



Client:

Children's Hospital

Location:

West Midlands

Featured Product Range:



SOUNDEX®
Noise Control



DUSTEX®
Dust Control



MONITEX®
Monitoring

Noise, Dust and Vibration Risks Successfully Controlled During Construction Works at a Children's Hospital

Project Overview

Work was due to take place at a leading UK specialist paediatric centre that offers expert care for children and young people from across the country.

A bespoke multi-phase new build infill scheme was planned to increase the hospital's capacity, and once complete, the new build would be connected to the existing hospital building. The hospital planned to operate as normal while work took place, which meant that staff, patients and visitors needed to be kept safe from health hazards at all times.

Challenge

A top tier contractor was tasked with delivering this project. The team were mindful that dust, noise, and vibration would need to be carefully monitored in this sensitive hospital environment. The project included internal refurbishment works, along with major external construction activities such as piling, reduced level digging, and ground floor slab formation. This would all be taking place in extremely close proximity to highly sensitive areas of the hospital, including a live clinical facility housing immunocompromised patients. Dust and noise created from the construction process could cause disruption and a health risk to those nearby if the hazards were able to migrate through window openings and operational Heating, Ventilation and Air Conditioning (HVAC) systems. There was also a risk that if works created an excessive amount of vibration, that it could potentially damage the structure of the existing hospital building.

A concern was raised about the use of dust suppression on site and the associated risk of Legionnaires Disease. This disease is contracted by inhaling small droplets of water suspended in the air which contain bacteria. This is usually a very low risk in terms of using water mist cannons on site, but Legionnaires Disease is a higher risk for anyone with an impaired immune system, so it was imperative that the health of patients at the hospital was prioritised at all times.

The contractor needed to demonstrate that extensive control measures were in place to ensure compliance with HSE guidance and Infection Prevention Control at the hospital. The contractor had full confidence that RVT would deliver a compliant health hazard control solution to keep everyone safe.

- The RVT team install and ensure accurate configuration of all monitoring equipment on site.
- MONITEX® Monitoring Solutions allow the user to view accurate and real-time measurements displayed on easy-to-read graphs, schematics and 3D modelling.
- The reporting software is pre-configured based on the monitoring requirements. Trigger levels are set to alert users to any breaches during monitoring.
- Monitoring noise, dust and vibration levels is the only way to prove to local authorities that the construction project has remained within the specified limits.
- In addition to static units, RVT offer easy-to-use handheld units for both dust and gas monitoring.
- RVT's MONITEX® range is highly reliable, providing accurate readings as frequently as every second.
- Many of our monitoring systems are cloud-based, saving you time and hassle by enabling you to retrieve data remotely at any time.
- It is imperative that contractors work with the IPC team and follow the Health Building Note for Infection Control in the Built Environment (HBN 00-09).

Solution

RVT supplied and installed a range of solutions including dust suppression, acoustic curtains, and noise, dust, and vibration monitors.

Following the concern raised about the use of dust suppression on site, RVT assured the site team that the units would undergo a stringent sterilising regime to ensure that the bacteria that causes Legionnaires Disease was not present before use. This meant that dust suppression could safely take place on site to pull hazardous airborne particles to the ground to prevent dust inhalation.

In regards to monitoring hazards, Dust, Noise, and Vibration Monitors were sited at strategic points internally and externally at the hospital. MONITEX® Area Dust Monitors were placed inside wards to monitor particle emissions continuously and in real-time. The results gave the site team complete assurance that dust was not migrating into the hospital.

MONITEX® Area Noise Monitors were placed inside wards (as seen in the photos below). The 'plug and play' set-up of these monitors is quick and easy, after a few minutes the monitors were set-up and running. Noise pollution was continuously monitored with automatic reporting, giving peace of mind that if noise was close to exceeding the predefined noise limits, the site team would be alerted by SMS or email. With the initial results reporting noise levels close to the predefined limits, we quickly installed RVT's SOUNDEX® Quilts, which reduced the noise created by site work by up to 28.2 dB. After the installation of acoustic quilts around the construction site, the noise monitors reported satisfactory and compliant recordings throughout the project.

The MONITEX® Vibration Monitor installed on site helped to ensure compliance with the Control of Vibration at Work Regulations 2005. Automatic text and SMS alerts could be set up, allowing the site team to monitor vibration levels closely.

Having RVT's hazard monitoring, acoustic quilts, and dust suppression solutions on site successfully kept everyone safe and the project on track.

Photo Gallery



RVT's Noise Monitor inside the hospital monitoring noise levels in real-time.



RVT's Noise Monitor inside a children's ward, continuously monitoring noise pollution.



Construction work safely taking place directly outside of the Children's hospital.

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Understanding Health Building Note HBN 00-09

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