Noise Modelling Report

Client: Deconstruct UK Ltd

Project: Castlewood House & Medius House

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Glossary & Abbreviations

The abbreviations listed below apply to this document:

Ambient Noise	The total noise from all sources near and far impacting a specific location in an outside environment, which varies dependent on the location.
PM	Project Management
dB (A)	Decibel 'A' weighting - sound pressure level that corresponds to the frequency response of the human ear.
LAeqT	The level of steady sound over period time T that would have the same sound energy as the 'A' weighted fluctuating sound level over time T
EHO	Environmental Health Officer
Section 60 Notice	Served under The Control of Pollution Act 1974 with conditions to control noise and vibration during construction. The conditions must be complied with until revoked or successfully appealed against
Section 61 Prior Consent	Notice served under the Control of Pollution Act 1974 to permit noise on construction sites with conditions to be complied with.
LA	Local Authority (Camden London Borough Council)

1. Introduction

European Environmental Monitoring and Consultancy (EEMC) Limited have been instructed to undertake noise modelling and noise predictions for planned demolition works at Castlewood House and Medius House, on behalf of Deconstruct UK Ltd

This document provides output of the noise modelling exercise for each planned demolition phase. The Noise modelling provides a prediction of noise levels generated by the proposed demolition activities during each phase on each of the nearby commercial and residential receptors. This Noise Modelling Report will supplement the Environment section of the Construction Management Plan (CMP).

The noise modelling undertaken and detailed in this report is based upon information provided. It is assumed that all relevant information has been supplied by those parties from whom it has been requested and that such information is accurate.

Based on the predicted noise levels and the requirements of London Borough of Camden noise and vibration monitoring trigger levels will be set. The works will adopt and implement best practicable means mitigation measures to minimise impacts as far as practicable.

EEMC will provide guidance regarding the approach for monitoring and reporting of noise, and vibration generated during demolition and associated works, including proposed trigger levels.

2. Relevant Legislations and Local Policy

In addition to contractual requirements, all works will be carried out in compliance with the following legislation:

- Control of Pollution Act 1974
- Control of Noise at Work Regulations 2005;
- Health and Safety at Work Act 1974; and
- BS5228 – Code of practice for noise and vibration control on construction and open sites, Part 1 Noise, Part 2 Vibration.

2.1. Local Policy – Camden London Borough Council

The Camden London Borough Council "Guide for Contractors" is the relevant document of local policy and states the standard hours of work

"Although there are certain noise levels allowed on the site, you must try to control the hours of noisy work. We normally ask that all work, which might be heard from outside the site, must be carried out between the following hours.

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

Noise and vibration from work during the permitted hours may be difficult to control. However, you must show that you are taking the ***Best Practicable Means*** *to reduce the noise created. "*

Camden also require the submission of a Construction/Demolition Management Plan (CMP/DMP) outlining the noise, dust and vibration management methods to be used on the project.

3. Noise Modelling

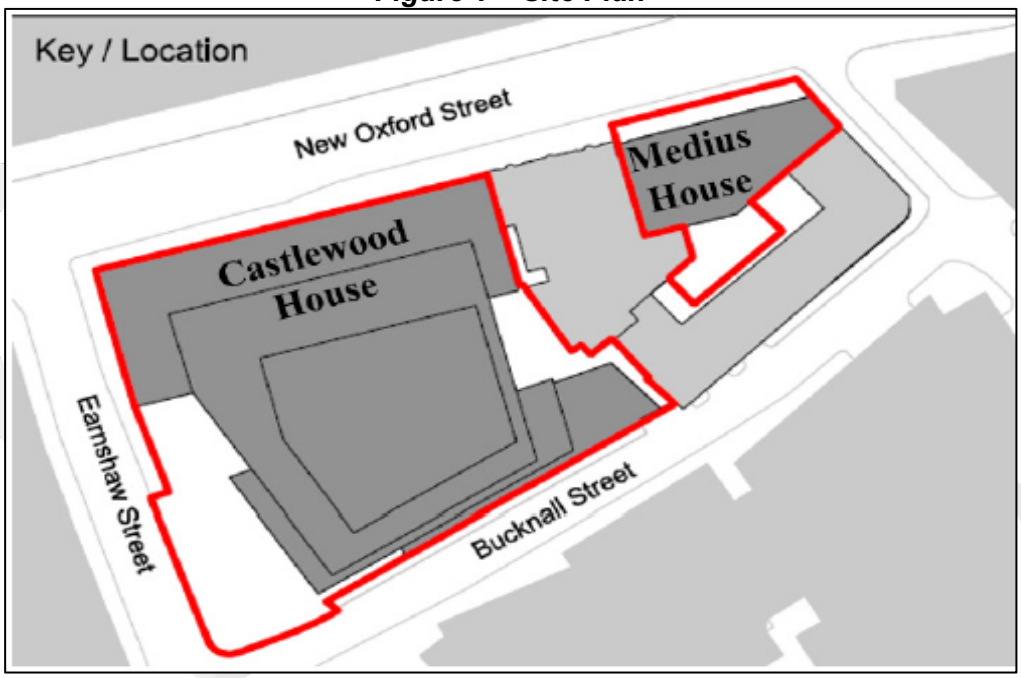
EEMC utilises DataKustik CadnaA noise modelling software to predict noise levels generated by proposed construction and demolition activities. The noise model provides a 3-dimensional representation of the site and its surroundings and can handle complex geometries. The model can be used to assess different options for mitigation of demolition and construction noisy activities, as necessary.

4. Demolition and Enabling Work Activities Summary

4.1. Site Plan and Local Area.

The site is bounded by New Oxford Street to the north, Dyott Street to the east, directly to the south is a warehouse building facing onto Bucknall Street and commercial buildings to the west on Earnshaw Street. The site plan is shown in Figure 1 below.

Figure 1 – Site Plan



4.2. Sensitive Receptors

The construction site is surrounded largely by commercial receptors with some residential receptors nearby. Figure 2 shows the closest sensitive receptors, and Table 1.0 lists the closest sensitive receptors.

Figure 2 – Receptors Map

Table 1.0 – Closest Sensitive Receptors

Most Sensitive Receptors	Map Ref.
Centre Point House	1
5 Earnshaw Street	2
Central Saint Giles	3
1-13 St. Giles High Street	4
Bloomsbury Central Baptist Church	5
Albion House	6
Isis House	7
84-110 New Oxford Street	8
71-75 New Oxford Street (Toni & Guy)	9
Bucknall St Warehouse	10

5. Predicted Demolition Noise at Nearest Receptors

Six sequences of work are proposed to be carried out during the demolition process. For each sequence there is a detailed map of the area showing where each item of plant will be used, the map provided has noise contours colour coded to show the predicted impact from noise.

For each sequence detail of the proposed plant used and the resultant predicted noise level at each receptor is provided.

5.1. Sequence 1 – Ramp Demolition and Core Drilling

Sequence 1 for Castlewood House involves the demolition of Bucknall Street ramp commencing on 22nd October 2019 to 25th October 2019, and the formation of a crossover and new site entrances on Bucknall Street commencing on 23rd October 2019 to 29th October 2019.

Sequence 1 for Medius house involves core drilling commencing on 2nd October 2019 to 29th October 2019 and enabling works and roof crane installation commencing on 14th October 2019 to 25th October 2019.

Figure 5.1.1 – Noise Contour Map for Sequence 1

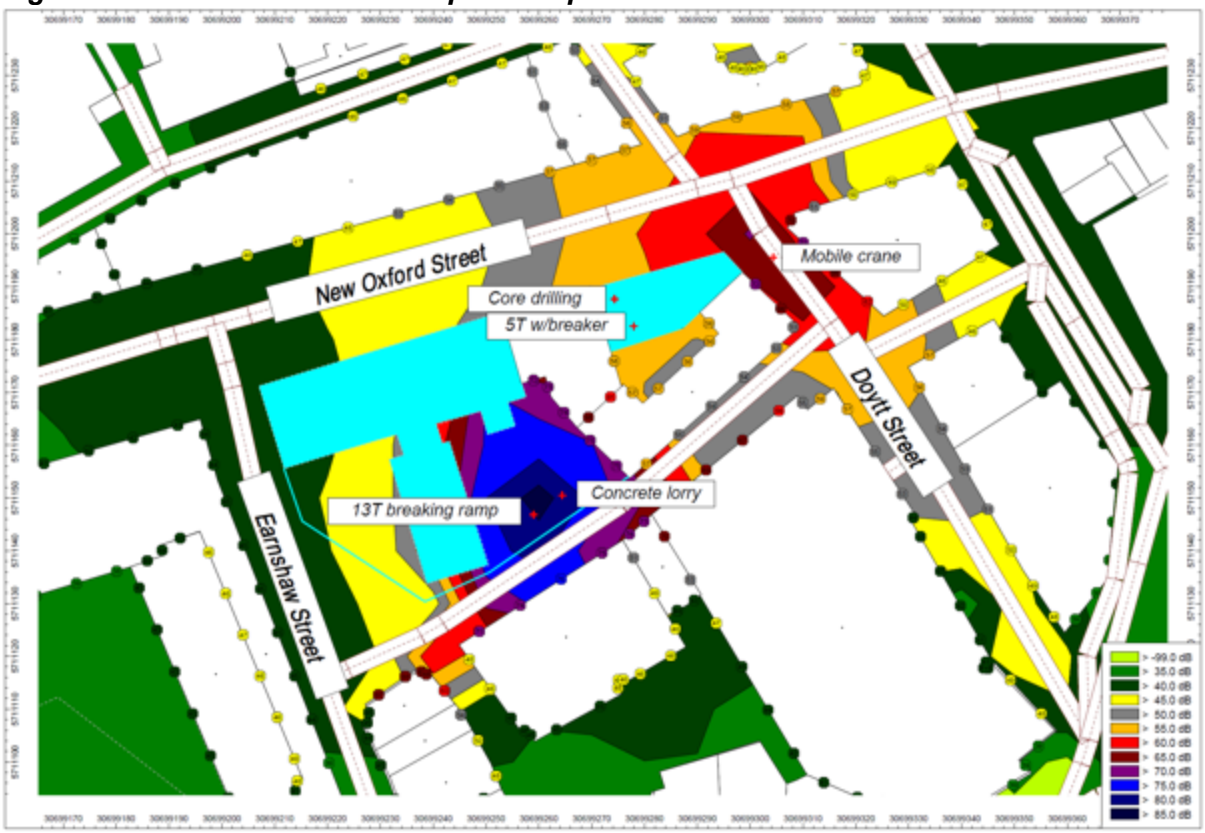


Table 5.1.1 – Plant List for Castlewood House for Sequence 1

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
Large excavator with hammer attachment	C.1 Ref 9	1	118	90	60
Concrete lorry	C.4 Ref 20	1	108	80	20

Table 5.1.2 – Plant List for Medius House for Sequence 1

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
5T excavator with hydraulic breaker attachment	C.5 Ref 2	1	111	83	70
Core drilling	C.4 Ref 69	1	113	85	50
Mobile crane	C.3 Ref 30	1	98	70	90

Table 5.1.3 – Predicted Noise Levels at the Nearest Receptors for Sequence 1

Most Sensitive Receptors	Property type	Predicted noise levels $L_{Aeq, 10h}$ dB(A) includes façade reflection
Centre Point House	Residential	49
5 Earnshaw Street	Commercial/Residential	68
Central Saint Giles	Commercial	75
1-13 St. Giles High Street	Commercial	69
Bloomsbury Central Baptist Church	Commercial	56
Albion House	Commercial	71
Isis House	Commercial	59
84-110 New Oxford Street	Commercial	57
71-75 New Oxford Street	Commercial	74
Bucknall St Warehouse	Commercial	75

5.2. Sequence 2 – Enabling Works, Core Drilling and Piling

Sequence 2 at Castlewood House involves enabling works for piling access to basement commencing 29th October 2019 to 18th November 2019, basement core drilling for party wall restraint piling commencing 19th November 2019 to 2nd December 2019, and temporary piling to B1 commencing 3rd December 2019 to 9th December 2019.

Sequence 2 at Medius House involves piling works in the basement commencing 30th October 2019 to 19th November 2019, formation of temporary pile caps commencing 20th November 2019 to 2nd December 2019, and the erection of façade restraint steelwork commencing on 26th November 2019 to 3rd February 2020.

Figure 5.2.1 – Noise Contour Map for Sequence 2

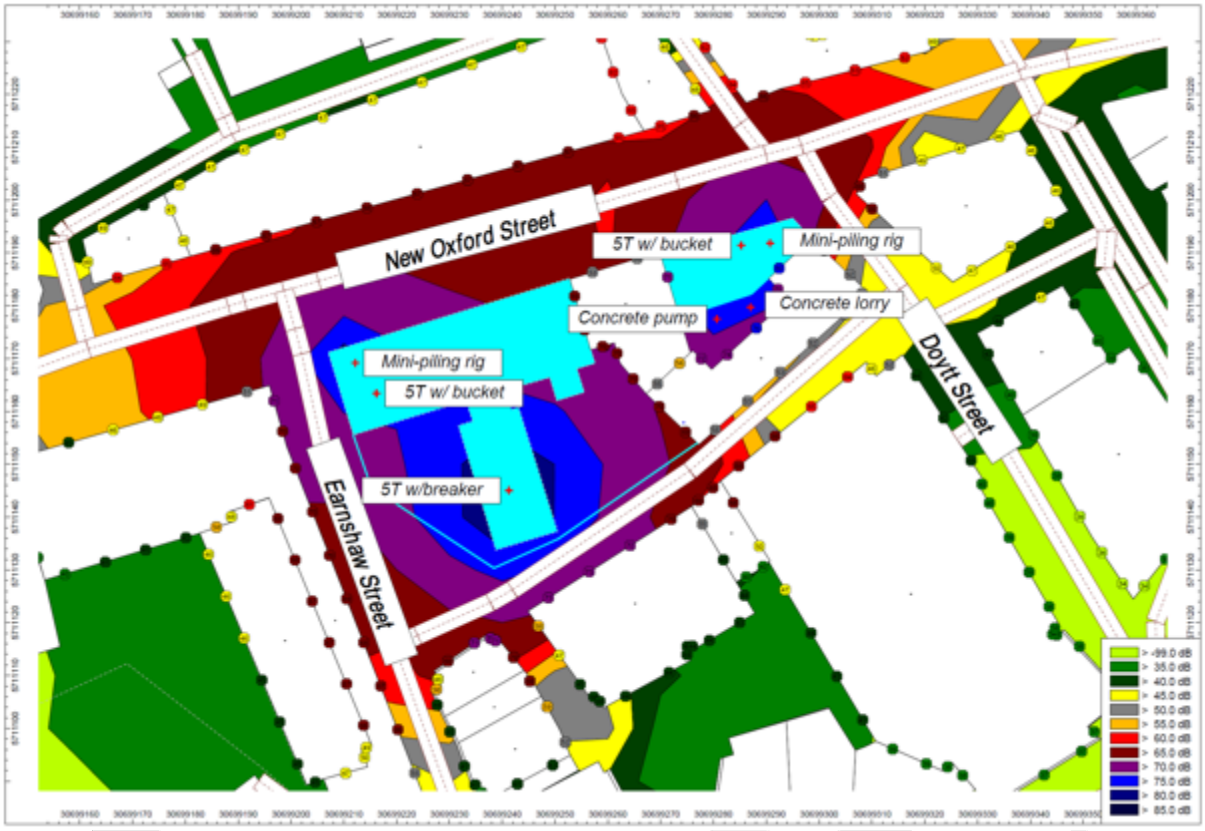


Table 5.2.1 – Plant List for Castlewood House for Sequence 2

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
5T excavator with hydraulic breaker attachment	C.5 Ref 2	1	111	83	70
Mini-piling rig	C.3 Ref 17	1	104	76	70
5T excavator with bucket attachment	C.4 Ref 68	1	93	65	70

Table 5.2.2 – Plant List for Medius House for Sequence 2

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
Mini-piling rig	C.3 Ref 17	1	104	76	70
5T excavator with bucket attachment	C.4 Ref 68	1	93	65	70
Concrete pump	C.3 Ref 26	1	103	75	30
Concrete lorry	C.4 Ref 20	1	108	80	20

Table 5.2.3 - Predicted Noise Levels at the Nearest Receptors for Sequence 2

Most Sensitive Receptors	Property type	Predicted noise levels $L_{Aeq, 10h}$ dB(A) includes façade reflection
Centre Point House	Residential	70
5 Earnshaw Street	Commercial/Residential	71
Central Saint Giles	Commercial	73
1-13 St. Giles High Street	Commercial	68
Bloomsbury Central Baptist Church	Commercial	47
Albion House	Commercial	68
Isis House	Commercial	66
84-110 New Oxford Street	Commercial	67
71-75 New Oxford Street	Commercial	72
Bucknall St Warehouse	Commercial	80

5.3. Sequence 3 – Scaffolding, Demolition of Roof Structures and Piling

Sequence 3 for Castlewood House involves Trim piles and formation of pile caps commencing 10th December 2019 to 20th December 2019, demolition of roof structures commencing 10th December 2019 to 19th December 2019, and piling and installation of king posts to the internal site perimeter commencing 10th December 2019 to 3rd January 2020.

Sequence 3 for Medius House involves the erection of scaffolding to New Oxford Street elevation commencing 29th November 2019 to 6th February 2020, and the erection of scaffolding to building rear commencing 20th December 2019 to 6th February 2020.

Figure 5.3.1 – Noise Contour Map for Sequence 3

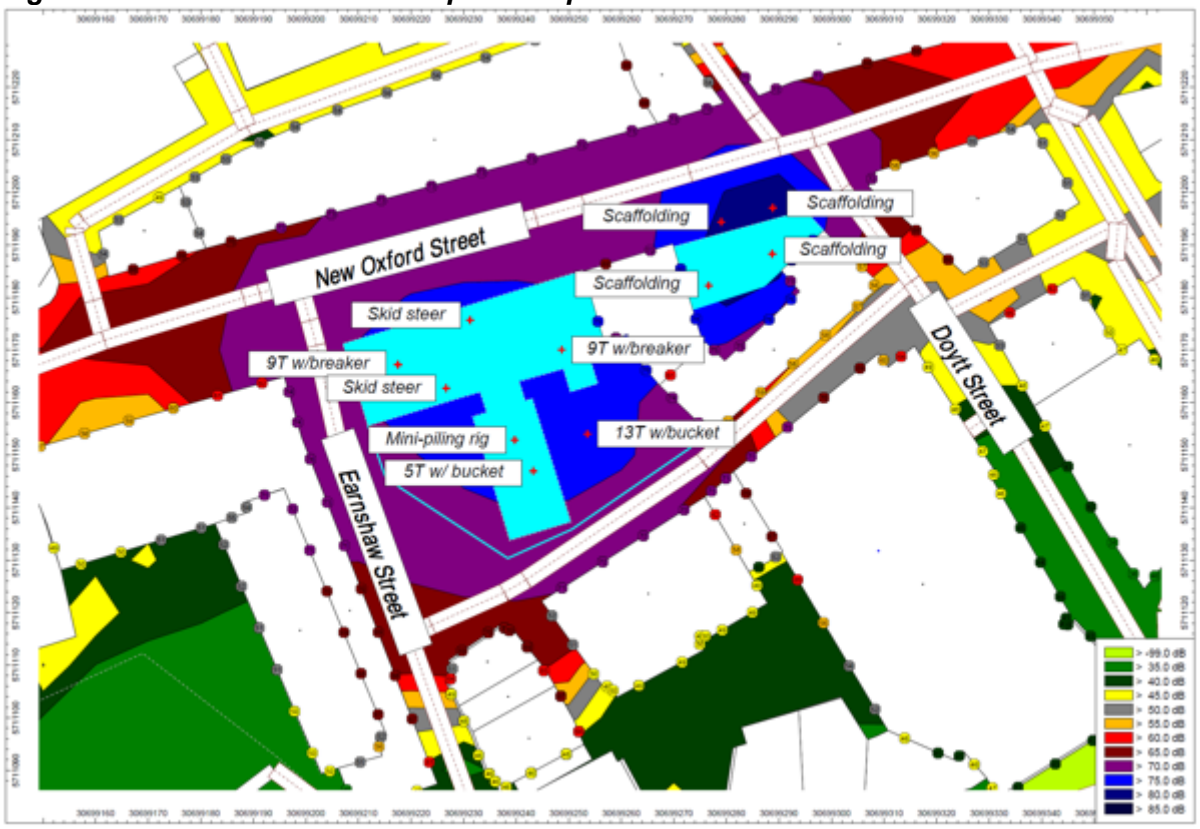


Table 5.3.1 – Plant List for Castlewood House for Sequence 3

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
9T excavator with hydraulic breaker attachment	C.1 Ref 17	2	111	83	70
Skid steer	Measured	2	103	75	60
13T excavator with bucket attachment	C.6 Ref 12	1	102	74	70
Mini-piling rig	C.3 Ref 17	1	104	76	70
5T excavator with bucket attachment	C.4 Ref 68	1	93	65	70

Table 5.3.2 – Plant List for Medius House for Sequence 3

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
Scaffold poles and clips	D.7 Ref 1	4	108	80	50

Table 5.3.3 - Predicted Noise Levels at the Nearest Receptors for Sequence 3

Most Sensitive Receptors	Property type	Predicted noise levels $L_{Aeq, 10h}$ dB(A) includes façade reflection
Centre Point House	Residential	74
5 Earnshaw Street	Commercial/Residential	70
Central Saint Giles	Commercial	72
1-13 St. Giles High Street	Commercial	71
Bloomsbury Central Baptist Church	Commercial	65
Albion House	Commercial	72
Isis House	Commercial	72
84-110 New Oxford Street	Commercial	73
71-75 New Oxford Street	Commercial	79
Bucknall St Warehouse	Commercial	76

5.4. Sequence 4 – Demolition of 9th to 7th floors and Erection of Scaffolding.

Sequence 4 for Castlewood House involves the demolition of 9th floor down to 7th floor commencing 20th December 2019 to 3rd February 2020 and piling and the installation of king posts to external site perimeter commencing 6th January 2020 to 17th January 2020.

Sequence 4 for Medius House is a continuation of Sequence 3 involving the erection of scaffolding to New Oxford Street elevation commencing 29th November 2019 to 6th February 2020, and the erection of scaffolding to building rear commencing 20th December 2019 to 6th February 2020.

Figure 5.4.1 – Noise Contour Map for Sequence 4

Table 5.4.1 – Plant List for Castlewood House for Sequence 4

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
9T excavator with hydraulic breaker attachment	C.1 Ref 17	2	111	83	70
Skid steer	Measured	2	103	75	60
13T excavator with bucket attachment	C.6 Ref 12	1	102	74	70
Mini-piling rig	C.3 Ref 17	1	104	76	70
5T excavator with bucket attachment	C.4 Ref 68	1	93	65	70

Table 5.4.2 – Plant List for Medius House for Sequence 4

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
Scaffold poles and clips	D.7 Ref 1	4	108	80	50

Table 5.4.3 - Predicted Noise Levels at the Nearest Receptors for Sequence 4

Most Sensitive Receptors	Property type	Predicted noise levels $L_{Aeq, 10h}$ dB(A) includes façade reflection
Centre Point House	Residential	73
5 Earnshaw Street	Commercial/Residential	72
Central Saint Giles	Commercial	74
1-13 St. Giles High Street	Commercial	71
Bloomsbury Central Baptist Church	Commercial	64
Albion House	Commercial	72
Isis House	Commercial	71
84-110 New Oxford Street	Commercial	72
71-75 New Oxford Street	Commercial	79
Bucknall St Warehouse	Commercial	76

5.5. Sequence 5 – Demolition of 6th to 3rd Floors and Roof Structures.

Sequence 5 for Castlewood House involves the demolition of 6th floor down to 3rd floor commencing 31st January 2020 to 12th March 2020, and the breakout and installation of thrust blocks and raking shores commencing 10th February 2020 to 28th February 2020.

Sequence 5 for Medius House involves the demolition of roof structures down to 3rd floor commencing 7th February 2020 to 13th March 2020.

Figure 5.5.1 – Noise Contour Map for Sequence 5

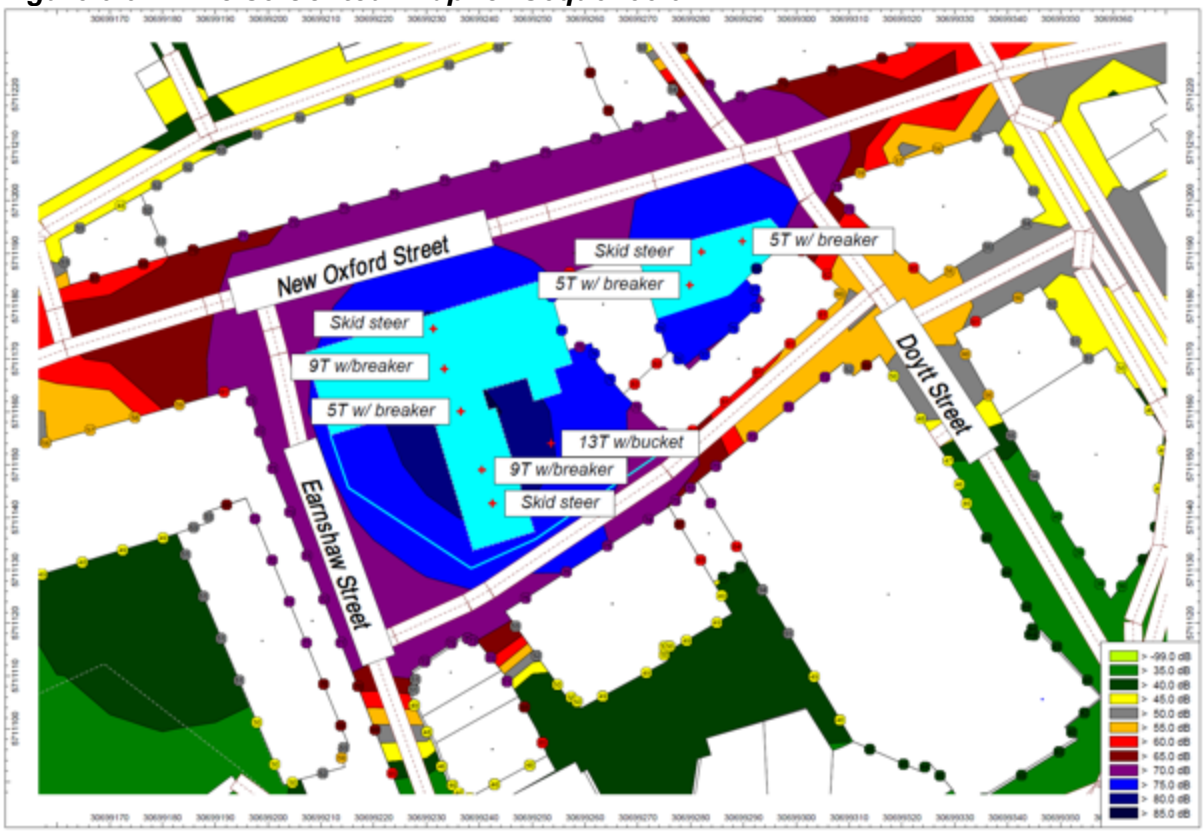


Table 5.5.1 – Plant List for Castlewood House for Sequence 5

Plant	BS5228 ref (or other source)	No of items	SWL	L @10m	% on time
9T excavator with hydraulic breaker attachment	C.1 Ref 17	2	111	83	70
Skid steer	Measured	2	103	75	60
13T excavator with bucket attachment	C.6 Ref 12	1	102	74	70
5T excavator with hydraulic breaker attachment	C.5 Ref 2	1	111	83	70
Waste lorry	C.2 Ref 34	1	108	80	25

Table 5.5.2 – Plant List for Medius House for Sequence 5

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
5T excavator with hydraulic breaker attachment	C.5 Ref 2	2	111	83	70
Skid steer	Measured	1	103	75	60

Table 5.5.3 - Predicted Noise Levels at the Nearest Receptors for Sequence 5

Most Sensitive Receptors	Property type	Predicted noise levels $L_{Aeq, 10h}$ dB(A) includes façade reflection
Centre Point House	Residential	73
5 Earnshaw Street	Commercial/Residential	73
Central Saint Giles	Commercial	75
1-13 St. Giles High Street	Commercial	73
Bloomsbury Central Baptist Church	Commercial	61
Albion House	Commercial	73
Isis House	Commercial	72
84-110 New Oxford Street	Commercial	73
71-75 New Oxford Street	Commercial	79
Bucknall St Warehouse	Commercial	84

5.6. Sequence 6 – Low Level Demolition

Sequence 6 for Castlewood House involves the demolition of 2nd floor down to ground floor commencing 11th March 2020 to 3rd April 2020, and demolition of ground floor slab commencing 31st March 2020 to 9th April 2020.

Sequence 6 for Medius House involves demolition of 2nd floor down to ground floor commencing 16th March to 20th April 2020.

Figure 5.6.1 – Noise Contour Map for Sequence 6

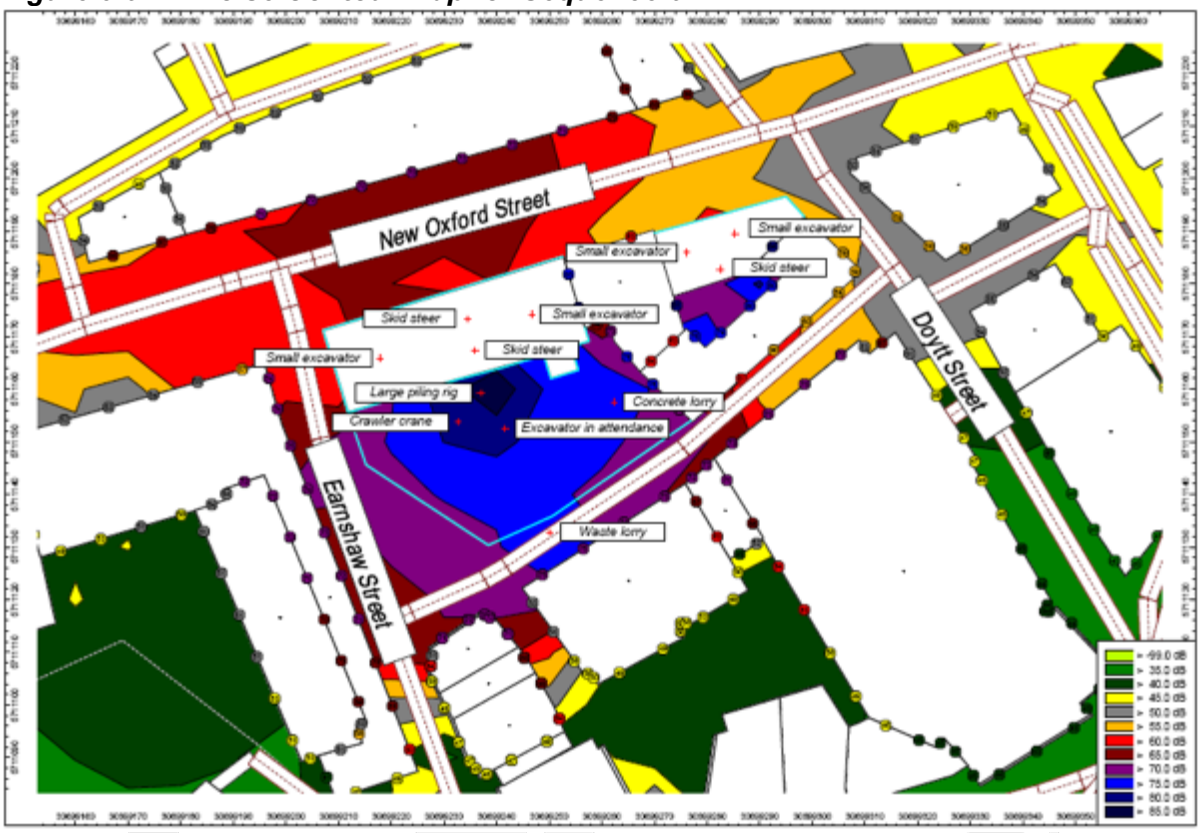


Table 5.6.1 – Plant List for Castlewood House for Sequence 6

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
30T excavator with pulveriser attachment	C.1 Ref 4	1	104	76	70
20T excavator with bucket attachment	C.2 Ref 29	1	107	79	70
13T excavator with bucket attachment	C.6 Ref 12	1	102	74	70
Waste lorry	C.2 Ref 34	1	108	80	25

Table 5.6.2 – Plant List for Medius House for Sequence 6

Plant	BS5228 ref (or other source)	No of items	SWL	L_{Aeq} @10m	% on time
5T excavator with hydraulic breaker attachment	C.5 Ref 2	2	111	83	70
Skid steer	Measured	1	103	75	60

Table 5.6.3 - Predicted Noise Levels at the Nearest Receptors for Sequence 6

Most Sensitive Receptors	Property type	Predicted noise levels $L_{Aeq, 10h}$ dB(A) includes façade reflection
Centre Point House	Residential	72
5 Earnshaw Street	Commercial/Residential	73
Central Saint Giles	Commercial	76
1-13 St. Giles High Street	Commercial	72
Bloomsbury Central Baptist Church	Commercial	52
Albion House	Commercial	73
Isis House	Commercial	71
84-110 New Oxford Street	Commercial	72
71-75 New Oxford Street	Commercial	79
Bucknall St Warehouse	Commercial	84

6. Summary

European Environmental Monitoring and Consultancy (EEMC) Limited have undertaken noise modelling works for planned demolition and associated works at the Castlewood House & Medius House project.

Noise contour maps and the predicted noise levels at the nearby sensitive receptors are presented in the tables in Section 5.

Predictions for Bucknall Street Warehouse are the highest during the work sequences 5 and 6. The work methodology and plant on-times and quiet periods can be reviewed for these sequences to identify any further practicable mitigation measures that may be available to minimise noise impact on this property.