



Health Estate

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Fast-track theatre conversion success

No drama in fast-track theatre conversion

MTX Contracts, a specialist contractor with a growing healthcare portfolio, has helped the Heatherwood and Wexham Park Hospitals NHS Foundation Trust in Berkshire meet growing demand for orthopaedic surgery with the ultra-fast conversion of a former X-ray department to a new ultra-clean theatre. Pulling up multi-layer 1930s-laid parquet flooring, erecting extensive steelwork to provide structural and services support, and knocking through sizeable walls while minimising disruption to adjacent services, were among the challenges successfully met. Jonathan Baillie reports.

The new 164 m² ultra-clean operating theatre suite, which MTX completed and handed over to the Heatherwood and Wexham Park Hospitals NHS Foundation Trust on time and on budget in just 14 weeks on 13 August, has been constructed within a large 1930s-built block at the Heatherwood Hospital on the outskirts of Ascot, and will be used for a wide range of orthopaedic procedures. The sixth permanent theatre at the 230-bed district hospital, the new orthopaedic unit is also the third such facility MTX Contracts has built on the site. The Stockport-based contractor extended the hospital's existing theatre block to provide the site's first orthopaedic theatre in 1997, and, a year later, undertook a similar conversion to the latest project, of another X-ray area, to form the hospital's second such surgical facility.

With demand for orthopaedic surgery rising year-on-year, head of estates and capital projects at the Heatherwood and Wexham Park Hospitals NHS Foundation Trust Anthony Downey explained that, around 18 months ago, the Trust's board reviewed a range of potential options for supplementing existing theatre capacity. One of the key criteria was that, with the lease for a temporary orthopaedic theatre sited in one of the hospital's car parks due to expire this September, additional theatre capacity needed to be provided extremely quickly.

"Normally when looking to build a new theatre unit of this type an estates department would enter a competitive tender process but, with the need to really fast-track this project through, I recommended to the board a single tender action," he explains. "This meant producing a detailed presentation to



The latest completed orthopaedic theatre, constructed by MTX at the Heatherwood Hospital site, is already in demand from the Trust's orthopaedic surgeons.

substantiate the argument both for a single tender and for the chosen contractor, while Estates Design and Technical Services (which is part of Berkshire Shared Services, hosted by Berkshire Healthcare NHS Trust, and was also the contract administrator)) appointed an outside quantity surveyor and cost consultant, Osbornes, to undertake a full value-for-money analysis,

and ensure that the price paid would not exceed what we might have been able to achieve via competitive tender.

Excellent track record

"Having worked well with MTX previously, and been impressed with the high standard of build and prompt completion of the earlier theatres the company had constructed for us, I believed they would make an excellent job of this latest conversion."

With the Trust board happy to sign off a single tender arrangement on the basis that the full design and construction costs were independently analysed, it took just two months to progress from acceptance of the tender to a start on site by MTX. Before the main works could start in early May this year, however, the

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Trust's estates department direct labour force had to re-locate, to a ward block elsewhere on the site, three existing surgical and urology pre-assessment waiting areas, a process with which MTX also assisted.

With the area to be converted into the new theatre adjacent both to other theatres and to a main hospital corridor, MTX erected a temporary screen along the length of the construction area, which enabled all the construction work to be undertaken in a completely isolated area. "We were greatly helped, throughout," explains MTX project director Steve Hartley, "by the Trust making available to us our own entrance in the former pre-assessment area. This enabled construction materials and equipment, and items for installation within the new theatre, to be transported by lorry right up to the site for unloading. This made a substantial difference to the project's smooth progression."

'Tongue and groove' floor

While, working in conjunction with the Trust, MTX had undertaken a detailed site survey prior to putting in its tender, a number of elements relating to the existing building's design and features proved slightly more of a challenge than expected. In particular, MTX discovered that pulling up the old tongue and groove wooden floor in the area being converted took "somewhat longer" than it had anticipated. Steve Hartley explained: "The old parquet flooring, which we believe would have originally been fitted in the 1930s, had timber batten and around 80 mm of concrete below it, with hardboard and a vinyl covering above it. The process of pulling up and removing all of this material set us back by a few days, but we were fortunately able to pull this back so the overall programme was unaffected."

In addition to dealing with the flooring, MTX had not only to connect existing electrical, steam and water supplies from adjacent rooms and buildings to the new theatre, but also to ensure that,



A surgeon's control panel within the new theatre.

One of the other challenges we faced was chipping out a number of walls to create a cantilevered ceiling to support the main air handling plant

throughout the process, there was no impact on surgical procedures being undertaken in the other theatres close by. Electricity supply had to be drawn from the main intake room and the maternity department plant room some 300 metres away, while steam and water was brought in from local plant rooms and ducting. During this work MTX appointed a specialist sub-contractor to remove old asbestos lagging in some of the ductwork.

Designed and built to a specification provided by EDTS to meet all relevant HTMs and HBNS, including those for laminar air flow, the theatre itself cost some £600,000 to build, with the overall project cost, encompassing purchase of medical equipment and supplies, external cost consulting and other consultant fees, surveys, asbestos removal, and VAT, being around £1.2 million.

Double-height ceilings

Steve Hartley said: "This project entailed a significant amount of demolition of existing walls and other structural elements, one of the considerations being

that part of the area we were working in had a double-height ceiling. Prior to starting this work we took extensive advice from the structural engineers on the project, JNP Group, to ensure that we were as well-prepared for all elements of the demolition and subsequent conversion process as possible. Going into an existing, older hospital property is always something of a challenge, because you never quite know what you will find, as we discovered with the flooring. One of the other challenges we faced was chipping out a number of walls to create a cantilevered ceiling to support the main air handling plant."

The new theatre is equipped with an MAT laminar flow canopy incorporating HEPA air filtration, while Brandon Medical supplied a number of its HD-LED surgical lights to ensure that surgeons undertaking often tricky and intricate orthopaedic procedures have the best possible view.

Due to the restricted height in some parts of the building it proved impossible to provide sufficient access to new plant incorporated in the roofing and ceiling void from underneath, so MTX constructed a new plant deck accessed from an existing maintenance walkway above the new theatre. Also constructed alongside the theatre were an adjoining sluice room, preparation area, and single-bed recovery bay. MTX also fitted lead-lined walls some 2.4 metres high to one elevation to protect patients and staff in adjoining rooms from residual radiation from the image intensifiers which will be used in the new theatre.

Isolated power panels and the various services that feed into the theatre such as medical gases are as discreetly "hidden away" as possible, while the original flooring was replaced by a quick-drying Polyfloor moisture screed with a vinyl



Working ongoing in mid-July this year in the anaesthetic area and theatre corridor.



The completed one-bed recovery bay and anaesthetic area.

coating. This work was undertaken by VCS Flooring, a contractor with whom MTX has an excellent business relationship, considering the company as "something of a pioneer" in the use of vinly for walls, floors and ceilings.

Steve Hartley said: "All the joints are welded for a seamless finish, while we also extended the flooring upwards to meet the walls. All surfaces are designed to be extremely easy to clean. The Steridex materials used to coat the walls and ceilings have an anti-bacterial formulation."

Minimising impact

He adds: "Thanks to the excellent access to the site, and the use of the temporary screen, we were able to undertake the demolition, construction and fitting out of the theatre and associated areas with minimal impact on the adjoining theatres and other hospital facilities. Despite some quite challenging demolition work, the issues with the flooring, and the need for fairly extensive and involved structural alterations, the project went very smoothly and we enjoyed an excellent rapport with both the Trust's estates and capital projects team and with Estates Design and Technical Services, as well as with cost consultant Osbornes and the various external contractors."

Tony Downey, who retired after nearly 40 years in the health service, the last 22 with the Trust, just a fortnight after the new theatre's completion, said: "As with the two previous theatres constructed for us by MTX the

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company has done an excellent job, and I know the clinicians using the new orthopaedic surgery facility, are delighted with it. The project had to be completed to an extremely tight schedule, but despite the considerable time pressures, and the structural and other construction challenges MTX faced, it delivered the new theatre on time and on budget, which was critical for us, to a very high



The new plant deck built by MTX as part of the project, and new air handling units.

standard. This was the last major capital project for me prior to my retirement, so it was especially important from my standpoint that the project should be the complete success it has proven to be."

Mandy Claridge, general manager, surgical services, at the Heatherwood and Wexham Park Hospitals NHS Foundation Trust, added: "The new theatre was much needed to meet the Trust's growing orthopaedic workload, and in the light of the Government's maximum 18-week waiting times. As a Trust we had, in fact, seen a 20% increase in demand for orthopaedic procedures in the past year.

"With the new facility we now have three laminar flow orthopaedic theatres which can undertake a wide range of procedures, on hips, knees, elbows, shoulders, feet, and the spine. The new theatre has also given us the opportunity to undertake all-day surgery, which is what the surgeons want, and all our orthopaedic surgeons are keen to use it.

"When I saw the finished facility

I thought it was absolutely stunning, especially given the very limited space MTX had to work with. The company also extremely skilfully managed the job in a way that saw us able to carry on performing all our usual work without any significant disruption, which was a considerable achievement in itself. The standard of finish and fit is first-class, and we now, as a Trust, undertake all our orthopaedic procedures at Heatherwood Hospital, which has become a centre of excellence for this type of surgery."

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