



Luton Towers Energy Efficiency and Improvement Works

EQUANS transforms high rise blocks; making them more energy efficient

In 2020, following a rigorous tender process, EQUANS was successfully awarded the Energy Efficiency and Improvement Works contract for tower blocks owned by Luton Borough Council. As the top scoring contractor, EQUANS was awarded the highest value Lot (Lot One) and subsequently awarded Lot Three, having achieved 100% against set KPI targets for Health and Safety, Resident Complaints, Programme and Cost.

The contract is part funded by the European Regional Development Fund through their RENEW funding stream, which invests in improving the infrastructure and services of underdeveloped areas and builds on a pilot programme which EQUANS delivered to the Penhill and Leabank towers on the nearby Marsh Farm Estate.

The multi-million pound project will transform the high rise blocks; making them more energy efficient and benefitting residents by lowering fuel bills and improving the overall look and feel of the estates.

EQUANS was initially awarded Lot One, with Lot Three then awarded as a result of excellent performance and achievement of KPIs.

Challenges and Solutions

Five Springs and Heswall Court, under Lot One, and Kingsland Court and Dorset Court, under Lot Three, received part funding through RENEW and demanded maximised programme optimisation and meticulous project oversight to ensure certain elements were completed within a strict timeframe.

This, combined with the restricted footprint and limited space for storage of materials, including the cladding panels, was addressed early on when EQUANS appointed Façade Specialist, Argonaut, following an intense due diligence process.

As well as their ability to both manufacture and install the rainscreen cladding to a high standard, they were able to provide 'just in time' deliveries, with each pallet stacked in the order it needs installing. These features have meant we're able to reduce the need for storage and negate time spent sorting panels on site, thus delivering improved efficiencies.

Capitalising on lessons learned from the Marsh Farm pilot, we were able to implement further improvements in our methodology to both reduce lost time and limit impact on residents.

During the pilot, we identified a significant amount of lost time caused by using mast climbers and presented this insight to the client; proposing to use full scaffold to each block. The benefits of this include:

- Ability to commence works earlier by handing over three levels of scaffold at a time
- Ability to work on multiple elevations at the same time
- Quality checking can be carried out at the same time as work is delivered on other elevations
- Able to work during inclement weather, above what is permissible with mast climbers.



Innovation

With our learning from delivering the pilot works, we have been able to respond proactively and implement approaches to ensure we meet Luton's strict 12 month deadline.

Development of new delivery methodology:

Typically, cladding works are carried out from the top down. However, to optimise the programme, we are working from the ground up as the scaffold is handed over to us three lifts at a time. This enables work areas to open up earlier, where we are commencing with concrete repairs and installation of the cladding brackets. Once the scaffold reaches the top of the 15 storey blocks, we will switch to working from the top down, installing the fire stopping and cladding panels, and removing the scaffold as we handover elevations.

Change of cladding design to remove interlocking panel design:

During the pilot, works were delayed if residents missed appointments as the boilers had to be switched off to work around them. To resolve this, we collaborated with our cladding manufacturer and designed the panel around the gas flues to be independent from the rest of the cladding panels, enabling installation to be flexible around residents' access appointments and removing the risk of delays to the programme.

Implementation of Viewpoint for Projects (VfP): A collaborative BIM certified Common Data Environment solution which we use to manage the process from preliminary designs to handover of As-Built information. Used by all project stakeholders involved during the project lifecycle to streamline processes, control documents, transfer data faster and more accurately and to manage communications between project stakeholders.

VfP ensures 'one version of the truth', with versions/ interactions tracked/ documented in a single audit trail, supporting auditable document processes.

VfP is used as the central store for collating the documentation required for review/signoff, supporting the preservation of the 'Golden Thread' of information.

"The system setup is very good for maintaining records, stage checks and installation locations with this information then being collated on the central digital database. The Inspection and Test Plans are very well supported by photographic backup which is well referenced."

Paul Pearce, Bailey Garner (Third Party Auditor)

Health, Safety and Compliance

EQUANS attaches the highest importance to health and safety, with the protection of individuals and all stakeholders being deeply embedded and guided by our collective objective, "No Life at Risk".

Programme delivery aligns with our embedded ethos of delivering safe and compliant buildings and our continued commitment to ensuring we lead the field in Fire Safety and Compliance is:

- Linked to the implementation of our ACT strategy, guaranteeing Accountability, Competence and Traceability
- Strengthened through our partnership with Frankham
- Reinforced by bespoke, mandatory training delivered at all levels of the organisation, with the project management team for this contract all having undertaken additional training through

Key features

- ☒ Concrete and brickwork repairs and protection. Close working relationship with MDA and use of Margel vapour phase corrosion inhibitor pellets to prevent corrosion and provide structural integrity, supporting a suitable substrate for the cladding system
- ☒ Installation of External Wall Insulation and Rainscreen Cladding systems to 14 storey high rise blocks of residential flats
- ☒ Repairs and recladding to balcony balustrades with installation of pigeon deterrents
- ☒ Installation of Heat Recovery Ventilation Systems within each property
- ☒ LED lighting to all rooms within each flat
- ☒ Solar PV system on the roof with Tesla power bank battery storage to supply green energy to communal services
- ☒ External cladding and insulation to rooftop tank and lift motor room
- ☒ Installation of heavy duty retractable washing lines over baths
- ☒ Replacement of communal windows to lift lobby areas all stairwells on all floors
- ☒ Replacement of smoke vents

Frankham to guarantee knowledge and understanding of the latest legislation and guidance

- Supported through a directly employed dedicated Fire Compliance Manager to provide advice and guidance internally.

Our high standards and approach to fire safety are clearly defined, detailing the key specialist people we collaborate with at design and construction stage, through to how we record and evidence, ensuring a 'golden thread' of information is developed.

All systems are installed by approved installers, ensuring that materials are non-combustible. On this project, an A2 rated (EN BS Standards) rainscreen cladding system is applied; future-proofing buildings ahead of new legislation coming into force to ensure we're building a safer future for our client's residents.

Our Inspection Trackers supported our compliance with Regulation 38, under the Building Regulations 2010 approved document B for England and Wales, enabling the effective and timely compilation and submission of relevant safety information to the Responsible Person.

The trackers are specific to each block, recording:

- Item description/floor level/elevation
- Pull tests of fixings
- Fire break installations
- Wind loading calculated in-line with Eurocode 1 (BS-EN-1991-1-1/BSEN-1991-1-3/BS-EN-1991-1-4) and relevant National Annex
- Photographic evidence (before/after)
- Inspection test date/comments/sign-off.

Making Zero Carbon Happen

EQUANS is committed to leading the way in the transition to zero carbon and supporting local authorities to achieve their zero carbon ambitions.

This commitment permeates all our operations, from responsible procurement practices and onsite waste management through to the use of sustainable building materials and creating more energy efficient homes.

On site, full carbon footprint reporting is carried out, local labour and suppliers are used and non toxic waste is diverted from landfill to achieve a 100% overall waste recycling rate. For this contract, this is achieved through a range of bespoke initiatives including:

- Partnership with VEKA window recycling programme in Luton to recycle the old communal windows
- Leftover Rockwall insulation returned to the manufacturer for recycling
- Procuring insulation and fixings with lower environmental impacts such as embodied carbon/recycled content/reduced packaging/VOCs/ embodied water
- Taking a whole-lifecycle approach in the selection of materials.

Base level energy usage surveys have been carried out with residents in all homes and will be carried out again once the new measures have been installed. These survey results will provide evidence of the successful impact of the improvement works, whilst our RLOs will act as Energy Champions; offering information and tips to residents on how they can further reduce their energy use.

In harmony with EQUANS drive to be the world leader in the Transition to Zero Carbon, on completion of EWI at the six blocks, it is anticipated to deliver an average EPC rating improvement of +2 SAP points per property and can be expected to save residents more than £80 per year on their energy costs. Throughout the six blocks, it can be expected to save more than £55,000 per year on resident's energy costs combined.

The EWI improvements across the six blocks are anticipated to generate O2 emission savings of 346,020kg CO2/year and support Luton Borough Council in their progress towards achieving ambitious government targets to reduce carbon emissions.

Responsible Business

EQUANS takes all aspects of Responsible Business seriously. Our purpose is to improve lives through better working and living environments.

For clients and their residents, this is most tangibly reflected through our commitment to delivering social value activities which directly improve outcomes for local people. EQUANS contracts with Luton are complemented by a bespoke Social Value Plan and the allocation of a dedicated Social Value Manager, Karen Field, who liaises closely with Luton and local organisations to identify opportunities for initiatives and activities to support local people.

With the COVID-19 pandemic having a significant impact on the social value initiatives originally proposed, we are collaborating with partners to revise our plans and develop innovative ways to deliver community outcomes safely, generating more than £700,000 of social value.



Proposed community initiatives include delivery of:

- A range of virtual training courses through our in-house Learning and Development Centre of Excellence (LDCE), offered to Job Centre Plus (JCP) and local residents
- A one-day accredited Health and Safety course, through our LDCE, to enable up to ten participants to upskill and apply for CSCS cards and increase employability
- Six school activities about employability skills and careers, delivered in partnership with 6 x 16
- One Love, Peace and Tolerance art project for a local primary school
- Homes for a Better World project; encouraging students to think about sustainability
- A range of smaller scale community events including 'skip amnesty' events and communal gardening projects
- Mentoring circles offered to JCP for their clients.

"We're delighted to be working with EQUANS to externally insulate and refurbish eight high rise tower blocks for Luton Borough Council. Our long standing relationship with EQUANS, bringing together our combined strengths and expertise, is set to bring about some excellent results on this multimillion pound project to ensure that Luton residents remain safe and warm in their homes."

James Leather

Senior Project Manager

Michael Dyson Associates Ltd

EQUANS Social Value Manager, Karen Field, will also:

- Collaborate to establish a 'job club' at Futures House after lockdown
- Liaise with LBC to offer support to young care leavers in the borough through our bespoke programmes of support delivered through our partnership with the Care Leavers' Covenant
- Ensure that all residents are issued with energy saving advice booklets
- Engage our in-house Trainee, Apprentice and Graduate (TAG) Officer, Suzanne Bingham, to ensure that the new roles of a Trainee Resident Liaison Officer and Assistant Site Manager are initially advertised locally, through LBC social media channels, posters in local areas, adult learning centres and colleges; ensuring local people have first access to apply Maximising the use of local labour and sourcing materials locally also contribute to the local economy and our impact is reported via our Responsible Business Annual Report.

Alongside these interventions, residents and the neighbouring community are kept updated about progress and key milestones via a dedicated, full time resident liaison officer, notice boards, regular newsletters and a bespoke microsite. Excellent communication with both the client and residents is key to delivering these short-timeframe projects and to ensuring residents feel well informed, confident, and safe, particularly in respect of COVID-19 implications.

"The scheme is presented to an excellent standard displaying all the banners and posters, over and above those required by the scheme, access roads are maintained to a high standard by using a regular cleaning regime / power wash, dust issues are controlled by water suppression, this along with a litter picking regime, in place for both public and site areas, resulted in a clean and professional environment, the compound and remote site parking are completed to a finished standard in excess of industry norm.

An excellent level of community engagement was noted when considering the current (COVID-19) restrictions, the practical and positive support to residents and neighbours is worthy of note, opportunities exist to support local charities / educational establishments."

Considerate Constructors Scheme Report

The Outcome

The project is part of Luton's wider Housing Strategy 2019-22, which commits to 'meet the variety of specialist needs which exist and be warm and safe so everyone can have a good quality of life'.

On completion, residents will benefit from a reduction in heating costs through significantly improved thermal performance and new technologies, such as HeatSava heat recovery ventilation units, better insulation, doubleglazed communal windows, LED lighting and the roof-mounted solar PV panels which will generate green energy supply for communal areas. The improvements will deliver an average EPC rating improvement of +2 SAP points per property and can be expected to save residents more than £80 per year on their energy costs.

The improved general aesthetic of both the towers and the wider estates will support Luton in delivering their pledge to 'improve and protect the health, wellbeing, housing and life opportunities outcomes for the people of Luton.'



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