

CLIP CASE STUDY – WHITECROSS HIGH SCHOOL AND SPECIALIST SPORTS COLLEGE, HEREFORD

CLIENT WHITECROSS@STEPNELL LTD

THE CONTRACTOR STEPNEILL LTD

A CONSTRUCTION AND ENGINEERING COMPANY USED CLIP TO HELP ACHIEVE DESIGN SAVINGS OF 25% ON ENERGY CONSUMPTION, AND TO FOSTER EXCELLENT COMMUNICATIONS AND PARTNERSHIP WORKING ...



Mark Wakeford, Managing Director of Stepnell Ltd, explains how CLIP helped the company to make Whitecross High School and Specialist Sports College a top class learning environment and a model of energy efficiency.

Background to the project

Stepnell Ltd is a regional construction contractor with a reputation for technical excellence. We believed that the opportunities offered by the PFI market would play to this strength and that we could improve the durability and energy consumption of buildings through good workmanship – and so reduce the risk of ownership through the concession period.

What attracted us to the CLIP programme

After winning the bid to build the school, we then had to work out how to deliver it to a tight deadline, using teams assembled during the bidding process. Having previously used CLIP with successful results, we knew that this process would benefit both the designers and constructors – bringing them together and reducing all parties' risks.

CLIP brings a competent, dedicated resource to the team that cuts across the traditional boundaries, and carries enough weight to ensure that team members buy into the process and give the time required. Its clear objectives and inclusion of all relevant parties ensures that the programme does not lose its focus or momentum.

What our aims and expectations were

We wanted CLIP to help us meet a demanding brief to develop a school that would combine a very low energy demand with a high quality teaching environment. We had two initial expectations for the programme and then added a third during the CLIP programme:

- To develop a new set of Room Data Sheets that can be used across the company in the variety of projects that we undertake
- To assist in the formation of an effective external envelope that provided an excellent air barrier
- To co-ordinate the fit out of second fix M&E and the furniture installation

We knew that the processes that designers and subcontractors would go through together within the CLIP programme would aid communication. For example, site operatives demanded certain information at certain times from the designers, and also set up their own inspection and sign off sheets. This enabled the designers to discuss alternatives with the operatives, and both parties to reduce their own construction risk and – by extension – ours.

How the CLIP process worked for us

An early CLIP session established that the Room Data Sheets (RDS) lacked some of the information needed and were difficult to use. In subsequent sessions the team mapped out who uses them and how, and agreed the actions needed to redesign, test and implement an improved version. The team felt that the resulting Whitecross RDS exactly reflected client requirements and helped them to check every detail up front. This meant, for example, that the school got the right level of equipment – eliminating unnecessary items such as extra sockets and saving money – with very few installation errors

In discussion with sub-contractors the Stepnell site team looked at all elements of the building envelope and agreed the best working sequence for the construction of each, while identifying potential risks and adding quality checkpoints. The CLIP work sequencing process highlighted issues that otherwise would only have come to light once the team were on site. As a result they could be addressed beforehand or brought to the attention of the team, reducing site problems and the need for re-working.

We achieved air integrity test results of between 3.5 and 4.0 m³/m²/hr on a complex building envelope, which gives us a design saving of 25% of our forecast energy consumption. The same process was carried out for the M&E fit out phase of the build, with all key sub-contractors and the architect brought into the CLIP sessions to create a build sequence for each classroom type.

The room work sequences allowed better connections between the various fit out activities, reducing wasted time and costs. In the sequence between furniture and M&E fitting, for example, cupboard legs and tops were put in, but not bases, so that the M&E wiring could be done without having to remove the cupboards.

'Whatever the debate about the benefits of lean improvement, ultimately it is the results that show the success of the process – as they unquestionably did during this project.'

Mark Wakeford, Managing Director of Stepnell Ltd

How we benefited from this initiative

The CLIP process was a success – we achieved a very tight programme within the cost parameters that were initially set. We also agreed and paid all final accounts with subcontractors within six months of practical completion – a sure sign of excellent partnership working.

The process successfully applied tools commonly used outside the industry, to individual construction problems. The resources and professionalism provided by the CLIP co-ordinator, and her ability to include and mobilise the relevant team members, fostered the expectation of success and the foresight to see that the work was in the interest of the individuals who were contributing.

The Whitecross team learnt that, while some of the tools may not be applicable in all future projects, an approach that includes all parties around a specific problem does manage their construction risk and does deliver exceptional results.

This project has enhanced our reputation as we have beaten many expectations for the market that we are in. Our successes at Whitecross have opened doors that otherwise may have remained closed, and shown that regional contractors can deliver first class facilities.

How we plan to use the skills and lessons learned

The inclusion of all relevant parties in dealing with particular issues is an approach that we regularly use and its benefits for future projects has been corroborated here. The new format for the Room Data Sheets will now become the standard Stepnell RDS format.

The use of agreed best working sequences for construction and fit out reduced problems on site and meant there was little need for re-working. The site team plan to use this process again on future jobs.

Learning points

- Include all involved parties when dealing with problems – this helps them to manage their risk and deliver exceptional results.
- Bring the sub-contractors and architect together at an early stage to highlight the issues and define working sequences at the start of every project/project phase.
- Make sure everyone on the site knows and understands the agreed working sequence. For example, get each sub-contractor to properly brief their workforce, and use visual management boards/display of the documented sequences and weekly meetings to review progress.



An introduction to CLIP

The Construction Lean Improvement Programme, or CLIP for short, is a new approach that aims to boost performance and profitability.

Over the last four years CLIP has been adapting lean tools and techniques for use in the construction industry. CLIP has worked successfully with more than 100 construction companies across the construction supply chain with most achieving productivity improvements of up to 50% in key processes.

'This project demonstrated how CLIP can help meet a challenging brief, while building a strong team and reducing on-site problems and costs.'

Alan Lyons, Contracts Manager, Stepnell Ltd

CLIP works by focusing companies on improving the quality, cost, efficiency and delivery of a product or service, to achieve higher levels of customer satisfaction. It provides the knowledge and practical skills needed to take the highly theoretical topic of lean construction, and turn it into a practical tool that they can implement effectively.

The heart of each company's CLIP programme consists of a tailored improvement activity built up of our core Masterclass modules. The programme is designed so that a company can pick and choose the range of tools and expertise available in the modules that it needs.

In this case study we feature the use of 'the Lean Processes Masterclass'. This looks at ways of improving quality, cost and delivery by looking in detail at key processes during a 3-9 month programme of intensive improvement activities. Plans are then put in place to roll out improvements through the company.

Key saving

Using CLIP helped us to achieve a very energy efficient school building without compromising on the quality of the learning environment. We achieved a design saving of 25% on energy consumption over the life of the building, through the quality of workmanship on site.