



Two projects by Sarah Wigglesworth Architects suggest that the success of Design and Build contracts depends on collaboration, interpersonal chemistry and emotional intelligence.

‘WLTM caring contractor’: the dating game of Design and Build contracts

Sarah Wigglesworth

The standard construction contract in the UK, such as JCT 2005, is designed to balance time, quality and cost. Typically, the contract documents consist of a bespoke design described by a full package of drawings and a specification describing quality, techniques and materials. These enable a contractor to offer a fixed price for the work and establish a programme and the aim is to provide a level of financial security that leaves little to error or to contingent forces. That, at least, is the theory. In practice, there are few contracts that run as smoothly as the theory suggests, which accounts for the myriad case law in this area.

In preparing the contract documents, an architect conventionally begins their work by acting as agent for the client. Once appointed, s/he develops the brief with the client and/or users, designs the building and guides the scheme through the regulatory system, describing it in sufficient detail to allow a contractor to arrive at an accurate cost. After this, the ways in which a building can be procured can vary considerably. This article focuses on what happens under a Design and Build (D&B) contract.

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A construction contract is a legal relationship between the client and their builder. Once this contract is signed, the relationship between the client and their architect changes. At this point the architect ceases to be the client’s representative agent. Understandably, this is something many clients find hard to appreciate, accustomed as they become to regarding the architect as their servant, acting solely in their interest. In the conventional JCT building contract, the architect is named as the impartial administrator of the terms agreed between the two parties.

As a general rule, if something goes wrong, the

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client picks up the tab. Sometimes delays on site and therefore additional costs are due to unforeseeable circumstances such as findings in the ground or even simply *force majeure* (events such as fire, civil strife, storms). Here, the client takes the risk and therefore pays. However, the contractor may also be culpable (for example, for poor sequence management) and it is the architect’s role to make a fair judgement on these matters as to who is to blame (and therefore who pays). In reality, some delays and costs may also be the architect’s fault. The architect, after all, is responsible for the scheme, which may be poorly detailed, have ambitions above the client’s purse, be misconceived or tendered with contract documents that lack key information, or any combination of the above. This is potentially compromising for the architect, implicated as they are in the project’s conception, representation and management, and they may be tempted not to act with as much impartiality as the contract would dictate. For these reasons, there is often three-way suspicion between the builder, the client and the architect. Everyone feels exposed when things go wrong but the client has reason to feel aggrieved at the riskiness of the whole enterprise, their lack of control and the financial consequences to them of this situation.

The politics of Design and Build

The Design and Build (D&B) contract was devised to protect the client’s interests by adjusting the balance of risk in the client’s favour. The way this is done in D&B is to shift responsibility for cost overruns to the contractor. The principle behind this idea is that the contractor undertakes to complete the project for an agreed price that shall not vary, which inevitably means calculating where things may go wrong. This is called ‘pricing risk’.

¹ Case study 1, on site

While a contractor can be appointed at the outset of a project, employing an architect as part of their team, the contractor is often engaged after planning permission has been granted following a conventional architect/client relationship in the early stages. Tendering is usually done at Stage D, following the granting of planning permission, or just after this. From the time of their appointment, the contractor takes control over the project delivery, ensuring that the client gets what they wanted for a fixed price that the contractor can deliver on. By adopting the risk relating to the project, and pricing this risk accordingly, the contractor eases the financial worries of the client. However, in gaining clear cost security, the client hands control over to the contractor. While the architect's fee is transparent, the client is unlikely to know what financial penalty they are paying for the privilege of putting the contractor in charge.

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In order to put the contractor in control of costs, s/he also needs to control the architect. Accordingly, the architect is typically employed by (or as we say 'novated to') the contractor, and the contractor and architect are expected to work together to ensure the detailed design is achievable within the cost parameters dictated by the contractor. In practice, making this succeed depends on the contractor understanding clearly what the intentions of the client and architect were during the design phase and being willing to invest time in delivering them. This will involve applying their skills in management and building, and using their buying power to competitively price packages of information to achieve the intended ends. The incentive here is the maximisation of their profit margin. For their part, the architect must be prepared to act collaboratively. Should there be a financial squeeze, which there almost always is, the architect must expect to negotiate on how to allocate the limited budget and must set clear conceptual priorities in order to do so.

In practice, there can be a mismatch between these aspects of the project. All too often since, after all, s/he is taking the risk, a contractor wants to control everything. This situation has not been helped by architects in the past who have shown scant regard for the client's pocket. With a view towards minimising unknowns and reining in the architect's excesses, the contractor typically subordinates the architect to the role of a subcontractor, while they could regard them as a collaborator with unique understanding of a client's project, with insight into the client's needs and desires and a clear vision of the aspirations of the scheme. The architect can feel that their good work is being dismantled and their carefully-nurtured relationship with the client is

undermined. Distrust and resentment can develop between the contractor and the architect. If the architect is engaged by the contractor at the start of a project then, in controlling costs, the contractor may also attempt to drive down architect's fees, just as s/he does when competitively tendering subcontractor work packages. This is likely to demoralise the architect and further alienate them from their obligations to the client. This complex network of issues illustrates the mindset in which contractors typically approach the architect in the D&B relationship.

If the contractor has no empathy with, or is uninterested in, the design, thinking only of their profit margin – which, under this arrangement, they often treat as commercially confidential – then the client's aspirations have a greatly reduced chance of being realised. The project's details can end up being what the subcontractor is familiar with and can do cheaply and efficiently – in other words, lowest common denominator. The materials palette is likely to be limited to the contractor's supply chain. In practice this is a cohort of subcontractors and suppliers whose prices have been beaten down on the promise of a steady order book, a situation hardly conducive to creative invention. The architect can protest, but being employed by the contractor, they have little power to influence decision in the so-called Value Engineering (VE) process.

The D&B contract is seen as a way of incentivising the contractor (using their management skills while safeguarding their profits) at the same time as providing a 'buildable' solution consistent with the original design intentions. The architect may be less than happy to have their design subjected to the VE treatment, but the client is deemed happy because they have cost certainty. In reality, the process relies on the existence of a set of clear intentions which are called 'employers' requirements' which are then inscribed contractually by an 'offer' called the 'contractor's design proposals'. In order to build the project on cost the 'contractor's design proposals' can differ from the original design in some key aspects.

As the architect now sits in the contractor's camp, there is no construction professional actually looking out for the client's interests, so the whole thing needs a sort of referee, an independent intermediary who administers the contract on behalf of the client. This person is known as the employer's agent (EA). Typically this is a quantity surveyor (QS) or project manager. Once again, this individual needs to understand the intentions behind the project and safeguard the aims and

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desires of the client. They must help all parties resolve matters collaboratively and satisfy the objectives of the project. The role requires nuanced behaviour consistent with the soft as well as the hard aspects of the project.

The D&B contract has become the contract of default for publicly funded projects, where attention to 'the bottom line' is so keen and the finished product is not regarded as altogether precious. This means that, on the recommendation of the government's 'construction tsar', more or less all of our public works are now procured this way. Indeed, if Paul Morrell's predictions come to pass, we may well see the end of small architectural practices as they become absorbed by contracting companies as just one element of the delivery team. This will have huge implications for the way architects get work and for the dynamic of relationships among construction professionals. As such it deserves to be understood and its implications considered.

Case studies in Design and Build

Sarah Wigglesworth Architects (SWA) has undertaken a number of contracts under the D&B process over the past five years. Sometimes we have been appointed at the outset by the client and then been novated to the contractor, having been involved in the selection of that contractor ourselves. In other cases we have been selected by a contracting firm at the beginning of a project and have worked with them to develop the design with the client, everyone sitting around the table and learning what is important in a triangular relationship of trust.

The following case studies explore two projects carried out under D&B within the past six years. While they are comparable in the sense that the appointment process was identical (SWA appointed by the client but novated to a contractor jointly selected by us at stage D), the two projects had very different outcomes. The case studies compare these two projects in order to show how different approaches to the letter of the contract and a different working dynamic can bring about vastly different results.

Case study 1: a new visitor centre for a public park

Brief

The project was for a new visitor centre in a public park in one of the outer London boroughs. The client wanted an exemplary 'green' building suited to the theme of ecology and the natural setting of the park. The location chosen by the client for the new structure was on the site of a former manor house that had been burnt down by arsonists. Funding for the project came from a GLA (Greater London Authority) grant which was time dependent and required approvals. For the ambitions of the project the client's budget was a challenge. The new building was to house five different user groups who were to share the facilities offered by the building, so consultation with all groups was important to ensure everyone was happy. Because of its historic nature, the site had a number of listed trees and

hedges and some underground archaeological remains which required surveying; having due regard for these were requirements of the planning process.

Appointments and contracts

SWA were appointed by the Local Authority through a competitive interview and fee bidding process assisted by a CABE (Commission for the Built Environment) Enabler. As part of the terms of the bespoke appointment contract drawn up by the Authority's lawyers, SWA were required to assemble the team of construction consultants for the project. With the exception of the QS, who was directly appointed by the client, all these were to be employed by SWA, meaning we assumed liability for their work.

Process

The consultation took place swiftly and a design was developed that met the client's brief and budget. After planning permission was granted, the design team began the two-stage tender process. At the first stage we shortlisted six contractors from the Authority's contractor framework based on a written submission and an interview. The six shortlisted contractors were invited to tender a contract sum and a programme for the works on the basis of our planning drawings, augmented by some key details. At stage two of the tendering process, the aim was to work together with the chosen contractor to develop the details of the scheme so it could be delivered within the client's budget.

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Stage 1 tenders were returned and all of them were between 40% and 80% over the client's budget. The QS opened negotiations with the lowest tenderer. A series of VE exercises were carried out aiming to get the project back on budget. After four months of redrawing, reductions in specification and haggling, the price was still a long way off the target and it was becoming hard to keep track of what the contractor's price covered. Despite his efforts, the QS was unable to get the contractor to clarify their offer. The QS wrote to the Local Authority recommending against entering into a contract with this contractor as things stood. Time was now running out with the threat that grant funding would be withdrawn.

At this point, the Local Authority's project manager took control of the tendering procedure. Desperate not to lose the promised grant money, she struck a verbal deal with the contractor over the telephone. The contract sum agreed was based on a list of figures attributed to items of work that covered less than a single page of A4 paper. At this point, the project manager took a year's maternity leave, leaving the project in the hands of a colleague.

Under the terms of their appointment, the QS (now reluctantly) took on role of employer's agent

(EA), retaining his position as the QS for the project. Having previously failed to obtain a clear set of so-called Contractor's Proposals, as required under the contract, the EA was now left trying to fathom what had been agreed by the absent project manager. As the contract began and we were novated to the contractor, we had scant information on what had been agreed and no idea what information to issue. Endless meetings failed to clarify matters and frequently ended in re-pricing and further confusion.

Now on site, the project fell behind when the electricity supplier EDF failed to remove the existing electrical supply (which was in the wrong place for the new building) and provide a new one. This was a client order, forgotten in the hasty departure of the project manager. The contractor built the drainage (the structural engineer's responsibility) without reference to any drawings. Then the contractor disputed the survey information and setting-out, and we were instructed to set out the building afresh, with all the attendant issues of additional courses, overall heights, drainage inclines and so on.

The critical element in the construction was the roof, not only because of the conventional need to maintain watertightness, but because careful setting out was required. Comprising a set of large timber trusses, these were to be manufactured on site and craned into position. A method statement for their erection was required under Health and Safety regulations and, although this was repeatedly promised, it did not materialise. The steelwork columns were fabricated incorrectly and needed hasty amendment on site.

The Contractor's Proposals finally arrived four months after the contract commenced. Careful scrutiny revealed that various products we had specified in our original tender documents had been substituted with others by the contractor. Taking advantage of loopholes in the documentation, the contractor pressed us to make materials substitutes, instructing SWA to source new products – and carry out redesigns to save them money. This caused us to spend unnecessary amounts of time chasing possible alternatives, many of which revealed little or no saving. The contract programme fell further and further behind.

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Local councillors visited the site to monitor progress and decided that the timber cladding for which we had planning approval did not meet their requirement for robustness. Accordingly, a second planning application was made for a change to galvanised steel panels, taking months to approve. This would have compounded delays had the project not already been behind schedule.

The external works had been omitted from the contract as a cost-saving exercise. These were now

reintroduced into the main contract. It took six months and many iterations to finally agree a scheme that the Local Authority could afford. Additional fees for this work were agreed with the temporary project manager.

When a contract is delayed, momentum is lost, time discipline evaporates and information issue can become chaotic as personnel get redeployed to other tasks which are more reliable earners. The structural engineers' information issue fell behind. Subcontractors' drawings requiring our approval were issued late or were not produced at all. The M&E consultant's performance became more and more erratic, then ground to a halt. We were notified that they were to call in the administrators – a serious matter since we were responsible for their work. Despite the clear intention of the client for a low energy building, the contractor resisted the unusual or difficult, such as the wood pellet boiler and the underground air cooling 'slinky' which remained the last vestige of the project's original green aims. The contractor dragged their feet, hoping to avoid addressing the demands of planning officials such as the archaeologist and the tree preservation officer.

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In the final months of the contract, well after it should have been completed, the original project manager returned to work and took up the reins of the project. Now into the decorations stage, she instructed us to change all the internal colours and finishes. Without notice to us – or recourse to the planners – she repainted the orange pods bottle green, claiming that our colour scheme was unpopular with the locals.

Due to last thirty-two weeks, the project ended with an additional delay of forty-eight weeks giving a total contract period of eighty weeks. While the contractor was penalised by the levy of damages, some of this was offset by the mistake that the client had made in failing to secure the EDF supply. However, SWA had been required to service this delay without any additional fees. Our claim for fees to cover the extended programme (not our fault) was rejected and the contractor further withheld legitimately agreed fees for the additional work we carried out on the external works.

Comment

This project was exceptionally dysfunctional. Insufficient attention was paid to ensuring that the procurement process was appropriate for the project. Devised by a Local Authority procurement officer, the procurement method appeared to have been selected without reference to its specific requirements (such as its ecological ambitions). The budget did not reflect the ambitions of the project in the context of rising building costs. These problems were compounded by the bespoke legal appointment

insisted upon by the Local Authority that had its focus on the wrong things (controlling the architect) while being extremely lax with procedures relating to the contractor. An inexperienced project manager showed disregard for working within these parameters while a reluctant EA failed to keep control over the contract, leaving information unclear and time at large.

Changes in client personnel during the project led to a lack of continuity with no lines of responsibility or evident paper trail (where was the quality assurance process here?). The contractor combined incompetence with sharp practice and their default position was to lay blame elsewhere, do all they could to save themselves money (beating down their supply chain, including their architect, on cost) and take up aggressive-defensive positions in respect to all requests. None of these tactics is uncommon in contracting, and should have been anticipated and dealt with if the project management had been better. Finally, the consultant team failed to cohere, working collectively to try to resolve the issues inherent in the project.

Case study 2: a dance studio in an existing building

Brief

This central London project was to provide a new home for the independent dance community and was commissioned by a small dance company led by a highly respected UK choreographer. It involved the remodelling and refurbishment of a former school building. Funding for the project was provided by Arts Council England, with some additional charity money raised by the company.

Appointments and contracts

SWA was appointed by the company through a competitive interview and fee bidding process. The appointment used was the RIBA Standard Conditions for the Appointment of an Architect. All consultants were our choice and were employed under separate appointments by the client.

Process

We completed two abortive schemes before designing the building that was eventually constructed. By this time we had worked with the client for over six years, building up a good rapport as well as a depth of knowledge about the company. Due to the bespoke nature of the project, it was expected that the building would be procured under a traditional fixed-price contract. Part way through the stage D design, the company decided to appoint a Project Board to take charge of the building project and manage the building after it was constructed. This was chaired by a leading industry figure. Despite the close relationship between SWA and the client, he argued that, because funding was extremely finite

(the company had no financial assets), the most important aspect of the project was to guarantee that it did not exceed the budget, and accordingly, should be procured under a D&B contract. The company followed his advice.

Following receipt of planning permission, the design team began the two-stage tender process by inviting expressions of interest and then interviewing a number of contractors. Evaluation was based again upon a programme, a cost estimate and their approach to managing the project. The winner at this stage made it clear that they recognised the close relationship established over many years between the architect and the client and were not interested in coming between them, as would ordinarily be required in a D&B contract. In addition, they stated in the interview that they did not enjoy operating under D&B. During the second stage of the tender, SWA worked closely with the contractor to procure work packages and arrive at a contract sum which formed the basis for the building contract. Key packages such as the roof, the most important element because it contained the new studio, were procured in good time with genuinely collaborative input from both sides. SWA were novated to the contractor once a contract sum had been agreed, and the QS took on the additional role of employer's agent for the contract duration.

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Despite working with an existing building on a very restricted site surrounded by a school playground, the project was managed with great care and attention to those affected by the building operations. The programme was used constructively to discipline the project. Open book accounting meant costs were transparent so all members of the team felt responsible for making sure the project did not exceed the budget. Collaboration on securing work packages was open and flexible, and communication between team members was good. Key to this was that the contractor worked hard to understand the key objectives, motivations and priorities of the project, and involved a range of experienced personnel all the way up to the managing director, who took a personal interest in it.

Playing to each team member's strengths, the contractor took the strain of managing the contract, allowing SWA to concentrate on the design development, coordination and issue of information. Being relieved of the paperwork associated with contract administration was enjoyable for us in the knowledge that we could trust the contractor.

Standards of workmanship across the whole project were set early on and generally adhered to until towards the end, when time and money were

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running out. In trying to make savings on one of the final packages, the contractor raised the possibility of fabricating it in a completely different way. This proposal was debated at some length but SWA argued for the conceptual approach represented by the contract drawings and, to their credit, the contractor accepted our arguments and redoubled their efforts to procure it within the contract in the manner we desired. Although the eventual product was a bit rough in its execution, the contractor appreciated that the conceptual integrity of this element was an important aspect of the project and went out of their way to help achieve it.

‘... the contractor appreciated that the conceptual integrity of this element was an important aspect of the project ...’

Comment

Working under a D&B contract such as this surprised and delighted us. The contractor recognised the importance of building and maintaining good personal relationships between people in creating a successful outcome. Concentrating on maintaining good working relationships with the client and contractor while issuing requisite information was a liberating experience for us as architects. Everyone worked hard to bring the building home within the budget, pulling together to achieve the same ends. This contractor demonstrated a highly nuanced approach to the overall objectives of the project which was crucial in securing a successful building.

Reflection on the D&B process

Both projects described here were carried out under a D&B contract but the approaches taken by both contractors and the outcomes of each could hardly be more different. It is essential that the appropriate procurement method is used for a project, and that contractors regard themselves as part of a team in alignment with the client's desires. The first case study demonstrates how difficult it is to innovate where the bottom line is the only motivational feature. The second case study demonstrates that, almost despite the restrictions imposed under D&B,

it is still possible to manage the contract in a collaborative manner while bringing the contract home within budget. Where a contractor takes trouble to understand clearly the project's objectives, respects the relationships between people and works closely with the design team, a D&B contract can work well. Where the contractor has little interest in building relationships and understanding motivations, D&B can be a blunt instrument that serves nobody.

As an observer of a number of different contracts I have been struck by how many aspects of D&B are unsatisfactory, especially for the architect, and how many problems can arise despite their aim of removing some of the pitfalls of the traditional contract. However, I have also been interested to note that it is often not the letter of the contract but, more frequently, the 'softer' aspects that determine successful outcomes for all parties.

More importantly, in the context of this paper, it is the aspects that cannot be written down and quantified, such as the attitudes of individuals, the desire to act collaboratively or adversarially, or simply the effort people are prepared to expend, which appear to be the chief determinants of success. Given the importance attributed to contractual paperwork – drawings, specifications, contract terms and conditions, warranties and so forth – it is interesting to observe what these documents cannot actually control. This includes such aspects as

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interpersonal chemistry and emotional intelligence when selecting the contractor, and working hard to build relationships after their appointment. No amount of paperwork can substitute for the attitudes of those involved. In other words, a D&B contract, as with many other things in life, depends on good relationships. Perhaps success is less to do with the actual contract as with the willingness of everyone involved to work as a team. Building, in the end, is all about people.

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Biography

Sarah Wigglesworth heads her own architectural practice and sustainability consultancy based in London. Specialising in exploring sustainable

environments, the practice has designed buildings for the educational, community, cultural and housing sectors and has won many awards for its work. Sarah is Professor of Architecture at the University of Sheffield. She was awarded an MBE for services to architecture in 2003 and appointed a CABE Commissioner in 2010.

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