

# **BRE guidance on construction site communication**

## **1. Introduction**

Every year defects in the UK construction industry cost at least £20 billion to repair or rebuild. Some of the defects will be the result of poor communication, for example, a poorly detailed drawing, operatives being given incorrect instructions or technical information not being available.

This guidance provides advice on how communication can be improved to and around a construction site. Improvements in communication should result in an increase in the quality of the build and a reduction in the level of defect occurrence.

This guidance sets out the essential requirements for good site communication and is relevant to all trades and work activities on the site. The diverse nature of construction projects means that the recommendations are unlikely to be applicable to all projects and sites. However, the recommendations should offer some relevant information to any construction project or site.

## **2. Methodology of communication**

Figure 1 illustrates a simplified methodology for communication during the different phases of a construction project. For each of the sections of advice given in this guidance the relevant position in figure 1 is noted. Therefore, the text should be read in conjunction with the communication methodology.

## **3. Phase 1: Design**

### **3.1 Project communication (1a)**

At the outset and/or the contract stage, the ways in which project communication will be designed to work should be agreed. Issues to be agreed include the following:

#### Method issues

- Meeting types and frequencies.
- Method(s) of drawing transfer.
- Use and control of amended, or unconfirmed drawings.
- Grading, reporting and tracking of defects.

#### People issues

- Who should accept and check deliveries of materials to the site.
- Employment of a Clerk of Works, supervisor or gate person; setting their communication responsibilities and methods, including setting the authority of the Clerk of Works to instruct operatives.
- Communication with and supervision of sub-contractors.

### **3.2 Drawing provision and distribution (1a, 2)**

The role of drawings in producing good quality work is crucial. Therefore, careful attention must be paid as to how drawings are going to be produced, checked and distributed. The following points must be considered:

- Provide drawings as early and as complete as possible at all relevant stages.
- Ensure drawings are adequately detailed and checked before site work starts.
- The different means by which drawings could be produced to help building work progress smoothly (e.g. colour coded, by trade or element, laminated, small or large sized).
- How much information is needed on any drawing for it to be successfully built from.
- Where are the drawings to be used/kept, e.g. site office, supervisor, operatives?
- How to prepare and return amended drawings back to site as quickly as possible.
- Is there a role for the manufacturers to help prepare drawings?

***The provision of complete and correct drawings should be regarded equally as importantly as ensuring that materials and operatives are available.***

### **3.3 Single points of contact (1b)**

Consideration should be given to appointing defined, single points of contact at suppliers, design offices and contractors. This should help to avoid delays, confusion and duplication of effort.

### **3.4 Trade supervisors (1b)**

Assuming that the size of the project merits it, a supervisor on site for each trade is likely to bring benefits to the project communication and the quality of build. However, ensure that the role of the supervisor links with the project requirements. For example, is the supervisor required only to schedule work for the operatives or to be directly involved with "setting out", examination of drawings and quality of build.

To be effective, the trade supervisor must be sufficiently authoritative which may be a problem as the position can be viewed as being neither "operative" nor "management".

## **4. Phase 2: Construction**

### **4.1 Pre-start meeting (2a)**

The project manager should ensure that a pre-start or "kick off" meeting is held as there are several benefits to site communication which may arise from such a meeting, including the following:

- It allows people to get to know each other; this is likely to lead to better communication and less confrontational attitudes as the work progresses.
- It provides the opportunity to decide on how communication will operate.
- It provides the opportunity to define points of contact at each organisation.
- It can be used to ensure that all people have the contact details for others working on the project.

Ensure all relevant people attend the kick off meeting, this may include supervisors and major suppliers.

### **4.2 Technical literature and advice (2b, 2d)**

Large numbers of best practice information documents on design, material selection and construction are available from a variety of sources including the following:

- Manufacturers.

- British Standards Institution.
- Building regulatory authorities (e.g. Office of the Deputy Prime Minister, Scottish Executive).
- Trade associations.
- Insurance companies (e.g. Housing Association Property Mutual (HAPM), National House Building Council (NHBC)).
- Consultants and research organisations (e.g. Building Research Establishment (BRE), Construction Industry Research and Information Association (CIRIA)).

The documents available vary widely in their scope, size, and format dependent on issues such as the intended audience and place of use for the document. Always bear in mind that technical information is also available in formats other than paper documents (table 1).

Communication method	Description/use
Telephone help-desks	Manufacturers provide free advice on the selection, properties and use of their products. Much used by site managers. Often followed up by a fax.
Internet based advice.	Product selection, technical and best practice advice accessible from a personal computer. Mainly the same information as technical literature.
CD ROMs	Manufacturers provide product selection, technical and best practice advice. Personal computer required to access.
Videos	Not a common method. Perhaps best used to actively demonstrate a new product being used/built.
Hand held guides.	Readily able to provide best practice guidance at the point of construction. Most effective when laminated. Not a common method.
Posters.	A traditional way to communicate best practice messages. Tend to concentrate on "Do" and "Do Not" points of site practice. Commonly displayed in site canteens.
Instructions printed on packaging.	Manufacturers provide information on their products. The information is generally limited (e.g. telephone number, main points of good practice).

**Table 1: Non-paper based communication methods**

Contact details for important sources of technical advice are provided in the Further Information section.

### 4.3 Provision of technical advice (2b, 2d)

Arrangements should be made to provide technical advice to site based staff. This may be most important in situations where there is particularly difficult detailing to be built, operatives are inexperienced or new materials/products are in use. Providing the best practice information could be done in several ways, including the following:

- Introducing technical issues into the standard induction procedures.
- Sample panels and mock-ups.
- Best practice posters on display (e.g. in the site canteen).
- Manufacturers visit the site to demonstrate best practice or new products.
- Supply operatives with relevant parts of good practice guidance.

### 4.4 Upwards feedback (2b, 2d)

Establish means by which information can be effectively fed back up through the formal management structure. Two key areas where this can be particularly important are as follows:

- Operatives to site office (e.g. reporting on an incorrect drawing).
- Site office to head office (e.g. where an incorrect detail is discovered, this should be reported back to the design office and the drawings corrected).

#### **4.5 Project Meetings (2c)**

While it is almost universally accepted that no one likes going to meetings, there are likely to be communication and build quality improvements from an appropriate number of well structured meetings being held. The benefits from such meetings should make the time spent worthwhile. The importance of kick off meetings has already been covered. Trade co-ordination meetings have also often proven to be particularly worthwhile, especially at helping site work to progress smoothly and informal agreements between trades to be established.

The success of formal meetings (e.g. the monthly progress meeting) is helped by being structured, including the following:

- Chairperson.
- Agenda.
- Set start and finish times.
- Minutes recorded.

Minutes should always be circulated after the meeting and include action points with the responsible person(s) identified and dates to be completed by. Consider inviting all relevant people to any meetings, but bear in mind that some people may only need to usefully attend specific parts of a meeting.

#### **4.6 Keep people "in the loop" (2)**

Where instructions, drawings or documents are passed outside the correct formal channels ensure that all relevant parties are kept informed. For example, where the architect faxes an amended drawing straight to a sub-contractor, the main contractor must be informed and given a copy of the amendment. Where the Clerk of Works instructs an operative, the trade supervisor must be informed of the instruction.

### **5. Advice applicable across the whole construction project**

#### **5.1 Take care and time with communication**

Remember that paying attention to and spending time on communication is likely to lead to benefits to the project. The following are some typical examples:

- Communication must be "supported" (i.e. ensure that someone given an instruction has the back up, resources and knowledge to complete the task properly).
- Make sure the method of communication used is the most appropriate.
- Whatever method is used, make sure the message is clear and all people who need to know are informed.
- If at all possible, provide instructions as early as possible.
- Do not assume that actions identified in a memo, fax or e-mail will always have been carried out. Some sort of follow up or checking may still be necessary.
- Learn from previous projects that you have been involved with where the communication was either particularly good or bad.

#### **5.2 New communication technology**

The use of new technology to help communication should be considered. While the benefits of items such as mobile phones and two way radios are well known, digital cameras and on site internet and e-mail access may also be beneficial communication tools. For example, drawings can be e-mailed between the site office and the architect, as can digital photographs of defects and progress. The internet can be used to access information such as Building Standards and good practice guidance documentation.

On large scale construction projects the use of project "intranet" systems has been shown to be valuable. These systems are based on project wide access via a network of personal computers to electronic ("virtual") project documents such as drawings, specifications and correspondence.

### Further information

Organisations providing technical literature and advice include those shown in table 2.

Organisation	Concerned with	Contact details
British Standards Institution (BSI)	British and European product standards	(t) 020 8996 9000 (f) 020 8996 7400 (e) <a href="mailto:bsonline@techindex.co.uk">bsonline@techindex.co.uk</a> <a href="http://www.bsi-global.com">www.bsi-global.com</a>
Building Research Establishment (BRE)	All aspects of construction and materials	(t) 01923 664400 (f) 01923 664098 (e) <a href="mailto:enquiries@bre.co.uk">enquiries@bre.co.uk</a> <a href="http://www.bre.co.uk">www.bre.co.uk</a>
Building Research Establishment, Scotland	All aspects of construction and materials	(t) 01355 576200 (f) 01355 576210 (e) <a href="mailto:eastkilbride@bre.co.uk">eastkilbride@bre.co.uk</a> <a href="http://www.bre.co.uk">www.bre.co.uk</a>
Construction Industry Research and Information Association (CIRIA)	All aspects of construction and materials	(t) 020 7222 8891 (f) 020 7222 1708 (e) <a href="mailto:switchboard@ciria.org.uk">switchboard@ciria.org.uk</a> <a href="http://www.ciria.org.uk">www.ciria.org.uk</a>

Northern Ireland Assembly (Department of Finance, Construction Service, Building Regulations, Fire and Energy)	The Building Regulations in Northern Ireland	(t) 01232 520400 (f) 01232 485711 (e) webmaster@nics.gov.uk www.dfpni.gov.uk
Office of The Deputy Prime Minister (Building Regulations Division)	The Building Regulations in England and Wales	(t) 020 7944 3000 (f) 020 7944 6589 (e) br@odpm.gsi.gov.uk www.odpm.gov.uk
National House Building Council (NHBC)	Construction standards of new build houses	(t) 01494 735859 (f) 01494 735717 (e) technical@nhbc.co.uk www.nhbc.co.uk
Scottish Executive Development Department (Planning and Building Standards Division)	The Building Standards in Scotland	(t) 0131 244 7449 (f) 0131 244 7454 (e) ceu@scotland.gov.uk <a href="http://www.scotland.gov.uk/development/bc">www.scotland.gov.uk/development/bc</a>

**Table 2: Sources of construction related technical literature and advice**

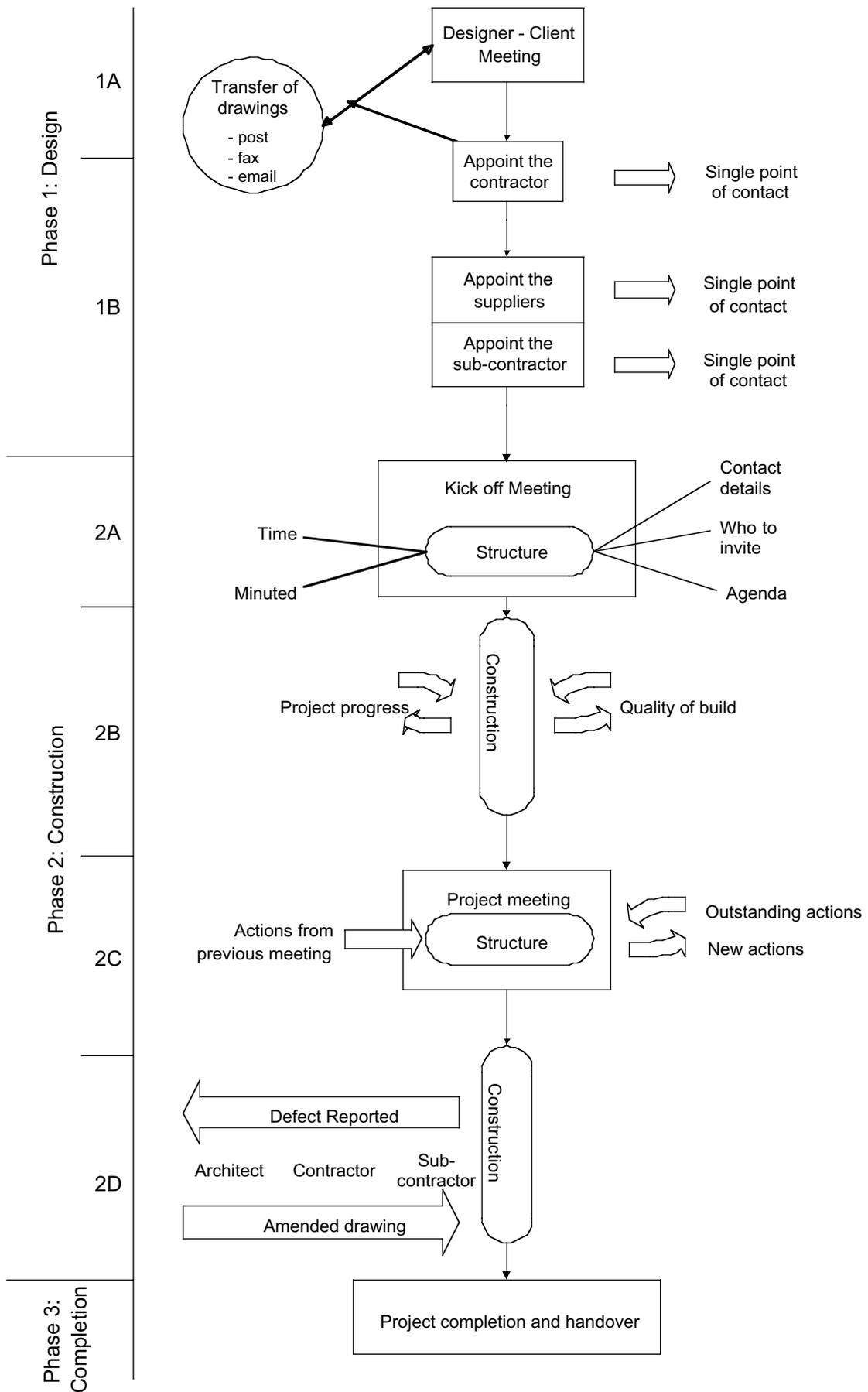


Figure 1: Examples of communication issues during a typical construction project