

Report – Reference N&V-R2224

## **NOISE & VIBRATION INVESTIGATION FLAT [REDACTED] FORTRESS ROAD, LONDON NW5 1AD**

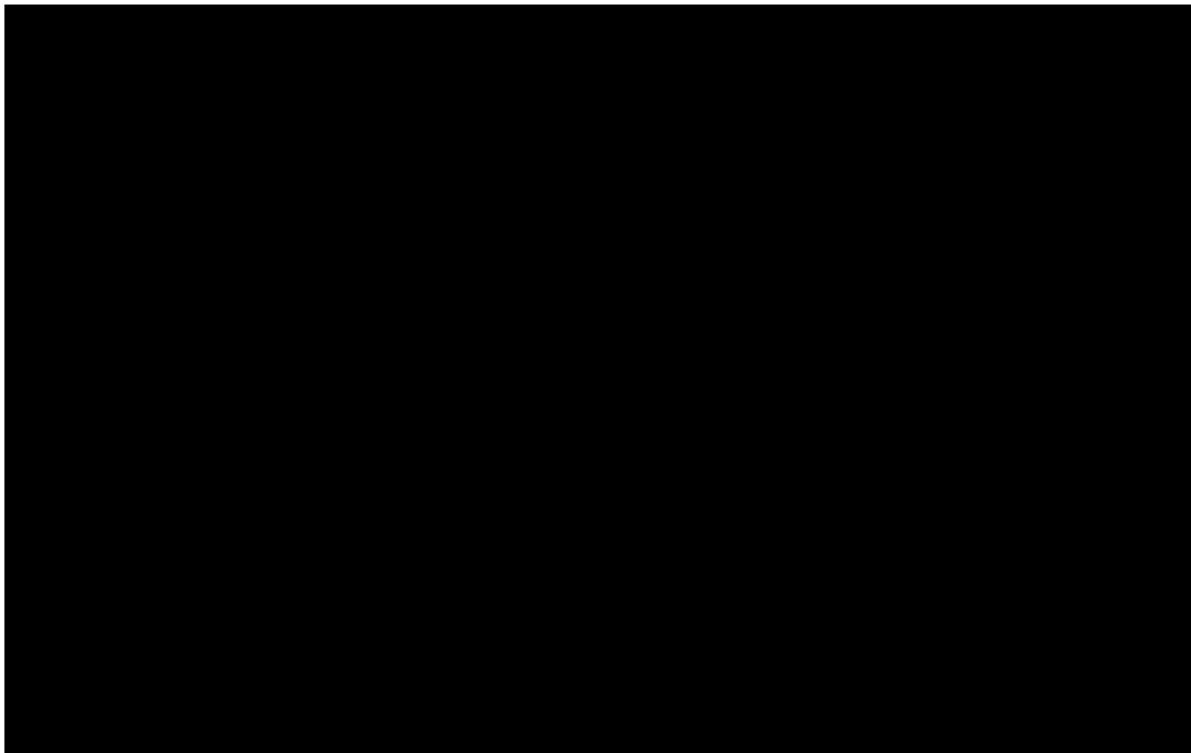
Issue Date: 18<sup>th</sup> January 2018

Prepared by: Jose Barros

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### **1. COMPLAINT DETAILS**

<b>Complaint ref.</b>	[REDACTED] Fortress Road, London NW5 1AD (10823817)		
<b>Property location</b>	Northern Line – Kentish Town to Tufnell Park (see Figure 1)	<b>LCS Codes</b>	N084/NNBFA 327m N084/NSBFA 358m



**Figure 1 - Location of the property in relation to the Northern line.**

Following the previous set of measurements, remedial works were undertaken on the northbound road. Noise and vibration measurements were arranged to assess any possible benefit produced by said works.

### **2. MEASUREMENT DETAILS**

<b>Date of measurement</b>	21/12/2017
<b>Measurement location</b>	Basement bedroom
<b>Equipment used</b>	01dB dB4 system for data acquisition 1C5617

### 3. RESULTS OF NOISE MEASUREMENTS – ( $L_{AMAX, FAST}$ ) dB(A):

	Northbound				Southbound				Background ( $L_{A90}$ )
	No. of Trains	Min.	Max.	Mean	No. of Trains	Min.	Max.	Mean	
15/09/2017	7	42	44	44	7	41	42	42	24
21/12/2017	9	41	43	42	7	41	42	41	27

### 4. OBSERVATIONS

Within the property, both north and south bound trains were still clearly perceptible, and events on both roads still presented an intrusive nature. The noise character of trains on both roads remained unchanged. Southbound trains still sounded mostly impulsive, whilst northbound had a loud rumble character.

The redundant train stop at LCS 300m and the IBJ's found at LCS 301 (RHR), 308 (LHR), 310 (RHR) and 311m (LHR) were removed on November 2017. Therefore, PV was installed where these track features once were located.

Unfortunately, the benefits attained by these works only accounted for a 2dB reduction. The author did not perceive any difference between both sets of measurements, which is to be expected, since that a difference of at least 3dB is required to denote a change in noise levels. The plot below presents the before, and after noise plot for train events.

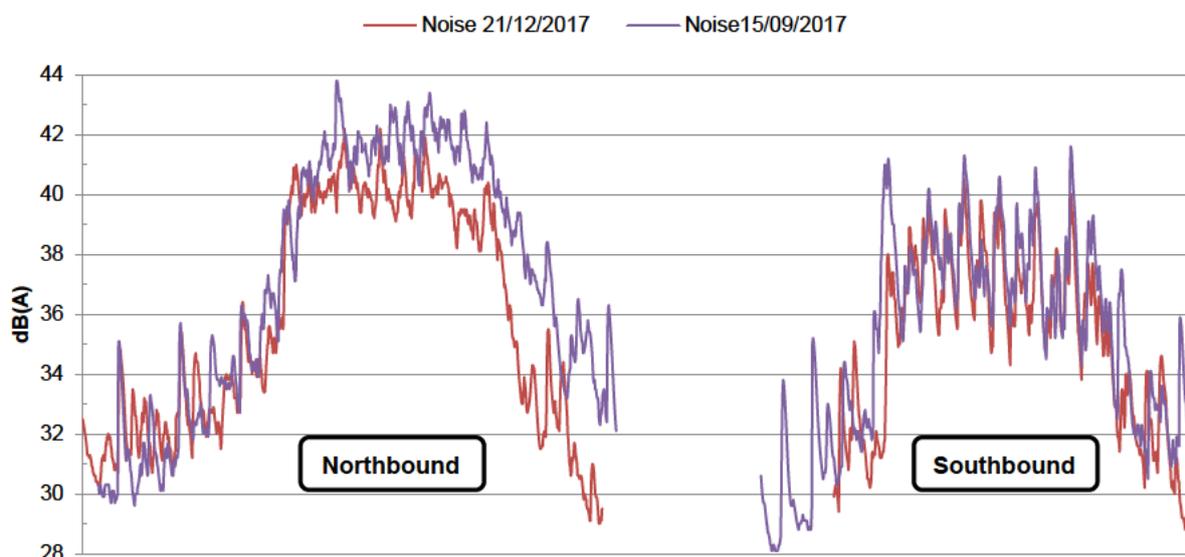


Figure 2 – Before and after noise plot of trains on both roads of the Northern line

Within this property, it is likely that noise levels produced by northbound train events are far more influenced by the existing rail roughness located before the PV site, as noted in the previous report, R2172.

Extending the PV to LCS 200m should provide immediate mitigation.

Conversely, southbound trains' noise level and character was indeed far more influenced by existing discontinuities on the track. This assumption can be made based on the perceived impulsive character, which if addressed, should lower the noise level and intrusiveness of these trains.