Conduct On-Site Supervision of the Building & Construction Project

BCGBC4008A / CPCCBC4008A
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Conduct On-Site Supervision of the Building & Construction Project

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Section 1
Introduction

As a building contractor you will need to master contract administration. Not only do you need a good understanding of contracts and the conditions that control the operation of the project, you need to have or develop good interpersonal skills when interacting with clients, architects, subcontractors, suppliers etc.

In this unit we will discuss how to fulfil your contractual obligations by way of procedures and standard forms. This is contract administration.

The contract between the client and building contractor is used as the 'book of rules' in administering the work and working towards completing the contract by performance. By 'performance' we mean fulfilling your obligations under the contract conditions and meeting or exceeding the expectations of the client or architect in respect of time, cost, quality and customer service.

Communication is a fundamental element of good administration. Too often this aspect is ignored and can lead to costly disputes that can take years to resolve and may even cost you your business. The preparation of forms can simplify the process. Examples of the more common forms used in residential construction are included in this unit. These forms include:

- tender letter
- variations
- extensions of time
- site instructions
- progress payments
- final account

Disputes with clients are often due to a need for better administration of the overall contract as well as onsite activities. Small matters have a tendency to escalate in importance if left unresolved. Good communication and interpersonal skills will develop the trust shown by the client in awarding you construction of the project in the first place.

The job is made easier if you have good organisational skills and procedures in place to properly document the project. Your project file should accurately record the history of the job and should make your task of finalising the project much easier.

Contract administration is not about one thing. It’s about:

- communication
- organisation
- procedures
- supervision
- quality
- customer service
- documentation

It is about establishing and maintaining your organisation’s image and reputation as a professional building company. By establishing effective procedures in your
organisation, you project a professional image and promote efficiency in terms of your internal operations and the smooth running of your projects.

The following flowchart illustrates the main steps in the process of being invited to tender on a project, up until the completion of the defects liability period.

![Flowchart Image]

Figure 1- Administration Flowchart
Contracts

There are many types of ‘pro forma’ contracts available for residential construction. In New South Wales, the current contract prepared by the Office of Fair Trading for work greater than $25,000 in value incorporates the current legislation requiring a ‘cooling off’ period, a checklist of questions which a client will be required to read and the requirement for a brochure to be given to the client by a builder outlining dispute resolution.

This contract is readily available through retail outlets such as Australia Post shops and can be downloaded from the Office of Fair Trading website. Remember, it is important that you use current forms of contracts to ensure you meet the requirements of the Home Building Act (NSW) 1989 and any amendments.

There are comparable contracts prepared by industry associations such as the HIA and MBA. The Australian Standards also have contracts which you should make yourself aware of. You should make yourself aware of the differences between the contracts and, when it is in your power to do so, adopt the most favourable one.

Remember, you need to be an expert on the contents of the contract you are using and you must know the contract form and conditions to be used before tendering on the project. If the contract form is unavailable at the time of tender, it is vital that you condition your tender to advise the client of the contract it is based on.

Once you have signed a contract you are bound by the terms of agreement and ignorance is not a defence should you find the conditions onerous or if your price does not adequately cover the contract conditions. For example, if the contract conditions which you tendered on do not allow for extensions of time, allowance for this must be made in your tender, usually as a cost implication to cover any risk that may present itself in the absence of extensions of time.

If you are not sure of the intent of a clause in a contract you should consult a legal expert for clarification and advice.

Remember, if you do not understand a contract, do not sign it.
Tender forms and letters

Often clients/architects require that tenders be submitted on a standard form provided in the tender documents, usually known as the Tender form. This form provides for the basis details of your offer but does not allow for supplementary ‘conditions’ that you may wish to include. These conditions may arise when:

- the tender documentation lacks detail
- there are issues not provided for in the documentation (For example, excavation in rock)
- there are items or work (known as ‘provisional sums’) for which you cannot provide a definite price
- prime cost (PC) items for items or work that need to be chosen or confirmed after the signing of the contract, are involved
- you do not accept some terms of the contract

In addition to submitting the standard tender form provided, many builders also prepare a ‘tender letter’ that outlines these conditions. A sample, with some common conditions included, is provided in this unit. The conditions can be quite varied and while some are considered ‘standard’, others will be relevant to a particular project. Examples of conditions are:

- no allowance for excavation in rock
- no allowance for work on any unknown underground service
- all fees by proprietor
- all approvals by proprietor
- PC items
- Provisional sums
- Advice on margins where not stated in the contract form

It is not uncommon for builders to use both of these documents when submitting a tender. It is usually a condition of tendering that a completed tender form be submitted. By not completing and submitting a tender form, a builder could jeopardise the chances of his tender being accepted. So it is important that the builder submits both a tender form and tender letter. The tender letter allows for the inclusion of the necessary conditions the builder has allowed for in the price. If a tender form is not required as a part of the tender conditions, a tender letter should still be submitted with your offer.

If successful, the builder should insist that the tender letter be attached to the contract and become part of the contract documents.
TENDER FORM

JWA Architects P/L
51 Wentworth Road
STRATHFIELD NSW 2135

PROJECT: Brick veneer cottage
20 Jersey Road
Burwood

Builders Name: ________________________________________________________
Address: ____________________________________________________________
________________________________________________________

We hereby submit the following tender to construct the proposed brick veneer cottage at
20 Jersey Road Burwood, as per the plans and specification prepared by JWA Architects
P/L.

CONTRACT SUM: _____________________________________________________
(amount in words) ____________________________________________________
CONSTRUCTION TIME: ___________ Weeks

Signed: ______________________
Capacity: ____________________
Date: ________________________
NETO BUILDING & CONSTRUCTION PTY LTD

ABN 18 105 199 407 – ACN 105 199 406
15 WENTWORTH STREET, MELVILLE 2142

Date

JWA Architects P/L
51 Wentworth Road
STRATHFIELD NSW 2135

We do hereby tender to execute and complete the construction of a brick veneer dwelling at 20 Jersey Road, Burwood, according to plans (numbered A1 to 3) and accompanying specifications (page 1 – 78).

FOR THE SUM OF: $122,634.00 (one hundred and twenty two thousand six hundred and thirty four dollars)

CONSTRUCTION TIME: 18 Weeks

Included in the above tender are:

• no allowance for excavation in rock,
• no work to any unknown underground services,
• all council and statutory fees by proprietor,
• a PC sum of $35.00 per square metre for the supply and delivery for ceramic tiles,
• a provisional sum of $2,000.00 for landscaping the site and
• a 20% margin for all ‘plus’ variations to the contract

This tender is valid for a period of 28 days after which we reserve the right to review our price and is subject to Council approval and satisfactory negotiation.

Yours faithfully

....................................
Construction Manager
Variations

Projects are commonly subject to variations during the course of the project. Whether initiated by the client/architect, or by you, (the building contractor), all variations need to be recorded.

Variations are often referred to as ‘extras’ but this is a misnomer and comes about because most variations are for extra work that adds a cost to the contract sum. Variations can be an addition, deduction or a ‘no cost’ variation to the contract. For example, a product as specified is unavailable at the time of procurement and replaced by a product of comparable quality and at the same price.

A variation needs to be recorded and approved before ordering the product since the specification has been altered even though there is no variation in the contract sum.

If this change is not recorded and approved, a client may use it as an issue should a dispute arise further into the contract.

Most building contracts give the client the right to vary the contract at any time. Some builders use variations as an opportunity to increase their profit margin by pricing the variation work higher than it is worth. Doing this could lead to a dispute between client and builder. As long as you cost all variations accurately (and this can be easily substantiated) you can justify their value to the client/architect if the need arises. It may also pay to consider the implication of the variation in terms of extra time needed and whether you need to communicate this to have an extension of time approved. All variations need to be approved in writing before any work associated with that variation can begin.

Some variations may bring in safety issues for which written approval cannot be sought and received before the work is undertaken. In these circumstances the builder may have to proceed with the work and be prepared to argue the case with the client at a later date. Safety is the responsibility of the builder and compliance with the OH&S Act 2000 and OH&S Regulations 2001 is expected by Workcover NSW. Compliance with the Act is expected under any contract.

On the following page is a pro forma for variations to a contract. The form allows the builder to clearly describe the extent of the variation, communicate the cost and, where necessary, change the contract sum.

The variation form and the variations should be numbered for future reference, particularly when finalising the contract.
# NETO BUILDING & CONSTRUCTION PTY LTD

ABN 18 105 199 406 - ACN 105 199 406  
15 WENTWORTH STREET, MELVILLE 2142

## CONTRACT VARIATION

<table>
<thead>
<tr>
<th>No.</th>
<th>DATE:</th>
<th>PROJECT:</th>
</tr>
</thead>
</table>

### CONTRACT PRICE

| $ |

### PREVIOUS VARIATIONS APPROVED

| $ |

### TOTAL CONTRACT PRICE TO DATE

| $ |

### NET VARIATION THIS CLAIM (from below)

| $ |

### NEW CONTRACT PRICE TO DATE

| $ |

### DESCRIPTION | ADDITIONS | DEDUCTIONS |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>THIS VARIATION</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NET VARIATION</td>
<td>$</td>
<td></td>
</tr>
</tbody>
</table>

### SIGN:

<table>
<thead>
<tr>
<th>DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

---

**Figure 4 – Contract variation**
Back Charges

When undertaking construction works there are often instances as a head contractor when something on a client’s site might get damaged and needs to be repaired by the owner of the property. In this situation and other similar situations it is clear there is a loss to the owner.

There are ways in which the above scenarios can be resolved efficiently and quickly so that it does not leave a bad taste in the mouth of the owner. Remember it is important to keep up the reputation of the company even if it costs the company a little bit at that point in time. The quick resolution of these issues can mean that the company’s reputation is maintained.

So how do you resolve the situation;

1. The rectification can be paid for directly
2. The client can issue a negative variation and not pay this amount if this is agreed between the parties is often the simplest resolution

Quite often it is a little bit more complex than withholding some money and more complex scenarios arise the later into a construction project you get. For example if there is a trade that shows up late and the cleaners have been through and they start making a mess after the cleaners have finished... WHO PAYS? Is it right that the builder should pay again? Is it right that the client should pay again? However the cleaner needs to be paid and the only person to blame is the contractor that did not show up on time. How is this resolved?

Firstly when dealing with Back charges, you must ensure that you have given every opportunity for the contractor to fix the problem before getting it fixed. (in the above example it would be necessary to ask the contractor to clean up the mess to the standard that the cleaner left it so that the client can take over the property.)

Secondly IN WRITING advise the contractor that they will be charged the cost of cleaning up the mess. THIS IS IMPORTANT.

Thirdly instruct the cleaner to do the works issuing a positive variation to the cleaner.

Fourthly issue a negative variation to the contract sum to the contractor that made the mess that the cleaners cleaned up.
Insurance claims

Accidents occur on building sites and occasionally they damage materials or the fabric of a building. Sometimes they are caused by malpractice or negligence and sometimes by mistakes during construction. The main question when damage to property, building fabric or product occurs on a building site is who pays.

The above is the reasons why we have insurance policies that cover every step of the building process.

The biggest question is how do you make an insurance claim. This is quite often undertaken by the insurance company. It should be noted however that there are a number of things that you can do to help make an insurance claim.

As soon as the damage theft accident or whatever the scenario occurs it is important to document the situation clearly and logically so that the insurance company can see proof. This proof can be shown through photos or evidence of delivery and the subsequent value of the product. Details in site diaries are very important.

Calling the insurance company and stating that you would like to make a claim quoting the policy number and you can start the process rolling to recover the loss that has occurred.

In some cases this will be money and in other cases it will be product or material. Whatever the situation it is important to start the process as quickly as possible so that the information can be passed onto the insurance company before it becomes vague.

If the damage was caused by vandals or there is theft it is essential that the police are called and a police case report number is issued by the police and that this is given to the insurance company.
Payment of delivery Invoices

Materials and supplies being delivered to the site need to be paid for as soon as possible often the materials are delivered by companies that have accounts with the Builder.

Money can easily be lost if deliveries are overpaid or time can be lost if accounts are not paid on time.

The question that we are going to examine is how do you account for deliveries and track payments whilst ensuring companies are not overpaid.

There are a number of pieces of paper that are involved with any delivery of materials or supplies to a building site. Each of these papers is interrelated. These are:

1. Order form or Purchase order docket this is produced by the builder prior to delivery to site.
2. Delivery docket this arrives with the delivery and is signed for by the site manager or similar. This should be cross checked against the purchase order or Order form.
3. Invoice for payment this arrives at the company office as opposed to the building site and relates directly to the delivery docket. This should be cross checked with the delivery docket ensuring that everything charged for has been signed off as delivered and the order form ensuring that what was delivered was ordered.

Quite often issues arise if some of the above steps are missed or not carried out correctly resulting in arguments over payment and what was or was not delivered to site.
Progress claims and payments

With the progress claim the builder aims to claim progressively, for the increasing value of work completed to date. The client then makes a progress payment against the claim (invoice). Progress payments are made to the builder during the course of the project either at predetermined stages (such as lock-up), or at periodic intervals – generally monthly or 30 days. In the Home Building Contract (work over $25,000) published by the Office of Fair Trading, progress payments are made at the completion of certain stages.

Progress claims are prepared on the basis of work completed less and previous claims or retention. The progress claim should equate to the value of work done. A claim is usually broken down on a trade basis that relates to a total cost breakdown submitted at the start of the contract.

Progress payments – including GST – are made to financially support the builder who could not be expected to complete the project using his or her own money. Progress payments also prove to the builder the client’s ability to finance the project and their commitment to pay.

Progress claims are prepared as an invoice to the client, not the architect, even though the architect may be acting as the client’s agent. Sometimes the client asks that a statutory declaration be attached stating that all monies owed to your employees have been paid, you have a current workers compensation policy which covers all your employees and all superannuation contributions are up to date. The architect, or on larger projects, a quantity surveyor may certify the claim before the client makes payment.

Under the NSW Building and Construction Industry Security of Payment Act, (1999) any party that contracts to carry out construction work or supply related goods or services on construction projects in NSW, has a statutory right to payment. Under this Act, contractors and subcontractors are entitled to receive all payments due, including final payments and retention monies. Apart from those contracts with home owners who live in, or intend to live in, the dwelling where the work is being carried out, the Act applies to all construction contracts at all levels in the chain. It also applies to contracts between subcontractors, consultants and suppliers to contractors carrying out works to homeowners. The Act allows the claimant to secure payment on account inexpensively and speedily without the use of lawyers, court hearings or witnesses. Note that the progress claim form (invoice) carries a statement at the bottom of the page stating that ‘This claim is issued pursuant to the Building Construction Industry Security of Payment Act 1999’. To ensure that your claims are covered by the Act, this or a statement of similar wording should be included on all invoices.

Subcontractors will also submit progress claims to you for payment based on their claims. If you pay subcontractors before you receive payment for the work from the client, you may be out of pocket if a dispute arises from claim and you may have to use your own working capital to support the project until these funds are available to you.

In NSW, current legislation (Workers Compensation Act 1987, Payroll Tax 1971 and Industrial Relations Act 1996) requires that each progress claim be attached to a
declaration signed by the subcontractors declaring that they have, and maintain a valid workers’ compensation policy, have paid all pay-roll tax due and have paid all monies payable to employees for work done under the contract.

The timing of progress claims and payments are important for your cash flow. Ensuring that your subcontractors make claim for work before you submit your own to the client – but that their terms of payment are longer – allows you to receive payment from the client before paying subcontractors.

On the following page an example of a progress claim (invoice) and cost break up (progress report) is included.
### TAX INVOICE

NETO BUILDING & CONSTRUCTION PTY LTD  
ABN 18 105 199 407 - ACN 105 199 406  
15 WENTWORTH STREET, MELVILLE  2142

<table>
<thead>
<tr>
<th>INVOICE TO</th>
<th>PROJECT</th>
</tr>
</thead>
</table>
| Mr Wilt  
13 Mystic Drive  
Forestville | Alterations and additions – 13 Mystic Drive, Forestville |

<table>
<thead>
<tr>
<th>TERMS</th>
<th>DUE DATE</th>
<th>PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 days</td>
<td>28/6/08</td>
<td>15 – 13 mystic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour and materials for work completed at 13 Mystic Drive, Forestville as per attached payment schedule dated 21/6/08</td>
<td>$20,800.00 (excluding GST)</td>
</tr>
</tbody>
</table>

Less Retention (10%)

(2,600.00)

<table>
<thead>
<tr>
<th>TAX SUMMARY</th>
<th>SUB TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>GST $2,600</td>
<td>$20,800.00</td>
</tr>
</tbody>
</table>

TAX TOTAL $2,600.00

TOTAL $23,400.00

This claim is issued Pursuant to the building Construction Industry Security of Payment Act 1999

Figure 5 – Progress claim
NETO BUILDING & CONSTRUCTION PTY LTD
PROGRESS REPORT – CLAIM # 1

**Contract #:** 15  
**Project:** 13 Mystic Drive, Forestville – Alts and Adds  
**Date:** 21/6/08  
For work up to & including: 20/6/04

<table>
<thead>
<tr>
<th>WORK BREAK UP</th>
<th>COMMITTED VALUE</th>
<th>% COMPLETED TO DATE</th>
<th>VALUE COMPLETED TO DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTRACT WORKS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preliminaries</td>
<td>10,000</td>
<td>50%</td>
<td>5,000</td>
</tr>
<tr>
<td>Demolition</td>
<td>5,000</td>
<td>100%</td>
<td>5,000</td>
</tr>
<tr>
<td>Excavator</td>
<td>8,000</td>
<td>75%</td>
<td>6,000</td>
</tr>
<tr>
<td>Concreter</td>
<td>20,000</td>
<td>25%</td>
<td>5,000</td>
</tr>
<tr>
<td>Carpenter</td>
<td>30,000</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td><strong>SUBTOTAL CONTRACT</strong></td>
<td><strong>73,000</strong></td>
<td><strong>21,000</strong></td>
<td></td>
</tr>
<tr>
<td>VARIATIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V01 – Disposal of Asbestos</td>
<td>5,000</td>
<td>100%</td>
<td>5,000</td>
</tr>
<tr>
<td><strong>TOTAL VARIATIONS</strong></td>
<td><strong>5,000</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**REVISED TOTAL**  
$26,000

LESS PREVIOUSLY CERTIFIED  
$0

VALUE THIS CLAIM  
$26,000

LESS RETENTION  
$2,600

BALANCE PAYABLE  
$23,400

Figure 6 – Progress report
Final accounts

The final account is the last bill that the building contractor submits for works as contracted. It is prepared and submitted at the stage of practical completion. Commencing with the original contract sum and ending with the balance payable on the contract (excluding and retention held over the defects liability period), it outlines the financial history of the project.

So when do we reach practical completion? Practical completion is when the builder has completed all the work in accordance with the contract documents and any variations. Any apparent defects should have been rectified and all rubbish and surplus material removed from the site. It is also dependant on the client accepting the work as complete.

Preparation for the final account must be done progressively throughout the project. Preparation cannot be delayed until the last week of onsite activity. Except for the payment of retention at the end of the defects liability period, this is the last opportunity to make a claim on the client. Therefore, as a builder, you need to make sure you include all claims due to you as well as any credits due to the client. The onus is on the builder to provide an accurate final account, free of any errors or omissions.

Cost Items

The final account will detail all the monetary aspects or cost items of the contract and would normally include, but not be limited to the following:

Contract Sum

This is the original contract figure that would have appeared on the signed contract conditions of agreement.

Variations

The total cost of the variations would be included in this final account. No details of the variations would be included here. This should have been submitted and approved prior to the work on the variations commencing.

Deposit

Deposit paid by the client should appear on the final account.

Prime cost items reconciliation

The prime cost items for the building work would be adjusted to show the differences between the prime-cost allowances and actual expenditures. An adjustment is made between the allowance and the actual expenditure and the difference is stated as a claim or credit.
**Provisional sum adjustment**

The specifications and contract documents may have provisional sum allowances of a stated dollar value for some sections or items of work that at the time of tender had an unknown value. On completion, the money has been spent and the cost of that work is known. An adjustment is made between the allowance and the actual expenditure and the difference is stated as a claim or credit.

**Progress claims received**

A total of the progress claims received should be totalled and included in the final account.

**Retention**

All retention monies should be shown. Retention percentages change at the time of practical completion. Usually, a maximum of 5 per cent of the total contract is held up until the time of practical completion; then it reverts to 2.5 per cent for the duration of the defects liability period. The Final Account needs to show the adjustment to 2.5% and the outstanding retention owing.

**Claim for extended site establishment**

Where variations to the contract are predominately extras and the total represents a large proportion of the building contractor’s final account, the builder can claim for payment. Site establishment costs include shed hire and foreman’s wages. These combined costs are worth claiming if a building project went over the original scheduled time (with extensions of time claims being approved).

**Balance payable**

This is the amount of money the client is required to pay the builder (excluding the 2.5 per cent retention), within the agreed time period. This time period should also be stated on the final account.
Summary

The success of contract administration depends on effective communication between all parties involved. The contractual parties must ensure that the lines of communication are established and kept open throughout the contract period. The fundamental aspect to create and maintain a workable relationship between the client and builder is central to the completion of the contract to the satisfaction of all parties.

Satisfied clients create opportunities for future work by recommending you, the builder, to new clients.

While much of what we do as builders in contract administration is tried and tested, there is still an element of human nature involved and you cannot rule out a clash of personalities that can make your work environment very difficult. It is important that the impact of your administration will impact the relationship with your client. However, the client's experiences throughout the project are what they will convey to others. There may be personality clashes throughout the project, however all that can be expected is openness and honesty throughout the administration.
Conduct On-Site Supervision of the Building & Construction Project

BCGBC4008A / CPCCBC4008A

Section 2
Introduction

The communication process is probably the single most important factor in the day to day activities of a building supervisor.

All building organisations require essential communication links between the different levels of the hierarchy. Communication has a direct association with performance i.e. the better the communication process, the greater the performance. Because performance is inextricably linked to profit, it is desirable for management to adopt sound communication strategies from the outset; this becomes a major platform in on-site culture.

Effective communications will stop confusion occurring between the sender and receiver of a message whether it is written or verbal. Communication is a two way process that involves listening to the feedback supplied when instruction is given. Feedback should be encouraged so that the supervisor can determine if the information which is given out in digestible amounts is clearly understood.

How well you perform your activities and how they are seen by workers will be determined importantly by your communication skills. People do not communicate all their thoughts and feelings. People commonly use poor communication techniques which can lead to confusion.

Confusion can be caused during communication by:

- Hearing what we expect to hear
- Using the wrong methods e.g. telling as against providing written information
- Ignoring information that conflicts with what we know
- Evaluating the source of information
- Having different perceptions
- Using words that have different meanings for different people
- Use of jargon and technical terms
- Inconsistent non verbal signals
- The effects of emotions
- “noise” and other interruptions
What Site Records Should Be Kept?

So what primary records should a contractor maintain? This may differ from case-to-case and will depend on the nature of the works or the requirements of the contract. My view is that as a minimum requirement contractors should maintain the following records:

1. Labour and plant allocation sheets showing the labour and plant allocated to specific tasks on a daily basis (including labour allocated to additional or disrupted works).

2. Daily diary – to include details of site progress, unusual site conditions, delay events and additional resources. It should also include weather in the morning and afternoon as well as the number of subcontractors on site each day.

3. Requests for Information (RFI) – these should be made using a pre-agreed format and not merely by way of correspondence.

4. Confirmation of verbal instructions (CVI) – whenever an instruction is issued by an employer (or his agent) verbally, it should be confirmed by the contractor in writing and a separate file for CVI maintained.

5. Drawing register – an up-to-date register for all drawings (and subsequent revisions) is essential.

6. Minutes of meeting – minutes should be kept for all internal/external meetings and should in particular note progress of the woks, any obstacles to progress and agreed action plans.

7. Approvals and inspections – including for materials, work methods, and designs and the inspection of works and materials.

8. Photographs – in almost all delay and disruption cases photographs provide an invaluable record of progress. Photographs should be dated and labelled. It is also useful to have photographs taken from the same place(s) during the course of the works to allow for comparison.

Armed with this information the prospect for the timely resolution of claims or disputes is greatly enhanced.
Types of Records

The types of records that should be kept on the computer, ready to be printed off or as hard copy are:

- Diary and planner
- Instructions and File notes
- Site Reports
- Variation requests
- Extension time requests
- Unsatisfactory work notices

Using the diary, calendar and planner

Proper documentation of scheduling, work progress, resource use etc are all key factors in a projects success.

Calendars and planners (as with the master programme for a project) help us keep in mind the big picture of the project. It is possible when dealing constantly with day to day issues on-site to lose track of longer term scheduling and planning issues. This reduces the ability to forward plan which is very important in effective supervision of contractors/workers.

The site diary is an extension of the planner in that it provides the day to day planning tool for supervision. As important as its planning role, is the recording of activities occurring on a daily basis. It is important not to leave to memory factors affecting the construction process. These need to be included in the site diary.

A well kept diary will include information on:

- Activities to be completed
- Information on workforce numbers and activities
- Meeting schedules and meeting notes
- Information on materials usage
- Information on plant and equipment usage
- Union matters
- Suppliers/deliveries
- Many other aspects of recording work related information
- Twice daily weather conditions
- Changes to inclement weather
Site instructions

When the builder queries a design detail, the client often instructs he or she to do something that is not clear in the documentation. If this is the case and the client does not provide written confirmation, you as the builder should confirm the instruction in writing by use of a site instruction. If the instruction impacts on your subcontractors, you should also provide them with a site instruction.

A site instruction is merely written confirmation of an instruction given to you by the client that is not clear in, or contradicts, the contract documents. For example, although the colour of fencing specified on the drawings and in the specifications is black, the client has changed their mind and wants the fence to be green. They have advised you verbally but as it is considered a small change that has no monetary impact (not a variation) the documents have not been changed. In this case, you need to confirm the request in writing and ask the client to sign it. Keep a copy and distribute one to the client and to any subcontractors impacted upon by the instruction.

When you receive an instruction from the client of the client’s representative that is not considered a variation, and not confirmed in writing, you leave yourself open to dispute. It is vital that any instructions given to you by a client is confirmed in writing and signed by them.
CLIENT: ....................................  PROJECT: ..........................................  JOB NO: ...........

☐ DAY LABOUR  ☐ SITE INSTRUCTION  ☐ TRANSMITTAL  ☐ REQUEST FOR INFORMATION  ☐ MEMO

ISSUED TO:  .................................................................  DATE:  .........................
ATTENTION:  .................................................................

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

ISSUED BY:  .................................................................  RECEIVED BY:  .................................................................
SIGNATURE:  .................................................................  SIGNATURE:  .................................................................

Figure 1 – Site instruction
Site Reports

There is a fundamental need for the supervisor to have a good understanding of basic report writing techniques and their application. They will be frequently involved in activities such as performance appraisals, job instructions, job specifications, recruitment, site diaries, progress reports and many other relevant areas.

The communication between senior management and the supervisor requires a daily flow of correspondence which must be quickly and effectively addressed by the supervisor.

Performance appraisal is one task frequently assigned to the supervisor and as such they must closely follow company policies affecting the performance of subordinates; this appraisal is considered one of the most important on-site reports.

Any written formal or informal communication is important. Many of these are in short report form and should be recorded electronically or copies filed accordingly.

Example – Site Evaluation Report

The Site Evaluation Report consists of a general site investigation and research involving local code officials and public/private utility organisations to identify requirements associated with the proposed site utilisation, expansion, or redevelopment that could impact the budget or timing.

Variation Requests

Variation requests should be recorded and filed. Generally, a variation request is priced by the sub-contractor then presented to the client, approved and signed. After approval the sub-contractor should be told to proceed with an instruction and the signed copy filed. An example of this kind of communication has been included in Section 1 of these competency notes.

Extensions of time

The time taken to complete a project is all too often the cause of a dispute. This can be the result of many factors including:

- The original underestimated time
- Unexpected delays
- Bad weather
- Lack of diligence by the builder
- Poor performance by sub-contractors
- Variations

In order not to be penalised at the completion of the job should it take longer than the original estimate, the builder has to claim an extension of time. The contract
Generally outlines the circumstances that allow for such a claim. The contract conditions and rules should be followed closely.

Some builders will claim at every opportunity. Be aware that ridiculous claims can be challenged and you may be required to justify it. If you cannot justify a claim, you may damage the integrity of your organisation. A claim should be backed up by evidence and documentation (such as site diary entries).

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NETO BUILDING & CONSTRUCTION PTY LTD

ABN 18 105 199 407 - ACN 105 199 406
15 WENTWORTH STREET, MELVILLE 2142

EXTENSION OF CLAIM ADVICE

<table>
<thead>
<tr>
<th>Extension of Time Claim Number</th>
<th>E</th>
<th>O</th>
<th>T</th>
</tr>
</thead>
</table>

Description: (Project Name)

(Type of delay)

Reason for Delay:

Date of Occurrence:

Date Advised:

Estimated Extension of Time for Completion Claimed:

Signed:

______________________________  _________________________
Site Manager/Foreman            Date

Figure 2 – Extension of time claim
Unsatisfactory Work Notices

Part of the construction business involves maintaining a good quality checking system or systems over the finished product. It is important that all problems with unsatisfactory work are communicated directly to the contractors involved in writing and that these are filed appropriately in hard copy or electronic form.

Your notice should include details of the contract date, when the work was completed, the amount in question, the faults in the work and what you consider would be reasonable action to remedy the problem. Ask, in writing, for a reply to your letter within 10 days time by either telephoning or writing.

There are multiple avenues for ensuring quality workmanship on site. One of those used commonly in the building industry is called an Inspection Test Plan (ITP). An ITP identifies all the steps involved in ensuring that a quality product is delivered. For example and ITP for concrete could include the following steps:

1. Ensure levels are set out to plan.
2. Ensure formwork is installed as per surveyor’s details and according to plan.
3. Check correct plastic is installed according to Australian Standards.
4. Check steel reinforcement delivered is as per order.
5. Check reo is installed as per engineer’s drawings.
6. Get sign off from engineer prior to pouring.
7. Check concrete delivery is as per order.
8. Check slump is correct when concrete arrives on site.
9. Check quality of finish is as per specification.

This is a very simplified ITP but gives you the example as to how to write an ITP.
Documentation to control material, plant and equipment

Together with the role of managing the project workforce is the equally important role of keeping track of incoming materials and the movement of necessary plant and equipment. A supervisor’s effectiveness is influenced by the control exercised by higher level management. This control could take the form of documentation associated with, deliveries, maintenance records and other site works using appropriate housekeeping procedures such as a diary.

Other ways to document materials is through keeping delivery dockets and checking them against what was ordered.
Good construction site communication

Improvements in communication should result in an increase in the quality of the build and a reduction in the level of defect occurrence.

Simplified communication

Figure 3 illustrates a simplified methodology for communication during the different phases of a construction project.

At the outset and/or 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.
Figure 3 – Examples of communication issues during a typical construction project
Communicating through the design Phase

Drawing provision and distribution

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.

Single points of contact

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.

Trade supervisors

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 of 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".
Communicating through the Construction Phase

Pre-start meeting

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 work progresses
- It provides the opportunity to decide on how communications 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 that all relevant people attend the kick-off meeting, this may include supervisors and major suppliers.

Technical literature and advice

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

- Manufacturers
- Australian Standards Institution
- Building regulatory authorities
- Trade associations (e.g. Master Plumbers Association)
- Insurance companies (e.g. HIA, MBA)
- Consultants and research organisations

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

Table 1: Non-paper based communication methods

**Provision of technical advice**

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.

**Upwards feedback**

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).
Project Meetings

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 the relevant people to any meetings, but bear in mind that some people may only need to usefully attend specific parts of a meeting.

Keep people “in the loop”

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.
Communicating across the whole construction project

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:

- Communications 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 email 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. This will mean lessons will be learnt from mistakes made previously to ensure the same issues do not arise again.

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 email access may also be beneficial communication tools. For example, drawings can be emailed 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.
Conduct On-Site Supervision of the Building & Construction Project

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Section 3
The Operation of a Quality System in a Construction Company

Effective operation requires a firm commitment and leadership at a senior management level. It also is important that personnel and contractors understand the principles of quality management and are proficient in their operation of the company’s quality system. Workers therefore need to be trained in the system.
The Quality Manual

Large companies should have a Quality manual which lays down procedures to be followed and determines the standards which must be adhered to.

For a one person operation, e.g. a sole trader who is a builder, it may be extremely useful for you to formulate a series of documents which outline the standards that you expect from contractors that you hire and the ways in which you are going to check on the quality of the materials and work performed.

Refer to Inspection Test Plans (ITPs) from the previous section.

The company’s Quality Manual:

- States the company’s Quality Policy;
- Describes the company’s Quality System.

The Quality Manual explains how you operate and drive the system, in the same way that other types of manuals tell you how to operate your video recorder or service and maintain your car.

The Quality System contains documented procedures. These are explanations of how the company carries out its basic processes and activities. These are written in plain English and preferably were written by the staff who normally carry out those procedures.

A company needs to update its manual and procedures from time to time. This will be necessary to improve its efficiency, overcome deficiencies, to take account of new technology and materials and/or when it introduces new processes as it undertakes different types of work.

Regular updating of Quality Management systems rectify any issues that are not working satisfactorily such as items or processes that can be simplified.

Quality Management is not some kind of quick fix or magic. Quality Management is developing and using a system on a day to day basis to run the company’s business and projects. Used in this way it provides assurance to customers that projects and services will meet their requirements.
Operating a Quality System for a Construction Project

The Quality System requires that the project or work be properly planned before work commences on it. This planning is known as Quality Planning and is done using a Project Plan (also called a Quality Plan, Project Quality Plan or a Project Management Plan).

One of the documented procedures in the company’s Quality Manual will describe the contents of and how to prepare the Project Plan. The size and complexity of the plan will vary depending on the project. For small routine jobs it could be a single page.

People in the building and construction industry tend to be action-oriented and achievers. As a result they frequently want to start work on site as soon as the contract is awarded to their company and before proper planning has been done. (Sometimes they have no choice because of the demands of some of their customers.)

In today’s competitive client, designers, contractors, sub-contractors must increase efficiency, cut wasted time and effort and look for smarter ways to do things. Preparing a Project Plan at the beginning of the job helps to achieve these objectives. The capability to influence the final outcome is greatest at the start of a job. That capability quickly reduces as more and more decisions are made as the job progresses.

Figure 1, below illustrates diagrammatically the relationship between the Quality System operating at Company level and at the Project or Site level.
Figure 1 – Operation of the Company Quality System at company level project level
Controlling Quality on a Construction Site

The construction process may be broken up into three distinct phases. Each phase has its own requirements as far as inspections and following procedures is concerned.

Address each of the following subjects in each phase of construction:

Preparatory phase

- Review all contract requirements
- Ensure compliance of component material to the contract requirements
- Coordinate all submittals including certifications
- Ensure capability of equipment and personnel to comply with the contract requirements
- Ensure preliminary testing is accomplished
- Coordinate surveying and staking of the work

Start-up phase

- Review the contract requirements with personnel who will perform the work
- Inspect start-up of work
- Establish standards of workmanship
- Provide training as necessary
- Establish detailed testing schedule based on the production schedule

Production phase

- Conduct intermittent or continuous inspection during construction to identify and correct deficiencies
- Inspect completed phases before scheduled Government acceptance
- Provide feedback and system changes to prevent repeated deficiencies

Description of records

- List the records to be maintained

Personnel qualifications

- Document the name, authority, relevant experience, and qualifications of person with overall responsibility for the inspection system.
- Document the names, authority, and relevant experience of all personnel directly responsible for inspection and testing.
Subcontractors

Include the work of all subcontractors. If a subcontractor is to perform work under this Section, detail how that subcontractor will interface with the Contractor’s and/or other sub-contractor’s organisations?

The quality of work carried out by contractors/workers on the site is usually measured against a required standard. On large commercial sites “Inspection Test Plans” set out in detail when, where and how each critical activity is to be checked for conformance. Contractors must sign off each activity to show that the activity is completed and checked for quality against the specifications. This signing off also helps the proper sequencing of construction activities. On smaller sites such as house construction the same principles apply however how these principles are applied may vary dramatically.
Conduct On-Site Supervision of the Building & Construction Project

BCGBC4008A / CPCCBC4008A

Section 4
Completion of Project – Administration Processes

The date of substantial completion is defined in contract terms as the date which the owner/client/client and/or architect will certify that the work, or designated portion of the work, may be beneficially occupied or utilised by the owner/client for its intended purpose. The actual date of substantial completion is usually noted on the certificate of substantial completion or Practical Completion.

When the contractor considers that the work, or designated portion of the work as previously agreed to by the owner/client, is substantially complete, he will prepare and submit a list of items which remain to be completed or correct. The failure of the contractor to include any items on the list, will in no way alter his responsibility to complete or correct these items per the contract documents.

The builder and owner/client should review the list and the completed work to determine that the list is both accurate and complete. Items which require correction and/or completion, that are not included in the list, should be added. The owner/client should be advised that the items on the list should be corrected and/or completed within the time limit set forth in the certificate of substantial completion.

If the owner/client is occupying the house, the correction and/or completion of all list items should be conducted in a manner not to adversely effect the owner/client’s occupancy of the facility. The mechanical systems, life safety systems, telecommunications systems and any other systems which are required to properly utilise the house should be complete and in good working order.

The owner/client should be consulted to confirm that there are no other construction deficiencies that he may be aware of which are not on the list.

The Certificate of Substantial Completion should be prepared by the builder and certified by the Owner/client and/or Architect, prior to being submitted to the Owner/client for their written acceptance of the responsibilities assigned them in the Certificate.

The Certificate of Substantial Completion will also establish the dates and responsibilities of the transitional arrangements which will be required between the Owner/client and the builder. These should include:

- The time limit for completing the remainder of the work per the list
- Establish the responsibilities of the owner/client and builder for security, maintenance, utilities, damage to the work and insurance.
- Establish date for the commencement of all warranties.

Upon successful execution of the Certificate for Substantial Completion the owner/client may make payments which reflect adjustments in the amount retained to cover items to be finished or fixed up, as provided in the contract documents.

In cases where the work is unacceptable, the builder upon consultation with the owner/client and/or architect, should establish the value of the remaining work and suggest an amount that reflects the value of that work.
Generally the minimum amount retained for each unacceptable item should be estimated at a cost incurred to have another contractor brought in to complete or correct the item. This includes any costs for mobilisation and/or equipment required to correct or complete any outstanding construction deficiencies.

**Completion Checklist for Builder**

About three to four weeks before the project completion, both the builder and the clients should together identify that which must be arranged before completion, including such matters as:

1. Insurances to change from builder to clients
2. Services to be connected in the name of the clients – post office notified of date of occupancy, deposits may be needed for electricity, phone, cable TV and the like.
3. Clients and builder to agree precisely what completion means – grounds will be graded and cleaned up, windows cleaned, final finishes and the like.
4. Final inspections
5. Final payments
6. Protection against theft – new appliances are prized by thieves. The house should not be left unattended if at all possible. The hot water system should be located and filled to deter theft.
7. Locations (with reasons for positions explained to the clients) of items, including:
   - Water valves (an extra valve at the entry of the house is handy).
   - Electricity metres must be accessible to electricity authority but circuit breakers and earth leakage safety device should be inside the house for both security and convenience
   - Hot water system located preferably external to house in case of leakage
   - Post box
   - Cable entry points – future faults can often be fixed quickly if these are known
   - Survey pegs which are required for fencing. Dividing Fences Legislation establishes two principles:
     - a. Fences must suit the area, and
     - b. A prior written notice is required to obtain contributions from neighbours.
8. Clients are provided with a maintenance program and copies of certificates, guarantees, government information and suchlike.
Planning and Development controls

All development proposals in NSW must be assessed to ensure they comply with relevant planning controls and, according to nature and scale, that they are environmentally and socially sustainable. State, regional and local plans and policies indicate what level of assessment is required, and who is responsible for assessment: council, an accredited private professional or the Minister for Planning (the Department of Planning assesses proposals for the Minister of Planning).

Planning and building approvals in the City of Sydney are governed by The Environmental Planning and Assessment Act 1979.

Categories of Development

Approval is required to carry out development in the City of Sydney, except where expressly exempted. The Environmental Planning and Assessment Act 1979 defines development as:

- The use of land
- The subdivision of land
- The erection of a building
- The carrying out of work
- Demolition
- Any other matter controlled by an environmental planning instrument

Other categories of development are:

- **Exempt Development**: minor development that does not need any approval but must comply with specific standard provisions.
- **Complying Development**: a subset of local development that has a low environmental impact and that can be certified as complying with predetermined standards. Separate complying development procedures provide a fast system for assessing development. A Complying Development Certificate may be issued by either the City of Sydney or an accredited certifier.
- **State Significant Development**: is a development identified by the State Government as being of State or regional significance. The Minister of Planning is the consent authority.
- **Integrated Development**: is a development where separate approvals are required under other Acts, such as The Heritage Act 1977 or The Roads Act 1993. Here the City of Sydney refers the application to the relevant authority to seek the terms of approval. If approval is granted, such terms of approval will be included in the development consent. Separate approvals will still be needed under the relevant acts, but the confirmation of an approval will be obtained early on in the process. The approval of the relevant authority does not fetter the discretion of Council in determination the application.

So what does all the above mean to you as a builder? In some circumstances you will be required to obtain a Development approval and all other statutory documentation for and on behalf of a client. So how is this undertaken, below is
outlined the various steps and stages required to obtain all the statutory approvals. This does change from one council area to another so it is important to confirm with the particular council exactly what is required.

**Development Application and Approval process**

Development Applications and any subsequent applications for related building or construction work, such as a Construction Certificate, are assessed under Section 79C(1) of The Act.

In nearly all residential projects the proposed works are assessed by the local council using documents produced by the owner or the builder or architect for and on behalf of the owner.

**Documents required for Development Consent**

DA documentation involves recording the proposed building including enough detail for assessment by the Local Council for compliance with local town planning requirements. DA documents include drawings and supporting information documents which together provide all the required information about the proposed building.

Each council has specific requirements for DA submission. An example of DA requirements can be found on Ku-ring-gai Council’s website. http://www.kmc.nsw.gov.au/go/planning/development/developmentapplications

Below is a list of common drawings and documents that are required by councils.

DA drawings generally required are:

- Site Analysis Plan
- Survey Plan
- Site Plan
- Floor Plans
- Elevations and Sections

Additional DA drawings may be required for specific building types or in specific areas, including:

- Shadow Diagrams
- Landscape Plan – where significant landscaping works are involved. Generally prepared by a Landscape Architect or Designer.
- Stormwater Management Plan – for many city and suburban developments
- Environmental Site Management Plan – for environmentally sensitive sites

Some of the other DA documents would include:
Environmental site management plan

Some Local Councils require an Environmental Site Management Plan as part of the DA to demonstrate how the site will be maintained throughout the construction process to ensure optimum environmental outcome.

Statement of Environmental Effects

A Statement of Environmental Effects (SEE) states the likely impacts of the proposal and the measures that will mitigate these impacts. It includes written information about the proposal that cannot be readily shown on plans.

BASIX certificate

The Building Sustainability Index is a web-based planning tool put in place by the State Government to assess the potential performance of residential developments against a range of sustainable indices. You must provide a BASIX assessment certificate for all new detached single dwellings and dual occupancies, multi-unit developments and additions and alterations to house. Refer to www.basix.nsw.gov.au for more information and use this webpage to complete your certificate.

Heritage impact statement (HIS)

An application for a property identified as a heritage item, within a heritage conservation area or “within the vicinity” of a heritage item or heritage conservation area requires a heritage impact statement.

Waste management plan

This identifies whether the waste building materials and demolition waste are to be re-used, recycled or where disposed of.

Geotechnical report

This may be required when it is proposed to excavate to a depth of two meters or more below the existing ground level and also in other instances depending on the nature of the development and site circumstances.

Sample board

A sample board shows the proposed finishes of the development and may be required for new residential developments, including single dwellings, dual occupancies, flat buildings of three or more stories, all developments where four or more dwellings are proposed and for all retail, commercial or mixed-use development.

The sample board provides an example of each material to be used on the exterior of the development and the outdoors areas of any new structures.
Construction Certificate Drawings

After a development application is approved, a Construction Certificate is needed before building actually begins. A Construction Certificate is an approval that:

- Makes sure that the detailed construction plans and specifications comply with the Building Code of Australia (BCA) and any other relevant Australian standard
- Certifies that the detailed construction plans and specifications are consistent with the Development Consent
- Certifies that the relevant Conditions of Development Consent have been complied with.

The above requirements are often covered in the construction drawings, see table below outlining the different types of drawing involved.

<table>
<thead>
<tr>
<th>Construction or Working Drawings</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC Drawings</td>
</tr>
<tr>
<td>Working drawings showing the information required to obtain a Construction Certificate (approval to construct).</td>
</tr>
<tr>
<td>Construction details</td>
</tr>
<tr>
<td>A part of working drawings showing detailed information about the construction of building elements.</td>
</tr>
<tr>
<td>Shop (workshop) drawings</td>
</tr>
<tr>
<td>Working drawings showing the detailed information required to fabricate items e.g. furniture, joinery, fixtures.</td>
</tr>
<tr>
<td>Tender drawings</td>
</tr>
<tr>
<td>Working drawings showing the information required to obtain quotes (tenders) for construction work</td>
</tr>
</tbody>
</table>

Providing Certificates

If a Development Consent (commonly referred to as a DA) has been approved for the works then a Construction Certificate (CC) will be required for the works (as noted above). This will be either issued by the building surveying department of the council that issued the Development Consent or the CC can be issued by a Private Certifying Authority (PCA).

As part of the development consent there are conditions that must be complied with these are outlined in the consent. The Private Certifying Authority ensures that not only are all the conditions complied with but that the building or development is completed according to the plans and specifications that have been approved as part of the consent and CC.

In order to obtain a Construction Certificate (CC) from your PCA, you will have to provide some certificates to show that your works will comply with the consent and also that the works will comply to the BCA and Australian standards.
Upon completion of the works the PCA or council will require the following certificates as part of the approval process, verifying compliance with the BCA and relevant Australian Standards:

- Any engineer certificates that were required e.g. for footing design or roof design
- Waterproofing for wet areas
- Glass in windows and doors (provided by supplier)
- Timber treatment where necessary
- Termite management system where necessary
- Roof trusses – from manufacturer
- Hydraulic certificates
- Smoke detector certificate of installation
- Cadastral survey report where required or requested
- BASIX Certificate for residential projects

The above certificates enable an Occupation Certificate (OC) to be issued by the PCA or Building Surveying department from council. An OC enables the building or development to be occupied or used for its designed purpose.

**Inspections**

During the building process there are a number of statutory inspections that are required to be undertaken it is critical that the inspections are undertaken at the times that they are supposed to. The Environmental and Planning and Assessment Act 1979 specifically outlines the mandatory or Critical stage inspections that are required during the building process. So what are the inspections that need to be undertaken during the building process? Below is a list of requirements for work to a residential development:

- Pre-Commencement inspection prior to works starting this ensures that all site establishment requirements have been completed prior to starting works.
- Footing and piers inspections.
- Stormwater drainage inspection after pipes have been laid and prior to backfilling trenches.
- Structural engineers inspections prior to pouring concrete including termite protection and vapour barrier.
- Framework
- Waterproofing
- Completion inspection upon completion of the works prior to occupation of the premises including landscaping.
There may also be other inspections that are required under the development consent depending on the type of premises that are being constructed or built. Some of these could be on the following list:

- When it comes to a food shop quite often a health inspector is required to inspect the premises prior to occupation.
- When it comes to premises that store or use dangerous goods there are requirements for inspections by the Environmental Protection Agency or specific agencies depending on the type of materials or the legislation that may govern the storage of said materials.
- Councils often require an inspection to be carried out by them if new kerb and guttering are to be installed in front of a property.
- A new driveway to a property will often require council to inspect prior to pouring concrete to view steel reinforcement and stormwater.

With the completion of the above the private certify can issue an occupation certificate following there completion inspection. As part of issuing an occupation certificate, the certificates that are listed above will also be accompanied with certificates that state that the inspections were carried out.
Inspecting for Defects

On substantial completion, the builder should inspect the building thoroughly for defects. He/she may do this with the client, or the client may even engage a specialist to do this and produce a report.

Below is a list of items that builders may use as a check list for final inspections.

External aspects of the building and surrounds including: roof line, flashing, eaves, gutters, downpipes, walls, windows, glazing, doors, stairs, porches, balconies, safety barriers, paint finish, boundary fences, car accommodation, clothes lines, council crossings and footpaths for damage during construction, driveways, landscaping, paths/paving, retaining walls, steps, stormwater run off, drainage and taps.

Internal aspects of the building including: ceilings, cornice, walls, architraves, skirting boards, floor structure and covering, cupboards, drawers, shelving, wardrobes, vanity units, fly screens, ventilation, paint finish, doors, windows, glazing, stairs, fittings and appliances.

If accessible, roof space and sub-floor space.

Builders should then sit down with clients and discuss what rectification and maintenance works need to be carried out to either rectify the stated defects or properly maintain the property.

Typical Defect Report

A typical defect report would cover the following:

Foundations and Footings

External and internal walls are visually checked for cracking or signs of movement.

Brickwork

The physical appearance of bricks used and the correctness of the laying of the brickwork is thoroughly checked.

Mortar

Mortar is checked for any signs of visible imperfections, weakness or crumbling etc. A simple test is conducted to assess the strength of mortar. A further check by an accredited testing laboratory may be recommended.

Damp Proof Course (DPC)

A check is conducted to determine the presence of a DPC. If the omission of a DPC appears to have caused dampness, we advise you of this, and provide solutions on how this problem can be treated.
Plumbing

Plumbing works, fixtures or fittings are checked to see if they are in order. Any leaks, drainage problems or other defects (e.g. lack of water pressure, slow drainage etc) are noted.

Site Drainage

Poor site run off or lack of connection of downpipes to stormwater drainage that results in obvious boggy areas is noted.

Electrical Wiring

The condition of the meter and switchboard, power point testing in at least 5 locations, and visual examination of the wiring in the roof space (where accessible) and elsewhere, is checked to assess the state of electrical wiring. A further check by a licensed electrical contractor may be recommended.

Roof Condition

The roof covering and its associated plumbing (i.e. flashing, gutters and downpipes) are visually inspected to detect any defects (e.g. broken tiles, leaks, blocked downpipes, etc).

Roof and Sub-floor Structure

Visual inspections from access points are undertaken to determine the condition of the structural components. Any apparent signs of sagging, lack of support, moisture, rot or faulty services are noted.

Insulation

The presence and adequacy of roof space insulation is reported on, where accessible.

Paint finish

Imperfections/inconsistencies in paint finish are noted.

Floors, skirting, architraves, walls, cornice, ceilings, doors, cupboards, appliances, etc

All visible defects are noted.
Project Close Out

Following Substantial Completion, the builder should arrange for the following items and materials which should be collectively referred to as the Close-Out Documents:

- Application for payment showing all work as completed and requested amount to be retained
- List showing all items identified by the builder, certified as being completed
- All copies of necessary certificates, as required by the Building Surveyor
- Final release for the total amount of contract sum
- Final drawings and specifications as per the contract documents
- Warranty and maintenance information as required by the Contract Documents
- Extra stock materials and special tools as provided in the Contract Documents
- Final accounting of all requested variations for the project.

In addition to the items listed above, the Close-Out Documents shall include proof that all equipment and maintenance demonstrations required by the contract documents, have been successfully completed by the builder for the owner/client.

Equipment demonstrations shall be scheduled by the builder with the owner/client given adequate notice to ensure that proper personnel may attend.

Should all prerequisites for project close-out be satisfied, the Owner/client and/or Architect will then recommend to the builder in writing that the owner/client make final payment to the builder.
Final Application for Payment

The builder should advise the owner/client and/or architect when all Close-Out Documents have been properly transmitted to the owner/client, all required list work is completed and all requirements of the contract have been satisfied per the Contract Documents. The owner/client and/or architect will, upon consultation with the builder, recommend that the Owner/client make Final Payment to the Contractor.

The final payment request from the contractor will be for the remainder of the amount retained.
Presenting the final account

You or another nominated person should personally present the final account to the client. For you to be paid quickly and in full, it is your responsibility as the builder to present a final account that is simple in form and sequence and easy to read and understand. Long paragraphs of descriptive prose should not be included in final accounts. Each item should be listed. The presentation of the final account needs to be made without contention and without opportunity for the client to delay payment by argument. No item of claim should be in dispute at final account time.

This is also the time to ensure that all handover items such as warranties as-builts, tagged keys, and maintenance and operation manuals are completed and passed on to the client.

On the following page, an example of a final account is shown.
NETO BUILDING & CONSTRUCTION PTY LTD

ABN 18 105 199 407 - ACN 105 199 406
15 WENTWORTH STREET, MELVILLE 2142

TAX INVOICE

Invoice # 759

Ms. Wels
51 Wentworth Road
STRATHFIELD NSW 2135

21 June 2004

Dear Ms Wels,

RE: ALTERATIONS AND ADDITIONS AT 51 WENTWORTH RD, STRATHFIELD

We are pleased to submit our final account for the works at the above address, as works were completed 20 June 2004.

<table>
<thead>
<tr>
<th>FINAL ACCOUNT</th>
<th>$</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Sum</td>
<td>120,000.00</td>
<td></td>
</tr>
<tr>
<td>Variations nos 1-9 (net)</td>
<td>17,500.00</td>
<td></td>
</tr>
<tr>
<td>Adjustment to PC items</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allowed 6,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost 7,200.00</td>
<td></td>
<td>1,200.00</td>
</tr>
<tr>
<td>Adjustment to provisional sums</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allowed 20,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost 18,000.00</td>
<td></td>
<td>2,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>138,700.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2,000.00</td>
</tr>
<tr>
<td>Final Contract Sum</td>
<td></td>
<td>136,700.00</td>
</tr>
<tr>
<td>Deposit Paid</td>
<td>6,000.00</td>
<td></td>
</tr>
<tr>
<td>Progress claims received</td>
<td>120,000.00</td>
<td></td>
</tr>
<tr>
<td>Retention 2.5% for defects liability period</td>
<td>3,417.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>129,417.50</td>
<td>136,700.00</td>
</tr>
<tr>
<td></td>
<td>129,417.50</td>
<td></td>
</tr>
<tr>
<td>Balance Payable</td>
<td></td>
<td>7,282.50</td>
</tr>
</tbody>
</table>

TERMS: 7 DAYS

Figure 1 – Final account
Retention and defects liability period

The defects liability period is the time after practical completion (generally 13 weeks in residential construction) when the builder is responsible to rectify any defects that become apparent. For that period of time, the client holds the retention. Retention is a sum of money which is deducted from payments to the builder during the course of construction to ensure the:

- Builder proceeds with the job diligently
- Builder rectifies any defects during the course of construction
- Client has some compensation should the builder default on the contract

As describe previously, the most common arrangement for retention is that retention is deducted from progress payments at the rate of 10 per cent until the fund reaches a maximum of 5 per cent of the contract sum. At practical completion, 2.5 per cent is refunded to the builder, with 2.5 per cent remaining in the fund until the end of the defects liability period. The remaining 2.5 per cent is taken as 2.5 per cent of the adjusted contract sum (that is the original contract sum plus or minus any variations). For example, for a contract sum of $100,000, the following would apply.

<table>
<thead>
<tr>
<th>Progress payment</th>
<th>Amount claimed</th>
<th>Retention</th>
<th>Payment received</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$20,000</td>
<td>$2,000</td>
<td>$18,000</td>
</tr>
<tr>
<td>2</td>
<td>$20,000</td>
<td>$2,000</td>
<td>$18,000</td>
</tr>
<tr>
<td>3</td>
<td>$20,000</td>
<td>$1,000</td>
<td>$19,000</td>
</tr>
<tr>
<td>4</td>
<td>$20,000</td>
<td>NIL</td>
<td>$20,000</td>
</tr>
<tr>
<td>5</td>
<td>$20,000</td>
<td>NIL</td>
<td>$20,000 + $2,500 Retention released on practical completion</td>
</tr>
</tbody>
</table>

As 5 per cent of the contract sum is $5,000 and 2.5 per cent is released on practical completion, $2500 is held until the defects liability period has expired.

Note that the current Residential Building Contract published by the Office of Fair Trading does not contain a retention clause. This is because the Home Building Act 1989 requires the builder to provide home warranty insurance.

Generally, a contract requires the client to open a joint bank account in the names of the client and builder. All retention monies are deposited into this account and the interest accrued is usually shared equally between the client and the builder upon satisfactory completion of the contract and the expiration of the defects liability period. Builders are generally not signatories to the retention bank account.

Once the defects liability period has expired and provided any defects of the outstanding defects have been satisfactorily rectified, a written request in the form of a letter or invoice should be submitted to the client to secure the release of the outstanding retention. On the following page is an example of a letter that could be used to request balance of retention.

As a builder, you are also required to hold retention on your subcontractors. An identical retention clause used in the head contract should be included in your subcontractor agreements.
NETO BUILDING & CONSTRUCTION PTY LTD

ABN 18 105 199 407 - ACN 105 199 406
15 WENTWORTH STREET, MELVILLE 2142

TAX INVOICE

Invoice # 770

Ms Wels
51 Wentworth Road
STRATHFIELD NSW 2135

20 September 2004

Dear Ms Wels,

RE: ALTERATIONS AND ADDITIONS AT 51 WENTWORTH RD, STRATHFIELD

The defects liability period on the above project expired on 10 September 2004. As no defects have become apparent, please release the balance of our retention as required by the contract documents.

Balance of retention: $3,417

Thanking you for your co-operation.

Yours faithfully

........................................
Construction Manager

Figure 10 – Retention release letter
Summary

The success of contract administration depends on effective communication between all parties involved. The contractual parties must ensure that the lines of communication are established and kept open throughout the contract period. The fundamental aspect to create and maintain a workable relationship between the client and builder is central to the completion of the contract to the satisfaction of all parties.

Satisfied clients create opportunities for future work by recommending you, the builder, to new clients.

While much of what we do as builders in contract administration is tried and tested, there is still an element of human nature involved and you cannot rule out a clash of personalities that can make your work environment very difficult. It is important that you remember this, as hindsight is quite useless in ensuring the success and continuation of your organisation.
Activity 1

To answer the following questions, you will need a form of standard contract (such as the Home Building Contract for work greater than $25,000 published by the Office of Fair Trading)

1. Who must get a copy of the signed contract and its associated documents? How long is allowed for this to be done?

2. The owner of the property must sign the contract to confirm they have received a special document. What is the document and what does it contain?

3. Under the Home Building Act 1989, what does the statutory warranties clause require the contractor to provide?

4. Who should pay security deposits to authorities?

5. When can a contractor cease or suspend works onsite?

6. Give examples of items considered ‘prime cost’ items.

7. What must be included on progress claims to ensure they are paid as per the terms of the contract?

8. What must the client be given on receipt of their final payment?
Answers to Activity 1

1. The contractor and the builder should keep their own signed copy of the contract with all the attachments. You have 5 business days after the contract is entered into to do this.

2. The document is a consumer building guide that explains the operation of the Home Building Act 1989 and the procedures for the resolution of contract and insurance disputes.

3. The statutory warranties require the contractor to provide the agreed product, in an appropriate state and fit for its intended purpose, complying with all the relevant laws and delivered within the agreed time.

4. The client or owner of the property pays security deposits to authorities. However, the builder is responsible for damage to public and council property.

5. A contractor can cease or suspend works onsite when the owner

   - Fails to provide evidence of title
   - Does not have the capacity to pay the contract price
   - Fails to pay progress payment within the time allowed and after the contractor has provided another written notice to pay
   - Fails to advise the contractor promptly of any requirement from a statutory or lending authority if it affects the work
   - Fails to perform any work or supply materials as specified in the contract which prevents the contractor from continuing work under the contract
   - Denies the contractor or sub contractors access to the site
   - Becomes bankrupt

6. Some examples include the stove, special kitchen appliances or bathroom products, flooring, and finishes such as tiles.

7. The period of time the client has to pay within, for example, ‘Terms: 7 Days’.

8. The contractor is required to hand over to the client all guarantees and instruction manuals, and keys relating to the work, together with any certificates or approvals relating to the work which may have been provided by public authorities.