESS	GRID ACCESS	RECORDINGS ACCESS	EMAIL NOTIFICATIONS	SMS NOTIFICATIONS
Daniel User	Sonitus Systems		☒	☒	☒	☒	☒	☒
John Doe	Acme Inc		☒	☒	☒	☒	☒	☒
Tom Simons	Acme Builders		☒	☒	☒	☒	☒	☒

From top to bottom : data plotted over a day,
calendar overview, user right permissions



3. NOISE BOX MONITORING RESULTS

The monthly overview displays the noise monitoring results based on a LAeq,10h from 8AM to 6PM, Monday to Friday. The calendar shows the average sound levels of the measured readings and highlights any exceedances. These are calculated based on the limits set on each monitor. More detailed data can be requested via the online web interface.

The NOISE results for **ASHLEY ROAD** are below.

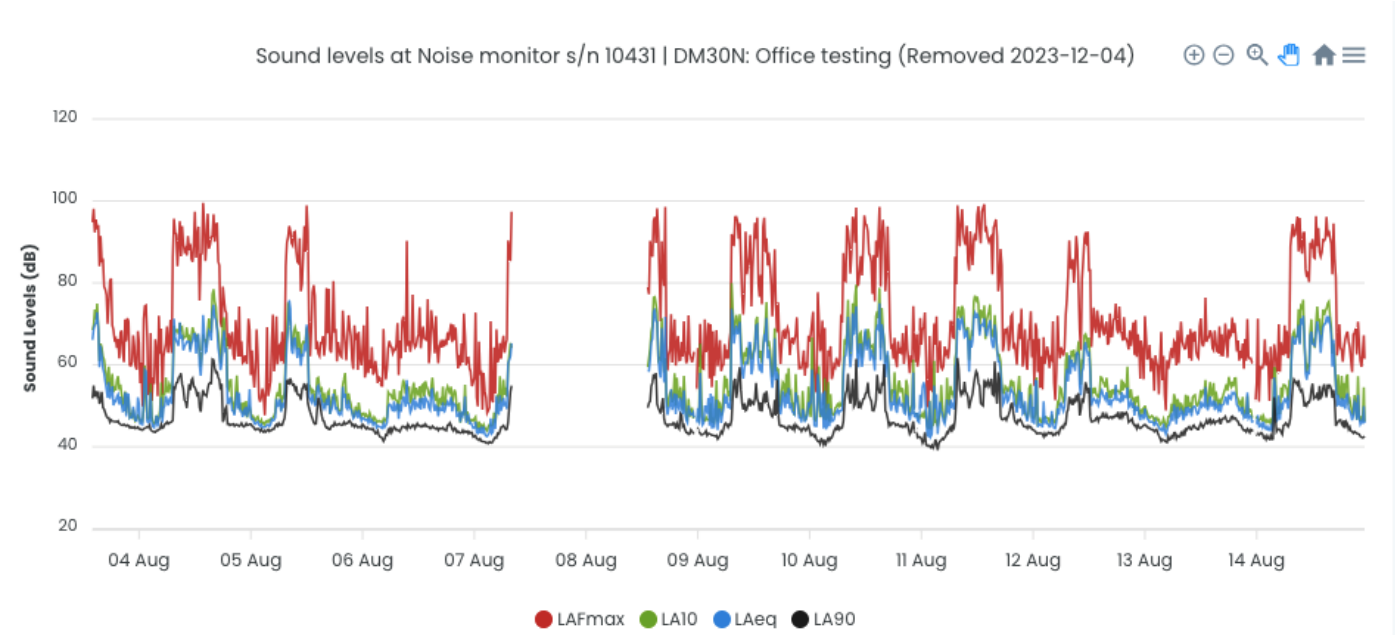
3.1 BOX 1 | AUGUST RESULTS

No readings for the month of August

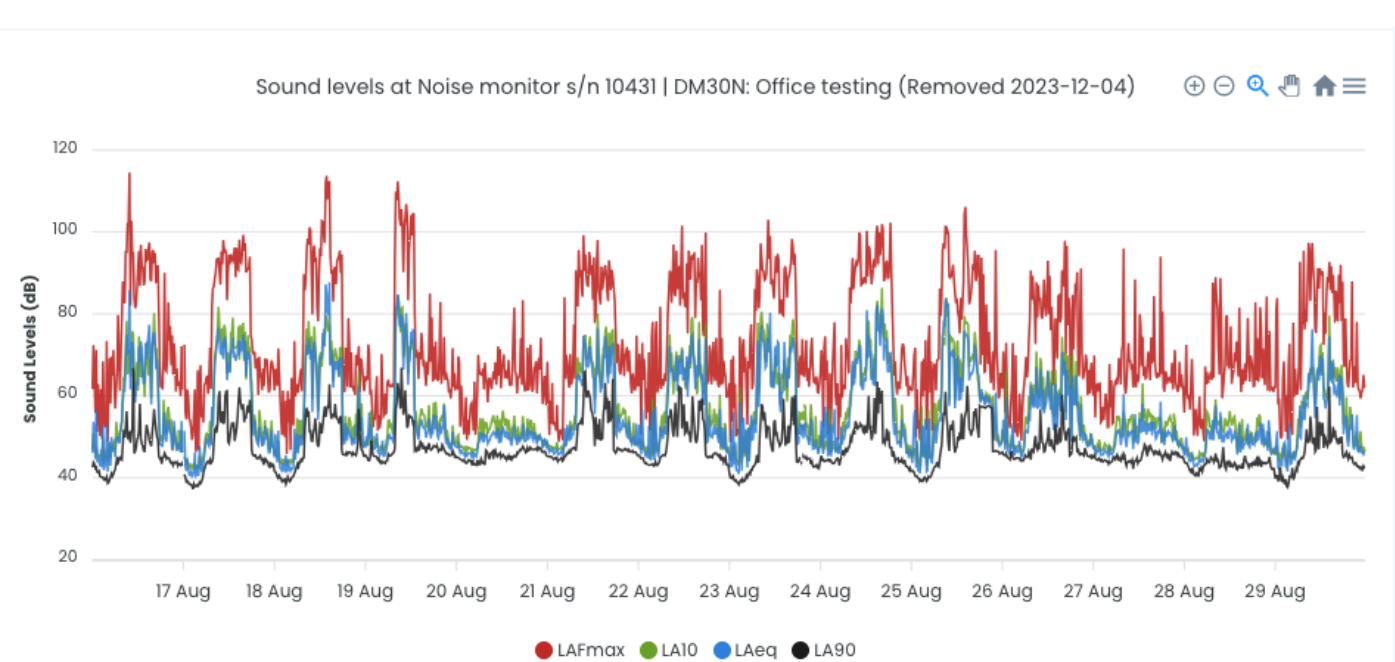


3.2 BOX 2 | AUGUST RESULTS

AUGUST 1ST TO AUGUST 15TH



WEEK OF AUGUST 16TH TO AUGUST 31ST





MON	TUE	WED	THU	FRI	SAT	SUN
	1	2	3	4	5	6
			66.8 dB(A)	67.8 dB(A)	67.7 dB(A)	
7	8	9	10	11	12	13
64 dB(A)	67.9 dB(A)	65.3 dB(A)	67.2 dB(A)	68.8 dB(A)	61.4 dB(A)	
14	15	16	17	18	19	20
67.7 dB(A)	68.1 dB(A)	73.1 dB(A)	71.3 dB(A)	76.9 dB(A)	78.4 dB(A)	
21	22	23	24	25	26	27
69.4 dB(A)	68.4 dB(A)	71.4 dB(A)	74.2 dB(A)	74.7 dB(A)	61.4 dB(A)	
28	29	30	31			
51 dB(A)	66.4 dB(A)	70.6 dB(A)	70.2 dB(A)			



4. DUST BOX MONITORING RESULTS

4.1 BOX 1 | DUST MONITORING RESULTS FOR MEASUREMENT POSITION 1

No readings for the month of August



4.1 BOX 2 | DUST MONITORING RESULTS FOR MEASUREMENT POSITION 2

TABLE 7: SUMMARY OF PM₁₀ DUST MONITORING DAILY HIGH & AVERAGE RESULTS (Measurement Position 2)

AUGUST 2023*

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
03-08-2023 1700	1500	340.09	Y	Y
04-08-2023 1745	1500	161.51	Y	N
05-08-2023 2200	36.63	12.42	N	N
06-08-2023 1900	52.4	10.09	N	N
07-08-2023 0830	60.28	10.92	N	N
09-08-2023 1730	1500	136.95	Y	Y
10-08-2023 1730	1006.97	40.58	Y	Y
11-08-2023 1630	1500	83.96	Y	Y
12-08-2023 2000	548.7	42.19	Y	Y
13-08-2023 2100	73.11	16.27	N	N
14-08-2023 1730	190.4	19.51	Y	Y
15-08-2023 2030	1500	65.95	Y	Y
16-08-2023 1730	550.35	95.66	Y	Y
17-08-2023 1300	1500	41.76	Y	Y
18-08-2023 1700	550.35	50.18	Y	Y
19-08-2023 1300	510.18	48.23	Y	Y
20-08-2023 1715	1500	50.19	Y	Y
21-08-2023 0815	1500	124.27	Y	Y
22-08-2023 1745	818.29	104.19	Y	N
23-08-2023 1730	1383.14	109.12	Y	N
24-08-2023 1500	1500	114.6	Y	Y
25-08-2023 1515	1500	225.6	Y	Y
26-08-2023 1315	1500	66.82	Y	Y
27-08-2023 1245	240.96	13.54	Y	Y
28-08-2023 1330	366.91	50.01	Y	Y
29-08-2023 1330	1500	109.9	Y	Y
30-08-2023 1745	1500	138	Y	Y

**TABLE 8: SUMMARY OF PM_{2.5} DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 2)**AUGUST 2023***

Date and Time	Interpreted Reading (µg/m³)	Average (µg/m³)	Exceedance ≥ 150 µg/m³ Trigger Level?	Number of Exceedance ≥ 190 µg/m³ Action Level?
03-08-2023 1730	841.92	80.18	Y	Y
04-08-2023 1745	497	38.28	N	N
05-08-2023 0800	15.81	7.11	N	N
06-08-2023 0045	5.81	4.67	N	N
07-08-2023 0100	7.4	4.82	N	N
09-08-2023 1730	382.71	32.61	Y	Y
10-08-2023 1730	118.68	10.21	N	N
11-08-2023 1630	267.08	19.88	Y	Y
12-08-2023 2100	86.82	16.02	N	N
13-08-2023 1700	15.02	9.07	N	N
14-08-2023 1715	30.92	10.05	N	N
15-08-2023 1300	86.7	16.31	N	N
16-08-2023 2030	364.85	21.08	Y	Y
17-08-2023 1730	108.8	15.68	N	N
18-08-2023 1300	86.7	29.54	N	N
19-08-2023 1300	86.7	19.11	N	N
20-08-2023 1715	286.9	17.1	Y	Y
21-08-2023 0815	178.46	25.5	Y	Y
22-08-2023 1715	120.8	19.8	N	N
23-08-2023 1730	189.24	20.12	Y	N
24-08-2023 1500	369.27	26.15	Y	N
25-08-2023 1515	869.74	45.19	Y	N
26-08-2023 1315	376.77	14.59	Y	Y
27-08-2023 2115	32.56	5.41	N	N
28-08-2023 1330	120.13	11.98	N	N
29-08-2023 1330	843.61	26.85	Y	Y
30-08-2023 1745	284.44	25.62	Y	Y

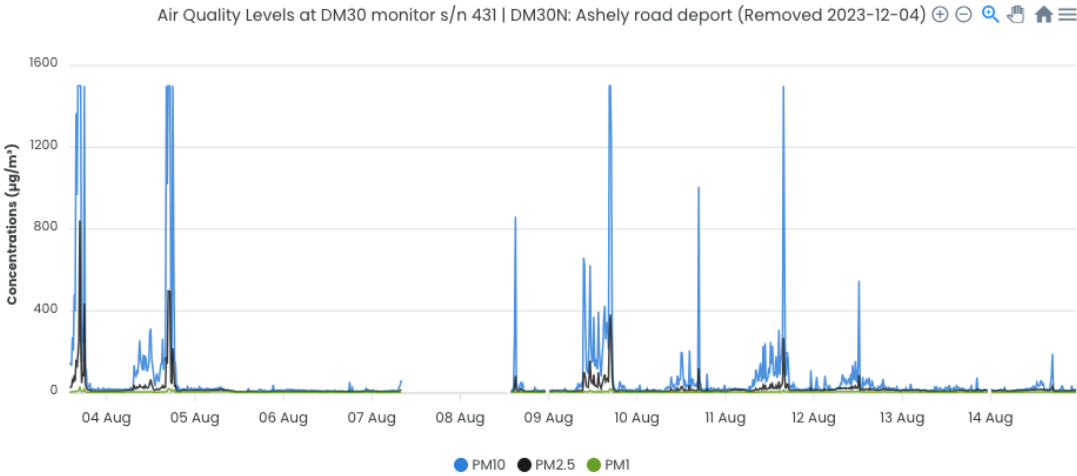
**TABLE 9: SUMMARY OF PM₁ DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 2)**AUGUST 2023***

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
03-08-2023 1730	29.31	4.72	N	N
04-08-2023 1745	19.53	3.87	N	N
05-08-2023 0800	6.21	2.68	N	N
06-08-2023 2300	3.76	1.52	N	N
07-08-2023 0100	3.3	1.44	N	N
09-08-2023 1730	17.71	3.42	N	N
10-08-2023 1730	6.03	2.37	N	N
11-08-2023 1630	13.12	3.34	N	N
12-08-2023 2000	5.17	3.9	N	N
13-08-2023 1700	4.34	2.5	N	N
14-08-2023 1515	4.21	2.76	N	N
15-08-2023 1600	5.56	2.63	N	N
16-08-2023 2030	14.44	2.85	N	N
17-08-2023 0300	6.92	3.6	N	N
18-08-2023 2000	30.04	13.07	N	N
19-08-2023 0045	30.87	6.18	N	N
20-08-2023 1715	13.16	3.39	N	N
21-08-2023 1700	10.99	3.79	N	N
22-08-2023 1715	8.91	2.7	N	N
23-08-2023 1730	6.37	2.99	N	N
24-08-2023 1500	16.2	4.36	N	N
25-08-2023 1515	31.95	3.43	N	N
26-08-2023 1315	12.53	2.63	N	N
27-08-2023 2115	5.71	1.71	N	N
28-08-2023 1330	5.62	2.25	N	N
29-08-2023 2200	7.49	3.03	N	N
30-08-2023 1800	19.2	3.42	N	N

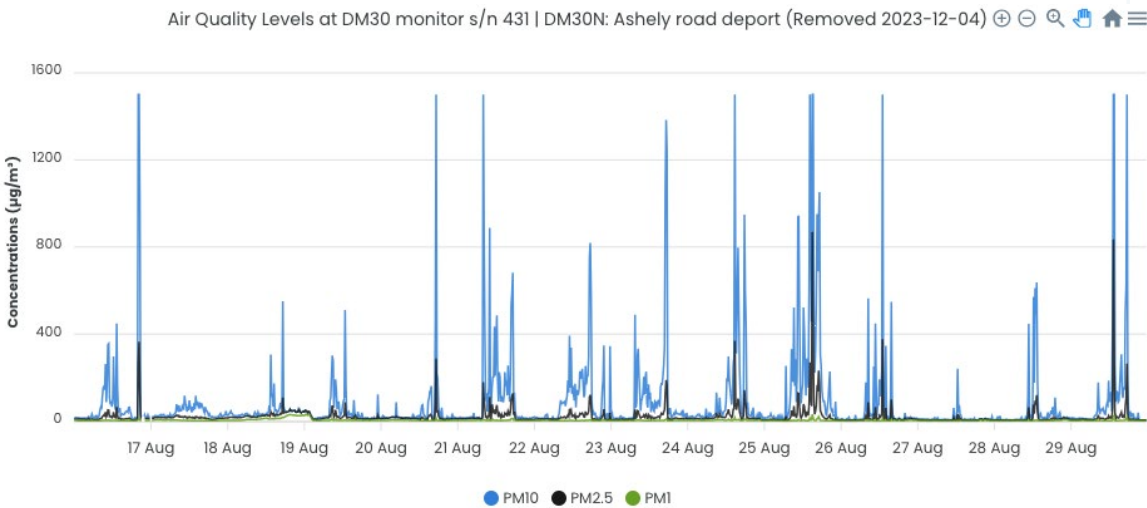


TABLE 10: CALENDAR AND GRAPHS FOR MEASUREMENT POSITION 2

WEEK OF
AUGUST 1ST TO
AUGUST 15TH



WEEK OF
AUGUST 16TH
TO AUGUST
31ST



	1	2	3	4	5	6
			340.09 µg/m³	161.51 µg/m³	12.42 µg/m³	10.09 µg/m³
7	8	9	10	11	12	13
10.92 µg/m³	42.52 µg/m³	136.95 µg/m³	40.58 µg/m³	83.96 µg/m³	42.19 µg/m³	16.27 µg/m³
14	15	16	17	18	19	20
19.51 µg/m³	65.95 µg/m³	95.66 µg/m³	41.76 µg/m³	50.18 µg/m³	48.23 µg/m³	50.19 µg/m³
21	22	23	24	25	26	27
124.27 µg/m³	104.19 µg/m³	109.12 µg/m³	114.86 µg/m³	225.6 µg/m³	66.82 µg/m³	13.54 µg/m³
28	29	30	31			
50.01 µg/m³	109.9 µg/m³	138 µg/m³	68.11 µg/m³			

**TABLE 11: SUMMARY OF NO₂ DAILY HIGH & AVERAGE RESULTS (Measurement Position 2)****AUGUST 2023**

Date	Interpreted Reading (µg/m ³)	Average (µg/m ³)
03-08-2023	37.293	34.338
04-08-2023	39.565	36.820
05-08-2023	39.241	35.275
06-08-2023	35.165	34.654
07-08-2023	35.579	32.379
09-08-2023	31.905	30.080
10-08-2023	33.828	31.248
11-08-2023	37.552	35.669
12-08-2023	37.646	36.039
13-08-2023	31.775	29.919
14-08-2023	36.650	32.818
15-08-2023	36.927	31.404
16-08-2023	30.475	30.020
17-08-2023	32.938	30.371
18-08-2023	33.467	32.078
19-08-2023	35.279	33.517
20-08-2023	30.973	28.998
21-08-2023	36.389	33.154
22-08-2023	39.561	36.833
23-08-2023	37.686	35.975
24-08-2023	34.532	32.615
25-08-2023	33.310	32.826
26-08-2023	35.560	31.260
27-08-2023	29.541	27.065
28-08-2023	30.504	28.875
29-08-2023	33.875	31.978
30-08-2023	31.518	30.076
31-08-2023	35.796	33.785



EXECUTIVE SUMMARY

This report is an objective assessment, made by Galcross Engineering to monitor and control the environmental impact of the works for noise, dust and nitrogen dioxide at [ASHLEY ROAD.](#)

Exceedance of trigger levels [has](#) taken place

Please note while there are some readings above the trigger limits set for this project they are normal and to be expected due to the location of the site.



APPENDIX I

A.1 The Equipment | DM30N: DUST & NOISE COMBINED

The DM30 air quality monitor from Sonitus Systems is a fully automated particulate monitor for measuring PM10, PM2.5 and PM1 . Designed for continuous monitoring of dust levels this monitor is suitable for all applications.

This monitor has MCERTS for PM10 & PM2.5; MCERTS is the UK Environment Agency's Monitoring Certification Scheme for ambient air quality monitoring equipment.



SIMULTANEOUS MCERTS FOR PM₁₀ & PM_{2.5}



HEATED INLET TO CONTROL MOISTURE IN THE AIR-FLOW, AVOIDING FALSE READINGS



REMOTE, ONLINE REPORTING VIA THE SONITUS CLOUD



OPTION FOR BATTERY POWER



RUGGED, WEATHER-PROOF DESIGN



ADD SLM FOR COMBINED NOISE & DUST MONITORING - DM30N



**Particulate Measurement:**

Parameters: PM_{10} , $PM_{2.5}$ and PM_1

Method: Optical particle counter

Measurement Range: up to $2000 \mu\text{g}/\text{m}^3$

Particulate Range: 0.35 to $40 \mu\text{m}$

Logging:

Measurement Period: 1, 5, 10, 15 or 30 minutes

Hourly & 24 hourly averages calculated online

Power Requirements:

Battery: Portable battery for up to 6 days use

Input: 110 - 240V AC

Consumption: 24W with heater at full power

Communications:

Wi-Fi (user interface)

4G SIM Card: Supplied with each monitor

Physical:

Dimensions: 400mm x 300mm x 150mm with 180mm inlet

Weight: 12kg

Operational Temperature: -10 to 50°C

Humidity Range: 0 to 95% RH

Installation: Supplied with mounting bracket

Data Platform:

Sonitus Cloud: Online platform available on any internet enabled device

Access data 24/7

Automatic report emailed weekly or daily

SMS & Email Alerts

Easily setup user permission rights



A.2 Calibration certificates for Sonitus

Method: Calibration has been performed as set out in Campbell Associates Technical Procedures TP01 & 02 as appropriate. These are based on the procedures for periodic verification set out in BS EN IEC 61672-3:2006. Results and conformance statements are detailed results that are reported in a certificate and can be shown upon request.

A.3 How can particles affect your health?

Long-term exposure, is associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death.

Short-term exposure to particles (hours or days) can aggravate lung disease, cause asthma attacks and acute bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposure is linked to heart attacks and arrhythmias. Healthy children and adults may experience temporary minor irritation when particle levels are elevated.

NOISE & DUST MONITORING REPORT

SEPTEMBER 2023

LOCATION:
ASHLEY ROAD

Authored by: Michael O'Dwyer

GALCROSS
Engineering





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1. MONITORING PROCEDURE

1.1 MONITORING NOISE | METHODOLOGY

1.1.1 USED EQUIPMENT

The monitoring equipment is accredited and approved equipment. See Appendix 1.

1.1.2 SETUP PROCEDURE

All equipment is installed on site boundaries according to BS 5228.

1.1.3 LIMITS & ACTION LEVELS

To control the environmental parameters alert levels have been set up as per below. Noise 75db first action level second action 80db



1.2 MONITORING DUST | METHODOLOGY

The dust units have been configured to record Particulate Matter (PM) size data continuously at given intervals (see installation details) with a flow rate of 1 litre per minute.

The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometres in diameter pose the greatest problems because they can affect the lungs and heart. Larger particles are of less concern, although they can irritate the eyes, nose, and throat.

- **Fine particles (PM2.5):** Particles less than 2.5 micrometres in diameter are called "fine" particles. Sources of fine particles include all types of combustion, also motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. PM2.5 contains more toxic heavy metals and hazardous organic pollutants and can go directly to the lungs. It is more easily attached to bacteria and viruses in the environment, so the particles have greater impact on ecology and human health.
- **Coarse dust particles:** Particles between 2.5 and 10 micrometres in diameter are referred to as "coarse." Sources of coarse particles include crushing or grinding operations, and dust stirred up by vehicles traveling on roads.

1.2.1 MONITORING EQUIPMENT

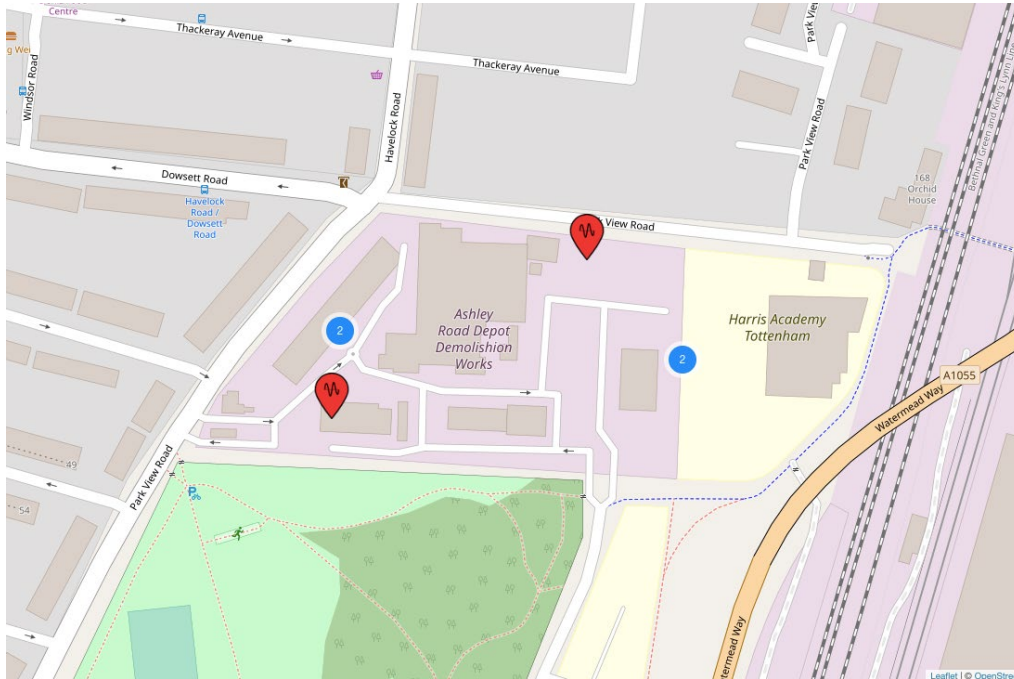
For dust (PM10) monitoring at the ASHLEY ROAD site, we have been using DM30N: Dust & Noise From Sonitus Systems. The system is a fully automated particulate monitor for measuring PM10, PM2.5 and PM1. Designed for continuous monitoring of dust levels this monitor is suitable for all applications. These monitors are certified to the MCERTS Indicate standard as required by Camden Council. Both monitors were last serviced on 13 April 2023, ahead of installation onsite.

1.2.2 MONITORING LOCATIONS

The monitoring locations are submitted have been agreed with the relevant Environmental Health Officer.

Location photos and a map showing the measurement positions are presented on page 6.

- Measurement Position 1: The monitor is positioned at the front of the site.
- Measurement Position 2: The monitor is positioned at the rear of the site



1.2.3 TRIGGER AND ACTION LEVELS

In accordance with the requirements of the planning condition and as detailed in the CMP, early warning 'alert' and 'action' levels have been set and are presented in Table 1 below. The incident response procedure, should a trigger or action level be exceeded is:

1. Informing all on the alert list
2. The actions to be taken should then comprise a method review to see if the operation cannot realistically be modified under the 'best practicable means' principle.
3. If the level identified after review is unavoidable using BPM the next action should include contacting a named person within neighbouring affected property to inform them of the activities and resulting risk and its likely duration.

Table 1 - Trigger and Action Level for PM10

Trigger / Action Level	Trigger / Action Dust Level ($\mu\text{g}/\text{m}^3$)
Alert level (as a 15 minute average)	150 $\mu\text{g}/\text{m}^3$
Action Level (as a 15 minute average)	150 $\mu\text{g}/\text{m}^3$
Action Level (as a 1-hour average)	190 $\mu\text{g}/\text{m}^3$



2. MONITORING WEB-INTERFACE

See appendix Sonitus Cloud enables you to access all your environmental monitoring data in one location from any internet-enabled device. Check real-time data, generate reports, and configure your systems to manage your projects efficiently. The simple interface means anyone can run the projects with simple calendar overviews, detailed daily data, and user-definable alerts. Sonitus Cloud also allows you to set project user and access rights to ensure everyone can see exactly what they need.

FIGURE 2.2 | SONITUS WEB-INTERFACE



Connect from any internet enabled device



User permission rights



Safe and secure



SMS and email alerts



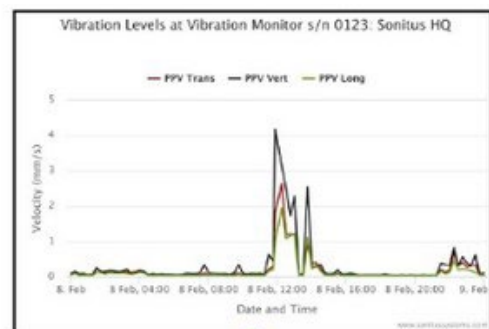
Simple reports



Calendar view



Plot data or see in real time



Monitor	01 Feb	02 Feb	03 Feb	04 Feb	05 Feb	06 Feb	07 Feb	08 Feb	09 Feb
Vibration Monitor s/n 0123: Sonitus HQ						0.69	0.34	0.14	
	0.19	0.42	0.40	0.57	4.18	0.57	0.60		
	1.76	0.26	0.25	0.46	132.86	0.54	0.26		
	0.18	0.26	0.78	0.33	0.20	0.39	0.18		
	0.19	0.97	0.37	209.98					

NAME	COMPANY	EMAIL	CALENDAR ACCESS	CHARTS ACCESS	GRID ACCESS	RECORDINGS ACCESS	EMAIL NOTIFICATIONS	SMS NOTIFICATIONS
Donna User	Sonitus Systems		☒	☒	☒	☒	☒	☒
John Doe	Acme Inc		☒	☒	☒	☒	☒	☒
Tom Simons	Acme Builders		☒	☒	☒	☒	☒	☒

From top to bottom : data plotted over a day,
calendar overview, user right permissions



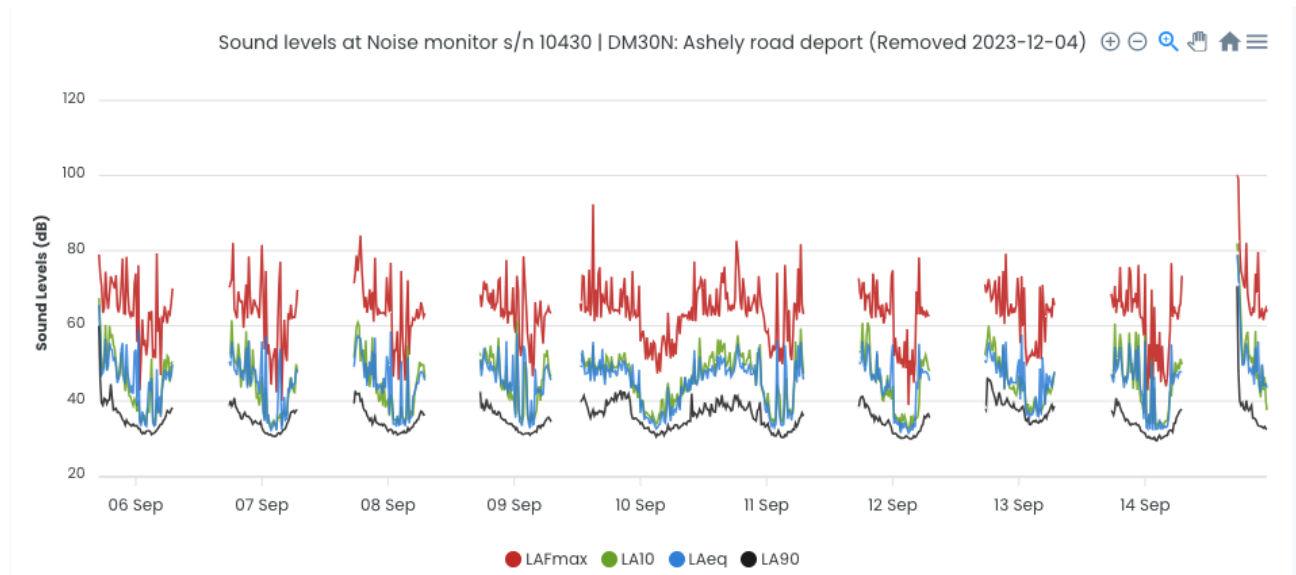
3. NOISE BOX MONITORING RESULTS

The monthly overview displays the noise monitoring results based on a LAeq,10h from 8AM to 6PM, Monday to Friday. The calendar shows the average sound levels of the measured readings and highlights any exceedances. These are calculated based on the limits set on each monitor. More detailed data can be requested via the online web interface.

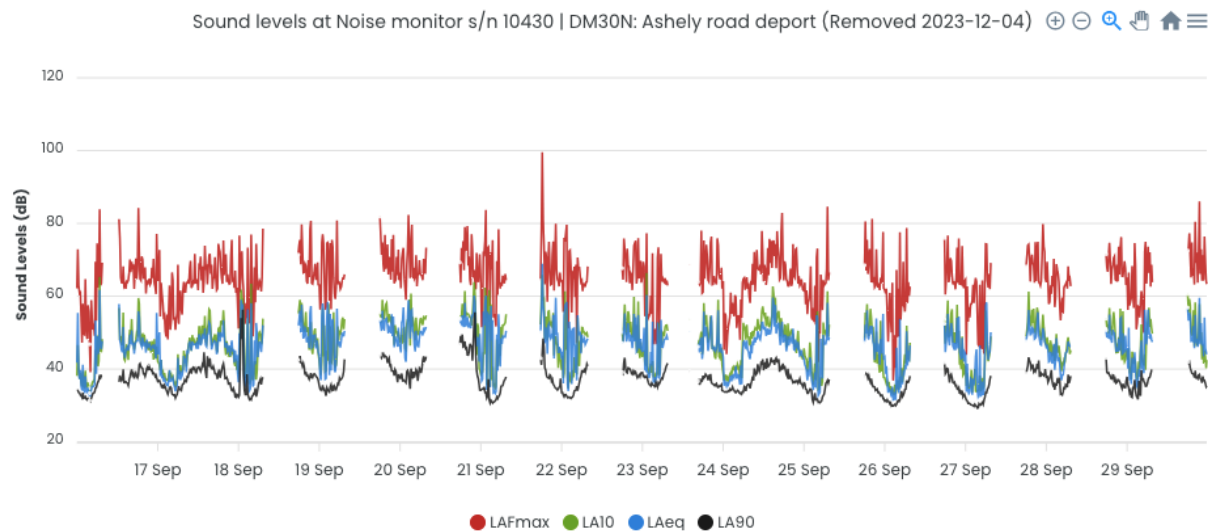
The NOISE results for **ASHLEY ROAD** are below.

3.1 BOX 1 | SEPTEMBER RESULTS

SEPTEMBER 1ST TO SEPTEMBER 15TH



SEPTEMBER 16TH TO SEPTEMBER 30TH



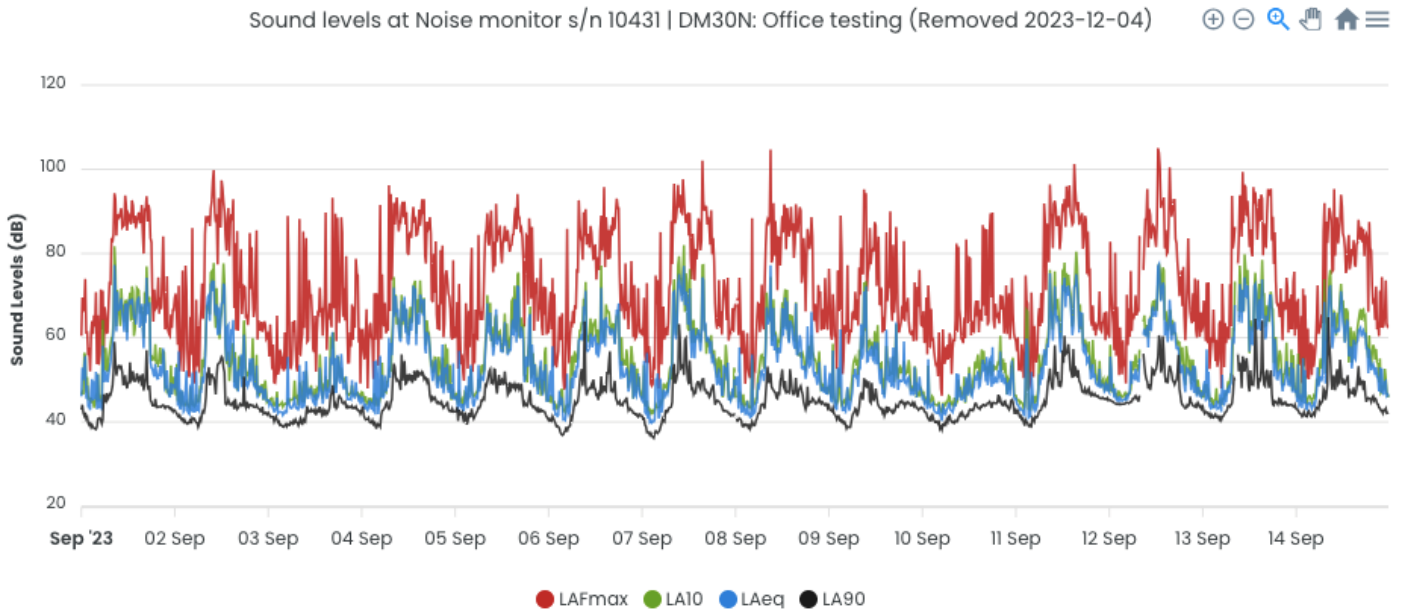


MON	TUE	WED	THU	FRI	SAT	SUN
				1	2	3
4	5 63.1 dB(A)	6	7	8	9	10
11	12	13	14	15	16 55.3 dB(A)	17
18 51.5 dB(A)	19	20 53.7 dB(A)	21 50.1 dB(A)	22	23	24
25	26 52.5 dB(A)	27	28 50.7 dB(A)	29	30	

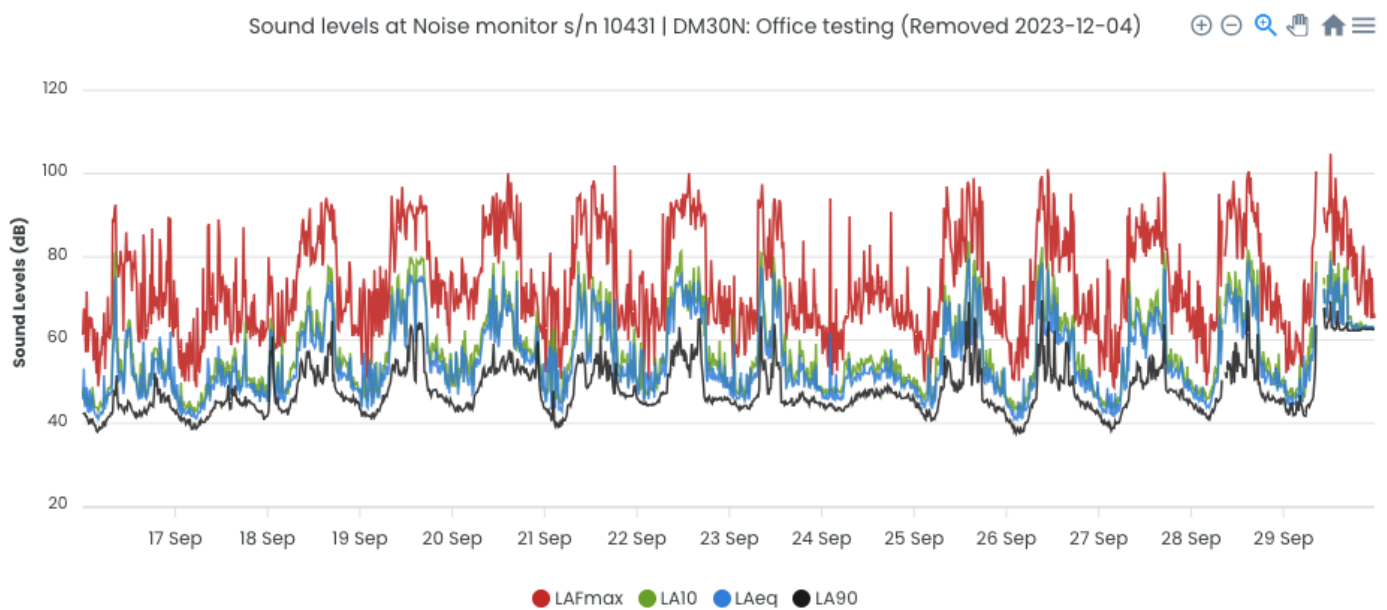


3.2 BOX 2 | SEPTEMBER RESULTS

SEPTEMBER 1ST TO SEPTEMBER 15TH



SEPTEMBER 16TH TO SEPTEMBER 30TH





MON	TUE	WED	THU	FRI	SAT	SUN
				1 68.3 dB(A)	2 69.5 dB(A)	3
4 66.5 dB(A)	5 63.7 dB(A)	6 63.2 dB(A)	7 68.9 dB(A)	8 65 dB(A)	9 63 dB(A)	10
11 69 dB(A)	12 68.4 dB(A)	13 68.7 dB(A)	14 64.3 dB(A)	15 66.7 dB(A)	16 65.3 dB(A)	17
18 66.5 dB(A)	19 71.3 dB(A)	20 67.8 dB(A)	21 67.7 dB(A)	22 70.8 dB(A)	23 70.7 dB(A)	24
25 69.9 dB(A)	26 69.5 dB(A)	27 66.8 dB(A)	28 71.3 dB(A)	29 71.3 dB(A)	30 74.1 dB(A)	



4. DUST BOX MONITORING RESULTS

4.1 BOX 1 | DUST MONITORING RESULTS FOR MEASUREMENT POSITION 1

TABLE 2: SUMMARY OF PM₁₀ DUST MONITORING DAILY HIGH & AVERAGE RESULTS (Measurement Position 1)

SEPTEMBER 2023*

Date and Time	Interpreted Reading (µg/m³)	Average (µg/m³)	Exceedance ≥ 150 µg/m³ Trigger Level?	Number of Exceedance ≥ 190 µg/m³ Action Level?
06-09-2023 1745	146.59	30.36	N	N
07-09-2023 2115	72.51	38.4	N	N
08-09-2023 1815	91.84	47.51	N	N
09-09-2023 2000	88.46	48.42	N	N
10-09-2023 1400	338.16	48.34	Y	Y
11-09-2023 2030	106.67	24.67	N	N
12-09-2023 0315	121.55	12.57	N	N
13-09-2023 1945	31.46	15.29	N	N
14-09-2023 1830	82.23	18.09	N	N
15-09-2023 2230	28.61	16.91	N	N
16-09-2023 1730	51.75	21.53	N	N
17-09-2023 1700	55.74	26.31	N	N
18-09-2023 1300	47.68	16.59	N	N
19-09-2023 0745	19.11	13.14	N	N
20-09-2023 2230	23.51	10.65	N	N
21-09-2023 0745	20.63	14.49	N	N
22-09-2023 0300	15.64	12.02	N	N
23-09-2023 1945	16.28	13.25	N	N
24-09-2023 1515	140.98	22.37	N	N
25-09-2023 1830	174.53	23.25	N	N
26-09-2023 1800	33.57	21.01	N	N
27-09-2023 2130	444.64	57.78	Y	Y
28-09-2023 1845	145.98	27.36	N	N
29-09-2023 2000	23.17	13.05	N	N
30-09-2023 0100	22.38	20.67	N	N

**TABLE 3: SUMMARY OF PM_{2.5} DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 1)**SEPTEMBER 2023***

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
06-09-2023 2345	39.58	17.58	N	N
07-09-2023 2245	47.25	29.59	N	N
08-09-2023 0300	75.88	37.72	N	N
09-09-2023 2345	36.95	21.74	N	N
10-09-2023 1400	75.16	27.14	N	N
11-09-2023 2015	36.96	17.72	N	N
12-09-2023 0315	10.87	5.77	N	N
13-09-2023 2230	12.12	8.4	N	N
14-09-2023 2200	14.08	9.07	N	N
15-09-2023 2315	17.24	10.25	N	N
16-09-2023 0745	16.55	11.37	N	N
17-09-2023 2300	38.06	19.62	N	N
18-09-2023 0100	40.75	10.94	N	N
19-09-2023 0730	13.34	10	N	N
20-09-2023 0800	14.34	8.96	N	N
21-09-2023 0745	11.17	7.95	N	N
22-09-2023 0400	10.02	6.46	N	N
23-09-2023 2245	12.26	7.93	N	N
24-09-2023 1515	41.04	13.33	N	N
25-09-2023 1800	28.93	13.11	N	N
26-09-2023 0530	18.6	16.79	N	N
27-09-2023 0300	28.1	24.17	N	N
28-09-2023 1845	40.1	16.92	N	N
29-09-2023 2015	19.24	9.55	N	N
30-09-2023 0200	14.33	14.5	N	N

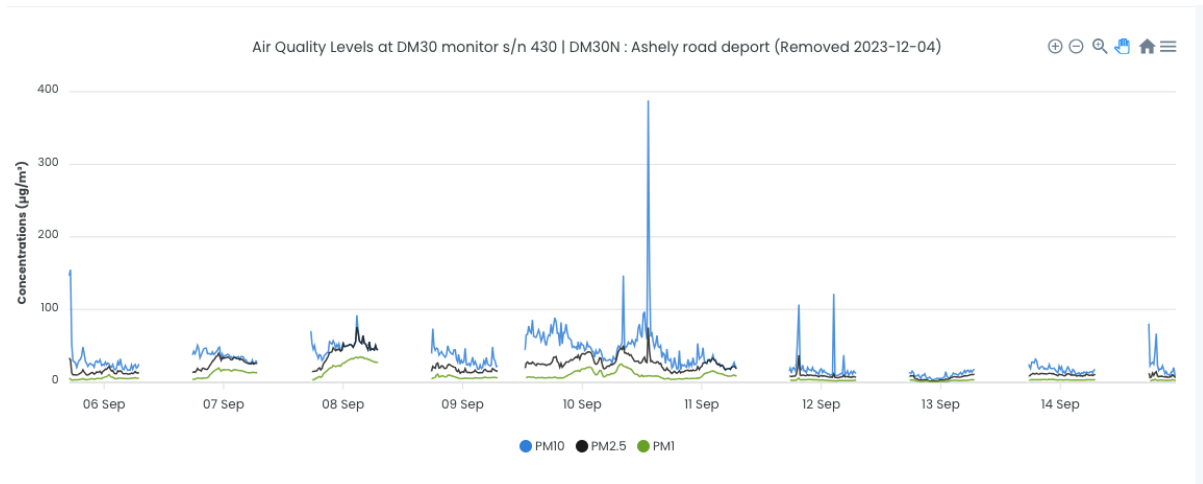
**TABLE 4: SUMMARY OF PM₁ DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 1)**SEPTEMBER 2023***

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
06-09-2023 2345	19.36	7.13	N	N
07-09-2023 2230	22	14.14	N	N
08-09-2023 0415	33.98	20.21	N	N
09-09-2023 23.45	15.81	6.76	N	N
10-09-2023 0830	24.84	10.62	N	N
11-09-2023 0300	15.33	7.31	N	N
12-09-2023 0845	3.07	1.74	N	N
13-09-2023 2245	3.19	2.45	N	N
14-09-2023 1945	3.9	2.69	N	N
15-09-2023 2315	5.29	3.45	N	N
16-09-2023 0754	6.79	3.92	N	N
17-09-2023 2230	22.09	8.65	N	N
18-09-2023 0030	22.61	4.05	N	N
19-09-2023 1915	3.37	3.05	N	N
20-09-2023 0800	5.17	3.16	N	N
21-09-2023 3345	3.67	2.11	N	N
22-09-2023 1845	4.24	2.07	N	N
23-09-2023 2045	4.27	2.44	N	N
24-09-2023 1515	6.08	3.74	N	N
25-09-2023 2330	7.48	3.83	N	N
26-09-2023 0230	6.46	5.19	N	N
27-09-2023 2130	8.4	5.58	N	N
28-09-2023 0045	6.62	4.88	N	N
29-09-2023 300	7.38	3.31	N	N
30-09-2023 2230	6.16	4.29	N	N

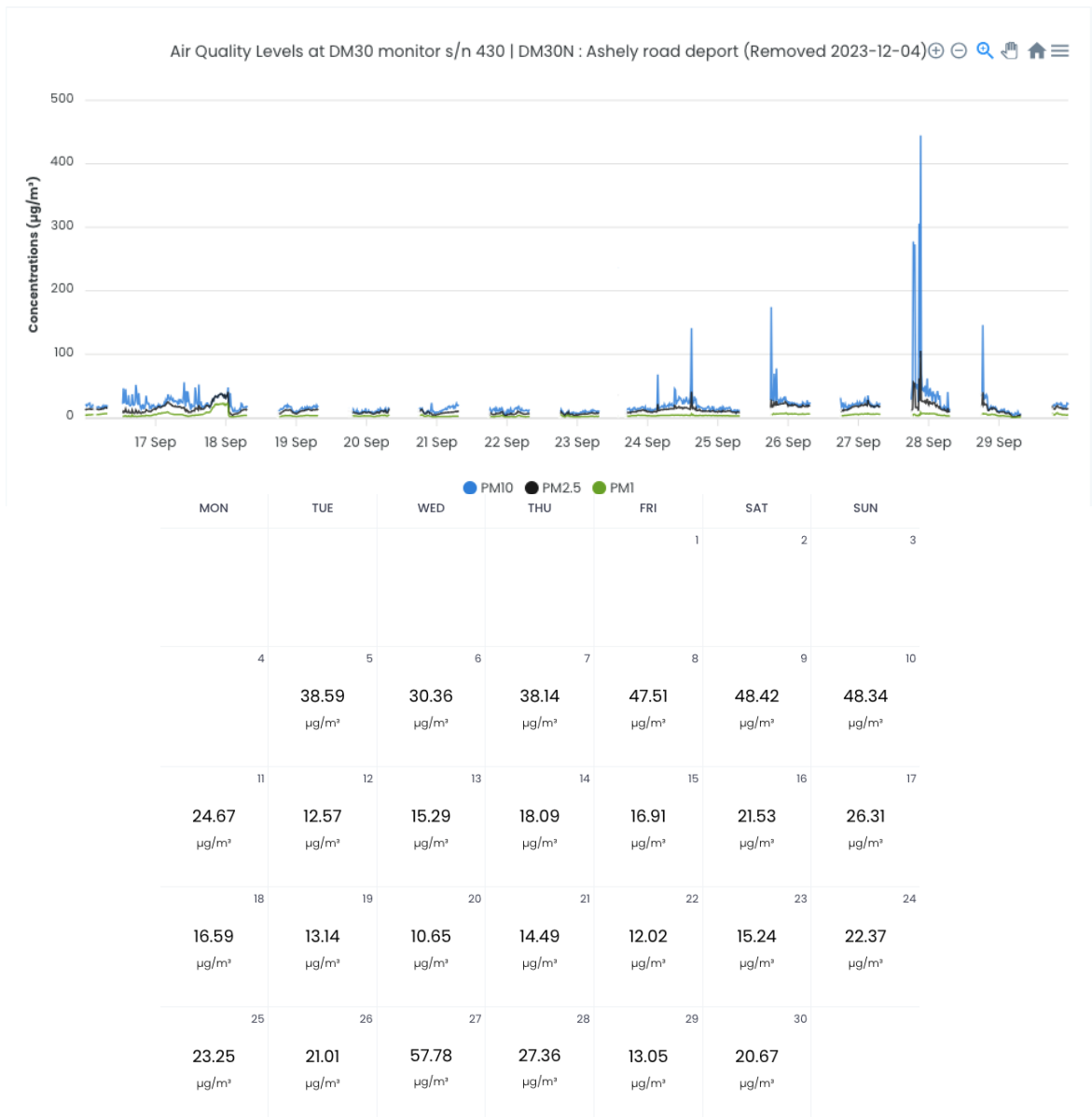


TABLE 5: CALENDAR AND DUST MONITORING GRAPHS FOR MEASUREMENT POSITION 1

SEPTEMBER 1ST TO SEPTEMBER 15TH



SEPTEMBER 16TH TO SEPTEMBER 30TH



**TABLE 6: SUMMARY OF NO₂ DAILY HIGH & AVERAGE RESULTS** (Measurement Position 1)**SEPTEMBER 2023***

Date	Interpreted Reading (µg/m ³)	Average (µg/m ³)
06-09-2023	39.012	35.958
07-09-2023	36.128	33.896
08-09-2023	36.598	34.102
09-09-2023	37.889	34.651
10-09-2023	35.251	33.856
11-09-2023	38.951	35.591
12-09-2023	39.457	36.019
13-09-2023	34.659	31.891
14-09-2023	37.084	35.357
15-09-2023	33.249	31.931
16-09-2023	31.897	29.019
17-09-2023	36.458	34.898
18-09-2023	30.982	30.076
19-09-2023	34.502	33.526
20-09-2023	29.011	28.728
21-09-2023	32.773	30.375
22-09-2023	30.356	28.552
23-09-2023	32.891	30.243
24-09-2023	34.219	32.180
25-09-2023	35.745	33.962
26-09-2023	34.658	33.254
27-09-2023	38.912	36.808
28-09-2023	35.125	33.916
29-09-2023	36.015	34.734



4.1 BOX 2 | DUST MONITORING RESULTS FOR MEASUREMENT POSITION 2

TABLE 7: SUMMARY OF PM₁₀ DUST MONITORING DAILY HIGH & AVERAGE RESULTS (Measurement Position 2)

SEPTEMBER 2023*

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-09-2023 1545	1500	123.6	Y	Y
02-09-2023 1945	1500	57.04	Y	Y
03-09-2023 1130	1500	47.46	Y	Y
04-09-2023 1100	733.5	43.18	Y	Y
05-09-2023 1530	420.03	46.96	Y	Y
06-09-2023 2130	1500	120.8	Y	Y
07-09-2023 1630	813.03	105.77	Y	Y
08-09-2023 1615	1500	191.76	Y	Y
09-09-2023 1500	498.41	70.54	Y	Y
10-09-2023 1415	145.84	49	N	N
11-09-2023 1645	463.65	103.21	Y	Y
12-09-2023 1545	1500	131.85	Y	Y
13-09-2023 1645	680.58	100.32	Y	Y
14-09-2023 1545	1130.87	112.21	Y	Y
15-09-2023 1415	590.74	57.9	Y	Y
16-09-2023 0845	1500	70.4	Y	Y
17-09-2023 1400	118.38	49	N	N
18-09-2023 1600	85.75	103.21	Y	N
19-09-2023 1245	184.35	131.85	Y	Y
20-09-2023 1245	202.85	100.32	Y	Y
21-09-2023 1415	178.89	112.21	N	N
22-09-2023 1615	418.86	57.9	Y	Y
23-09-2023 1400	1500	84.9	Y	Y
24-09-2023 0930	152.59	29.86	Y	N
25-09-2023 1430	535.76	30.19	Y	Y
26-09-2023 1730	972.54	33.85	Y	Y
27-09-2023 1015	386.55	34.44	Y	Y
28-09-2023 1545	540.92	30.17	Y	Y
29-09-2023 1500	271.99	19.68	Y	Y
30-09-2023 1500	388.38	47.52	Y	Y

**TABLE 8: SUMMARY OF PM_{2.5} DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 2)**SEPTEMBER 2023***

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-09-2023 1730	336.7	27.01	N	N
02-09-2023 1745	307.98	19.34	N	N
03-09-2023 1130	231.23	18.44	N	N
04-09-2023 1345	94.32	19.97	N	N
05-09-2023 1530	56.71	19.27	N	N
06-09-2023 1600	153.25	35.08	N	N
07-09-2023 2130	317.21	39.67	N	N
08-09-2023 1615	760.24	63.48	N	N
09-09-2023 1230	94.27	24.25	N	N
10-09-2023 0830	48.91	27.81	N	N
11-09-2023 1600	75.81	25.39	N	N
12-09-2023 1545	427.41	24.48	N	N
13-09-2023 1445	130.81	22.37	N	N
14-09-2023 1615	231.96	22.16	N	N
15-09-2023 1415	18.24	16.49	N	N
16-09-2023 0845	264.02	23.01	N	N
17-09-2023 2300	41.62	21.45	N	N
18-09-2023 1145	47.36	11.97	N	N
19-09-2023 1145	39.05	12.81	N	N
20-09-2023 1245	44.51	14.63	N	N
21-09-2023 1445	35.42	11.02	N	N
22-09-2023 1615	42.56	7.65	N	N
23-09-2023 1400	392.46	14.66	N	N
24-09-2023 0930	34.59	12.51	N	N
25-09-2023 1430	99.86	10.06	N	N
26-09-2023 1730	123.16	24.41	N	N
27-09-2023 1015	56.21	19.48	N	N
28-09-2023 1545	87.59	22.45	N	N
29-09-2023 1500	49.93	14.4	N	N
30-09-2023 1500	69.35	18.09	N	N

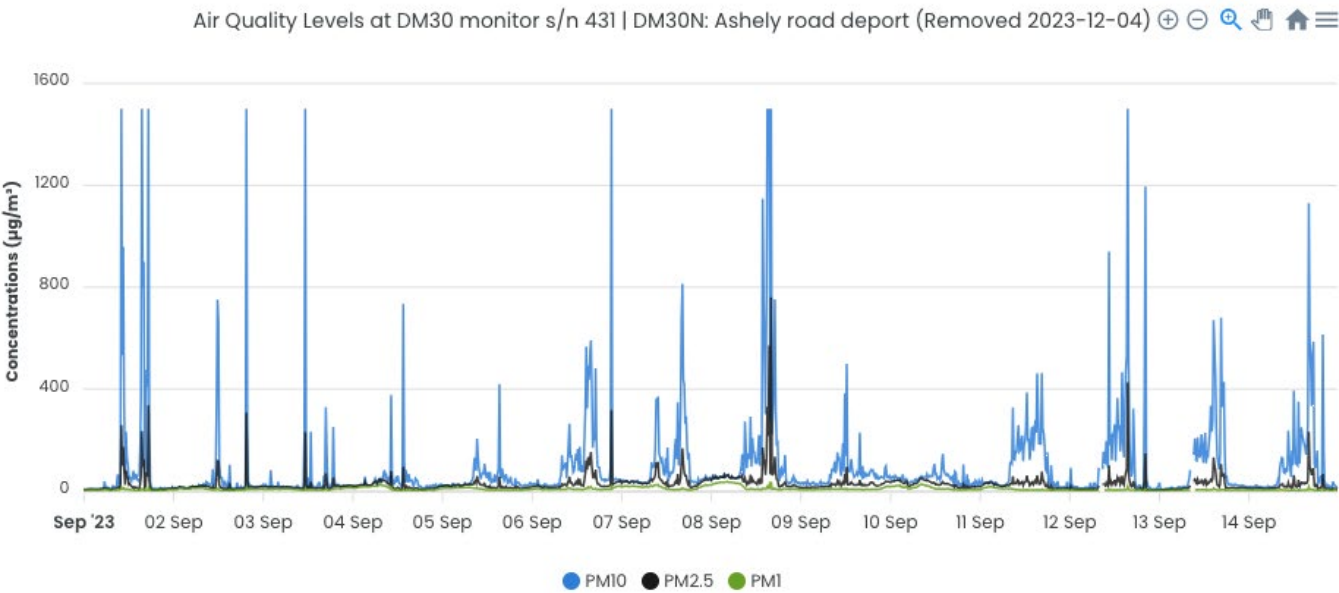
**TABLE 9: SUMMARY OF PM₁ DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 2)**SEPTEMBER 2023***

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-09-2023 1015	14.41	3.83	N	N
02-09-2023 1745	15.25	6.29	N	N
03-09-2023 1130	10.15	6.66	N	N
04-09-2023 0715	23.87	9.34	N	N
05-09-2023 0700	13.47	7.19	N	N
06-09-2023 2345	20.17	8.29	N	N
07-09-2023 0930	24.41	3.66	N	N
08-09-2023 1615	35.77	16.54	N	N
09-09-2023 1230	9.37	7.21	N	N
10-09-2023 0815	25.88	11.5	N	N
11-09-2023 0300	16.23	6.32	N	N
12-09-2023 1445	17.75	2.91	N	N
13-09-2023 1445	10.52	3.43	N	N
14-09-2023 1615	16.95	3.28	N	N
15-09-2023 0915	9.02	4.4	N	N
16-09-2023 0845	16.84	5.52	N	N
17-09-2023 2345	23.6	9.56	N	N
18-09-2023 0045	23	3.43	N	N
19-09-2023 1145	5.98	3.32	N	N
20-09-2023 1245	6.66	4.07	N	N
21-09-2023 1445	6.59	2.47	N	N
22-09-2023 2115	4.22	2.14	N	N
23-09-2023 1400	14.5	2.78	N	N
24-09-2023 1845	4.51	3.64	N	N
25-09-2023 2300	11.34	3.16	N	N
26-09-2023 1415	7.67	4.91	N	N
27-09-2023 0915	9.36	5.06	N	N
28-09-2023 1445	8.76	4.97	N	N
29-09-2023 1230	7.58	3.48	N	N
30-09-2023 2139	6.93	4.35	N	N

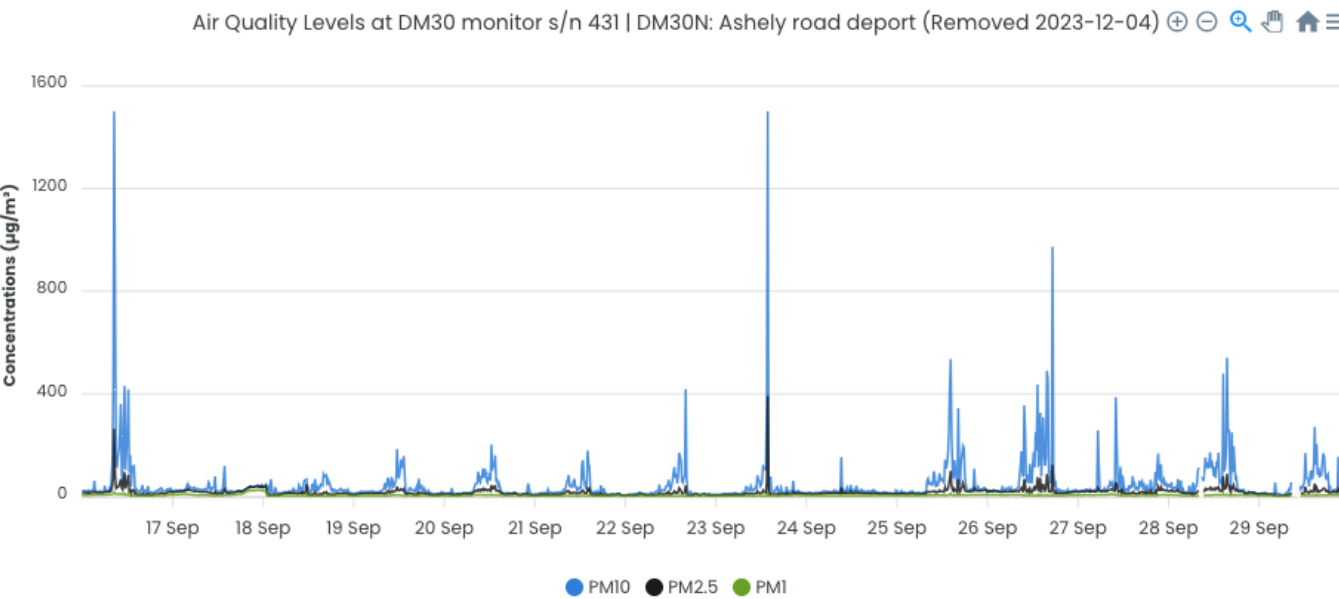


TABLE 10: CALENDAR AND GRAPHS FOR MEASUREMENT POSITION 2

SEPTEMBER 1st to SEPTEMBER 15th



SEPTEMBER 16TH TO SEPTEMBER 30TH



MON	TUE	WED	THU	FRI	SAT	SUN
				123.61 µg/m³	57.04 µg/m³	47.46 µg/m³
43.18 µg/m³	46.96 µg/m³	120.8 µg/m³	105.77 µg/m³	191.76 µg/m³	70.54 µg/m³	49 µg/m³
103.21 µg/m³	131.85 µg/m³	100.32 µg/m³	112.21 µg/m³	57.9 µg/m³	84.9 µg/m³	29.86 µg/m³
30.19 µg/m³	33.85 µg/m³	34.44 µg/m³	30.17 µg/m³	19.68 µg/m³	47.52 µg/m³	20.58 µg/m³
15.58 µg/m³	88.72 µg/m³	49.13 µg/m³	74.43 µg/m³	48.86 µg/m³	51.99 µg/m³	

**TABLE 11: SUMMARY OF NO₂ DAILY HIGH & AVERAGE RESULTS (Measurement Position 2)****SEPTEMBER 2023***

Date	Interpreted Reading (µg/m ³)	Average (µg/m ³)
01-09-2023	31.763	30.230
02-09-2023	34.072	31.433
03-09-2023	39.800	37.482
04-09-2023	37.569	34.669
05-09-2023	38.864	33.401
06-09-2023	30.287	29.799
07-09-2023	32.678	29.212
08-09-2023	33.755	31.588
09-09-2023	36.323	32.982
10-09-2023	37.447	35.950
11-09-2023	39.963	35.858
12-09-2023	35.662	32.265
13-09-2023	32.249	30.070
14-09-2023	30.250	28.285
15-09-2023	31.591	29.008
16-09-2023	37.635	34.133
17-09-2023	39.670	36.470
18-09-2023	36.653	33.075
19-09-2023	36.435	34.945
20-09-2023	37.926	35.940
21-09-2023	34.038	32.423
22-09-2023	38.637	31.753
23-09-2023	34.244	32.006
24-09-2023	31.601	29.426
25-09-2023	37.712	34.384
26-09-2023	36.245	32.449
27-09-2023	30.107	28.991
28-09-2023	31.716	29.568
29-09-2023	32.249	31.506
30-09-2023	30.486	29.089



EXECUTIVE SUMMARY

This report is an objective assessment, made by Galcross Engineering to monitor and control the environmental impact of the works for noise, dust and nitrogen dioxide at [ASHLEY ROAD.](#)

Exceedance of trigger levels [has not](#) taken place

Please note while there are some readings above the trigger limits set for this project they are normal and to be expected due to the location of the site.



APPENDIX I

A.1 The Equipment | DM30N: DUST & NOISE COMBINED

The DM30 air quality monitor from Sonitus Systems is a fully automated particulate monitor for measuring PM10, PM2.5 and PM1 . Designed for continuous monitoring of dust levels this monitor is suitable for all applications.

This monitor has MCERTS for PM10 & PM2.5; MCERTS is the UK Environment Agency's Monitoring Certification Scheme for ambient air quality monitoring equipment.



SIMULTANEOUS MCERTS FOR PM₁₀ & PM_{2.5}



HEATED INLET TO CONTROL MOISTURE IN THE AIR-FLOW, AVOIDING FALSE READINGS



REMOTE, ONLINE REPORTING VIA THE SONITUS CLOUD



OPTION FOR BATTERY POWER



RUGGED, WEATHER-PROOF DESIGN



ADD SLM FOR COMBINED NOISE & DUST MONITORING - DM30N



**Particulate Measurement:**

Parameters: PM_{10} , $PM_{2.5}$ and PM_1

Method: Optical particle counter

Measurement Range: up to $2000 \mu\text{g}/\text{m}^3$

Particulate Range: 0.35 to $40 \mu\text{m}$

Logging:

Measurement Period: 1, 5, 10, 15 or 30 minutes

Hourly & 24 hourly averages calculated online

Power Requirements:

Battery: Portable battery for up to 6 days use

Input: 110 - 240V AC

Consumption: 24W with heater at full power

Communications:

Wi-Fi (user interface)

4G SIM Card: Supplied with each monitor

Physical:

Dimensions: 400mm x 300mm x 150mm with 180mm inlet

Weight: 12kg

Operational Temperature: -10 to 50°C

Humidity Range: 0 to 95% RH

Installation: Supplied with mounting bracket

Data Platform:

Sonitus Cloud: Online platform available on any internet enabled device

Access data 24/7

Automatic report emailed weekly or daily

SMS & Email Alerts

Easily setup user permission rights



A.2 Calibration certificates for Sonitus

Method: Calibration has been performed as set out in Campbell Associates Technical Procedures TP01 & 02 as appropriate. These are based on the procedures for periodic verification set out in BS EN IEC 61672-3:2006. Results and conformance statements are detailed results that are reported in a certificate and can be shown upon request.

A.3 How can particles affect your health?

Long-term exposure, is associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death.

Short-term exposure to particles (hours or days) can aggravate lung disease, cause asthma attacks and acute bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposure is linked to heart attacks and arrhythmias. Healthy children and adults may experience temporary minor irritation when particle levels are elevated.

NOISE & DUST MONITORING REPORT

OCTOBER 2023

LOCATION:
ASHLEY ROAD

Authored by: Michael O'Dwyer

GALCROSS
Engineering





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1. MONITORING PROCEDURE

1.1 MONITORING NOISE | METHODOLOGY

1.1.1 USED EQUIPMENT

The monitoring equipment is accredited and approved equipment. See Appendix 1.

1.1.2 SETUP PROCEDURE

All equipment is installed on site boundaries according to BS 5228.

1.1.3 LIMITS & ACTION LEVELS

To control the environmental parameters alert levels have been set up as per below. Noise 75db first action level second action 80db



1.2 MONITORING DUST | METHODOLOGY

The dust units have been configured to record Particulate Matter (PM) size data continuously at given intervals (see installation details) with a flow rate of 1 litre per minute.

The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometres in diameter pose the greatest problems because they can affect the lungs and heart. Larger particles are of less concern, although they can irritate the eyes, nose, and throat.

- **Fine particles (PM2.5):** Particles less than 2.5 micrometres in diameter are called "fine" particles. Sources of fine particles include all types of combustion, also motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. PM2.5 contains more toxic heavy metals and hazardous organic pollutants and can go directly to the lungs. It is more easily attached to bacteria and viruses in the environment, so the particles have greater impact on ecology and human health.
- **Coarse dust particles:** Particles between 2.5 and 10 micrometres in diameter are referred to as "coarse." Sources of coarse particles include crushing or grinding operations, and dust stirred up by vehicles traveling on roads.

1.2.1 MONITORING EQUIPMENT

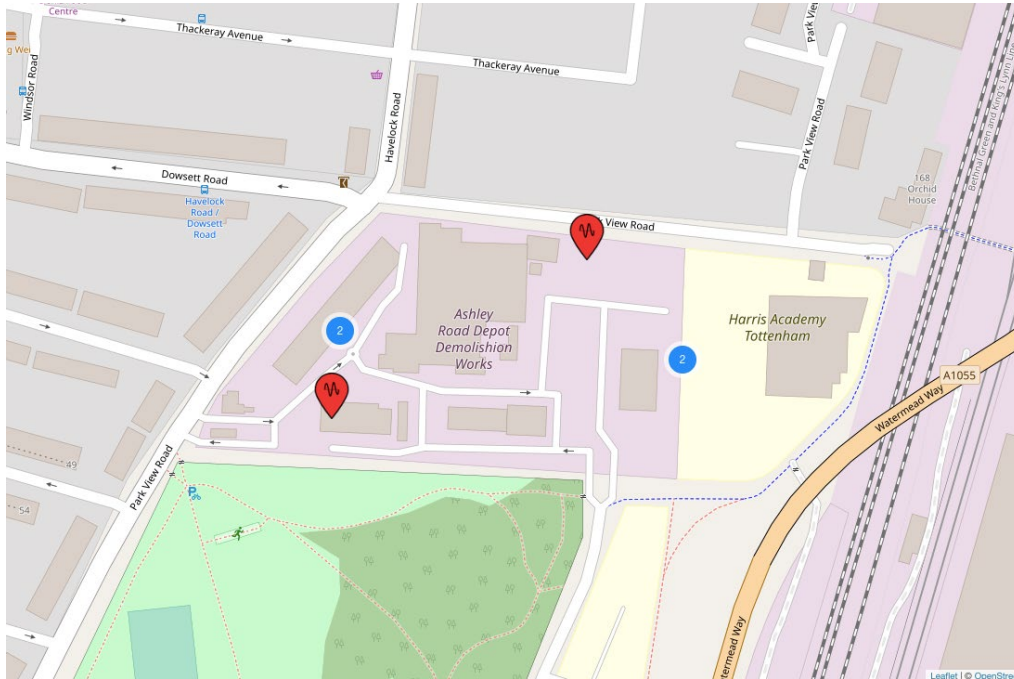
For dust (PM10) monitoring at the ASHLEY ROAD site, we have been using DM30N: Dust & Noise From Sonitus Systems. The system is a fully automated particulate monitor for measuring PM10, PM2.5 and PM1. Designed for continuous monitoring of dust levels this monitor is suitable for all applications. These monitors are certified to the MCERTS Indicate standard as required by Camden Council. Both monitors were last serviced on 13 April 2023, ahead of installation onsite.

1.2.2 MONITORING LOCATIONS

The monitoring locations are submitted have been agreed with the relevant Environmental Health Officer.

Location photos and a map showing the measurement positions are presented on page 6.

- Measurement Position 1: The monitor is positioned at the front of the site.
- Measurement Position 2: The monitor is positioned at the rear of the site



1.2.3 TRIGGER AND ACTION LEVELS

In accordance with the requirements of the planning condition and as detailed in the CMP, early warning 'alert' and 'action' levels have been set and are presented in Table 1 below. The incident response procedure, should a trigger or action level be exceeded is:

1. Informing all on the alert list
2. The actions to be taken should then comprise a method review to see if the operation cannot realistically be modified under the 'best practicable means' principle.
3. If the level identified after review is unavoidable using BPM the next action should include contacting a named person within neighbouring affected property to inform them of the activities and resulting risk and its likely duration.

Table 1 - Trigger and Action Level for PM10

Trigger / Action Level	Trigger / Action Dust Level ($\mu\text{g}/\text{m}^3$)
Alert level (as a 15 minute average)	150 $\mu\text{g}/\text{m}^3$
Action Level (as a 15 minute average)	150 $\mu\text{g}/\text{m}^3$
Action Level (as a 1-hour average)	190 $\mu\text{g}/\text{m}^3$



2. MONITORING WEB-INTERFACE

See appendix Sonitus Cloud enables you to access all your environmental monitoring data in one location from any internet-enabled device. Check real-time data, generate reports, and configure your systems to manage your projects efficiently. The simple interface means anyone can run the projects with simple calendar overviews, detailed daily data, and user-definable alerts. Sonitus Cloud also allows you to set project user and access rights to ensure everyone can see exactly what they need.

FIGURE 2.2 | SONITUS WEB-INTERFACE



Connect from any internet enabled device



User permission rights



Safe and secure



SMS and email alerts



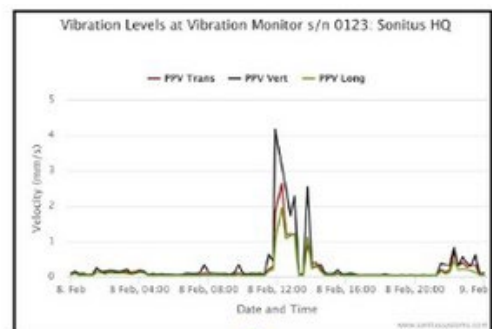
Simple reports



Calendar view



Plot data or see in real time



Monitor	01 Feb	02 Feb	03 Feb	04 Feb	05 Feb	06 Feb	07 Feb	08 Feb	09 Feb	10 Feb
Vibration Monitor s/n 0123 Sonitus HQ								0.69	0.34	0.14
	0.19	0.42	0.40	0.57	4.18	0.57	0.60			
	1.76	0.26	0.25	0.46	132.86	0.54	0.26			
	0.18	0.26	0.78	0.33	0.20	0.39	0.18			
	0.19	0.97	0.37	209.98						

NAME	COMPANY	EMAIL	CALENDAR ACCESS	CHARTS ACCESS	GRID ACCESS	RECORDINGS ACCESS	EMAIL NOTIFICATIONS	SMS NOTIFICATIONS
Daniel User	Sonitus Systems		☒	☒	☒	☒	☒	☒
John Doe	Acme Inc		☒	☒	☒	☒	☒	☒
Tom Simons	Acme Builders		☒	☒	☒	☒	☒	☒

From top to bottom : data plotted over a day,
calendar overview, user right permissions



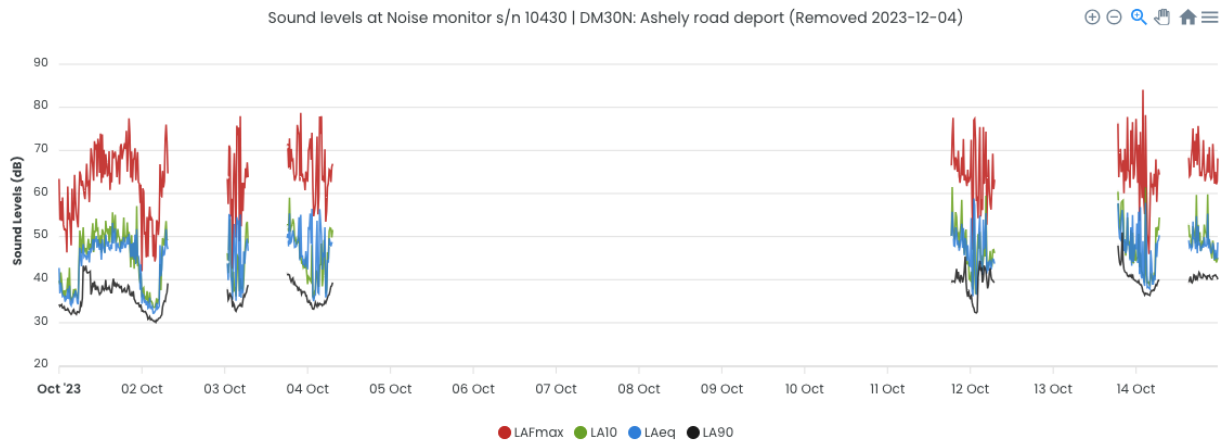
3. NOISE BOX MONITORING RESULTS

The monthly overview displays the noise monitoring results based on a LAeq,10h from 8AM to 6PM, Monday to Friday. The calendar shows the average sound levels of the measured readings and highlights any exceedances. These are calculated based on the limits set on each monitor. More detailed data can be requested via the online web interface.

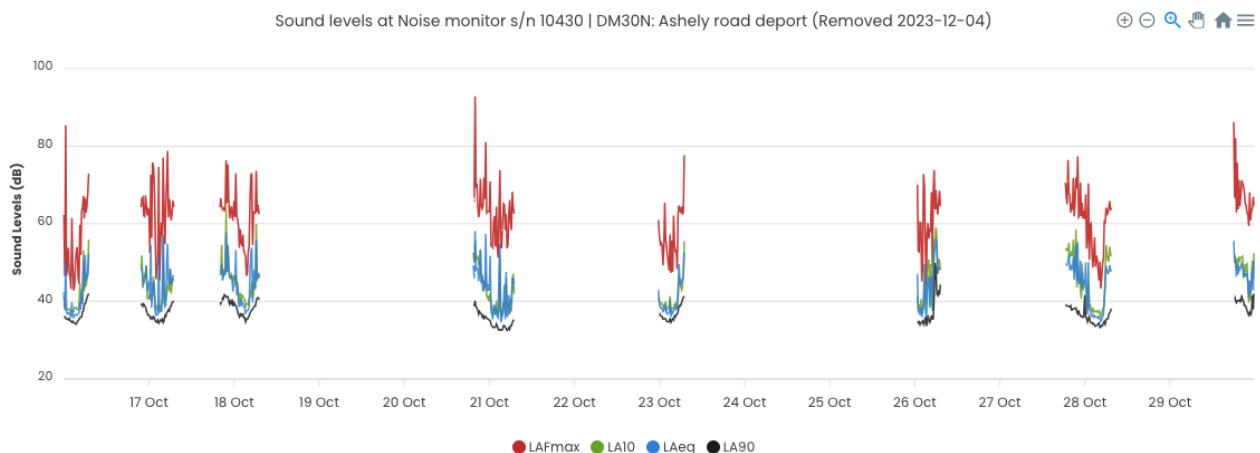
The NOISE results for **ASHLEY ROAD** are below.

3.1 BOX 1 | OCTOBER RESULTS

OCTOBER 1ST TO OCTOBER 15TH



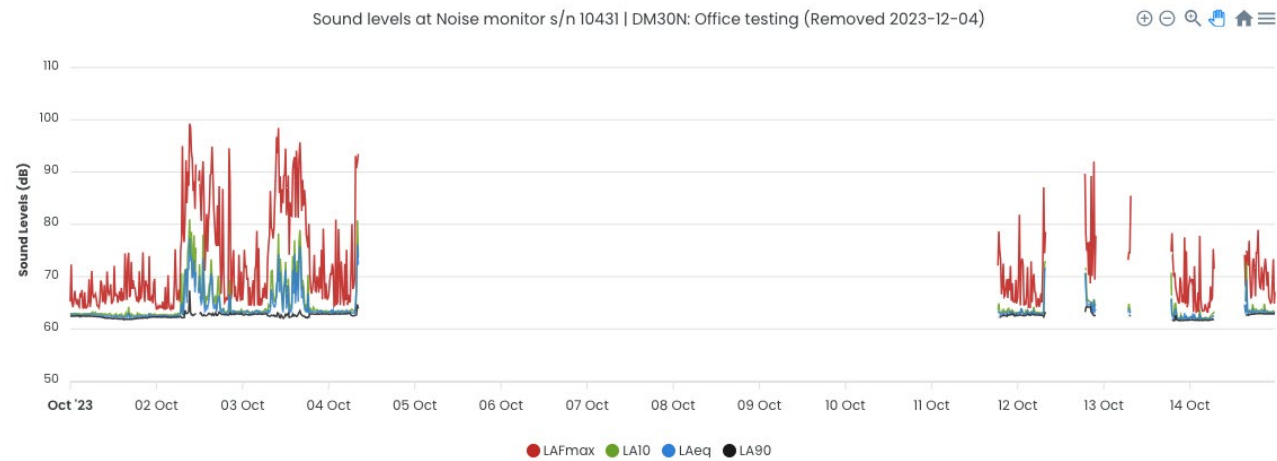
OCTOBER 16TH TO OCTOBER 31ST



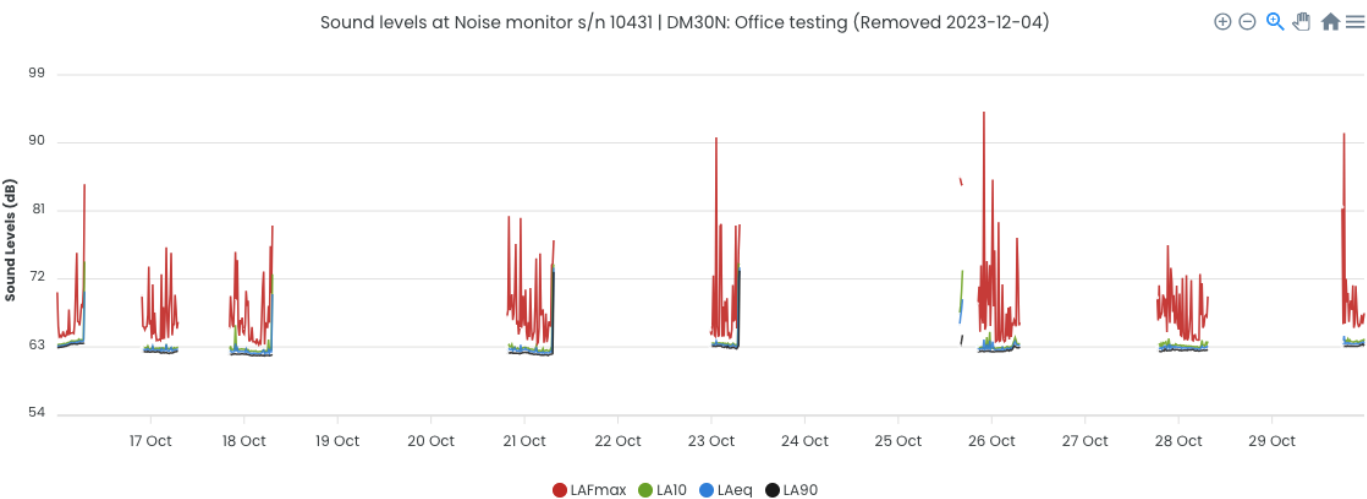


3.2 BOX 2 | OCTOBER RESULTS

OCTOBER 1ST TO OCTOBER 15TH



OCTOBER 16TH TO OCTOBER 31ST





4. DUST BOX MONITORING RESULTS

4.1 BOX 1 | DUST MONITORING RESULTS FOR MEASUREMENT POSITION 1

TABLE 2: SUMMARY OF PM₁₀ DUST MONITORING DAILY HIGH & AVERAGE RESULTS (Measurement Position 1)

OCTOBER 2023*

Date and Time	Interpreted Reading (µg/m³)	Average (µg/m³)	Exceedance ≥ 150 µg/m³ Trigger Level?	Number of Exceedance ≥ 190 µg/m³ Action Level?
01-10-2023 1630	69.99	16.52	N	N
02-10-2023 0730	14.74	7.99	N	N
03-10-2023 2115	16.95	10.59	N	N
04-10-2023 0130	23.52	14.73	N	N
11-10-2023 1945	39.34	27.79	N	N
12-10-2023 0215	18.8	12.31	N	N
14-10-2023 2230	17.33	12.61	N	N
15-10-2023 2045	26.64	8.99	N	N
16-10-2023 0015	12.4	8.93	N	N
17-10-2023 0330	21.58	17.64	N	N
18-10-2023 2215	45.53	22.77	N	N
21-10-2023 0545	35.73	15.96	N	N
23-10-2023 0400	17.41	14.49	N	N
26-10-2023 0530	11.18	12.22	N	N
28-10-2023 0730	81.17	5.67	N	N
30-10-2023 0715	102.74	17.98	N	N

**TABLE 3: SUMMARY OF PM_{2.5} DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 1)**OCTOBER 2023***

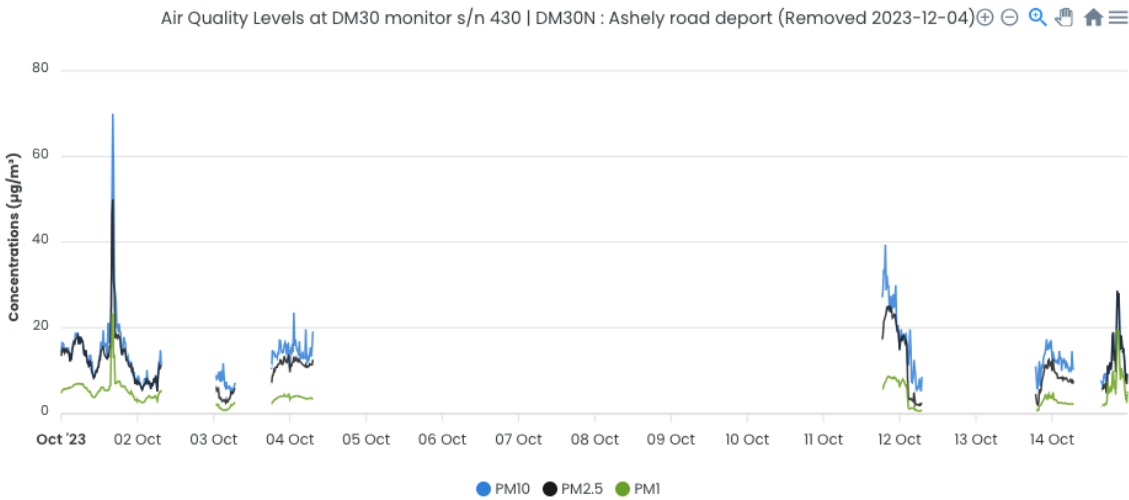
Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-10-2023 1630	41.98	14.89	N	N
02-10-2023 0745	10.71	7.41	N	N
03-10-2023 2230	13.35	7.26	N	N
04-10-2023 0130	13.29	11.65	N	N
11-10-2023 1945	22.64	22.42	N	N
12-10-2023 0215	16.82	8	N	N
14-10-2023 0030	12.6	10.71	N	N
15-10-2023 2045	28.64	7.49	N	N
16-10-2023 0045	11.97	8.18	N	N
17-10-2023 2115	14.9	9.37	N	N
18-10-2023 0730	15.61	12.33	N	N
21-10-2023 0345	17.55	12.19	N	N
23-10-2023 0300	15.46	11.93	N	N
26-10-2023 0315	12.2	11.07	N	N
28-10-2023 0445	5.01	4.28	N	N
30-10-2023 29.51	29.51	12.67	N	N

**TABLE 4: SUMMARY OF PM₁ DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 1)**OCTOBER 2023***

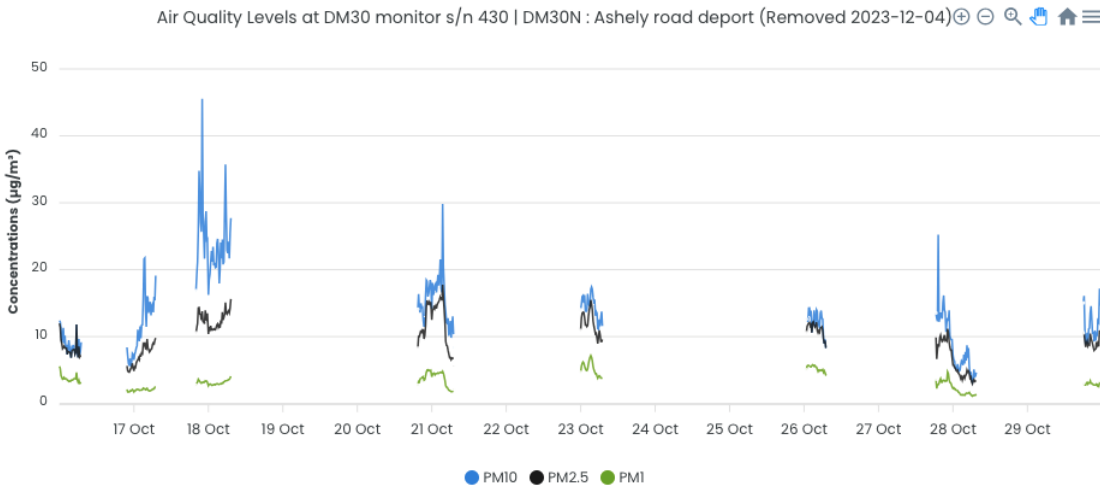
Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-10-2023 1615	23.13	6.31	N	N
02-10-2023 0715	5.45	3.53	N	N
03-10-2023 2345	4.43	2.4	N	N
04-10-2023 0145	3.83	3.87	N	N
11-10-2023 1945	7.3	7.79	N	N
12-10-2023 0215	6.29	2.59	N	N
14-10-2023 2045	19.74	4.89	N	N
15-10-2023	3.16	3.26	N	N
16-10-2023 0015	5.57	8.18	N	N
17-10-2023 2100	3.62	9.37	N	N
18-10-2023 0730	4.80	12.3	N	N
21-10-2023 2245	4.99	12.93	N	N
23-10-2023 0300	7.17	11.93	N	N
26-10-2023 0315	5.73	11.07	N	N
28-10-2023 0515	1.58	4.28	N	N
30-10-2023 0715	4.7	12.67	N	N

TABLE 5: CALENDAR AND DUST MONITORING GRAPHS FOR MEASUREMENT POSITION 1

OCTOBER 1ST TO OCTOBER 15TH



OCTOBER 16TH TO OCTOBER 31ST



MON	TUE	WED	THU	FRI	SAT	SUN
						1 16.52 µg/m³
2 7.88 µg/m³	3 10.59 µg/m³	4 14.73 µg/m³	5	6	7	8
9	10 27.79 µg/m³	11 12.31 µg/m³	12 11.91 µg/m³	13 12.61 µg/m³	14 8.99 µg/m³	15
16 8.93 µg/m³	17 17.64 µg/m³	18 22.77 µg/m³	19 15.06 µg/m³	20 15.96 µg/m³	21	22
23 14.49 µg/m³	24	25 12.22 µg/m³	26 14.44 µg/m³	27 5.67 µg/m³	28 11.34 µg/m³	29
30 17.98 µg/m³	31 14.74 µg/m³					

**TABLE 6: SUMMARY OF NO₂ DAILY HIGH & AVERAGE RESULTS** (Measurement Position 1)**OCTOBER 2023***

Date	Interpreted Reading (µg/m3)	Average (µg/m3)
01-10-20203	36.912	32.667
02-10-20203	37.012	33.091
03-10-20203	39.113	34.266
04-10-20203	33.203	30.375
05-10-20203	32.061	31.111
12-10-20203	35.216	31.899
13-10-20203	35.891	32.156
14-10-20203	32.016	31.060
15-10-20203	37.091	34.910
16-10-20203	32.668	31.202
17-10-20203	33.564	31.689
18-10-20203	36.215	32.125
21-10-20203	30.748	29.912
23-10-20203	30.890	30.102
26-10-20203	34.498	32.354
28-10-20203	37.156	33.041
30-10-20203	34.819	31.479

**note dates not noted were not recorded by the box.*



4.1 BOX 2 | DUST MONITORING RESULTS FOR MEASUREMENT POSITION 2

TABLE 7: SUMMARY OF PM₁₀ DUST MONITORING DAILY HIGH & AVERAGE RESULTS (Measurement Position 2)

OCTOBER 2023*

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-10-2023 2045	84.53	18.58	N	N
02-10-2023 1630	171.19	37.61	N	N
03-10-2023 1800	217.51	44.44	N	N
04-10-2023 0830	76.36	19.43	N	N
12-10-2023 0745	1500	76.86	N	N
13-10-2023 0730	50.14	19.76	N	N
14-10-2023 0430	66.4	14.6	N	N
15-10-2023 2130	56.26	12.86	N	N
16-10-2023 0730	190.65	15.99	N	N
17-10-2023 22000	71.21	20.28	N	N
18-10-2023 0430	49.32	24.66	N	N
21-10-2023 0145	64.51	41.42	N	N
23-10-2023 0730	339.49	19.59	N	N
26-10-2023 0200	35.12	18.66	N	N
28-10-2023 2100	63.28	14.12	N	N
30-10-2023 0715	102.74	23.53	N	N

*note dates not noted were not recorded by the box.

**TABLE 8: SUMMARY OF PM_{2.5} DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 2)**OCTOBER 2023***

Date and Time	Interpreted Reading (µg/m³)	Average (µg/m³)	Exceedance ≥ 150 µg/m³ Trigger Level?	Number of Exceedance ≥ 190 µg/m³ Action Level?
01-10-2023 0530	20.75	16.14	N	N
02-10-2023 1445	36.53	14.32	N	N
03-10-2023 1800	33.08	11.82	N	N
04-10-2023 0830	18.43	12.38	N	N
12-10-2023 0745	445.13	24.86	N	N
13-10-2023 0745	37.07	12.1	N	N
14-10-2023 2100	34.85	10.76	N	N
15-10-2023 2130	31.18	8.7	N	N
16-10-2023 0730	42.24	10.01	N	N
17-10-2023 2200	20.83	10.44	N	N
18-10-2023 0730	20.18	13.46	N	N
21-10-2023 0300	17.55	13.4	N	N
23-10-2023 0715	79.73	17.35	N	N
26-10-2023 0045	15.09	13.81	N	N
28-10-2023 2145	15.86	6.39	N	N
30-10-2023 0715	29.51	14.55	N	N

*note dates not noted were not recorded by the box.

**TABLE 9: SUMMARY OF PM₁ DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 2)**OCTOBER 2023***

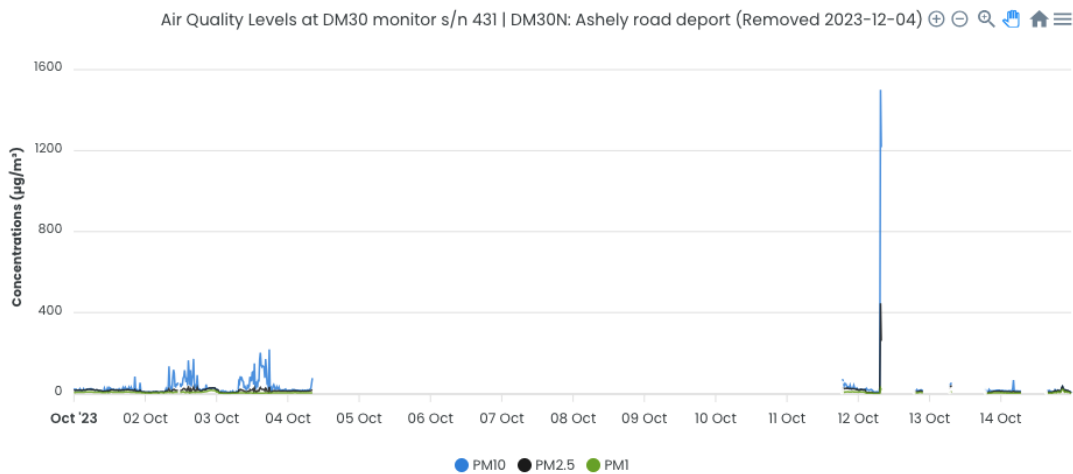
Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-10-2023 1800	8.25	6.43	N	N
02-10-2023 1230	16.43	5.49	N	N
03-10-2023 2100	3.9	2.77	N	N
04-10-2023 0345	4.42	3.72	N	N
12-10-2023 0745	25.61	4.51	N	N
13-10-2023 0745	7.65	3.2	N	N
14-10-2023 2100	19.82	4.66	N	N
15-10-2023 2100	15.06	3.58	N	N
16-10-2023 0715	5.77	4.04	N	N
17-10-2023 2100	4.63	2.84	N	N
18-10-2023 2045	18.93	3.57	N	N
21-10-2023 0200	5.72	4.23	N	N
23-10-2023 0715	7.36	6	N	N
26-10-2023 0100	7.55	6.58	N	N
28-10-2023 2230	6.28	2.35	N	N
30-10-2023 0730	4.7	4.08	N	N

*note dates not noted were not recorded by the box.

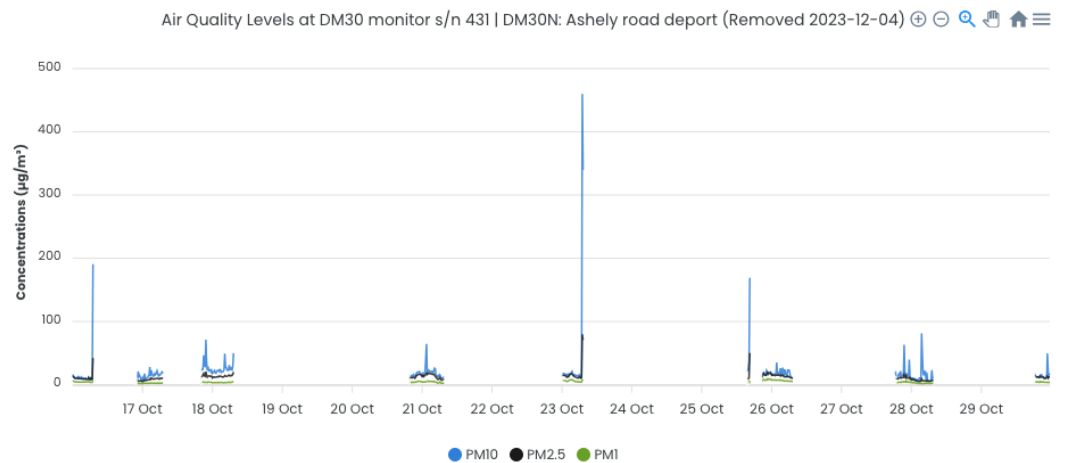


TABLE 10: CALENDAR AND GRAPHS FOR MEASUREMENT POSITION 2

OCTOBER 1ST TO OCTOBER 15TH



OCTOBER 16TH TO OCTOBER 31ST



MON	TUE	WED	THU	FRI	SAT	SUN
						18.58 µg/m³
37.61 µg/m³	44.44 µg/m³	19.43 µg/m³				
		37.26 µg/m³	76.86 µg/m³	19.76 µg/m³	14.6 µg/m³	12.86 µg/m³
15.99 µg/m³	20.28 µg/m³	24.66 µg/m³		16.37 µg/m³	19.59 µg/m³	
41.42 µg/m³		28.78 µg/m³	18.66 µg/m³	19.5 µg/m³	14.12 µg/m³	15.37 µg/m³
23.35 µg/m³	17.43 µg/m³					

**TABLE 11: SUMMARY OF NO₂ DAILY HIGH & AVERAGE RESULTS (Measurement Position 2)****OCTOBER 2023***

Date	Interpreted Reading (µg/m ³)	Average (µg/m ³)
01-10-20203	37.658	33.590
02-10-20203	36.981	31.989
03-10-20203	39.568	34.101
04-10-20203	35.022	31.495
05-10-20203	35.698	32.001
12-10-20203	36.523	32.180
13-10-20203	34.289	31.569
14-10-20203	30.192	29.259
15-10-20203	33.253	31.242
16-10-20203	29.891	28.568
17-10-20203	31.224	30.890
18-10-20203	34.456	31.648
21-10-20203	28.568	26.590
23-10-20203	30.210	29.050
26-10-20203	35.651	33.281
28-10-20203	38.927	35.564
30-10-20203	36.812	32.001

**note dates not noted were not recorded by the box.*



EXECUTIVE SUMMARY

This report is an objective assessment, made by Galcross Engineering to monitor and control the environmental impact of the works for noise, dust and nitrogen dioxide at ASHLEY ROAD.

Exceedance of trigger levels has not taken place

Please note while there are some readings above the trigger limits set for this project they are normal and to be expected due to the location of the site.



APPENDIX I

A.1 The Equipment | DM30N: DUST & NOISE COMBINED

The DM30 air quality monitor from Sonitus Systems is a fully automated particulate monitor for measuring PM10, PM2.5 and PM1 . Designed for continuous monitoring of dust levels this monitor is suitable for all applications.

This monitor has MCERTS for PM10 & PM2.5; MCERTS is the UK Environment Agency's Monitoring Certification Scheme for ambient air quality monitoring equipment.



SIMULTANEOUS MCERTS FOR PM₁₀ & PM_{2.5}



HEATED INLET TO CONTROL MOISTURE IN THE AIR-FLOW, AVOIDING FALSE READINGS



REMOTE, ONLINE REPORTING VIA THE SONITUS CLOUD



OPTION FOR BATTERY POWER



RUGGED, WEATHER-PROOF DESIGN



ADD SLM FOR COMBINED NOISE & DUST MONITORING - DM30N



**Particulate Measurement:**

Parameters: PM_{10} , $PM_{2.5}$ and PM_1

Method: Optical particle counter

Measurement Range: up to $2000 \mu\text{g}/\text{m}^3$

Particulate Range: 0.35 to $40 \mu\text{m}$

Logging:

Measurement Period: 1, 5, 10, 15 or 30 minutes

Hourly & 24 hourly averages calculated online

Power Requirements:

Battery: Portable battery for up to 6 days use

Input: 110 - 240V AC

Consumption: 24W with heater at full power

Communications:

Wi-Fi (user interface)

4G SIM Card: Supplied with each monitor

Physical:

Dimensions: 400mm x 300mm x 150mm with 180mm inlet

Weight: 12kg

Operational Temperature: -10 to 50°C

Humidity Range: 0 to 95% RH

Installation: Supplied with mounting bracket

Data Platform:

Sonitus Cloud: Online platform available on any internet enabled device

Access data 24/7

Automatic report emailed weekly or daily

SMS & Email Alerts

Easily setup user permission rights



A.2 Calibration certificates for Sonitus

Method: Calibration has been performed as set out in Campbell Associates Technical Procedures TP01 & 02 as appropriate. These are based on the procedures for periodic verification set out in BS EN IEC 61672-3:2006. Results and conformance statements are detailed results that are reported in a certificate and can be shown upon request.

A.3 How can particles affect your health?

Long-term exposure, is associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death.

Short-term exposure to particles (hours or days) can aggravate lung disease, cause asthma attacks and acute bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposure is linked to heart attacks and arrhythmias. Healthy children and adults may experience temporary minor irritation when particle levels are elevated.

NOISE & DUST MONITORING REPORT

NOVEMBER 2023

LOCATION:
ASHLEY ROAD

Authored by: Michael O'Dwyer

GALCROSS
Engineering





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1. MONITORING PROCEDURE

1.1 MONITORING NOISE | METHODOLOGY

1.1.1 USED EQUIPMENT

The monitoring equipment is accredited and approved equipment. See Appendix 1.

1.1.2 SETUP PROCEDURE

All equipment is installed on site boundaries according to BS 5228.

1.1.3 LIMITS & ACTION LEVELS

To control the environmental parameters alert levels have been set up as per below. Noise 75db first action level second action 80db



1.2 MONITORING DUST | METHODOLOGY

The dust units have been configured to record Particulate Matter (PM) size data continuously at given intervals (see installation details) with a flow rate of 1 litre per minute.

The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometres in diameter pose the greatest problems because they can affect the lungs and heart. Larger particles are of less concern, although they can irritate the eyes, nose, and throat.

- **Fine particles (PM2.5):** Particles less than 2.5 micrometres in diameter are called "fine" particles. Sources of fine particles include all types of combustion, also motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. PM2.5 contains more toxic heavy metals and hazardous organic pollutants and can go directly to the lungs. It is more easily attached to bacteria and viruses in the environment, so the particles have greater impact on ecology and human health.
- **Coarse dust particles:** Particles between 2.5 and 10 micrometres in diameter are referred to as "coarse." Sources of coarse particles include crushing or grinding operations, and dust stirred up by vehicles traveling on roads.

1.2.1 MONITORING EQUIPMENT

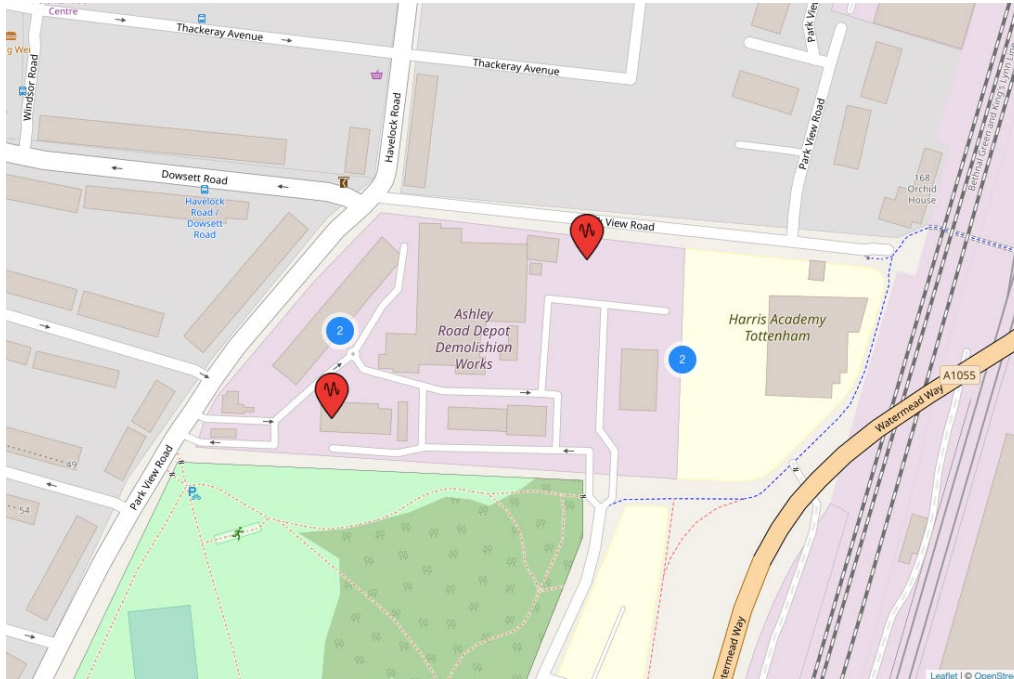
For dust (PM10) monitoring at the ASHLEY ROAD site, we have been using DM30N: Dust & Noise From Sonitus Systems. The system is a fully automated particulate monitor for measuring PM10, PM2.5 and PM1. Designed for continuous monitoring of dust levels this monitor is suitable for all applications. These monitors are certified to the MCERTS Indicate standard as required by Camden Council. Both monitors were last serviced on 13 April 2023, ahead of installation onsite.

1.2.2 MONITORING LOCATIONS

The monitoring locations are submitted have been agreed with the relevant Environmental Health Officer.

Location photos and a map showing the measurement positions are presented on page 6.

- Measurement Position 1: The monitor is positioned at the front of the site.
- Measurement Position 2: The monitor is positioned at the rear of the site



1.2.3 TRIGGER AND ACTION LEVELS

In accordance with the requirements of the planning condition and as detailed in the CMP, early warning 'alert' and 'action' levels have been set and are presented in Table 1 below. The incident response procedure, should a trigger or action level be exceeded is:

1. Informing all on the alert list
2. The actions to be taken should then comprise a method review to see if the operation cannot realistically be modified under the 'best practicable means' principle.
3. If the level identified after review is unavoidable using BPM the next action should include contacting a named person within neighbouring affected property to inform them of the activities and resulting risk and its likely duration.

Table 1 - Trigger and Action Level for PM10

Trigger / Action Level	Trigger / Action Dust Level ($\mu\text{g}/\text{m}^3$)
Alert level (as a 15 minute average)	150 $\mu\text{g}/\text{m}^3$
Action Level (as a 15 minute average)	150 $\mu\text{g}/\text{m}^3$
Action Level (as a 1-hour average)	190 $\mu\text{g}/\text{m}^3$



2. MONITORING WEB-INTERFACE

See appendix Sonitus Cloud enables you to access all your environmental monitoring data in one location from any internet-enabled device. Check real-time data, generate reports, and configure your systems to manage your projects efficiently. The simple interface means anyone can run the projects with simple calendar overviews, detailed daily data, and user-definable alerts. Sonitus Cloud also allows you to set project user and access rights to ensure everyone can see exactly what they need.

FIGURE 2.2 | SONITUS WEB-INTERFACE



Connect from any internet enabled device



User permission rights



Safe and secure



SMS and email alerts



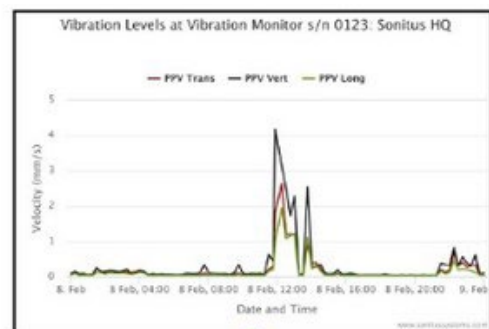
Simple reports



Calendar view



Plot data or see in real time



Monitor	01 Feb	02 Feb	03 Feb	04 Feb	05 Feb	06 Feb	07 Feb	08 Feb	09 Feb	10 Feb
Vibration Monitor s/n 0123 Sonitus HQ								0.69	0.34	0.14
	0.19	0.42	0.40	0.57	4.18	0.57	0.60			
	1.76	0.26	0.25	0.46	132.86	0.54	0.26			
	0.18	0.26	0.78	0.33	0.20	0.39	0.18			
	0.19	0.97	0.37	209.98						

NAME	COMPANY	EMAIL	CALENDAR ACCESS	CHARTS ACCESS	GRID ACCESS	RECORDINGS ACCESS	EMAIL NOTIFICATIONS	SMS NOTIFICATIONS
Dominic User	Sonitus Systems		☒	☒	☒	☒	☒	☒
John Doe	Acme Inc		☒	☒	☒	☒	☒	☒
Tom Simons	Acme Builders		☒	☒	☒	☒	☒	☒

From top to bottom : data plotted over a day,
calendar overview, user right permissions



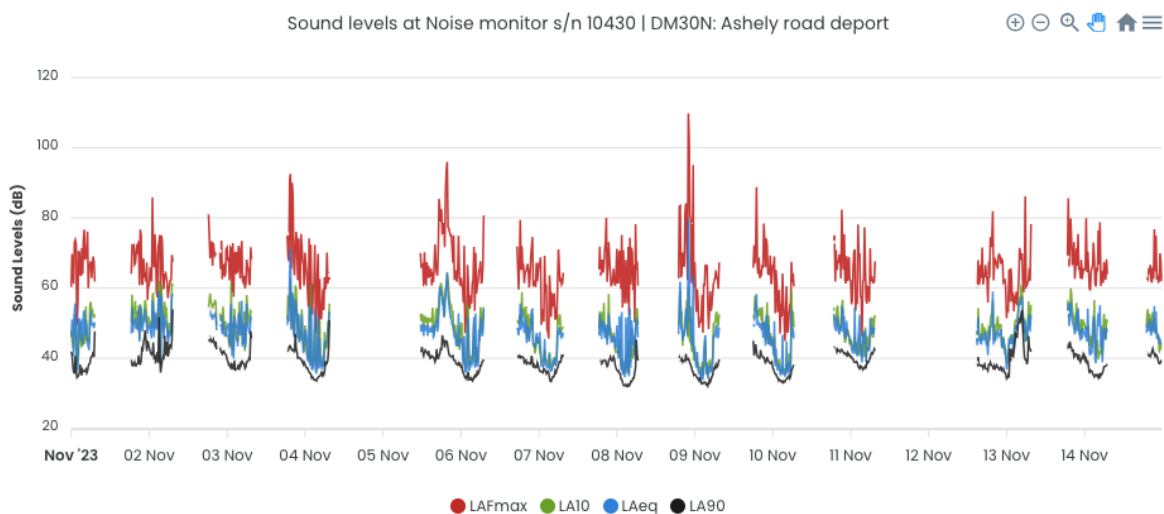
3. NOISE BOX MONITORING RESULTS

The monthly overview displays the noise monitoring results based on a LAeq,10h from 8AM to 6PM, Monday to Friday. The calendar shows the average sound levels of the measured readings and highlights any exceedances. These are calculated based on the limits set on each monitor. More detailed data can be requested via the online web interface.

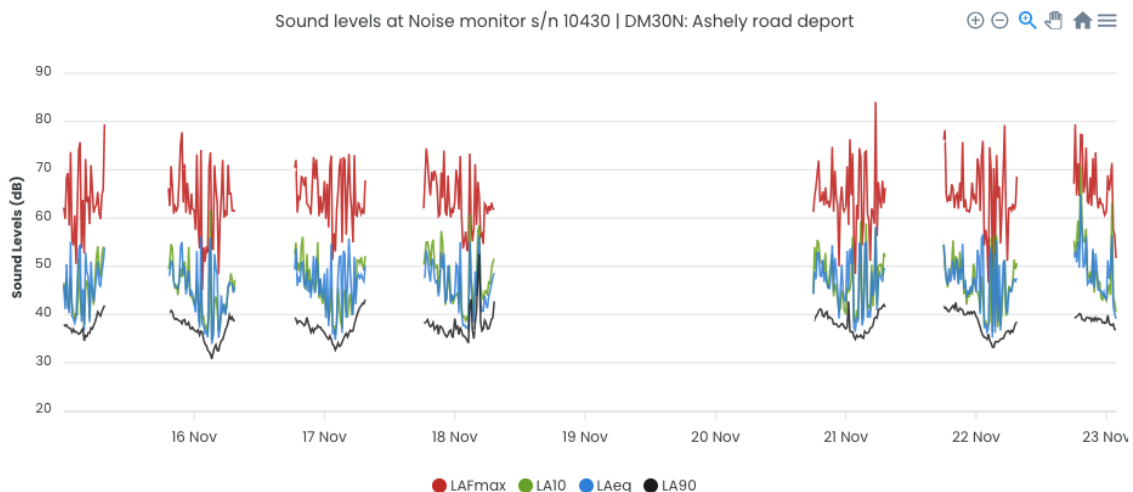
The NOISE results for **ASHLEY ROAD** are below.

3.1 BOX 1 | NOVEMBER RESULTS

NOVEMBER 1ST TO NOVEMBER 15TH



WEEK OF NOVEMBER 16TH TO NOVEMBER 23RD





November 2023

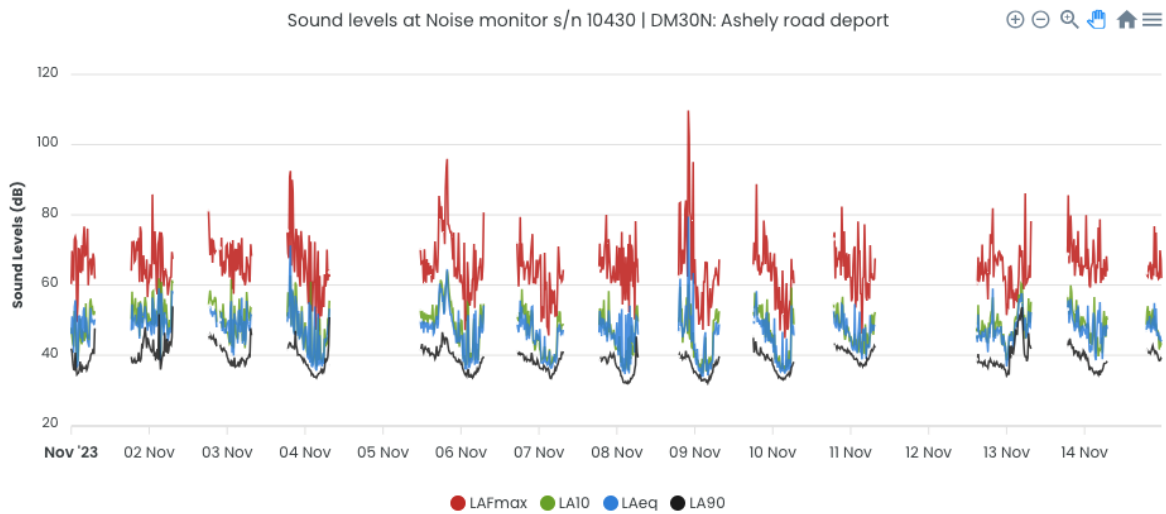


MON	TUE	WED	THU	FRI	SAT	SUN
		1	2	3	4	5
6 48 dB(A)	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

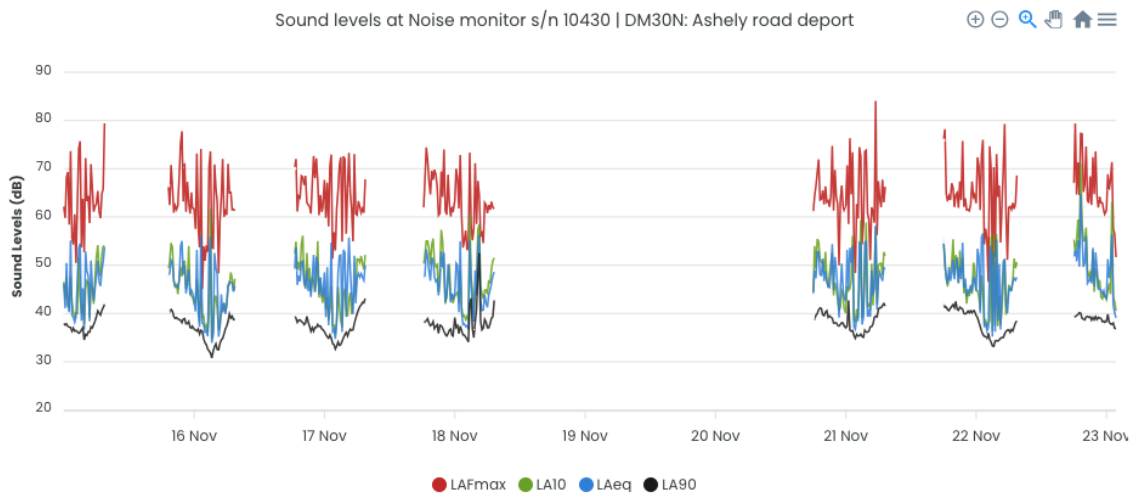


3.2 BOX 2 | NOVEMBER RESULTS

NOVEMBER 1ST TO NOVEMBER 15TH

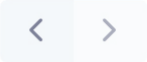


WEEK OF NOVEMBER 16TH TO NOVEMBER 23RD





November 2023



MON	TUE	WED	THU	FRI	SAT	SUN
		1 68.7 dB(A)	2 54.4 dB(A)	3 66.1 dB(A)	4	5
6 65.6 dB(A)	7 59.8 dB(A)	8 73.7 dB(A)	9 67.2 dB(A)	10 63.2 dB(A)	11	12
13 64.7 dB(A)	14 67.2 dB(A)	15 68 dB(A)	16	17 75.4 dB(A)	18	19
20	21	22	23	24	25	26
27	28	29	30			



4. DUST BOX MONITORING RESULTS

4.1 BOX 1 | DUST MONITORING RESULTS FOR MEASUREMENT POSITION 1

TABLE 2: SUMMARY OF PM₁₀ DUST MONITORING DAILY HIGH & AVERAGE RESULTS (Measurement Position 1)

November 2023*

Date and Time	Interpreted Reading (µg/m³)	Average (µg/m³)	Exceedance ≥ 150 µg/m³ Trigger Level?	Number of Exceedance ≥ 190 µg/m³ Action Level?
01-11-2023 07:30	22.38	12.16	N	N
02-11-2023 03:30	16.36	8.94	N	N
03-11-2023 01:30	19.35	14.02	N	N
04-11-2023 01:00	14.47	13.37	N	N
05-11-2023 20:15	20.69	11.15	N	N
06-11-2023 19:30	19.36	12.7	N	N
07-11-2023 22:15	22.17	11.98	N	N
08-11-2023 22:30	50.85	17.66	N	N
09-11-2023 03:15	29.12	14.94	N	N
10-11-2023 03:30	20.66	12.27	N	N
11-11-2023 07:15	10.22	7.59	N	N
12-11-2023 23:30	17.05	7.4	N	N
13-11-2023 17:15	39.43	17.2	N	N
14-11-2023 20:30	18.59	22.23	N	N
15-11-2023 20:30	23.62	15.28	N	N
16-11-2023 03:45	33.05	17.93	N	N
17-11-2023 20:45	34.65	15.67	N	N
20-11-2023 16:15	17.31	9.53	N	N
21-11-2023 07:00	7.55	8.08	N	N
22-11-2023 04:45	19.42	14.9	N	N
23-11-2023 19:00	42.94	7.47	N	N

*No data recorded for 24-11-2023 to 30-11-2023

**TABLE 3: SUMMARY OF PM_{2.5} DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 1)**November 2023***

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-11-2023 21:00	14.89	9.33	N	N
02-11-2023 23:00	12.38	7.04	N	N
03-11-2023 02:00	14.38	10.97	N	N
04-11-2023 01:00	10.99	10.59	N	N
05-11-2023 20:15	20.69	9.74	N	N
06-11-2023 02:30	12.39	9.77	N	N
07-11-2023 21:30	13.28	8.84	N	N
08-11-2023 23:00	43.91	13.05	N	N
09-11-2023 03:00	17.65	11.48	N	N
10-11-2023 19:30	15.51	9.94	N	N
11-11-2023 07:15	6.89	5.84	N	N
12-11-2023 23:45	15.86	5.65	N	N
13-11-2023 23:30	27.66	15.32	N	N
14-11-2023 07:15	28.48	21.42	N	N
15-11-2023 20:15	20.22	11.8	N	N
16-11-2023 03:45	24.53	15.69	N	N
17-11-2023 00:30	14.11	13.07	N	N
20-11-2023 20:15	12.21	6.85	N	N
22-11-2023 04:45	14.51	10.09	N	N
23-11-2023 00:30	8.92	5.3	N	N

*No data recorded for 24-11-2023 to 30-11-2023

**TABLE 4: SUMMARY OF PM₁ DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 1)**Month of November***

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-11-2023 21:00	4.39	2.88	N	N
02-11-2023 23:30	3.75	2.37	N	N
03-11-2023 22:00	4.78	3.28	N	N
04-11-2023 01:00	4.1	3.87	N	N
05-11-2023 20:15	10.7	4.21	N	N
06-11-2023 20:00	4.31	3.25	N	N
07-11-2023 21:30	4.73	3.07	N	N
08-11-2023 22:30	14.42	4.34	N	N
09-11-2023 01:15	5.25	3.56	N	N
10-11-2023 19:30	8.31	3.68	N	N
11-11-2023 00:30	3.02	2.25	N	N
12-11-2023 19:45	7.14	2.13	N	N
13-11-2023 23:30	8.39	5.17	N	N
14-11-2023 22:30	8.32	6.78	N	N
15-11-2023 03:30	3.81	3.94	N	N
16-11-2023 20:45	11.1	6.48	N	N
17-11-2023 21:00	10.95	4.99	N	N
18-11-2023 01:30	2.99	1.79	N	N
19-11-2023	-	-	-	-
20-11-2023 20:00	5.44	2.45	N	N
21-11-2023 23:45	3.54	1.67	N	N
22-11-2023 23:00	4.96	3.33	N	N
23-11-2023 00:30	4.1	3.08	N	N

*No data recorded for 24-11-2023 to 30-11-2023

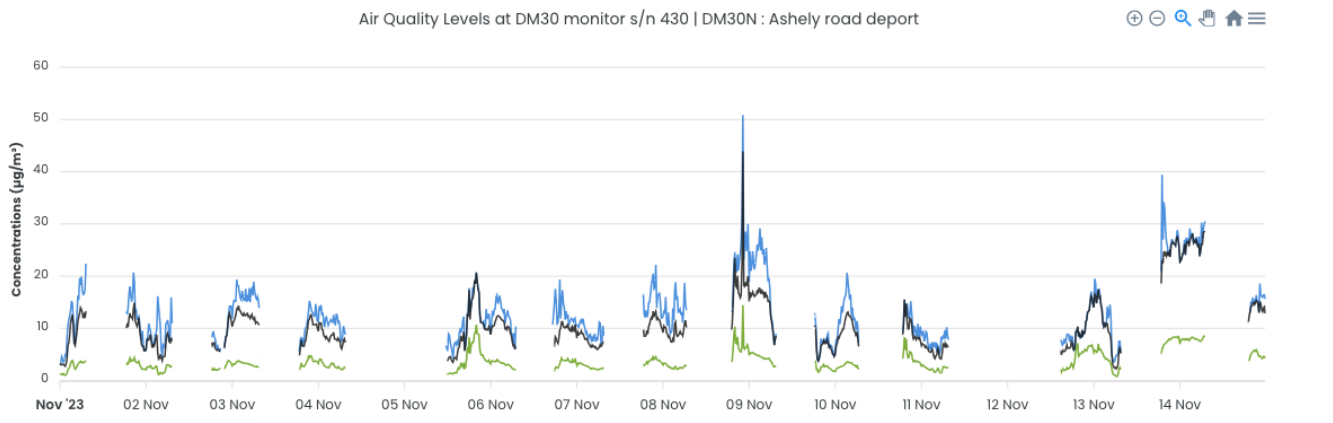


TABLE 5: CALENDAR AND DUST MONITORING GRAPHS FOR MEASUREMENT POSITION 1

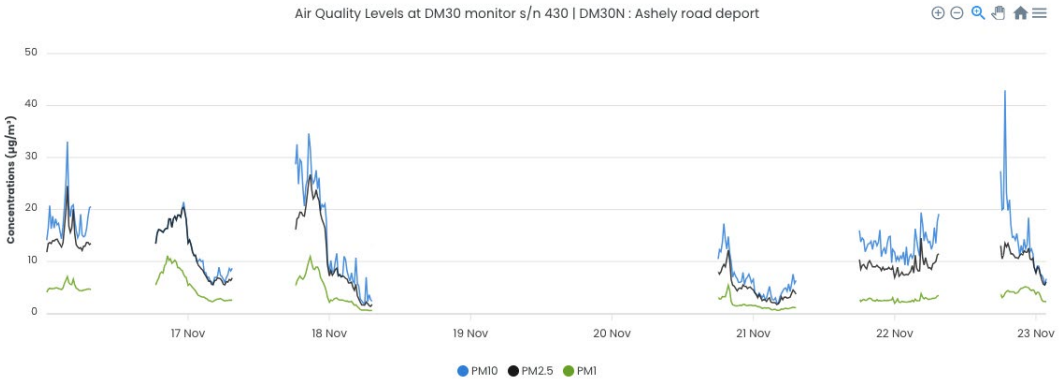
NOVEMBER 2023

MON	TUE	WED	THU	FRI	SAT	SUN
		1	2	3	4	5
		12.16 µg/m³	8.94 µg/m³	14.02 µg/m³	13.37 µg/m³	11.15 µg/m³
6	7	8	9	10	11	12
12.7 µg/m³	11.98 µg/m³	17.66 µg/m³	14.94 µg/m³	12.27 µg/m³	7.59 µg/m³	7.4 µg/m³
13	14	15	16	17	18	19
17.2 µg/m³	22.23 µg/m³	15.28 µg/m³	17.93 µg/m³	15.67 µg/m³	6.53 µg/m³	
20	21	22	23	24	25	26
9.53 µg/m³	8.08 µg/m³	14.9 µg/m³	7.47 µg/m³			
27	28	29	30			

NOVEMBER 1ST TO NOVEMBER 15TH



WEEK OF
NOVEMBER 16TH
TO
NOVEMBER 23RD



**TABLE 6: SUMMARY OF NO₂ DAILY HIGH & AVERAGE RESULTS** (Measurement Position 1)

Month of November*		
Date and Time	Interpreted Reading (µg/m³)	Average (µg/m³)
01-11-2023 13:15	35.651	29.897
02-11-2023 19:50	23.767	17.451
03-11-2023 17:45	33.670	29.501
04-11-2023 12:30	18.698	17.165
05-11-2023 03:30	22.564	21.540
06-11-2023 18:00	24.897	22.630
07-11-2023 18:30	22.569	20.236
08-11-2023 22:30	22.456	20.168
09-11-2023 08:30	21.026	17.003
10-11-2023 08:45	19.678	17.405
11-11-2023 08:30	15.891	15.897
12-11-2023 02:30	25.689	23.894
13-11-2023 09:30	30.238	26.987
14-11-2023 12:00	33.896	29.235
15-11-2023 08:45	29.675	27.659
16-11-2023 09:00	30.221	28.567
17-11-2023 08:30	27.985	27.459
18-11-2023 11:45	33.657	29.024
19-11-2023 17:15	26.832	25.795
20-11-2023 18:30	20.591	21.689
21-11-2023 22:00	22.648	19.897
22-11-2023 15:00	24.987	21.712
23-11-2023 09:30	20.189	18.013

*No data recorded for 24-11-2023 to 30-11-2023

*Temperature range 8°C- 17.9°C



4.1 BOX 2 | DUST MONITORING RESULTS FOR MEASUREMENT POSITION 2

TABLE 7: SUMMARY OF PM₁₀ DUST MONITORING DAILY HIGH & AVERAGE RESULTS (Measurement Position 2)

Month of November*

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-11-2023 07:30	22.38	12.16	N	N
02-11-2023 03:30	16.16	8.94	N	N
03-11-2023 01:30	19.35	14.02	N	N
04-11-2023 01:00	14.47	13.37	N	N
05-11-2023 20:15	20.69	11.15	N	N
06-11-2023 19:30	19.36	12.7	N	N
07-11-2023 22:15	13.28	11.98	N	N
08-11-2023 23:30	43.91	17.66	N	N
09-11-2023 03:15	17.57	14.94	N	N
10-11-2023 19:30	15.51	12.27	N	N
11-11-2023 00:45	6.89	7.59	N	N
12-11-2023 23:30	16.19	7.4	N	N
13-11-2023 23:30	27.66	17.2	N	N
14-11-2023 06:15	30.27	22.23	N	N
15-11-2023 20:00	23.62	15.28	N	N
16-11-2023 03:15	33.05	17.93	N	N
17-11-2023 20:45	34.65	15.67	N	N
18-11-2023 01:30	11.59	6.53	N	N

*No data recorded for 19-11-2023 to 30-11-2023

**TABLE 8: SUMMARY OF PM_{2.5} DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 2)**Month of November***

Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-11-2023 20:45	13.74	9.33	N	N
02-11-2023 23:30	12.87	7.04	N	N
03-11-2023 02:00	14.38	10.97	N	N
04-11-2023 00:00	11.03	10.59	N	N
05-11-2023 20:15	20.69	9.74	N	N
06-11-2023 02:30	12.39	9.77	N	N
07-11-2023 22:15	22.17	8.84	N	N
08-11-2023 22:30	50.85	13.05	N	N
09-11-2023 03:15	22.19	11.48	N	N
10-11-2023 03:30	20.66	9.94	N	N
11-11-2023 23:15	10.22	5.84	N	N
12-11-2023 23:30	16.19	5.65	N	N
13-11-2023 19:15	39.43	15.32	N	N
14-11-2023 07:00	28.5	21.42	N	N
15-11-2023 20:15	20.22	11.8	N	N
16-11-2023 03:45	24.53	15.69	N	N
17-11-2023 21:00	26.74	13.07	N	N
18-11-2023 04:45	5.62	5.07	N	N

*No data recorded for 19-11-2023 to 30-11-2023

**TABLE 9: SUMMARY OF PM₁ DUST MONITORING DAILY HIGH & AVERAGE RESULTS** (Measurement Position 2)**Month of November***

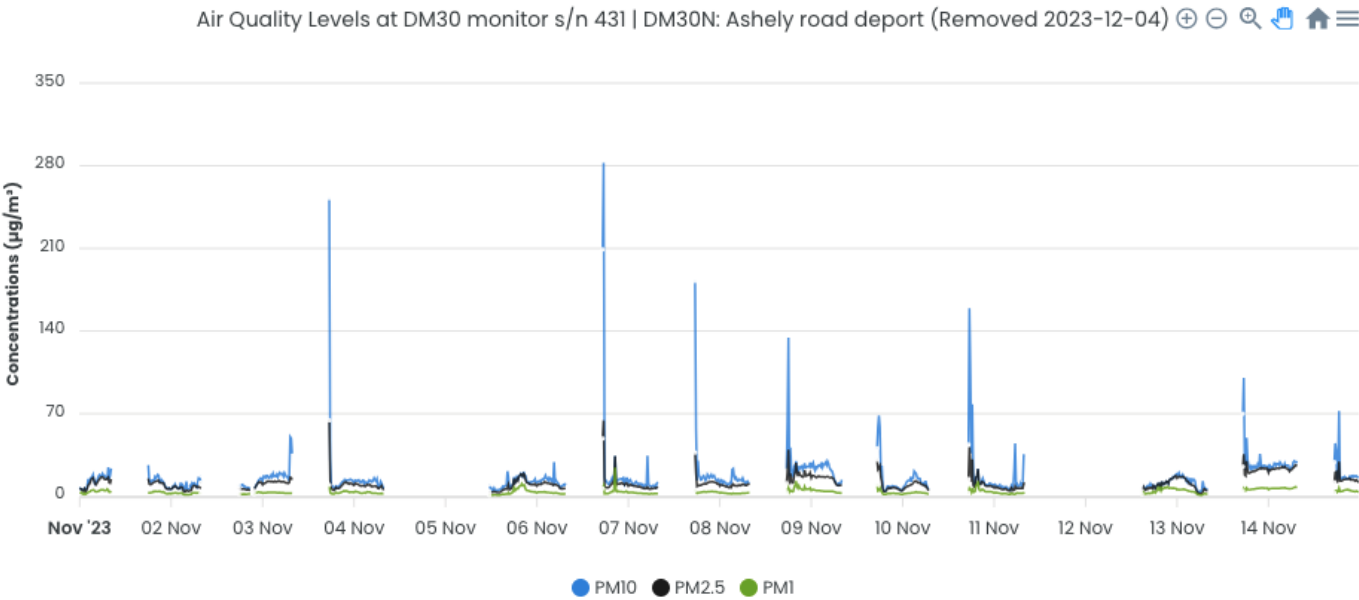
Date and Time	Interpreted Reading (µg/m ³)	Average (µg/m ³)	Exceedance ≥ 150 µg/m ³ Trigger Level?	Number of Exceedance ≥ 190 µg/m ³ Action Level?
01-11-2023 21:00	4.39	2.88	N	N
02-11-2023 23:15	3.8	2.37	N	N
03-11-2023 23:00	4.78	3.28	N	N
04-11-2023 01:00	4.1	3.87	N	N
05-11-2023 20:15	10.7	4.21	N	N
06-11-2023 23:15	4.25	3.25	N	N
07-11-2023 21:00	4.73	3.07	N	N
08-11-2023 23:30	14.42	4.34	N	N
09-11-2023 01:15	5.36	3.56	N	N
10-11-2023 03:45	3.59	3.68	N	N
11-11-2023 19:00	8.3	2.25	N	N
12-11-2023 19:45	7.17	2.13	N	N
13-11-2023 23:30	8.39	5.17	N	N
14-11-2023 07:15	8.56	6.78	N	N
15-11-2023 20:15	8.66	3.94	N	N
16-11-2023 20.45	11.1	6.48	N	N
17-11-2023 21:00	10.04	4.99	N	N
18-11-2023 00:30	2.99	1.79	N	N

*No data recorded for 19-11-2023 to 30-11-2023

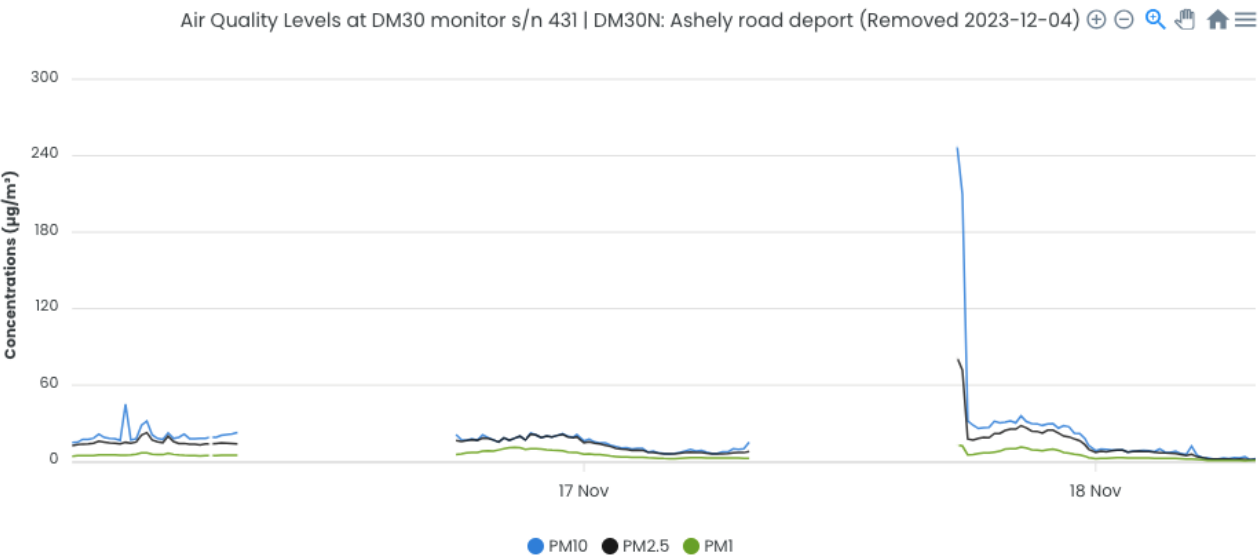


TABLE 10: CALENDAR AND GRAPHS FOR MEASUREMENT POSITION 2

NOVEMBER 1ST TO NOVEMBER 15TH



WEEK OF NOVEMBER 16TH TO NOVEMBER 23RD





MON	TUE	WED	THU	FRI	SAT	SUN
		1 13.55 µg/m³	2 9.02 µg/m³	3 20.7 µg/m³	4 12.27 µg/m³	5 11.22 µg/m³
6 21.87 µg/m³	7 17.07 µg/m³	8 20.74 µg/m³	9 19.14 µg/m³	10 19.25 µg/m³	11 10.9 µg/m³	12 10.27 µg/m³
13 20.33 µg/m³	14 24.05 µg/m³	15 30.43 µg/m³	16 19.77 µg/m³	17 25.08 µg/m³	18 6.25 µg/m³	19
20	21	22	23	24	25	26
27	28	29	30			

**TABLE 11: SUMMARY OF NO₂ DAILY HIGH & AVERAGE RESULTS (Measurement Position 2)**

Month of November*		
Date and Time	Interpreted Reading (µg/m³)	Average (µg/m³)
01-11-2023 12:15	26.989	25.587
02-11-2023 11:30	32.568	28.569
03-11-2023 16:00	26.985	25.867
04-11-2023 10:00	29.864	26.938
05-11-2023 02:00	23.355	24.624
06-11-2023 09:30	35.032	29.462
07-11-2023 15:30	39.472	29.763
08-11-2023 16:30	31.578	29.815
09-11-2023 16:30	20.867	18.298
10-11-2023 10:00	29.604	27.895
11-11-2023 14:00	23.683	16.512
12-11-2023 02:00	18.698	17.894
13-11-2023 09:30	25.748	23.896
14-11-2023 12:00	19.530	17.986
15-11-2023 08:45	31.858	25.122
16-11-2023 09:00	24.022	22.101
17-11-2023 08:30	30.991	28.001
18-11-2023 11:45	29.123	26.023

*No data recorded for 19-11-2023 to 30-11-2023

*temperature range 8°C to 17.9°C



EXECUTIVE SUMMARY

This report is an objective assessment, made by Galcross Engineering to monitor and control the environmental impact of the works for noise, dust and nitrogen dioxide at [ASHLEY ROAD.](#)

Exceedance of trigger levels [has not](#) taken place

Please note while there are some readings above the trigger limits set for this project they are normal and to be expected due to the location of the site.



APPENDIX I

A.1 The Equipment | DM30N: DUST & NOISE COMBINED

The DM30 air quality monitor from Sonitus Systems is a fully automated particulate monitor for measuring PM10, PM2.5 and PM1 . Designed for continuous monitoring of dust levels this monitor is suitable for all applications.

This monitor has MCERTS for PM10 & PM2.5; MCERTS is the UK Environment Agency's Monitoring Certification Scheme for ambient air quality monitoring equipment.



SIMULTANEOUS MCERTS FOR PM₁₀ & PM_{2.5}



HEATED INLET TO CONTROL MOISTURE IN THE AIR-FLOW, AVOIDING FALSE READINGS



REMOTE, ONLINE REPORTING VIA THE SONITUS CLOUD



OPTION FOR BATTERY POWER



RUGGED, WEATHER-PROOF DESIGN



ADD SLM FOR COMBINED NOISE & DUST MONITORING - DM30N



**Particulate Measurement:**

Parameters: PM_{10} , $PM_{2.5}$ and PM_1

Method: Optical particle counter

Measurement Range: up to $2000 \mu\text{g}/\text{m}^3$

Particulate Range: 0.35 to $40 \mu\text{m}$

Logging:

Measurement Period: 1, 5, 10, 15 or 30 minutes

Hourly & 24 hourly averages calculated online

Power Requirements:

Battery: Portable battery for up to 6 days use

Input: 110 - 240V AC

Consumption: 24W with heater at full power

Communications:

Wi-Fi (user interface)

4G SIM Card: Supplied with each monitor

Physical:

Dimensions: 400mm x 300mm x 150mm with 180mm inlet

Weight: 12kg

Operational Temperature: -10 to 50°C

Humidity Range: 0 to 95% RH

Installation: Supplied with mounting bracket

Data Platform:

Sonitus Cloud: Online platform available on any internet enabled device

Access data 24/7

Automatic report emailed weekly or daily

SMS & Email Alerts

Easily setup user permission rights



A.2 Calibration certificates for Sonitus

Method: Calibration has been performed as set out in Campbell Associates Technical Procedures TP01 & 02 as appropriate. These are based on the procedures for periodic verification set out in BS EN IEC 61672-3:2006. Results and conformance statements are detailed results that are reported in a certificate and can be shown upon request.

A.3 How can particles affect your health?

Long-term exposure, is associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death.

Short-term exposure to particles (hours or days) can aggravate lung disease, cause asthma attacks and acute bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposure is linked to heart attacks and arrhythmias. Healthy children and adults may experience temporary minor irritation when particle levels are elevated.

Appendix 3



Plot	House Number	Street / Address Line 2	Total Floor Area	Heat Network Fuel Requirement	Heat Network Water Heating Fuel Requirement
1	A1.00.01	Ashley Road Depot	89.1	1521.78	3913.47
2	A1.00.02	Ashley Road Depot	113.3	1073.36	4072.8
3	A1.00.03	Ashley Road Depot	110.9	2485.45	4063.3
4	A1.00.04	Ashley Road Depot	107.4	1091.19	4047.49
5	N/A	Ashley Road Depot	53	318.47	2997.13
6	A1.02.01	Ashley Road Depot	52	25.77	2978.55
7	A1.02.02	Ashley Road Depot	58	175.49	3089.13
8	A1.02.03	Ashley Road Depot	72	148.64	3321.72
9	A1.02.04	Ashley Road Depot	72	17.67	3321.72
10	A1.02.05	Ashley Road Depot	53	36.15	2997.13
11	A1.03.01	Ashley Road Depot	52	25.77	2978.55
12	N/A	Ashley Road Depot	58	175.49	3089.13
13	A1.03.03	Ashley Road Depot	72	148.64	3321.72
14	A1.03.04	Ashley Road Depot	72	17.67	3321.72
15	A1.03.05	Ashley Road Depot	53	36.15	2997.13
16	A1.04.01	Ashley Road Depot	52	694.02	2978.55
17	A1.04.02	Ashley Road Depot	58	760.82	3089.13
18	A1.04.03	Ashley Road Depot	72	778.26	3321.72
19	A1.04.04	Ashley Road Depot	72	621.28	3321.72
20	A1.04.05	Ashley Road Depot	53	475.44	2997.13
21	A2.00.01	Ashley Road Depot	96	587.24	3975.8
22	A2.00.02	Ashley Road Depot	96	359.79	3975.8
23	A2.00.03	Ashley Road Depot	96	418.9	3975.8
24	A2.00.04	Ashley Road Depot	96	688.75	3975.8
25	A2.00.05	Ashley Road Depot	96	508.12	3975.8
26	A2.00.06	Ashley Road Depot	98	356.16	3990.97
27	A2.01.01	Ashley Road Depot	71	1276.25	3306.89
28	A2.02.01	Ashley Road Depot	96	799.1	3975.8
29	A2.02.02	Ashley Road Depot	96	574.72	3975.8
30	A2.02.03	Ashley Road Depot	96	574.72	3975.8
31	A2.02.04	Ashley Road Depot	96	574.72	3975.8
32	A2.02.05	Ashley Road Depot	71	71.75	3306.89
33	A2.02.06	Ashley Road Depot	96	618.49	3975.8
34	A2.02.07	Ashley Road Depot	98	571.32	3990.97
35	A2.03.01	Ashley Road Depot	71	619.75	3306.89
36	A3.00.01	Ashley Road Depot	98	486.74	3990.97
37	A3.00.02	Ashley Road Depot	98	313.99	3990.97
38	A3.00.03	Ashley Road Depot	98	465.1	3990.97
39	A3.00.04	Ashley Road Depot	80	365.97	3428.32
40	A3.01.01	Ashley Road Depot	51	1859.62	2959.96
41	A3.01.02	Ashley Road Depot	53	222.3	2997.13
42	A3.02.01	Ashley Road Depot	94	343.93	3563.01
43	A3.02.02	Ashley Road Depot	53	222.3	2997.13
44	A3.02.03	Ashley Road Depot	101	55.23	4011.51
45	A3.02.04	Ashley Road Depot	101	55.23	4011.51
46	A3.03.01	Ashley Road Depot	94	121.18	3563.01
47	A3.03.02	Ashley Road Depot	53	222.3	2997.13

48	A3.03.03	Ashley Road Depot	101	156.39	4011.51
49	A3.03.04	Ashley Road Depot	101	55.23	4011.51
50	A3.04.01	Ashley Road Depot	94	121.18	3563.01
51	A3.04.02	Ashley Road Depot	53	222.3	2997.13
52	A3.04.03	Ashley Road Depot	101	156.39	4011.51
53	A3.04.04	Ashley Road Depot	101	55.23	4011.51
54	A3.05.01	Ashley Road Depot	94	1737.88	3563.01
55	A3.05.02	Ashley Road Depot	53	832.19	2997.13
56	A3.05.03	Ashley Road Depot	101	1004.65	4011.51
57	A3.05.04	Ashley Road Depot	101	842.75	4011.51
58	A4.01.01	Ashley Road Depot	62	1042.51	3160.34
59	A4.01.02	Ashley Road Depot	92	1192.43	3941.65
60	A4.01.03	Ashley Road Depot	72	1739.98	3321.72
61	A4.02.01	Ashley Road Depot	90	75.07	3922.54
62	A4.02.02	Ashley Road Depot	92	70.46	3941.65
63	A4.02.03	Ashley Road Depot	72	559.17	3321.72
64	A4.03.01	Ashley Road Depot	90	75.07	3922.54
65	A4.03.02	Ashley Road Depot	92	70.46	3941.65
66	A4.03.03	Ashley Road Depot	72	559.17	3321.72
67	A4.04.01	Ashley Road Depot	90	75.07	3922.54
68	A4.04.02	Ashley Road Depot	92	70.46	3941.65
69	A4.04.03	Ashley Road Depot	72	559.17	3321.72
70	A4.05.01	Ashley Road Depot	90	75.07	3922.54
71	A4.05.02	Ashley Road Depot	92	70.46	3941.65
72	A4.05.03	Ashley Road Depot	72	559.17	3321.72
73	A4.06.01	Ashley Road Depot	90	661.42	3922.54
74	A4.06.02	Ashley Road Depot	92	766.56	3941.65
75	A4.06.03	Ashley Road Depot	72	1259.17	3321.72
76	A5.00.01	Ashley Road Depot	122	512.49	4099.94
77	A5.00.02	Ashley Road Depot	122	290.14	4099.94
78	N/A	N/A	122	290.14	4099.94
79	A5.00.04	Ashley Road Depot	122	570.62	4099.94
80	A5.00.05	Ashley Road Depot	120	627.51	4094.57
81	A5.00.06	Ashley Road Depot	66	382.67	3574.64
82	A5.00.07	Ashley Road Depot	120	290.52	4094.57
83	A5.01.01	Ashley Road Depot	122	290.14	4099.94
84	A5.02.01	Ashley Road Depot	103	894.4	4023.83
85	A5.02.02	Ashley Road Depot	103	772.16	4023.83
86	A5.02.03	Ashley Road Depot	103	772.16	4023.83
87	A5.02.04	Ashley Road Depot	103	772.16	4023.83
88	A5.02.05	Ashley Road Depot	104	736.83	4029.61
89	A5.02.06	Ashley Road Depot	103	675.9	4023.83
90	A5.02.07	Ashley Road Depot	103	675.9	4023.83
91	A5.02.08	Ashley Road Depot	103	675.9	4023.83
92	B1.00.01	Ashley Road Depot	134	506.42	4124.52
93	B1.00.02	Ashley Road Depot	122	267.7	4099.94
94	B1.00.03	Ashley Road Depot	122	267.7	4099.94
95	B1.00.04	Ashley Road Depot	122	267.7	4099.94
96	B1.00.05	Ashley Road Depot	122	321.19	4099.94
97	B1.00.06	Ashley Road Depot	138	1448.85	4130.68

98	B1.00.07	Ashley Road Depot	134	862.44	4124.52
99	B1.00.08	Ashley Road Depot	134	713.9	4124.52
100	B1.01.01	Ashley Road Depot	75	829.45	3730.97
101	B1.01.02	Ashley Road Depot	88	971.82	3901.99
102	B1.02.01	Ashley Road Depot	113	839.4	4071.67
103	B1.02.02	Ashley Road Depot	103	615.55	4023.83
104	B1.02.03	Ashley Road Depot	103	615.55	4023.83
105	B1.02.04	Ashley Road Depot	103	615.55	4023.83
106	B1.02.05	Ashley Road Depot	103	615.55	4023.83
107	B1.02.06	Ashley Road Depot	125	2339.3	4107.19
108	B1.02.07	Ashley Road Depot	75	130.79	3730.97
109	B1.02.08	Ashley Road Depot	88	39.04	3901.99
110	B1.02.09	Ashley Road Depot	112	78.41	4067.78
111	B1.03.01	Ashley Road Depot	75	768.52	3730.97
112	B1.03.02	Ashley Road Depot	88	935.08	3901.99
113	B1.03.03	Ashley Road Depot	112	652.21	4067.78
114	B2.00.01	Ashley Road Depot	77	592.13	3390.9
115	B2.00.02	Ashley Road Depot	80	368.65	3428.32
116	B2.00.03	Ashley Road Depot	110	452	4059.46
117	N/A	N/A	110	684.08	4059.46
118	B2.01.01	Ashley Road Depot	62	735.77	3496.68
119	B2.01.02	Ashley Road Depot	75	988.92	3730.97
120	B2.01.03	Ashley Road Depot	73	517.36	3698.78
121	B2.01.04	Ashley Road Depot	72	725.83	3682.12
122	B2.02.01	Ashley Road Depot	62	107.43	3496.68
123	B2.02.02	Ashley Road Depot	75	181.15	3730.97
124	B2.02.03	Ashley Road Depot	52	867.79	3287.77
125	B2.02.04	Ashley Road Depot	73	36.58	3698.78
126	B2.02.05	Ashley Road Depot	61	18.57	3476.54
127	B2.02.06	Ashley Road Depot	55	11.39	3034.18
128	B2.02.07	Ashley Road Depot	54	12.32	3015.68
129	B2.02.08	Ashley Road Depot	54	12.31	3015.68
130	B2.02.09	Ashley Road Depot	94	12.59	3959.39
131	B2.03.01	Ashley Road Depot	62	107.43	3496.68
132	B2.03.02	Ashley Road Depot	75	181.15	3730.97
133	B2.03.03	Ashley Road Depot	52	306.68	3287.77
134	B2.03.04	Ashley Road Depot	73	36.58	3698.78
135	B2.03.05	Ashley Road Depot	61	18.57	3476.54
136	B2.03.06	Ashley Road Depot	55	15.71	3034.18
137	B2.03.07	Ashley Road Depot	54	12.32	3015.68
138	B2.03.08	Ashley Road Depot	54	12.31	3015.68
139	B2.03.09	Ashley Road Depot	94	12.59	3959.39
140	B2.04.01	Ashley Road Depot	62	107.43	3496.68
141	B2.04.02	Ashley Road Depot	75	181.15	3730.97
142	B2.04.03	Ashley Road Depot	52	306.68	3287.77
143	B2.04.04	Ashley Road Depot	73	36.58	3698.78
144	B2.04.05	Ashley Road Depot	61	18.57	3476.54
145	B2.04.06	Ashley Road Depot	55	11.39	3034.18
146	B2.04.07	Ashley Road Depot	54	12.32	3015.68
147	B2.04.08	Ashley Road	54	12.31	3015.68

148	B2.04.09	Ashley Road Depot	94	79.15	3959.39
149	B2.05.01	Ashley Road Depot	62	107.43	3496.68
150	B2.05.02	Ashley Road Depot	75	181.15	3730.97
151	B2.05.03	Ashley Road Depot	52	306.68	3287.77
152	B2.05.04	Ashley Road Depot	73	59.75	3698.78
153	B2.05.05	Ashley Road Depot	61	18.57	3476.54
154	B2.05.06	Ashley Road Depot	55	549.81	3034.18
155	B2.05.07	Ashley Road Depot	54	555.25	3015.68
156	B2.05.08	Ashley Road Depot	54	555.09	3015.68
157	B2.05.09	Ashley Road Depot	94	748.67	3959.39
158	B2.06.01	Ashley Road Depot	62	107.43	3496.68
159	B2.06.02	Ashley Road Depot	75	181.15	3730.97
160	B2.06.03	Ashley Road Depot	52	306.68	3287.77
161	B2.06.04	Ashley Road Depot	73	36.58	3698.78
162	B2.06.05	Ashley Road Depot	61	114.73	3476.54
163	B2.07.01	Ashley Road Depot	62	107.43	3496.68
164	B2.07.02	Ashley Road Depot	75	181.15	3730.97
165	B2.07.03	Ashley Road Depot	52	306.68	3287.77
166	B2.07.04	Ashley Road Depot	73	36.58	3698.78
167	B2.07.05	Ashley Road Depot	61	114.73	3476.54
168	B2.08.01	Ashley Road Depot	62	107.43	3496.68
169	B2.08.02	Ashley Road Depot	75	181.15	3730.97
170	B2.08.03	Ashley Road Depot	52	306.68	3287.77
171	B2.08.04	Ashley Road Depot	73	36.58	3698.78
172	B2.08.05	Ashley Road Depot	61	114.73	3476.54
173	B2.09.01	Ashley Road Depot	62	107.43	3496.68
174	B2.09.02	Ashley Road Depot	75	181.15	3730.97
175	B2.09.03	Ashley Road Depot	52	306.68	3287.77
176	B2.09.04	Ashley Road Depot	73	36.58	3698.78
177	B2.09.05	Ashley Road Depot	61	114.73	3476.54
178	B2.10.01	Ashley Road Depot	62	107.43	3496.68
179	B2.10.02	Ashley Road Depot	75	181.15	3730.97
180	B2.10.03	Ashley Road Depot	52	306.68	3287.77
181	B2.10.04	Ashley Road Depot	73	36.58	3698.78
182	B2.10.05	Ashley Road Depot	61	114.73	3476.54
183	B2.11.01	Ashley Road Depot	62	107.43	3496.68
184	B2.11.02	Ashley Road Depot	75	181.15	3730.97
185	B2.11.03	Ashley Road Depot	52	1793.71	3287.77
186	B2.11.04	Ashley Road Depot	73	36.58	3698.78
187	B2.11.05	Ashley Road Depot	61	114.73	3476.54
188	B2.12.01	Ashley Road Depot	62	689.11	3496.68
189	B2.12.02	Ashley Road Depot	75	896.71	3730.97
190	B2.12.03	Ashley Road Depot	52	792.88	3287.77
191	B2.12.04	Ashley Road Depot	73	612.47	3698.78
192	B2.12.05	Ashley Road Depot	61	633.55	3476.54
193	B3.00.01	Ashley Road Depot	96	804.37	3975.8
194	B3.00.02	Ashley Road Depot	96	546.92	3975.8
195	B3.00.03	Ashley Road Depot	96	546.92	3975.8
196	B3.00.04	Ashley Road Depot	96	546.92	3975.8
197	B3.00.05	Ashley Road Depot	73	617.42	3336.22

198	B3.00.06	Ashley Road Depot	73	649.15	3336.22
199	B3.01.01	Ashley Road Depot	71	850.18	3306.89
200	B3.02.01	Ashley Road Depot	96	1167.97	3975.8
201	B3.02.02	Ashley Road Depot	96	884.17	3975.8
202	B3.02.03	Ashley Road Depot	96	884.17	3975.8
203	B3.02.04	Ashley Road Depot	96	884.17	3975.8
204	B3.02.05	Ashley Road Depot	71	92.22	3306.89
205	B3.02.06	Ashley Road Depot	100	21.67	4004.94
206	B3.03.01	Ashley Road Depot	71	692.59	3306.89
207	B3.03.02	Ashley Road Depot	100	916.88	4004.94
208	C1.00.01_Copy	Ashley Road Depot	116	1983.69	4082.36
209	C1.00.02_Copy	Ashley Road Depot	91	543.37	3539.41
210	C1.00.03_Copy	Ashley Road Depot	91	543.37	3539.41
211	C1.01.01_Copy	Ashley Road Depot	103	960.79	4023.83
212	C1.01.02_Copy	Ashley Road Depot	70	773.86	3647.68
213	C1.01.03_Copy	Ashley Road Depot	73	978.69	3336.22
214	C1.02.01_Copy	Ashley Road Depot	124	171.69	4104.87
215	C1.02.02_Copy	Ashley Road Depot	103	25.12	4023.83
216	C1.02.03_Copy	Ashley Road Depot	70	164.66	3647.68
217	C1.02.04_Copy	Ashley Road Depot	65	217.64	3364.81
218	C1.02.06_Copy	Ashley Road Depot	73	79.42	3336.22
219	C1.03.01_Copy	Ashley Road Depot	124	171.69	4104.87
220	C1.03.02_Copy	Ashley Road Depot	103	25.12	4023.83
221	C1.03.03_Copy	Ashley Road Depot	70	177.75	3647.68
222	C1.03.04_Copy	Ashley Road Depot	65	217.64	3364.81
223	C1.03.06_Copy	Ashley Road Depot	73	79.42	3336.22
224	C1.04.01_Copy	Ashley Road Depot	124	1198.52	4104.87
225	C1.04.02_Copy	Ashley Road Depot	103	1067.88	4023.83
226	C1.04.03_Copy	Ashley Road Depot	70	903.65	3647.68
227	C1.04.04_Copy	Ashley Road Depot	65	753.25	3364.81
228	C1.04.05_Copy	Ashley Road Depot	73	600.55	3336.22
229	C2.01.01_Copy	Ashley Road Depot	71	741.32	3665.08
230	C2.01.02_Copy	Ashley Road Depot	75	1073.85	3730.97
231	C2.01.03_Copy	Ashley Road Depot	72	1101.41	3682.12
232	C2.01.04_Copy	Ashley Road Depot	52	568.43	3287.77
233	C2.02.01_Copy	Ashley Road Depot	71	89.93	3665.08
234	C2.02.02_Copy	Ashley Road Depot	75	242.17	3730.97
235	C2.02.03_Copy	Ashley Road Depot	54	1080.09	3330.45
236	C2.02.04_Copy	Ashley Road Depot	72	164.82	3682.12
237	C2.02.05_Copy	Ashley Road Depot	52	54.99	3287.77
238	C2.03.01_Copy	Ashley Road Depot	71	89.93	3665.08
239	C2.03.02_Copy	Ashley Road Depot	75	242.17	3730.97
240	C2.03.03_Copy	Ashley Road Depot	54	200.03	3330.45
241	C2.03.04_Copy	Ashley Road Depot	72	164.82	3682.12
242	C2.03.05_Copy	Ashley Road Depot	52	51.58	3287.77
243	C2.04.01_Copy	Ashley Road Depot	71	89.93	3665.08
244	C2.04.02_Copy	Ashley Road Depot	75	242.17	3730.97
245	C2.04.03_Copy	Ashley Road Depot	54	200.03	3330.45
246	C2.04.04_Copy	Ashley Road Depot	72	164.82	3682.12
247	C2.04.05_Copy	Ashley Road Depot	52	54.99	3287.77

248	C2.05.01_Copy	Ashley Road Depot	71	89.93	3665.08
249	C2.05.02_Copy	Ashley Road Depot	75	242.17	3730.97
250	C2.05.03_Copy	Ashley Road Depot	54	200.03	3330.45
251	C2.05.04_Copy	Ashley Road Depot	72	164.82	3682.12
252	C2.05.05_Copy	Ashley Road Depot	52	54.99	3287.77
253	C2.06.01_Copy	Ashley Road Depot	71	89.93	3665.08
254	C2.06.02_Copy	Ashley Road Depot	75	242.17	3730.97
255	C2.06.03_Copy	Ashley Road Depot	54	200.03	3330.45
256	C2.06.04_Copy	Ashley Road Depot	72	164.82	3682.12
257	C2.06.05_Copy	Ashley Road Depot	52	54.99	3287.77
258	C2.07.01_Copy	Ashley Road Depot	71	89.93	3665.08
259	C2.07.02_Copy	Ashley Road Depot	75	227.29	3730.97
260	C2.07.03_Copy	Ashley Road Depot	54	200.03	3330.45
261	C2.07.04_Copy	Ashley Road Depot	72	158.09	3682.12
262	C2.07.05_Copy	Ashley Road Depot	52	54.99	3287.77
263	C2.08.01_Copy	Ashley Road Depot	71	89.93	3665.08
264	C2.08.02_Copy	Ashley Road Depot	75	407.16	3730.97
265	C2.08.03_Copy	Ashley Road Depot	54	200.03	3330.45
266	C2.08.04_Copy	Ashley Road Depot	72	164.82	3682.12
267	C2.08.05_Copy	Ashley Road Depot	52	54.99	3287.77
268	C2.09.01_Copy	Ashley Road Depot	71	604.88	3665.08
269	C2.09.02_Copy	Ashley Road Depot	75	913.43	3730.97
270	C2.09.03_Copy	Ashley Road Depot	54	947.55	3330.45
271	C2.09.04_Copy	Ashley Road Depot	72	846.43	3682.12
272	C2.09.05_Copy	Ashley Road Depot	52	470.85	3287.77

TOTAL

118,321

988,788

kWh

GRAND TOTAL

1,107,109

kWh

1,107

MWh