

Stockley Junction Monitoring

Background

Carillion have built a 1000 tonne rail flyover close to Heathrow. The 120m long structure is the largest single span bridge to be built anywhere to the west of London since Brunel's era. Building a 1000 tonne structure always had the potential to create noise and vibration, and doing it in a populated part of London meant there was a possibility for complaints. SRL was employed to tackle the scheme's noise and vibration challenges, to allow it to be delivered on time and on budget.

Challenge

Meeting the critical timeline was imperative on this scheme. Construction work had to happen without stoppage or delay. This meant identifying and then mitigating the risk of construction noise and/or vibration complaints before the work started. The site was large and in a densely populated part of London. Before we could start works on site we had to gain Local Authority consent for our Section 61 application. Once consent was granted, we produced a comprehensive noise and vibration management plan that would allow the works to run smoothly.

Solution

We worked together with the Local Authority, Network Rail, our client and the local community to carry out an extensive exercise to determine and agree upon the most appropriate noise and vibration receptor positions for both the assessments and the monitoring. We developed a close working relationship with the Local Authority allowing us to gain all necessary consent for the works through multiple Section 61 applications. We developed bespoke 3D computer noise modelling software to predict the noise impact from construction work to the noise sensitive receptors. The software allowed us to critically assess the client's proposed construction methodology and feedback comments regarding the scheduling of specific works and also investigate the impact of alternative construction methods. Our comprehensive noise and vibration monitoring solution sent text alerts directly to the site agents whenever the noise and/or vibration criteria were exceeded. This allowed our client to react instantly and investigate any potential issues as and when they happened.



Stockley Flyover



Images courtesy of Crossrail

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