

ANGLES

SENSE STUDIO NEWSLETTER JULY 2015

Welcome to the fifth edition of "ANGLES" our triannual newsletter which we hope you will find a source of interesting information and news. We welcome feedback and contributions so please **let us know what you think**. We hope you will enjoy this and future editions. **Murray Armes**

Quality is in the eye of the beholder

One of the most subjective aspects of completing a building project is quality. Quality is not a standalone characteristic of a building which will also be influenced by cost and time. What quality is acceptable, particularly as the project reaches Practical Completion and where the Contract Administrator has to make a decision whether or not to certify PC. That decision often has to take into account the conflicting opinions of the Employer and Contractor. The former normally wants the best quality, sometimes to the point of being unreasonable; the latter will often be satisfied with a lower standard.

So, how can quality be defined? The first step is to establish what quality is required. For most buildings it will, for example, be:

"All materials and goods for the Works, excluding any CDP Works, shall, so far as procurable, be of the kinds and standards described in the Specification/Work Schedules..."¹

and/or:

"Where and to the extent that approval of the quality of materials or goods or of the standards of workmanship is a matter for the Architect/Contract Administrator's opinion, such quality and standards shall be to his reasonable satisfaction. To the extent that the quality of materials and goods or standards of workmanship are neither described in the manner referred to in clause 2.3.1 or 2.3.2 nor stated to be a matter for such opinion or satisfaction, they shall in the case of the Contractor's Designed Portion be of a standard appropriate to it and shall in any other case be of a standard appropriate to the Works".²



The clauses in the JCT contract make a quality either a matter to be specified in the Specification and Schedules, a matter for the Architect's opinion or "...a standard appropriate to the Works." The FIDIC Red Book provides: "The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Engineer's instructions, and shall remedy any defects in the Works".³

Whilst both contracts refer to documents that ought to provide an object means by which to measure quality, both also refer to subjective judgements of quality by the Architect or Engineer.

Quality is a balance between specification, design and workmanship. No matter how well they are produced, drawings alone can almost never define the required quality. Typically both the quality of materials and workmanship are defined in the project Specification.

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If the Specification and Schedules are the starting point for the definition of quality, what should they contain? Whilst there are no mandatory requirements in respect of specifications the use of a proforma such as that published by NBS is common and helps with the production of an industry standard specification that the publisher keeps up to date. The Specification will set out standards and tolerances for materials and workmanship, sometimes with reference to British or other International Standards and industry good practice.

It is worth bearing in mind that these standards are acceptable for works where the standard of quality is to be normal. Some projects require a much higher standard and if so then the specification will need to go beyond normal standards. However, there will come a point where the standard cannot be procured by using normal materials and components, or cannot be built on site, either because the budget will not stretch to that quality of materials and/or workmanship, time does not permit the level of quality to be performed, or the required quality is only achievable using specialist labour.

It is often the quality of labour employed by the Contractor that has the greatest influence on quality. Even normal design details using normal quality materials and components can lead to good quality design if they are executed well. No amount of design and specification can make up for poor workmanship which will almost always lead to poor quality. The use of mock ups and prototypes can assist in understanding the problems that might be encountered when achieving the required quality and provide a useful benchmark by which to measure quality on an ongoing basis.

The Architect is often faced with the dilemma of deciding what quality is acceptable when certifying PC and in doing so has to take into account a multitude of different aspects of the construction to come to a single decision: to certify or not to certify. At best such a broad brush approach can only ever be subjective and as a consequence may not satisfy the Employer, the Contractor, or both. To some extent the decision can be made to be more objective by grading defects against a scale. This practice is often called upon to give opinion relating to quality and as such we measure each defect against the following scale:

- (1) Very minor blemish, will not affect PC;
- (2) Minor defect, can be rectified without disturbing furniture, carpets, finishes, etc., will not affect PC;
- (3) Defect which will cause some disruption (moving furniture, etc.) this may or may not affect PC depending on severity;
- (4) Serious defect which does not comply with the contract or BSs, Codes of Practice, etc, will prevent PC;
- (5) Incomplete works, not in accordance with contract, will prevent PC.

Although there will always remain a degree of subjectivity this scale does help to make the assessment more objective and it allows the Contractor (and Employer) to understand why PC has either been granted or denied.

What happens when an Employer is unhappy with the quality which it perceived should have been higher than that achieved? Firstly, what was included in the contract documents? Was the contractor made aware that the quality was to be higher than usual? What price did the Employer

pay? Whilst this may not relieve a contractor of its quality obligations if they are clearly stated, it is obvious that lower cost is likely to result in lower quality.

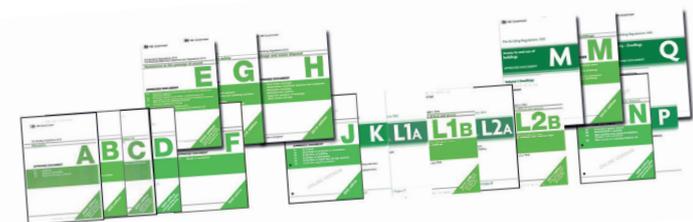
Sometimes it may be necessary to look beyond conventional standards and codes of practice. For instance English Heritage describes what may constitute the special character and interest of listed buildings, including decorated facades, windows and doors, the spaces created by layout and plan and internal features of interest, for example, shutters and the quality of details such as mouldings and stucco work. EH require a quality of design and execution which may be valued now and in the future and repairs are to use materials and craft techniques that are as close as possible to the original work. Does the fact that a building has achieved listed status mean that the quality of the work to be done is impliedly higher than normal?

Buildings are not the same as manufactured products and no single participant in the process has overall control of quality. This is what makes achieving high, or even just good, quality so difficult. By far the best way to ensure the expected quality of workmanship is achieved is to make sure it is clearly specified, that the budget is sufficient to achieve the required quality and the right quality of labour is employed. If it is not the default by which quality is measured is likely to be the normal standards as defined by British Standards, Codes of Practice and normal industry standards. ●

1. JCT 2005 Standard Form of Contract, Clause 2.3.1
2. JCT 2005 Standard Form of Contract, Clause 2.3.3
3. FIDIC General Conditions of Contract for Construction, Sub Clause 4.1. FIDIC actually provides much more detail about quality on its website: <http://fidic.org/node/751>

Changes to the Building Regulations – An update 2015

Following the conclusion of the Governments' Housing Standards review, the 1st of October 2015 sees the introduction of a number of changes to the Building Regulations. The changes create revised issues of several existing Approved Documents and a new Approved Document – Part Q (Security).



Until recently, housing design standards throughout the UK have been devised through several non-governmental recommendations such as the London Housing Design Guide, Secured by Design and Lifetime Homes along with the governmental standards, Housing Quality Indicators and the Code for Sustainable Homes. These numerous sources often created conflicting and duplicate standards.

In 2012 the government began a review and a following consultation period of the existing housing standards and associated building regulations. The intention being to clarify the various existing standards and, in doing so create a central consolidated approach to be implemented through the Building Regulations. The changes are an effort to create a new approach to the way technical standards for new housing are set nationwide. Access to Buildings (Part M) has been revised and split into two volumes, Volume 1 (Dwellings) and Volume 2 (Buildings other than dwellings) Volume 1 has introduced optional regulations with regards to accessible and adaptable dwellings (M4(2)) and wheelchair adaptable dwellings (M4(3)). Sanitation, Hot Water Safety and Water Efficiency (Part G) has been revised to allow for optional requirements for water efficiency. The optional regulations provide local authorities with the potential of imposing higher standards of regulations than the required existing minimum.

In addition to the new optional Part M and Part G requirements, a new approved document Q (Security) has been introduced and will set out the reasonable security standards within dwellings. In essence replacing the requirements created through the

'Secured by Design' standards and security within the Code for Sustainable Homes.

Compliance with the new optional requirements will be overseen and enforced by the building control system. Notification to Building Control will be required for any enforceable additional optional requirements, which are triggered by the initial planning system and Local Authority requirements. Failure to supply notification of these would potentially be valid ground for rejection of notices and certificates.

The Code for Sustainable Homes has been withdrawn as a result of the review and the Deregulation Act 2015 (Section 43: Amendment of Planning and Energy Act 2008). The Planning and Energy Act 2008 previously provided that Local Authorities had the ability to imply higher standards than those required by the building regulations, within their local plans for energy efficiency. The clause allowing for the implementation of the higher standards by local authorities (such as the planning requirement for implementation and compliance with the Code for Sustainable Homes) has now been removed within England.

This is the case for all new dwellings, the only exception being for existing developments that have already been granted planning permission, and which stipulate the requirement to comply with the code, or where developments are required to comply through existing contractual obligations.

The withdrawal of this standard sees the exclusion of the many energy efficiency requirements the Code imposed, all of which are not replaced as mandatory requirements within the Building Regulations. The exception being the introduction of the new Approved Document Q (Security) The new regulation taking on many of the principles previously enforced through the Code and the Secured by Design standards.

In response to the withdrawal, the BRE has developed a new voluntary standard for sustainability of new homes - the 'Home Quality Mark'. Designed to somewhat replace the higher standards which the Code for Sustainable Homes previously imposed, in an effort to increase the quality of new homes by building beyond the minimum building regulation requirements.

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These standards are however not compulsory, and its success will remain to be seen by how effective the take up is by developers and house builders throughout the country, as a replacement to the Code for Sustainable Homes compliance.

A nationally described space standard¹ has also been introduced, giving local authorities the power to impose and implement minimum space standards for dwellings through their planning system, these space standards being similar to the previous higher standards implied independently through the Code for Sustainable Homes and the likes of the London Housing Design Guide which were often in conflict with individual local authority space requirements. However these new space standards are only able to be applied, where the local authority can provide justification for requiring their implementation and where it does not impact negatively on the development.

The new provisions will take effect on the 1st of October 2015, and are only in relation to building works starting after this date, or where a building notice, full plans application or initial notice has been submitted prior to October, however these works must start on site prior to 1st of October 2016.

In general the changes to the regulations and standards will provide a clearer and simpler, standardised solution to the complex array of housing design standards currently enforceable throughout the UK.

Summary of the 2015 amendments and new editions:²

Amendment to Approved Document E (Resistance to the passage of sound)

- Main change is an update of the reference to standards for schools (effective from 6th April 2015)

Approved Document G – (Sanitation, hot water safety and water efficiency)

- Optional requirement for tighter water efficiency with introduction of an optional requirement of 110 litres/person/day where planning permission requires
- A fittings based approach has been introduced in addition/alternative to using the water efficiency calculator
- Inclusion of the water efficiency calculation methodology for new dwellings

- Amendments due to the removal of references to the Code for Sustainable Homes
- Inclusion of the water efficiency calculator methodology into this approved document, with minor alteration resulting from European efficiency labelling and consequential amendments resulting from removal of references to the Code for Sustainable Homes
- Deletion of The annex listing the relevant competent person self-certification schemes

Approved Document H (Drainage and Waste disposal)

- Minor amendments to Surface Water drainage as consequential changes of the revised Part M
- Additional guidance on solid waste storage included within revision

Approved Document M (Access to and use of buildings) Volumes 1 and 2

- Split into two volumes, amended to separate the requirements between dwellings (Volume 1) and buildings other than dwellings (Volume 2), with two optional requirements introduced for dwellings:
 - Volume 1 is split into three categories:
 - M4 (1) Category 1: Visitable dwellings
 - M4 (2) Category 2: Accessible and adaptable dwellings
 - M4 (2) Category 3: Wheelchair user dwellings
 - M4(1) is the baseline Part M regulation and mandatory. M4(2) and M4(3) are optional, and required only where planning permission dictates. These optional requirements are open to planning authorities when setting their housing policies and requirements.
 - Compliance with the optional requirements of M4(2) and M4(3) will be overseen and enforced by the building control system, and requires notification to Building Control of any enforceable additional optional requirements triggered by the initial planning system. The failure to supply notification of the optional requirements would be valid ground for rejection of notices and certificates.

Approved Document Q (Security)

- New approved document setting out reasonable standards for security within Dwellings.
- Applies only in relation to new dwellings including those created by a change of use.
- Provides that "reasonable provision must be made to resist unauthorised access to any dwelling; and any part of a building from which access can be gained to a flat within the building" ●

1. <https://www.gov.uk/government/publications/technical-housing-standards-nationally-described-space-standard>

2. References and information from - <http://www.planningportal.gov.uk> (Building Regulations)

Architects Code of Conduct ARB Consultation

The ARB is looking for views on the current Code before 11th August 2015. See the link below.

<http://ebulletin.arb.org.uk/july2015/consultation-on-the-architects-code-of-conduct/>

CDM2015 – Role up, Principal Designers wanted

CDM 2015 is under way. Some initial feedback suggests there are still questions and it seems the change is not going smoothly for some.

Nevertheless new projects need to follow the new regulations and projects that started before April 6th should be implementing the transitional requirements, until October 6th, after which all projects will need to comply. This article recaps on the main points for Architects.

They need to be aware of the CDM 2015 changes, they should update their own practice policy and make sure that they don't by default take on a role or agree to a role that they are not suited for nor one that extends their liabilities without the agreement of their insurers.

Despite significant improvements over the last twenty years, some construction sites continue to be among the most dangerous working environments in the UK. Statistics for construction from the last two years showed that 5% of employees in the UK work in construction yet 31% of fatal injuries and 10% of reported major injuries were recorded in construction. In 2014 alone there were 42 fatalities on UK construction sites.¹

A high proportion of these accidents were on small sites. The aim of the Health and Safety Executive's (HSE) 2015 revision to the Construction Design and Management regulations (CDM), which came into force on 6th April, is to embed the risk management process across the industry, including the smaller projects and to take fuller account of the original EU Directive (92/57/EEC).²

Many of the CDM2015 changes build on the 2007 regulations that they have replaced, they also include some significant changes with new roles and requirements. The technical standards are essentially unchanged from CDM 2007. The HSE targeting and enforcement policy also remains and as per the earlier versions and CDM is still subsidiary legislation made under the Health and Safety at Work Act, 1974 with duties enforceable under criminal law. (For those in any doubt over the potential seriousness see the Sentencing Council guide lines associated with Health and Safety.)³

The HSE is keen to improve pre-construction co-ordination and the involvement of an existing member of the team, who is involved in the design and integral to the project rather than a third party individual. This has resulted in the abolition of the CDM advisor role and the creation of the Principal Designer role.

This is not a direct replacement for the CDM coordinator but it does take on a number of the responsibilities; including advising the client, helping the client prepare pre-construction information and leading on CDM during design stages. During the Construction phase Principal Designers and Principal Contractors are expected to liaise and the Principal Designer is expected to contribute to and collate the Project Health and Safety file.

The involvement of a designer who is close to the project has effectively been given more weight than any benefits associated with the independent role that the CDM advisor previously had. The six key roles or duty holders are now: Client, Principal Designer, Principal Contractor, Designer, Contractor and Worker. (A useful summary on each of these and their Principal responsibilities is available in Table 1 of the HSE L153 guidance and from CITB (Construction Industry Training Board.)

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CDM 2015 - Key Points⁴

- CDM Coordinator role abolished and a new Principle Designer (PD) role has been created
- The Principal Designer is appointed by the client on projects involving more than one contractor. They can be an organisation or an individual with sufficient knowledge, experience and ability to carry out the role. (See HSE document L153 Guidance 9, 10 and 11. "Designers include architects, architect technologists, consulting engineers, quantity surveyors, technician or anyone who specifies or alters a design.")
- Projects requiring notification to the HSE have changed to the following: If the project construction work is expected to last longer than 30 working days and have more than 20 workers working simultaneously on the project at any point or exceeds 500 person days the Client is responsible notifying the project to the HSE. This must happen before works start on site.
- Removal of the domestic client exemption.
- Expansion of the client's role.
- Replacement of the Approved Code of Practice (ACOP) with industry guidance and a new simpler HSE guidance document L153. (L153 guidance is available for free down load from the HSE website. A new ACOP is expected to be published for consultation later this year.)
- Removal of explicit competence requirements and replacement with a requirement for appropriate skills, information, instruction and supervision.
- On domestic projects with more than one contractor in the absence of an appointment by the Client the designer in control of the pre-construction phase of the project is deemed to automatically have assumed the "Principle Designer" role. (See regulation 7)
- Transition period - April 6th to October 6th. Any new projects should be following the 2015 requirement. Existing projects that started before April and which continue past the October date will need to change over to the 2015 CDM before the end of the transition period.

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Key Points - Principal Designer and Designer Roles⁵

Principal Designer

(The designer appointed as early as possible by the client in a project involving more than one contractor. They can be an organisation or an individual with sufficient knowledge, experience and ability to carry out the role.) Responsibilities include:

- Planning, managing and monitoring the pre-construction phase
- Ensuring where reasonably practical risks are eliminated or controlled through design work
- Passing information to the Principal Contractor
- Ensuring cooperation and coordination
- Ensuring designers comply with their duties
- Helping the client prepare pre-construction information
- Prepare the health and safety file for the project

Designer

(Those who as part of business prepare modify designs for a building.)

- Where preparing or modifying designs, to eliminate reduce or control foreseeable risks that may arise during construction and the maintenance and use of a building once it is built
- Provide information to other members of the project team to help them fulfil their duties

The 2015 CDM regulations apply to all construction projects. They are split into domestic and commercial projects. All projects require a written Construction Phase Plan. (A useful tool to refer contractors to for helping to produce the CPP, is the Wizard App available as a free download from the CITB website.)⁶ Projects with more than one contractor, whether domestic or non-domestic, must have a Principal Designer and Principal Contractor, and a Health and Safety file must be produced. If the project construction work is expected to last longer than 30 working days and have more than 20 workers working simultaneously on the project at any point or exceeds 500 person days, then the HSE need to be notified. Although they may nominate another to do this the Client is responsible for notifying the project to the HSE prior to commencement. (The HSE preference is the online F10 form is used.)

When the RIBA⁷ responded to the first draft proposals, its response included some reservations but it was broadly in favour but of the 1426 responses only 162 were from Architects or designers. The monetary savings muted have been queried; £12.4 million per year is currently estimated by the HSE in their Explanatory Memorandum. Also questioned has been the appetite from Architects to

expand their CDM contribution and some have queried whether the average Architect has the ability to take on the role in terms of appropriate skills.

In CDM 2015 it is the responsibility of individuals to consider and be able to demonstrate their own suitability and competence to carry out the work, and those appointing them must also take reasonable steps to satisfy themselves that they have the necessary skills and knowledge. Therefore any Architect taking on the PD role will need to consider their knowledge carefully on a project by project basis. Third party assessment is one route, but it is not a requirement of the act with self-assessment being in principle equally acceptable. The HSE L153 guidance gives background on this (clauses 63-65)⁸ and there is further information available from SSIP (Safety Schemes in Procurement)⁹ and CHAS (The Contractors Health and Safety

Assessment Scheme).¹⁰ For self-assessment a starting point which the HSE suggest, is consideration of the standard questions on Health and Safety included in PAS 91:2013.¹¹ (This is available from BSI's website. Note though it is based on CDM 2007 and includes reference to CDM co-ordinators.)¹¹

Some Architects are not keen to take the PD role; commercial reasons and increased risk have been cited. On Commercial projects even if clients wish the Architect to take the PD role, it is up to the consultant to accept the position. See the general duties requirements in CDM regulations 8(1) and note CDM regulation part 3, 8(2), "A designer or contractor must not accept an appointment to a project unless they fulfil the condition in paragraph(1)."¹² Architects offered the PD role, whether willing or unwilling to take it on, should write to the client at the earliest opportunity. Assuming agreement can be reached and another party takes on the PD role, an Architect working on the project would be classified as a Designer and should take note of the associated responsibilities of this role.

On domestic projects with written agreement the PD can take on the client's duties as well. Particularly worth noting though, is when there is an absence of an appointment by the client and where there is more than one Contractor, the first appointed designer will

automatically become the Principal Designer. See CDM regulations 7(2) and HSE L153, Figure 1.¹³ It is wise therefore to have these discussions at the very start of the project with any prospective client so roles and responsibilities are clear.

On fees, the client cannot expect to fulfil its own duty if an adequate fee is not in place, as under new regulation they need to "...make suitable arrangements for managing a project including the allocation of sufficient time and other resources." (See Regulation 4(1).¹⁴

Other Architects are seeing this as an opportunity to expand their role, add value, and potentially increase income. It will suit Architects who are confident that they have the knowledge and resources available in-house, or are prepared to invest in training or recruiting or are willing to team up with existing Health and Safety specialists. However, it is not the intent of the HSE or the Act that CDM co-ordinators are simply rebadged, but especially on larger and more complex some former CDM co-ordinators have become an employee, advisor or sub-consultant to the Principal Designer or are acting on an independent appointment advising clients and /or other duty holders.

Architects should also consider reviewing their in house Practice Health and Safety policy. Other regulations, such as those for asbestos and working at height still apply to construction sites and employers should make sure their own policy is up to date in relation to the CDM 2015 changes and other legislation.

In particular architectural employees should be made aware of the changes, and should be adequately briefed and aware of known and potential risks before visiting sites.

Whether taking the PD role on alone or taking it on with advice from others, Architects should check with their PI insurer and make sure that any appointment and contract documents are very clear, especially on items such as fees and design responsibility. Avoid appointments with strict obligations beyond reasonable skill and care and look for clarity between roles such as excluding design obligations from the PD role itself.

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Make sure the client itself is clear and aware of their duties and particularly on non-standard appointments it is of course wise to take legal advice. (JCT¹⁵ and PPC¹⁶ have issued addendums for their contracts and appointments and NEC¹⁷ has issued a news update related to the CDM changes).

The PD role is typically expected to be for the duration of the project; where the project involves only part appointment or is split between different architects, such as concept and detail design, or there is a break in programme the HSE guidance includes reference to ending one PD appointment and effectively substituting it with another. In this instance, any Architect acting as PD or taking on a PD role from others should make sure they review carefully what they hand over and what has been undertaken previously. For those looking to use a sub-consultant to advise them in the Principal Designer role, their approach, suitability and experience should be considered prior to any engagement. Be aware that even if the advisor has clear scope and responsibility defined and their own professional insurance, the liability, in the first instance at least, still remains with the named Principal Designer. ●

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