

Vibration serviceability assessment

The company provides the following typical services:

Vibration serviceability design specification and management of pertinent design

As the vast majority of vibration serviceability problems occur due to a fragmented approach to design and lack of early information, overview and specification, this service is ideally adopted as soon as vibration serviceability is identified as a potential issue in design. If vibration serviceability assessment (both analytical and/or experimental) is performed by third parties, we can manage this process on behalf of the client by producing specifications and advising on the work of third parties pertinent to vibration serviceability.

Analytical assessment of vibration performance

We have expert knowledge in finite element modelling of large civil engineering structures and requirements for correct representation of their vibration behaviour. Our knowledge is complemented by enhanced confidence in the modelling strategies which we adopt. This confidence was gained through years of experience with comparing analytical and experimental results on as-built structures. This is our key competitive advantage compared with typical the civil structural engineering approach which relies on modelling only whereby the feedback from the as-built structure is almost never provided.

Experimental assessment of vibration performance

We have expertise i.e. facilities and experience to carry out any kind of dynamic testing on a large civil engineering structure ever described in the literature published in English. All our experimental facilities and procedures are geared up for field operations. Our key competitive advantages are:

1. We can mobilise at short notice quickly, sometimes within 24h only, to carry out field work anywhere in the world; our contract negotiations are short and efficient.
2. We use best state-of-the-art equipment available in the UK, developed/commissioned by the three academic directors over last 25 years
3. We can carry out quality-assured work on site quickly, typically requiring possession for the structure for only 24-48 hours.
4. We produce and assess validity of key experimental results, including measured modal properties, while on-site, part of our quality assurance system.
5. We produce first drafts of our reports from testing typically within 5-10 working days from the end of the testing.

Integrated experimental and analytical assessment of vibration performance

We offer an integrated approach to our clients. This means a one stop shop to resolve vibration serviceability issues. We provide full cycle design which includes, ideally: specification, analysis, testing, design/model verification and management of overall design related to vibration performance.