

Report – Reference N&V-R2079

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

Issue Date: 9th June 2017

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1. COMPLAINT DETAILS

Complaint ref.	[REDACTED] Fortress Road, London NW5 1AD (6816702)		
Property location	Northern Line – Kentish Town to Tufnell Park (see Figure 1)	LCS Codes	N084/NNBFA 330m N084/NSBFA 350m

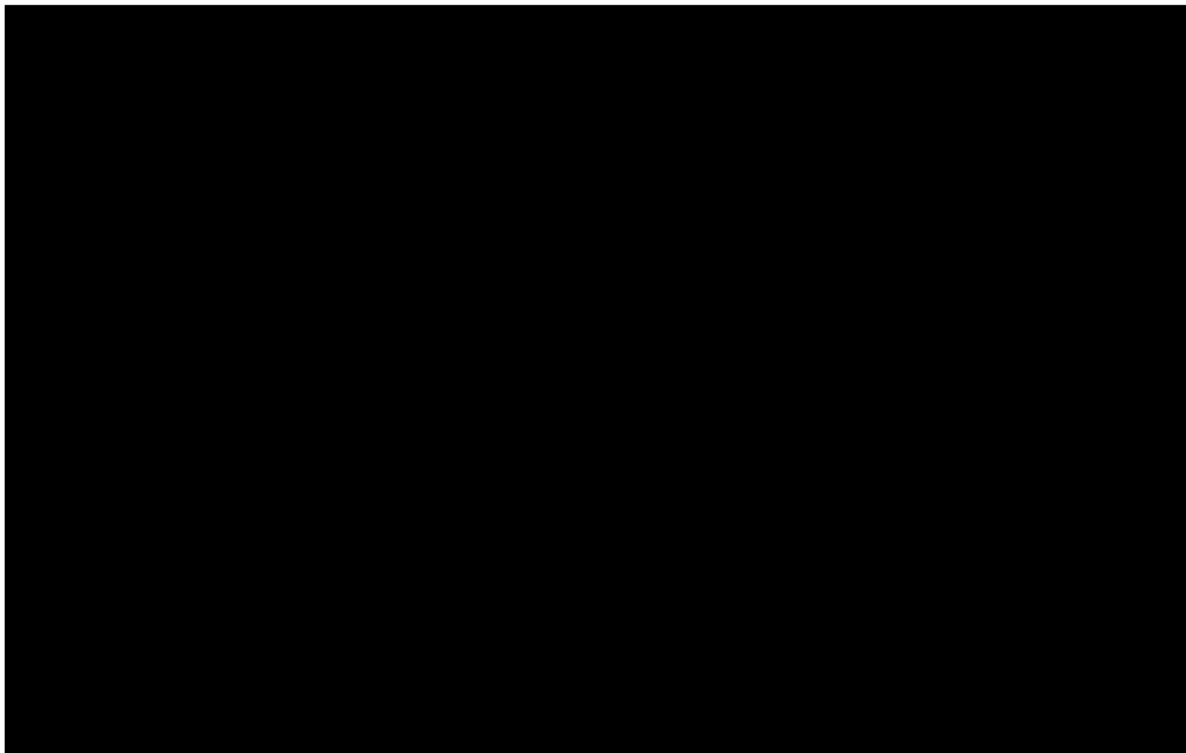


Figure 1 - Location of the property in relation to the Northern line.

Following the previous set of measurements, the Pandrol Vanguard (PV) retrofit system has been installed on the northbound road, between LCS 270 and 390m.

Noise and vibration measurements were arranged to assess the existing noise levels and the possible benefits of these works.

2. MEASUREMENT DETAILS

Date of measurement	05/06/2017
Measurement location	Basement bedroom
Equipment used	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	
09/10/2016	12	50	51	51	10	35	37	36	24
05/06/2017	7	40	41	40	6	35	37	36	24

4. OBSERVATIONS

Similar to the previous set of measurements, both north and south bound trains were clearly perceptible within the property, with northbound events still presenting an intrusive nature. Noise levels of southbound trains, did not change in the interim, albeit nearby properties showing some reduction. These events still sounded impulsive.

Regarding loud rumble character of northbound events, it has been mitigated, given the 11dB reduction in noise levels. This is indicative of the PV site moderate success given that since similar installations have shown on average a mitigation of roughly 15dB.

During the last set of rail roughness measurements, a redundant train stop was identified at LCS 300m. In addition, four IBJ's were also found at LCS 301 (RHR), 308 (LHR), 310 (RHR) and 311m (LHR). These features prevent the installation of the PV retrofit over a space of two or more sleepers, causing a "short-circuiting" effect of the PV fixings, which could lead to an increase of in-property noise levels. The plot below shows a comparison between both sets of measurements, providing a better understanding of how train noise is generated.

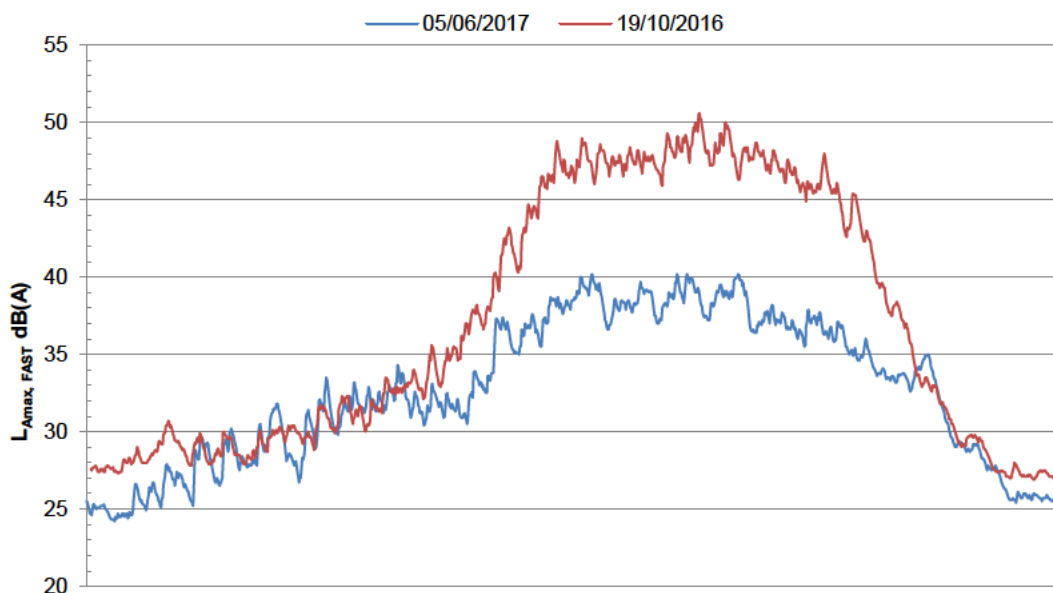


Figure 2 – Northbound train's noise plots; comparison between pre and post PV installation