Our Ref: 8061/GD

4 December 2017

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38 REGENT'S PARK ROAD, LONDON
CONSTRUCTION NOISE

This report is intended to provide advice to the Construction Design and Management (CDM) coordinators for the redevelopment project at 38 Regent's Park Road regarding the completion of the noise and vibration elements of the Construction Management Plan in accordance with the London Borough of Camden requirements. We also make reference to London Borough of Camden's "Minimum Requirements for Building/Construction/Demolition Sites" document.

The following requirements relate to London Borough of Camden's, Construction Management Plan (CMP) pro forma v2.1, and are provided with their section number for ease of reference.

1.0 ENVIRONMENTAL NOISE SURVEY

29. Please confirm when the most recent noise survey was carried out (before any works were carried out) and provide a copy. If a noise survey has not taken place please indicate the date (before any works are being carried out) that the noise survey will be taking place, and agree to provide a copy.

1.1 General

In accordance with the requirements of the Local Authority, monitoring of the prevailing background noise was undertaken over the following 24 hour period:

12:00 hours Wednesday 8 November to 16:00 hours Thursday 9 November 2017

As the survey was unattended it is not possible to comment with certainty regarding meteorological conditions throughout the entire survey period, however the weather was generally considered satisfactory it being predominantly dry with little wind.

Measurements were made of the L_{Aeq} noise levels over sample periods of 15 minutes duration.

1.2 Measurement Locations

To determine the existing noise climate around the site, measurements were undertaken at the following locations.

Noise Measurement Position 1

Measurements were taken at basement level of 38 Regent's Park Road, London. The microphone was within the basement flat front garden positioned 1.2 m from the floor, and 1m from the front façade of the building. This position is screened from Regent's Park Road, and subject to façade reflection corrections.

Noise Measurement Position 2

Measurements were taken at ground floor level of 38 Regent's Park Road, London. The microphone was positioned 1.2 m from the floor, and 1m from the rear façade of the building. This position is screened from Regent's Park Road, and subject to façade reflection corrections.

The measurement positions are also illustrated on the attached Site Plan 8061/SP1.

The prevailing noise climate was noted to mainly consist of ambient traffic noise from Regent's Park Road and surrounding road networks.

1.3 Instrumentation

The following equipment was used for the measurements.

Table 8061/T1 – Equipment Details

Manufacturer	Model Type	Serial No.	Calibration	
			Certificate No.	Expiry Date
Noise Measurement Position 1				
Larson Davis Type 1 Sound Level Meter	SLM824	3153	U22106	12 July 2018
Larson Davis Pre Amplifier	PRM902	4467		
Larson Davis ½" Microphone	2541	8177	22105	12 July 2018
Norsonic Sound Calibrator	1251	34676	U22104	12 July 2018
Noise Measurement Position 2				
Larson Davis Type 1 Sound Level Meter	SLM824	A4307	U25383	23 May 2019
Larson Davis Pre Amplifier	PRM902	5029		
PCB ½" Microphone	377B02	171611	25624	23 May 2019
Norsonic Sound Calibrator	1251	34676	U22104	12 July 2018

The sound level meters were calibrated both prior to and on completion of the survey with no calibration drifts observed.

1.4 Results

The noise levels measured are shown as time-histories on the attached Graphs 8061/G1-G2.

The period-averaged façade-corrected L_{Aeq} noise levels measured are summarised in Table 8061/T2.

Table 8061/T2 – Façade Corrected Measured Levels

Measurement Period	Noise Measurement Position 1	Noise Measurement Position 2
	L_{eq} (dBA)	L_{eq} (dBA)
Daytime (07:00 – 19:00)	54	46
Evening (19:00 – 23:00)	52	44
Night-time (23:00 – 07:00)	47	39
Working Hours (08:00 – 18:00)	54	47

2.0 PREDICTED NOISE AND VIBRATION LEVELS

28. Please list all noisy operations and the construction methods used, and provide details of the times that each of these are due to be carried out.

30. Please provide predictions for noise and vibration levels throughout the proposed works.

31. Please provide details describing mitigation measures to be incorporated during the construction/demolition works to prevent noise and vibration disturbances from the activities on the site, including the actions to be taken in cases where these exceed the predicted levels.

2.1 Site Layout

The development site is surrounded by residential properties that also overlook the site.

The attached Site Plan 8061/SP1 shows the location of the site and the adjacent properties.

2.2 Construction Proposals

A summary of the works in scheduled order is detailed in Table 8061/T1 below.

Table 8061/T3 – Summary of Construction Programme

Phase	Activity	Duration
1 - Front Elevation Works	Cutting metal frame and carefully removing glass from existing stairway facade	1 day
	Form concrete padstones in existing brick wall at first and second floor balcony level	2 days
2 - Basement Flat Works	Boarding windows	1 day
	Soft strip out works	5 days
	Demolish internal brick/block walls	4 days
	Form holes in internal brickwork walls for steel needles	2 days
	Break out concrete slab for underpinning works	25 days
	Remove Basement Concrete Slab	5 days
	Excavate new foundation trenches and bases	5 days
	Form concrete padstones in existing brick wall and mixing concrete for foundation works	3 days
	Mixing concrete for basement slab	4 days

It is understood that waste management and excavation activities will be performed by hand rather than machine. Please note that waste management and excavation activities have been based on the available machine-based measurements provided in BS 5228:2009 and as such, can be considered worst-case predictions for these activities.

Furthermore, it is understood mains power is available from site and therefore generators will not be required.

2.3 Machinery Information

The construction activities listed above have been estimated with assistance from CN Associates. Noise levels have been approximated using the database of plant included in BS5228:2009 – Part 1.

Also included is the estimation of the 'on-time' of each item of equipment – i.e. the percentage of the day in which the equipment will be in use during the phase of work. Please note – for the purpose of these calculations we have assumed that work will be carried out over the entire working day (10 hours – 08:00-18:00) and therefore an on-time of 80% would correspond to 8 hours. The London Borough of Camden's "Minimum Requirements for Building/Construction/Demolition Sites" identifies time periods that typically acceptable for operations and ancillary works which are audible at the site boundary.

- 08:00 - 18:00 hours (Monday to Friday)
- 08:00 - 13:00 hours (Saturday)
- No noisy working is permitted on Sundays, Bank or Public Holidays.

We understand for this development noisy operations will be restricted to between 08.30 and 17.00 hours from Monday to Friday.

2.4 Mitigation

2.4.1 Proposed Mitigation

Where possible noise produced by work activities has been reduced or removed by design. Noise mitigation measures are to be applied as follows:

- Coordinated delivery times and efficient traffic management to prevent queuing traffic accessing the site.
- Ensuring plant has sound reduction measures (mufflers, baffles or silencers) where available.
- Utilising construction techniques that minimise the production of noise.
- Utilisation of baffle system during the demolition process.
- Strict adherence to the site working hours.
- Localised shrouding of plant in accordance with BS5228.
- Using acoustic hoarding where necessary.
- Site team to carry out daily noise surveys at perimeter of site and record findings.
- Implement action plan where noise levels exceed acceptable levels.
- Positioning plant away from properties.
- Machines in use will be throttled down to a minimum.
- Cutting operations will be kept off site as much as possible by prefabrication.

Furthermore, it is understood basement flat windows will be boarded-up with a minimum of 1No. layer of 9 mm plywood throughout the duration of Phase 2. Associated activities will be undertaken within the basement flat as far as reasonably possible. It is assumed that the proposed boarded-up windows will provide a minimum of 15 dBA of attenuation.

2.4.2 Best Practical Means (BPM)

There are Best Practical Means (BPM) procedures that the contractor can adopt to ensure disruption to adjoining receptors is as low as can be practical. Measures to mitigate noise and vibration include:

- Careful selection of site preparation and construction methods and plant used to minimise noise at source as far as reasonably practicable.
- The use of the quietest and newest vehicles/plant machinery.
- Fit effective exhaust silencers to vehicles and mechanical plant
- Plant to be operated in such a manner as to minimise noise emissions.
- Use of electric and electro-hydraulic plant and equipment where practical.
- Switching off engines when not in use.
- Regular maintenance and servicing of plant and equipment.
- The use of acoustic barriers when appropriate.
- Use of non-percussive tools and equipment where practical.
- All plant and equipment to be used for the works will be properly maintained, silenced where appropriate and operated to prevent excessive noise and switched off when not in use and where practicable.
- Adoption of 'quiet hours' where there are no noisy works permitted.
- Plant will be certified to meet relevant current legislation and BS5228 standards;
- All trade contractors to be made familiar with current legislation and the guidance in BS5228 (including Noise at Work considerations to protect people on site)
- Noise complaints will be reported to the contractor and immediately investigated.

2.5 Noise Predictions

Noise levels have been predicted using the methodology set out in BS 5228 at the site boundary to the front (Noise Prediction Position 1) and rear (Noise Prediction Position 2) of the development as detailed on the attached Site Plan 8065/SP1.

The approach taken is to determine the activity L_{Aeq} noise level (at a standard distance) of the equipment and then calculate the noise level at the point of interest by applying corrections to account for:

- The number of plant items
- Periods of operation of processes and plant
- Distances from sources to receiver
- Screening losses
- Reflection from the façade

It should be noted that the noise levels are not expected on every day of the construction period, but rather only when there are intense periods of activity. As such this assessment will inevitably tend to be a pessimistic and worst-case description of the predicted noise levels.

Table 8065/T4 – Construction Noise Predictions for Noise Prediction Position 1 (Front)

Activity	Equipment Required	BS 5228 Reference	Estimated Duration	Estimated Daily On Time (%)	Daily On Time Correction (dB)	Sound Pressure Level at 10m (dBA)	Distance to Receptor (m)	Distance Correction (dB)	Screening	Façade Correction	Total (dBA)	Total for Activity (dBA)
Phase 1 - Front Elevation Works												
Cutting metal frame and carefully removing glass	Angle Grinder	C.4.93	1 day	43	-4	80	10	0	0	3	79	**79**
Form concrete padstones in existing brick wall at first and second floor balcony level	Hammer and bolster	D.7.80	2 days	43	-4	79	10	0	0	3	78	**78**
Phase 2 - Basement Flat Works												
Boarding windows	Hand-held hammer	D.2.15	1 day	43	-4	84	10	0	0	3	83	**83**
Soft strip out works	Lump Hammer	C.1.19	5 days	43	-4	69	10	0	-15	3	53	**76**
	Skip wagon	C.8.21	5 days	5	-13	78	10	0	0	3	68	
	Loading skip	C.2.28	5 days	43	-4	76	10	0	0	3	75	
Demolish internal brick/block walls	Hand-held hydraulic breaker	D.2.12	4 days	43	-4	89	10	0	-15	3	73	**78**
	Skip wagon	C.8.21	4 days	5	-13	78	10	0	0	3	68	
	Loading skip	C.2.28	4 days	43	-4	76	10	0	0	3	75	
Form holes in internal brickwork walls for steel needles	Hammer and bolster	D.7.80	2 days	43	-4	79	10	0	-15	3	63	**63**
Break out concrete slab for underpinning works	Hand-held hydraulic breaker	D.2.12	25 days	43	-4	89	10	0	-15	3	73	**78**
	Small Cement Mixer	C.4.23	25 days	85	-1	61	10	0	-15	3	48	
	Skip wagon	C.8.21	25 days	5	-13	78	10	0	0	3	68	
	Loading skip	C.2.28	25 days	43	-4	76	10	0	0	3	75	
Remove Basement Concrete Slab	Hand-held breaker	D.2.2	5 days	43	-4	81	10	0	-15	3	65	**76**
	Small Cement Mixer	C.4.23	5 days	43	-4	61	10	0	-15	3	45	
	Skip wagon	C.8.21	5 days	5	-13	78	10	0	0	3	68	
	Loading skip	C.2.28	5 days	43	-4	76	10	0	0	3	75	
Excavate new foundation trenches and bases	Mini-tracked excavator	C.4.68	5 days	43	-4	65	10	0	-15	3	49	**76**
	Skip wagon	C.8.21	5 days	5	-13	78	10	0	0	3	68	
	Loading skip	C.2.28	5 days	43	-4	76	10	0	0	3	75	
Form concrete padstones in party wall brick wall	Hammer and bolster	D.7.80	3 days	43	-4	79	10	0	-15	3	63	**64**
	Lorry mounted concrete pump	C.4.17	3 days	1	-20	81	10	0	-15	3	49	
	Small Cement Mixer	C.4.23	3 days	85	-1	61	10	0	-15	3	48	
Mixing concrete for foundations and basement slab	Small Cement Mixer	C.4.23	4 days	85	-1	61	10	0	-15	3	48	**48**

Table 8065/T5 – Construction Noise Predictions for Noise Prediction Position 2 (Rear)

Activity	Equipment Required	BS 5228 Reference	Estimated Duration	Estimated Daily On Time (%)	Daily On Time Correction (dB)	Sound Pressure Level at 10m (dBA)	Distance to Receptor (m)	Distance Correction (dB)	Screening	Façade Correction	Total (dBA)	Total for Activity (dBA)
Phase 1 - Front Elevation Works												
Cutting metal frame and carefully removing glass	Angle Grinder	C.4.93	1 day	43	-4	80	15	-4	-20	3	56	**56**
Form concrete padstones in existing brick wall at first and second floor balcony level	Hammer and bolster	D.7.80	2 days	43	-4	79	15	-4	-20	3	55	**55**
Phase 2 - Basement Flat Works												
Boarding windows	Hand-held hammer	D.2.15	1 day	43	-4	84	10	0	0	3	83	**83**
Soft strip out works	Lump Hammer	C.1.19	5 days	43	-4	69	10	0	-15	3	53	**55**
	Skip wagon	C.8.21	5 days	5	-13	78	20	-6	-20	3	42	
	Loading skip	C.2.28	5 days	43	-4	76	20	-6	-20	3	49	
Demolish internal brick/block walls	Hand-held hydraulic breaker	D.2.12	4 days	43	-4	89	10	0	-15	3	73	**73**
	Skip wagon	C.8.21	4 days	5	-13	78	20	-6	-20	3	42	
	Loading skip	C.2.28	4 days	43	-4	76	20	-6	-20	3	49	
Form holes in internal brickwork walls for steel needles	Hammer and bolster	D.7.80	2 days	43	-4	79	10	0	-15	3	63	**63**
Break out concrete slab for underpinning works	Hand-held hydraulic breaker	D.2.12	25 days	43	-4	89	10	0	-15	3	73	**73**
	Small Cement Mixer	C.4.23	25 days	85	-1	61	10	0	-15	3	48	
	Skip wagon	C.8.21	25 days	5	-13	78	20	-6	-20	3	42	
	Loading skip	C.2.28	25 days	43	-4	76	20	-6	-20	3	49	
Remove Basement Concrete Slab	Hand-held breaker	D.2.2	5 days	43	-4	81	10	0	-15	3	65	**66**
	Small Cement Mixer	C.4.23	5 days	43	-4	61	10	0	-15	3	45	
	Skip wagon	C.8.21	5 days	5	-13	78	20	-6	-20	3	42	
	Loading skip	C.2.28	5 days	43	-4	76	20	-6	-20	3	49	
Excavate new foundation trenches and bases	Mini-tracked excavator	C.4.68	5 days	43	-4	65	10	0	-15	3	49	**53**
	Skip wagon	C.8.21	5 days	5	-13	78	20	-6	-20	3	42	
	Loading skip	C.2.28	5 days	43	-4	76	20	-6	-20	3	49	
Form concrete padstones in party wall brick wall	Hammer and bolster	D.7.80	3 days	43	-4	79	10	0	-15	3	63	**64**
	Lorry mounted concrete pump	C.4.17	3 days	1	-20	81	20	-6	-15	3	43	
	Small Cement Mixer	C.4.23	3 days	85	-1	61	10	0	-15	3	48	
Mixing concrete for foundations and basement slab	Small Cement Mixer	C.4.23	4 days	85	-1	61	10	0	-15	3	48	**48**

2.6 Discussion of Predicted Noise Levels

Table 8061/T6 summarises the predicted noise levels detailed in Section 2.5.

Table 8065/T6 – Predicted Noise Levels

Activity	Total for Activity (dBA)	
	Noise Prediction Position 1 (Front)	Noise Prediction Position 2 (Rear)
Phase 1 - Front Elevation Works		
Cutting metal frame and carefully removing glass	79	56
Form concrete padstones in existing brick wall at first and second floor balcony level	78	55
Phase 2 – Basement Flat Works		
Boarding windows	83	83
Soft strip out works	76	55
Demolish internal brick/block walls	78	73
Form holes in internal brickwork walls for steel needles	63	63
Break out concrete slab for underpinning works	78	73
Remove Basement Concrete Slab	76	66
Excavate new foundation trenches and bases	76	53
Form concrete padstones in party wall brick wall	64	64
Mixing concrete for foundations and basement slab	48	48

In our experience, the predicted noise levels are typical of construction site noise at site boundaries with the exception of 'Boarding the Windows' which is a short-term (1 day) activity to install improved noise control mitigation measures.

Furthermore, all the proposed activities on site are proposed to be over a short period and as such are untypical of London based construction sites. As a result, with due prior warning, it is likely local residents will be more forgiving of short term works such as these when compared to larger more lengthy projects.

3.0 MONITORING

35. Please provide details describing arrangements for monitoring of noise, vibration and dust levels.

The aim of noise and vibration monitoring is to provide a feedback loop to the demolition/construction team rather than simply apply a rigid set of levels. It is accepted that, depending upon the outcome of the initial works period, it may be appropriate to alter the proposed limits if applicable.

We understand the contractor is to produce a Risk and Method Statement to confirm the controls, checks and monitoring that will be put in place in connection with the control of noise and vibration.

3.1 Noise Monitoring Practices

With reference to noise monitoring, BS5228 states that the need, and frequency, of noise and vibration monitoring will be determined by the specific circumstances of the site. Commonly this would be a result of construction works taking place in close proximity to vibration-sensitive equipment (e.g. medical equipment), noise and vibration sensitive uses (e.g. recording studios) or residential receptors.

Detailed requirements for monitoring, including noise and vibration target levels where appropriate, shall therefore be considered and advised by the Local Authority. There are typically two types of noise and vibration monitoring; attended spot measurements and long-term continuous measurement.

London Borough of Camden's 'Minimum Requirements for Building/Construction/Demolition Sites' states

> *"Noise monitoring shall be undertaken using* ***a combination of semi-permanent (continuous) and attended monitoring methods****. The locations of the semi-permanent (continuous) and attended monitoring and the frequency of the sampling have previously been agreed with London Borough of Camden in writing."*

Notwithstanding this, given the scale of the project at 38 Regent's Park Road, we consider the requirement for continuous monitoring of noise and/or vibration to be unnecessary and therefore suggest that, unless this is specifically required by London Borough of Camden, attended monitoring (only) should be undertaken at the following intervals:

> *"...noise monitoring to be carried out at the start and at regular intervals during each task period."*

Attended Monitoring

Attended spot noise measurements can typically be undertaken by the contractor by purchasing a suitable sound level meter (BS5228 provides guidance on technical specification). Measurements can then be undertaken as part of an identified schedule with a record kept of measured levels.

3.2 Noise Monitoring Criteria

3.2.1 BS5228

British Standard (BS) 5228-1: 2009 (with 2014 amendments) Code of Practice for Noise and Vibration Control on Construction and Open Sites is recognised as the accepted guidance for noise control during construction work.

There are several methods for assessing the "acceptability" of certain construction noise levels outlined within BS 5228.

The 'ABC Method' outlines a method for determining the significance of construction noise levels by considering the change in the ambient noise level. Table 8061/T7 below outlines suitable threshold values determined by the following categorisation using the ambient noise level without construction:

Category A
Threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are less than these values.

Category B
Threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are the same as Category A values.

Category C
Threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are higher than Category A values.

Table 8061/T7 –ABC Method Categories

Assessment category and threshold value period (L_{Aeq})	Threshold Value (dB)		
	Category A	Category B	Category C
Night-time (23:00 – 07:00)	45	50	55
Evenings and weekends	55	60	65
Daytime (07:00 – 19:00) and Saturdays (07:00 – 13:00)	65	70	75

A significant effect has been deemed to occur if the total ambient L_{Aeq} noise level, including construction, exceeds the threshold level for the Category appropriate to the ambient noise level. This is applied to residential receptors only.

In line with BS 5228 'ABC Method', we have determined the site is within Category A and that a target criteria level of 65dB $L_{Aeq, 10hour}$ at the site boundary provides a degree of protection to the local occupants.

3.2.2 Local Authority Criteria

London Borough of Camden's "Minimum Requirements for Building/Construction/Demolition Sites" document states the following:

> *"Where the measured noise levels are more than 3 dB (A) above the predicted noise levels or in the event of a complaint of noise an investigation shall be carried out to ascertain the cause of the exceedance or the complaint and to check that Best Practicable Means are being used to control the noise in accordance with the steps set out in the application for 'prior consent'. Noise levels shall be reduced further if it is reasonably practicable to do so."*

3.2.3 Proposed Noise Criteria

In-line with Local Authority criteria we suggest a criteria of 75dB $L_{Aeq, 10hour}$ is used to assess how reasonably the site is operating.

Criteria has not accounted for façade corrections, which may be required depending on the monitoring position.

It is proposed semi-permanent attended noise measurements (see Section 3.1) are to be undertaken by the site team. In order to compare the short-term measurements to a 10 hour time period corrections will be required. As such, measured noise levels of noisy on-times will be corrected to 10 hour time periods including correction for background noise levels (noisy-off) times within the 10 hour time period. Furthermore, it is conceivable that the shortened noise levels of these measurements will provide site operatives with an advance warning if they are likely to exceed the longer 10 hour criteria.

N.B. The proposed 'Boarding the Windows' activity, due to its short term nature, high predicted noise levels and the installation of noise control mitigation, has not been used to form proposed criteria. As a result, it is possible that during worst-case conditions proposed criteria will be exceeded during this activity.

3.3 Vibration Monitoring Practices

It is impossible to accurately quantify the impact of such works, however it is recommended that, in the first instance, demolition work methods which result in the lowest levels of impact to the structures are adopted.

Controlled vibration tests can be undertaken whereby vibration levels are manually monitored during initial / example works to determine the levels of vibration within the adjacent properties.

3.4 Vibration Monitoring Criteria

British Standard (BS) 5228-2: 2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites is recognised as the accepted guidance for vibration control during construction work.

The measurement scale used, Peak Particle Velocity (PPV), is the maximum instantaneous velocity of a particle at a point during a given time interval and is therefore useful in determining the effect of "one off" vibration generating events.

There are two types of vibration impact that need consideration: the effects on people or equipment within buildings and the effect on buildings (or other structures) themselves.

The level at which vibration is perceptible / annoying to occupants is much lower than that required to result in cosmetic damage. As a result London Borough of Camden provide the following guidance regards vibration alert levels:

> *"In the case of vibration, measured vibration levels shall be compared with the criteria in BS 5228: 2009 part 2 (i.e. 1mms^{-1} PPV for potential disturbance in residential and using a suggested trigger criteria of 2mms^{-1} for commercial). Lower limits must be agreed with the Council if there is a risk that vibration levels may interfere with vibration sensitive equipment or other vibration sensitive objects."*

A summary of the criteria for evaluating the significance of vibration during construction is given in Table 8061/T8 below.

Table 8061/T8 – BS 5228:2009 Criteria for Evaluating Construction Vibration

Period	Building /Location	Criterion	Purpose
Anytime	Neighbouring Properties	1.0 mm/s PPV	Human response - likely to cause complaints from residents but can be tolerated if prior warning and explanation has been given
Anytime	Neighbouring Properties	10 mm/s PPV	Human response – likely to be intolerable for any more than a very brief period
Anytime	Un-reinforced or light framed buildings	15 mm/s PPV	Protection of building structure
Anytime	Reinforced or framed buildings	50 mm/s PPV	Protection of building structure

As stated in BS 5228 'for construction it is considered more appropriate to provide guidance in terms of PPV, since this parameter is likely to be more routinely measured based upon the more usual concern over potential building damage.'

BS 5288 refers to BS 7385: Part 2: 1993, in the case of effects on the buildings, including structures and certain types of installation, for guidance on acceptable values of transient vibration for avoidance of cosmetic damage to buildings.

In our experience, typically vibration limits of PPV 2 mm/s are considered appropriate for assessing occupant comfort whereas PPV 15 mm/s is typically adopted as the limit for cosmetic damage to buildings.

We recommend a PPV target for vibration (in terms of trigger monitoring) initially be set at 5 mm/s. With reference to the above it can be seen that this target is comfortably below the PPV levels required for cosmetic damage. An 'early warning' trigger level of 2 mm/s will provide consideration for human response.

3.5 Neighbour Liaison

It is appreciated that the site is a demolition/construction site and that high noise levels will be generated in order to progress the project.

As a compromise, and in order to minimise disruption to the adjacent occupiers, it is advised to seek regular contact with the adjacent occupiers in order to keep them updated with current progress on site, works which may affect them in the near future and how long these works are likely to take. This will ensure that there are no 'surprises' and will allow the occupiers to ask any questions which they may have relating to the works.

3.6 Alert Actions

The aim of Alert Action Levels is to provide a feedback loop to the demolition/construction team with related actions as follows:

1. Amber Alert – site team should consider this as a "be aware "alert. No specific action is required.

2. Red Alert – site team should stop the relevant activity causing the exceedance and give consideration to alternative working methods to minimise noise/vibration. Contractor to issue an event report relating to each alert received. This will include details of the exceedance, associated cause and action taken.

3.7 Proposed Alert Levels

With regards to the above the following alert external noise levels and vibration levels are proposed at all measurement positions:

Table 8061/T9 – Proposed Alert Levels with Designations

Alert Level	Designation	Noise Level Limit	Vibration Level
1	Amber	-	2 mm/s PPV
2	Red	75 dB $L_{Aeq,10hour}$	5 mm/s PPV

38 Regent's Park Road, London

L_{Aeq} Time History

Measurement Position 1, Wednesday 8 to Thursday 9 November 2017

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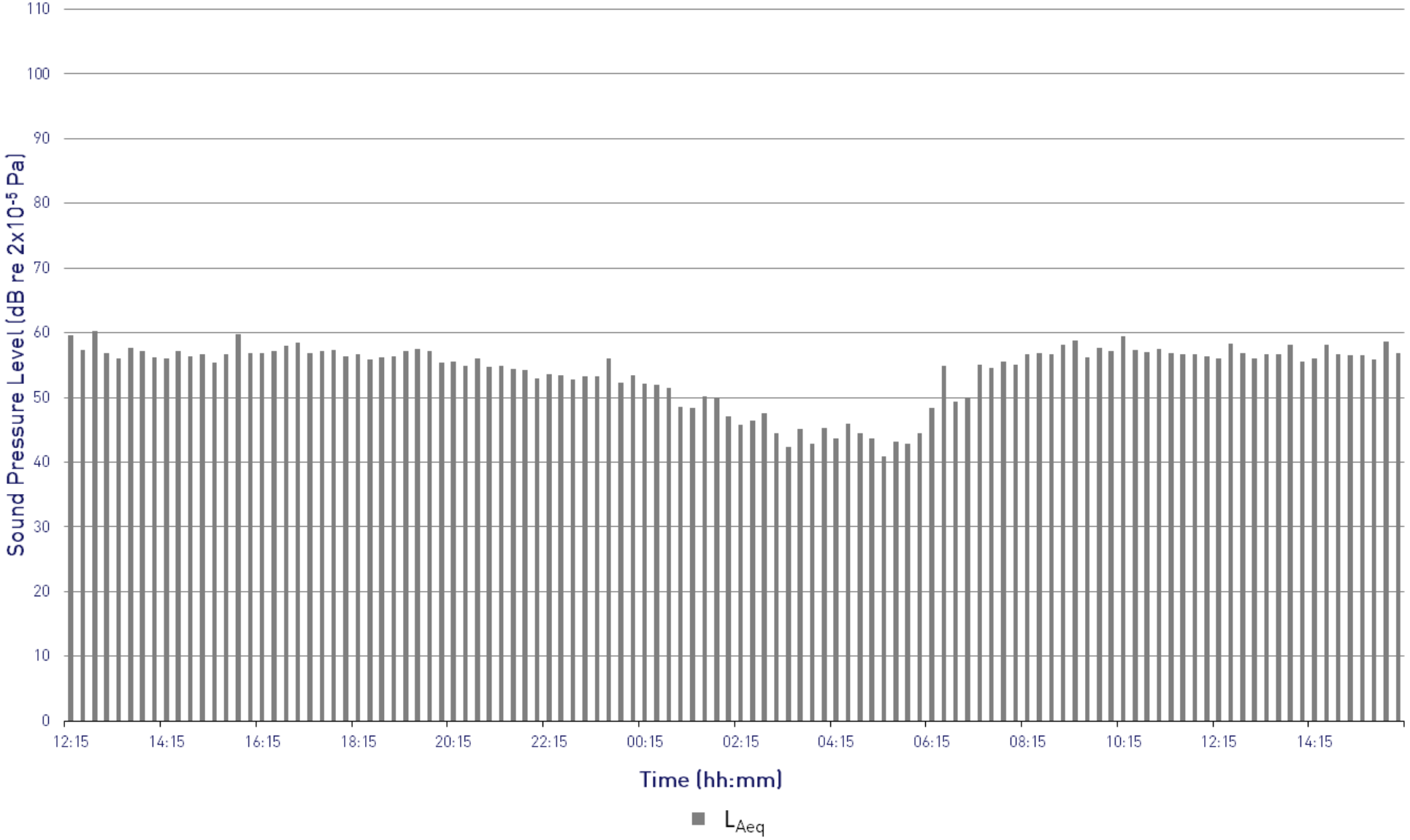
Graph 8061/G1



38 Regent's Park Road, London

L_{Aeq} Time History

Measurement Position 2, Wednesday 8 to Thursday 9 November 2017

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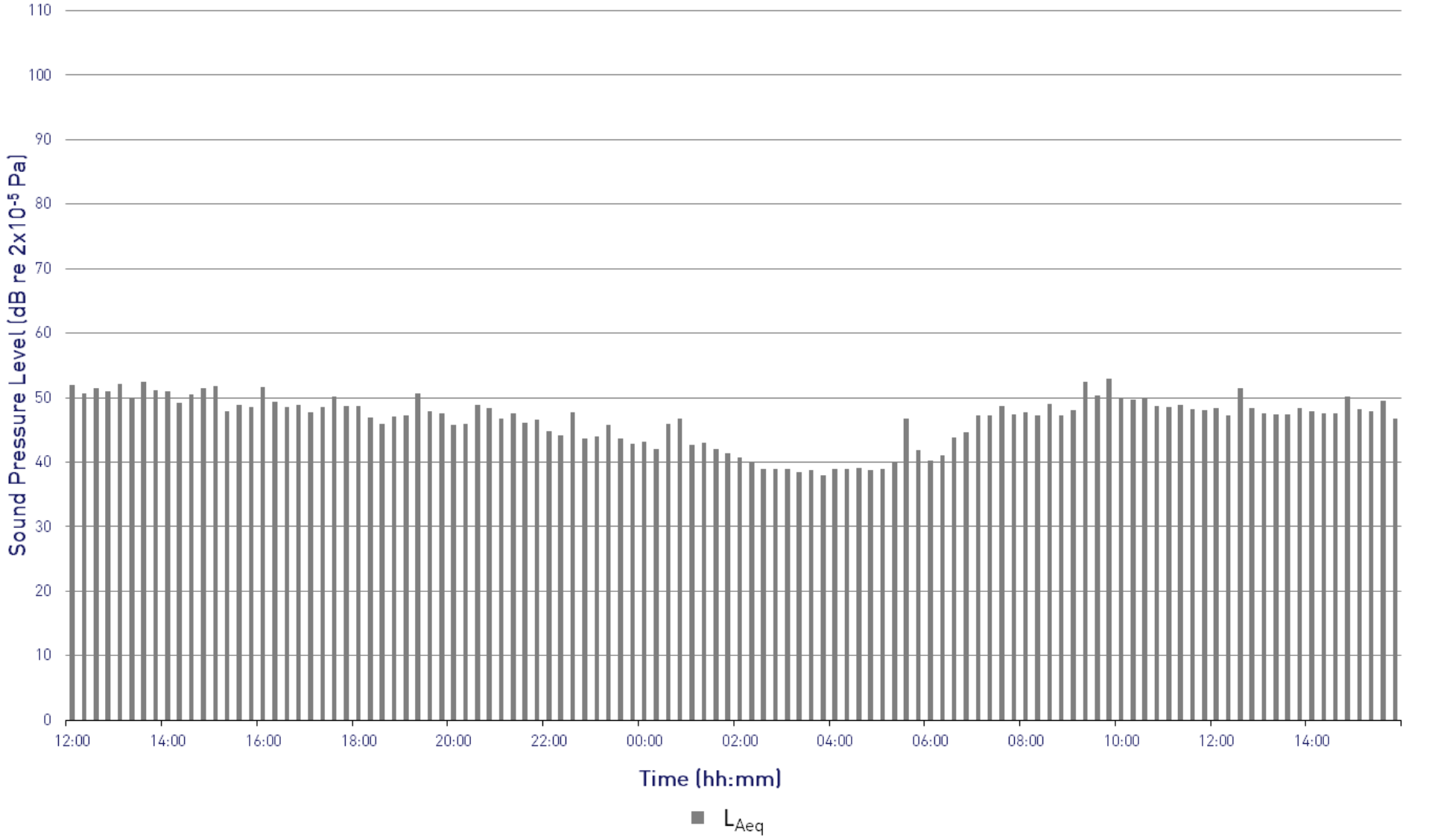
Graph 8061/G2



38 Regent's Park Road, London

Site Plan showing Measurement Positions and Noise Prediction Locations

Figure 8061/SP1

4 December 2017

Not to Scale

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