



ICHNE Laboratories Newcastle upon Tyne, UK

Completion January 2021

Project Type Healthcare

Client Newcastle upon Tyne Hospitals

Main Contractor Robertson CE Ltd

Value £17m

Area 5,700sqm

COVID testing laboratories designed for Newcastle upon Tyne Hospitals, including delivery areas, staged laboratory testing areas, and support and welfare space for approximately 1,000 staff.

The Integrated Covid Hub North East (ICHNE), also known as the Newcastle Lighthouse Laboratory, was designed and constructed in response to the COVID-19 pandemic and the urgent requirement to increase virus testing capacity across the UK.

The lab can process up to 80,000 tests per day and completed over 10 million tests throughout the pandemic.

Retrofit Strategy

The project is a great example of adaptive reuse, comprising the internal refurbishment of two industrial warehouses, converting them into a rapid test processing facility.

Both existing units were single storey, to which an upper floor was added. The works needed to have a minimal effect on the existing fabric so that the units could be returned to their original state once the facility was no longer needed.

A Structural Framing System (SFS) was used to build a box within the existing fabric to support the upper floor with minimal connection to the existing slab and walls.

WC locations were also tied into the existing locations to avoid damaging the existing slab. All other drainage was pumped to the building perimeter for connection.



Retrofit Type
Critical Infrastructure - Healthcare





A flow sequence for the operational use of the lab space was developing as the unit was being constructed. This required a degree of flexibility in the use of the larger lab spaces.

Technical aspects of the equipment design and servicing requirements also changed as the construction progressed.

Bio and physical security of the development needed to be considered in the design of the site layout, impacting access to the lab services from the deck, the lobbies between the labs and electronic door access.

An enclosed link corridor was constructed between the two units to allow for the controlled safe passage of staff.



Lessons Learnt

Access to reliable record and survey drawings was required at an early stage of the project. This helped to inform the design plan layouts, which needed to consider the structural capability of the SFS floor deck and supporting walls alongside the technical spatial layout.

With an urgent need for the facility during a difficult time of the pandemic, close cooperation was required between the design team, the contractor and the client.

This enabled the facility to be handed over ahead of schedule and just five months after initial design work commenced.

The extremely short project timescale required the ability to respond quickly and adapt to design issues that were uncovered on site, with a strong flexibility in response.