



**OWNER BUILDER
COURSE STUDY GUIDE**
Edition 3 – January 2009

This is the Third Edition of the Owner Builder Course Study Guide developed by the Building Services Authority (BSA). The Study Guide was first introduced in 1997 to serve as an inexpensive, basic resource book to support and expand upon the syllabus for the Owner Builder Course. The Study Guide and the course syllabus, together, comprise the essential documentation of the Owner Builder Course.

The Owner Builder Course was initially introduced by BSA in 1992 to better equip owner builders to manage their construction projects. The course syllabus and documentation were reviewed and updated in 1996 and again in 2001 & 2008 in the face of changes in legislation and industry practice, and in response to feedback received from course participants and providers.

In April – June 2001 the new Owner Builder Course syllabus was developed by a Training Product Advisory Committee (TPAC) comprised of the following members:

Alan Allsop - BIGA Training
Jim Ellway - Open Learning Institute of TAFE (OLI)
Brian Heaton - Owner Builder Solutions
John Larsen (Chair) - Product Support Unit – Building (TAFE)
Peter Roebig - Construction Training Qld (CTQ)
Doug Sparkes - Building Services Authority (BSA)
Ron Thomason - Open Learning Institute of TAFE (OLI)

Once the new syllabus was finalised, Ron Thomason was engaged as a consultant to assist BSA with rewriting the Study Guide to bring it into line with the updated syllabus. The Guide was developed as a compulsory text to complement the syllabus and to help ensure greater consistency in the content, delivery and assessment of the course throughout the State.

The Study Guide is intended to be of value to course providers as well as participants. It is certainly not presented as a definitive or exhaustive document but rather a minimum, 'take-away' resource that will provide a common starting point for all course participants and point the way to further, more detailed information. By design, and of necessity, much of the information given is brief and introductory, and therefore superficial in nature.

It is to be hoped that the commendable practice of many course providers of incorporating a range of additional resources to complement the syllabus and enhance its local relevance (eg. the inclusion of local building data, videos, presentations by industry or finance representatives, etc.) will continue.

While every attempt has been made to ensure the Study Guide's accuracy at time of print, relevant legislation and regulations are, of course, subject to change without notice. For this reason it is important that both course participants and providers check with relevant industry and government bodies to ensure that they obtain the latest information and documentation.

Your feedback (whether as a course provider or a participant) is welcome and will assist the BSA in the process of ongoing refinement for the next print run.

Ian Jennings
General Manager
Building Services Authority

DISCLAIMER

While every effort has been made and all reasonable care taken to ensure the accuracy of the material contained herein, the authors, editors, and publishers of this publication shall not be held responsible in any way whatsoever for any loss or damage costs or expenses however incurred by any person whether the purchaser of this work or otherwise. Nothing in this Study Guide should be interpreted or relied upon as providing specific legal advice.

STUDY GUIDE TEXT – Edition 3 (THIRD UPDATE)

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Project Manager: Doug SPARKES (BSA)
Writers: Doug SPARKES (BSA)
Ron THOMASON (OLI)
Instructional Design: Ron THOMASON (OLI)
Word Processor: Ron THOMASON (OLI)

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Brisbane City Council
Office of Sustainable Energy
TRADAC
WorkCover Queensland
The Division of Workplace Health & Safety
Q-Leave

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Letitia Robinson (Division of Workplace Health and Safety)
Rod Smith (BSA Licensed Builder)

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Background to the Course

The BSA Owner Builder Course (compulsory where the value of the owner built work, including labour, materials and GST, will exceed \$11000) has been developed to inform and equip prospective owner builders with the necessary building coordination skills.

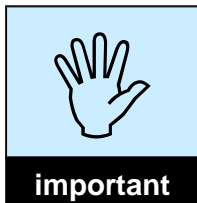
With a minimum duration of 24 hours of class content, or the equivalent by distant learning, the course is obviously not intended to provide participants with trade skills or details of manual construction techniques. Instead, the course is designed to provide an overview of the processes and good practices associated with economic and effective management of the various stages of the owner builder project. The focus is on giving prospective owner builders a basic grounding in essential project management skills including estimating/budgeting, scheduling, documentation and record keeping, monitoring, and the effective coordination of various trade contractors.

Having received a Statement of Attainment upon completion of this course, a participant who has title to or sufficient legal interest in a block of land may be eligible to apply for an Owner Builder Permit from BSA.

By gaining an Owner Builder permit from BSA, the participant will be entitled to seek building approval from a building certifier and/or their relevant local authority. Once the appropriate approvals are obtained then the proposed project can commence.

This course satisfies all owner builder course requirements specified in the Queensland Building Services Authority Act 1991 and associated regulation.

Further information is freely available from BSA's website at www.bsa.qld.gov.au where you can download fact sheets and other information to assist in your project.



NOTE:

- **Obtaining an owner builder permit will be recorded on the land title deed for seven (7) years.**
- **Some BSA services such as access to the Statutory Insurance Scheme are not available to owner builders**

Finally, BSA would like to wish you every success and satisfaction in your owner builder venture.

Introduction to the Study Guide

Construction of a residential project requires meticulous organisation, co-ordination and communication between numerous trade areas. This will ensure that the project is completed with minimum delay and maximum control over costs.

As mentioned in the previous section, the emphasis in the Owner Builder Course is on the development of broad management skills and an understanding of the basic responsibilities associated with being an Owner Builder.

Being an Owner Builder can be very satisfying and may save you money. However, you must be realistic when estimating costs, timeframes, and your own capabilities and limitations. Construction costs can easily exceed your budget if the proper management tools are not in place prior to the commencement of the project.

Those people with little or no previous experience in the residential construction industry may find that constructing, extending, refurbishing or relocating their own home could be more difficult and time consuming than anticipated.

However, if you:

- can read and interpret building documents in English (with assistance, if necessary)
- understand construction terminology
- are practically minded
- are a good organiser and communicator, and
- diligently complete the course

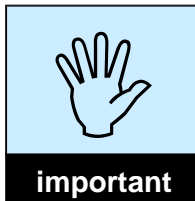
you can be a successful Owner Builder.

This document is presented mostly from the perspective of building a new house. However, because an Owner Builder can build a new house, renovate or extend an existing house, or relocate a house onto another block of land, all of these types of projects are addressed in the assessment. If your project is other than the construction of a complete house you may find that some of the information presented may not be relevant to your situation, or you may need to source additional information.

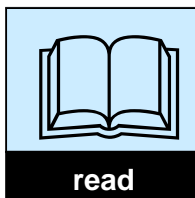
Throughout this Study Guide, Trade Contractors and Subcontractors will both be termed 'Trade Contractors'.

Explanation of the Use of Icons in this Study Guide

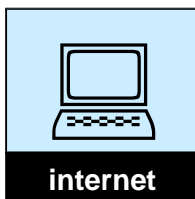
Throughout this Study Guide you will see the various icons (shown below) in the left hand margin of pages. The icons are there to signal special events in the text as described below.



This icon identifies a point to which you should pay particular attention.



This icon identifies books, Fact Sheets & other resources that will provide you with additional information relating to the current topic. You should note however it is not essential to read this information to complete this course.



This icon identifies exclusively internet-based resources that will provide you with additional information relating to the current topic.

Preliminary Checklist

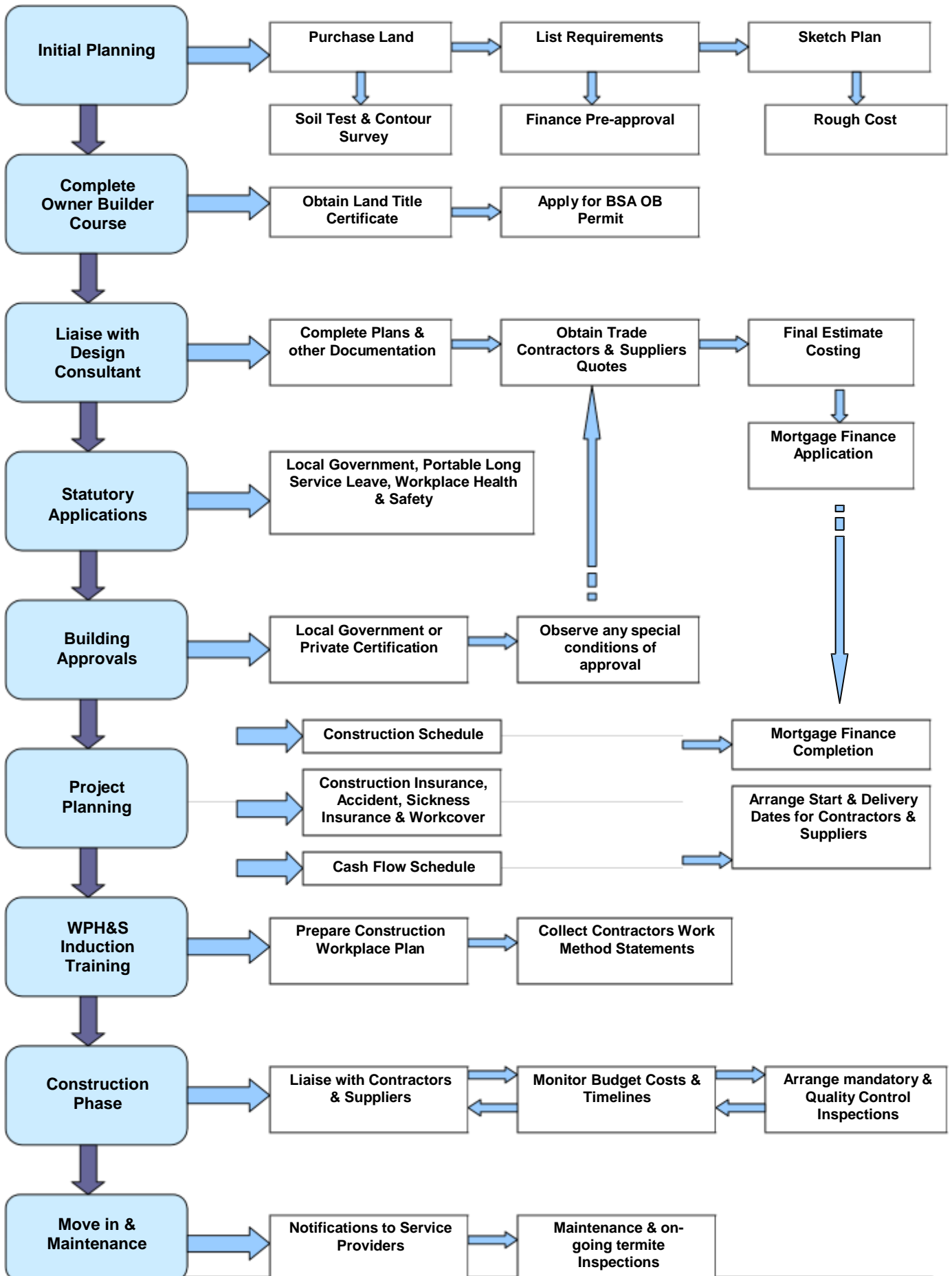
From **selecting** land to **setting-out** the site.

No.	Task Particulars	Date	Payment	Completion	Comments
1	Select land				
2	Set up a separate bank account for project				
3	Purchase land – all searches done				
4	Conveyancing payment				
5	Complete Owner Builder Course				
6	Prepare detailed budget for project				
7	Obtain preliminary finance approval				
8	Design or select house plan				
9	Obtain site survey & contour plan				
10	Provide design brief & final sketch to designer				
11	Obtain preliminary design drawings				
12	Obtain soil test & foundation report				
13	Obtain Engineers drawings				
14	Complete working drawings				
15	Prepare copies for tenders/quotes				
16	Obtain Land Title Certificate & owner Builder Course Statement of Attainment				
17	Obtain Owner Builder Permit				
18	Lodge QLeave & WPH&S notification form				
19	Lodge documents with Building Certifier				
20	Prepare budget estimates for Trade Contractors				
21	Compile specifications for tenders				
22	Call prices from trade contractors & suppliers				
23	Finalise construction schedule (RDO's & public holidays marked)				
24	Insurances paid:- <input type="checkbox"/> WorkCover (Contractor & OB) <input type="checkbox"/> Public Liability <input type="checkbox"/> Contractors All Risk <input type="checkbox"/> Personal Accident/Sick				
25	Complete WPH&S Course in General Safety Induction (Construction Industry) – 30212 QLD				
26	<input type="checkbox"/> Sight, record & file Trade Contractors insurances details <input type="checkbox"/> Check trade contractor licences with BSA at www.bsa.qld.gov.au				
27	<input type="checkbox"/> Sign contracts with trade contractors <input type="checkbox"/> Obtain WPH&S Work method Statements from Trade Contractors				
28	Finalise construction workplace plan for project				
29	Confirm account details with suppliers				
30	Erect owner builder sign on site				
31	Confirm starting dates with trade contractors, amend schedule if required				
32	Make arrangements & pay deposits for temporary services				
33	Finalise budget for project				
34	Finalise site diary from project start date				
35	Finalise file system for project				
36	Send commencement notification to lender				
37	Set-out building, check & recheck				

Key Responsibilities of an Owner Builder

PROJECT STAGE

ACTIVITIES BY OWNER BUILDER



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1.1 Roles of an Owner Builder

1.1.1 Are you ready to be an owner builder?

Before you finally decide, you may wish to read the information produced by the Building Services Authority entitled **“Thinking of Owner Building?”**

Building Services Authority is probably better known by its acronym: BSA. This acronym will be used throughout the remainder of this Study Guide. To find out more about BSA, read the Fact Sheet **“What is BSA”**.

All BSA information cited in this Study Guide can be obtained from your nearest BSA office or downloaded from the BSA web site at www.bsa.qld.gov.au.

1.1.2 Common roles of owner builders

An Owner Builder serves in many roles during a project. This section will look at just five of the more common roles you will have to play:-

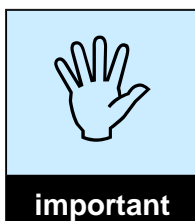
- The Decision Maker
- The Administrator
- The PR Person
- The Labourer
- The Communicator

The Decision Maker

Remember, the buck stops with you!! All decisions regarding how, when, where, why, and how much, will ultimately be your responsibility.

Before giving a final ‘yes’ or ‘no’, be sure to carefully weigh up the ‘benefits’ versus ‘the worst possible outcome’. As an example, it is not uncommon for you or even your Trade Contractor to want one or more variations made to the project.

Before deciding or giving the ‘go ahead’ for a variation, carefully assess what impact the change may have on the project. It is often the case that a small change at an early stage of a project has a major impact at sometime in the future if all effects are not considered and allowed for in the updated planning. Variations should be in writing at the time of making the decision.



NOTE:

You are the one who has to live with your decisions, both figuratively and literally. Do not be pressured into making ill-considered, quick or rash decisions regarding your project.

The Administrator

Whether your project ends with a saving (i.e. under budget) or a loss (i.e. over budget) depends on you and how you handle issues such as:

- Costs
- Time management
- Materials - delivery, usage, storage
- Planning
- Control and coordination of licensed Trade Contractors

The PR Person

The maintenance of good working relations, both on site with Trade Contractors and off site with material suppliers, Local Government, etc., will help to ensure your project runs smoothly and within budget. Some key elements include:

- Establishing goodwill and cooperation with all parties
- Maintaining the peace and workflow (including between Trade Contractors)
- When unsure, seek direction/clarification
- Being prepared for unforeseen natural elements, e.g. weather changes
- Dealing with visitors, salespeople, inspectors/building certifiers, etc.

The Labourer

To save some time and money, be prepared to be the 'go-for' person, and be willing to do those jobs that no one else wants to do, for example:

- Clean up the site
- Keep the site tidy by stacking materials ready for use
- Keep materials protected from the weather
- Sweep out all the shavings, dust, mud, dirt, off-cuts, etc.
- Maintain erosion and sediment control devices

Always be involved in your project, but don't get in the way of your Trade Contractors.

The Facilitator of Communication

The development of honest and accurate communication between all parties is essential for a 'hassle-free' project. Some points to note include:

- Introduce licensed Trade Contractors to each other (where necessary)
- Ensure trust and good communication are maintained not only between you and your licensed Trade Contractors, but also between your licensed Trade Contractors (vital if costly delays are to be avoided)
- You may incur considerable additional costs if unexpected extra work needs to be done by a particular Trade Contractor due to the late completion or non-completion by another Trade Contractor
- Ensure all obligations/agreements/contractual matters and any subsequent changes to these are accurately recorded in writing and dated and copies kept on file
- Keep your Trade Contractors fully informed, especially regarding any changes to arrangements, work schedules, etc.



read

FOR ADDITIONAL READING ABOUT THIS TOPIC:

Refer to the reference book *Building Your Own Home*.

Details of this book may be found on page 105 in the section titled "Books".

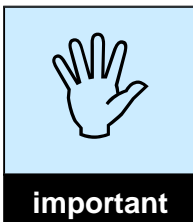
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2.1 Design

2.1.1 Who can provide design services for an owner builder?

- Licensed Building Designers - require a BSA Building Designer Licence phone 1300 272 272, or visit BSA's web site online licence search, to confirm
- Architects - (No BSA licence required; must be registered with the Board of Architects, Qld - phone the Board on 3224 4482 to check if registered)
- Engineers - (can only design those items which require professional engineering services and must be registered with the Board of Professional Engineers, Qld - phone the Board on 3224 6032 to check if registered)



NOTE:

Licensed Builders are only entitled to design homes which they subsequently build for a client.

All BSA licence holders will be able to produce a BSA licence card (refer to Figure 1 below). The card will state the licence classes held by the Contractor indicating the type of work that the Contractor may perform. It will also have the licensed person's name, expiry date, and licence number. You should always record all this information and check the details with BSA.



Figure 1: BSA Contractor Licence Card



NOTE:

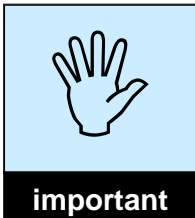
To check the currency and appropriateness of a BSA licence, visit BSA's website at www.bsa.qld.gov.au/Home/OnlineLicenceSearch/ OR Phone 1300 272 272.

2.1.2 Choosing a designer

An owner builder can draw their own plans but they must be of an acceptable standard and comply with all regulatory requirements.

If you choose to use a designer the process of designing your home should be a partnership between you and your designer. The best results will depend on a good working relationship in which both parties clearly understand their roles and responsibilities from the beginning. For this reason it is important that you choose a properly qualified professional with whom you feel comfortable. When selecting a designer you should:

- Be clear about the extent of work you require the designer to do
- Make a list of qualified home designers using information from:
 - relevant professional organisations
 - advertisements in local press/media
 - trade and business directories
 - personal recommendations
- Obtain at least three comparable quotations which clearly state what work and services they cover (the services designers are able to provide will vary)
- Do not always take the cheapest quote but look for value for money
- Check the past performance of the designers by contacting previous customers, especially those who have had similar work done. If you don't know any past clients, ask the designer for a list.
- Speak to the designer about copyright issues concerning your design, especially who will have copyright ownership of the house plans and specifications you develop together.



NOTE:

- **Unless you specify otherwise in writing, copyright for the finished plans will usually belong to the designer even if you provide the original sketch plans. If you want exclusive control of the final plans and specifications you will need to state that clearly in your written contract with the designer.**
- **You cannot use another persons design unless you obtain permission from the person who is the copyright owner.**

2.1.3 Your role

As the plans and specifications you prepare with the designer will be vital to the success of your new home, be sure the designer clearly understands your requirements from the outset and that all points are fully and precisely documented and dated.

After the designer begins work, keep in regular contact with them as good communication will help prevent misunderstandings which can cost time and money.

Before the designer begins the project, it is important that you have carefully considered and clearly conveyed the following:

- **Your lifestyle** (e.g. indoor/outdoor living preferences)
- **Your budget** for the construction or renovation work for which you are seeking a design, as well as how much you expect to spend on the design process itself (lending institutions or your accountant will be able to tell you how much you can borrow and what the repayments would be)
- **All the important design features/facilities** you wish to have included in the new home/extension/renovation (e.g. overall size and shape of the home, number and location of bedrooms and bathrooms, ceiling height, window sizes, etc.). Include photographs, sketches, magazine articles, etc. which can show the design features you like and may help to convey your requirements to the designer.



NOTE:

Some individual or unusual design features can add considerably to the construction costs of the home and if included, may necessitate an increase in your budget or a reduction in the living area you will receive for your money.

- **The specifications**, fittings and materials to be used (e.g. plastic vs. porcelain vanity basins, anodised vs. powder-coated window frames, tile vs. metal roof, the type of ceiling insulation - if any - to be included, the standard and type of kitchen and bathroom fittings and appliances, TV, telephones, intercom, etc.)
- **Time constraints/expectations** (i.e. when you require the final design to be ready so the plans can be submitted for approval)



NOTE:

Arriving at a design which meets your needs and preferences may involve several stages of refinement that may take longer than you expect but will be worth the extra time & effort.

- **The need for the plans to comply with Local Government requirements**



NOTE:

It is strongly recommended that the final payment to your design specialist in your written agreement is not required – or made – until after your plans have successfully completed the approval process. Otherwise, if you've paid all your money and a deficiency in the plans is later discovered, you may have to pay extra to rectify and resubmit them for approval.

2.1.4 The designer's role

Design professionals are expected to keep up to date with legislation, information and trends relating to the building process and can help you to clearly define your needs and preferences.

The designer should also be able to advise you regarding environmental and energy considerations including, but not limited to:

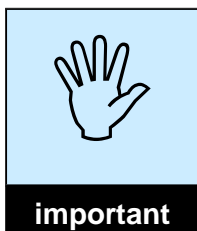
- The most appropriate house orientation with regard to sun and prevailing winds
- The feasibility of solar power
- The choice of building materials
- Ventilation
- Insulation
- Landscaping

To supply you with the best service and the most cost-effective, functional and satisfying design, the designer will need to spend sufficient time with you to get to know your individual circumstances and requirements. Time invested by both parties at the early stages will help to develop the mutual trust and understanding which will be important to the success of your project.

For the construction of an entire house, your final plans should comprise a range of drawings including: a floor plan of each floor level of the building; a minimum of four elevations; at least one sectional view through the body of the house; a site plan; a bracing plan; a slab or footing plan; window and door schedule/details and, where required, tie-down details and a roof or truss plan.

Specific information that should be shown on one or more of the plans includes:-

- **Contours of the site** – the existing ground contours should be shown on the site plan
- **Material sizes** (e.g. size of beams) – mainly seen on the floor plans or sometimes on a separate beam plan and in note form on either plan
- **Construction systems** – this is indicated on the floor plans, elevations and section
- **All measurements of length, width, height** – appear on plans, sections and sometimes on elevations, but should always be sufficient to permit precise construction of the building
- **Specifications and component schedules** – appear on most drawings in note form, but specifically on the floor plans, and sometimes also on drawings showing the elevations and sections, and on a separate specification drawing sheet
- **Termite management system** – should be indicated on the section and on the slab or footing plan (the name varies but the plan details either the slab or footing dimensions); may also appear on a separate specification drawing sheet
- **Design wind speed classification** – may appear in the notes on the floor plans or may also appear on a separate specification drawing sheet, but should definitely appear in the bracing details plan
- **Total floor area** – this is the area in m² under roof excluding any eaves overhang.



NOTE:

Plans which lack detail will cause frustration, cost increases, arguments, errors and major time delays. This includes plans that may just pass minimum requirements for approval but lack construction detail. A building designer or consultant will be able to advise the Owner Builder regarding the details needed to ensure plans are specific, complete and functional.

Consultants/Designers can also provide (at a cost) the intricate details, drawings, etc. to help Owner Builders understand what to look for during construction (e.g. details of built-in cupboard construction, flashings, wall framing etc.)

2.2 Environment and Energy

Environment and energy factors will be an important consideration in your discussions with your design professional. The correct orientation and the use of energy efficient materials and appliances will enhance the comfort and efficiency of the design you intend to build.

Some important steps in ensuring summer and winter comfort which a design professional can help you with, include:-

- Orientating the project to minimise the impact of the summer sun - refer to Figure 2 on the next page
- Locating the main window areas to minimise the impact of the summer sun
- Reducing the number and size of windows in walls facing morning and afternoon summer sun
- Shading hot areas by verandas, pergolas, trees or other means
- Designing internal walls and doorways so that breezes can pass through the main living area and bedrooms
- The use of energy efficient building materials, appliances and wall and ceiling/roof insulation

These aspects must be considered in relation to one another in an integrated design. There is no point striving for high levels in one area without considering the others.



FOR ADDITIONAL INFORMATION:

For additional information regarding energy efficiency in residential construction (including advice on appliances, insulation & lighting) refer to:

Queensland Government's Energy Advisory Service at:

www.epa.qld.gov.au/environmental_management/sustainability/energy/energy_efficiency_in_the_home/

or

Australian Federal Government site at:

www.yourhome.gov.au

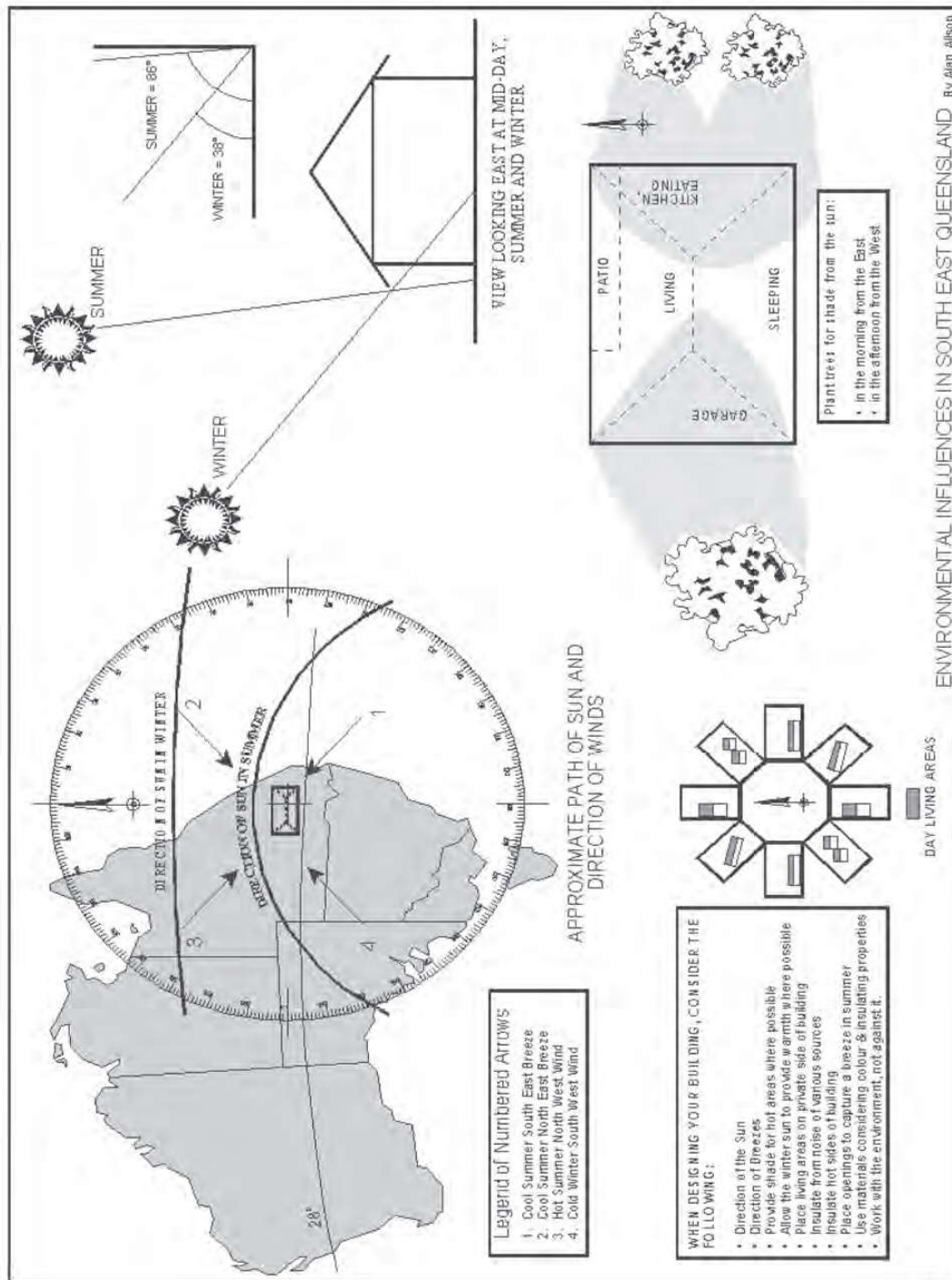


Figure 2: Environmental Influences on Buildings in Brisbane Area

2.2.1 Erosion and sediment control

It has been estimated that each year in Brisbane about 200,000 tonnes of sand, silt, mud, paint and cement is washed from building sites into waterways and would ultimately end up in Moreton Bay if no erosion and sediment controls were in place.

Allowing sand, silt, mud and cement to wash off building sites is not only irresponsible, it's illegal, and people who fail to stop this occurring face on-the-spot fines.

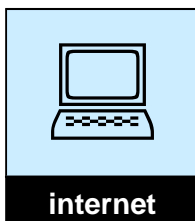
Under the ***Environmental Protection Act 1994*** and the subordinate ***Environmental Protection (Water) Policy 1997***, authorised officers can issue substantial on-the-spot fines (\$300 to \$600 at Sept 08 on Brisbane City Council website) for failure to undertake appropriate erosion and sediment control measures.

Brisbane City Council, the Housing Industry Association and the Master Builders Association conducted erosion and sediment control trials on building sites which demonstrated that best practice erosion and sediment control could be installed on a typical residential building site for approximately \$250 - \$350.

Installing effective on-site erosion and sediment controls provides many important benefits including:

- A better looking, more marketable site
- Improved wet weather working conditions
- Improved drainage and reduced site wetness
- Reduced stockpile losses
- Reduced clean-up costs
- Fewer public complaints
- Compliance with relevant environmental legislation (no on-the-spot fines)
- Better public image
- Better fishing and swimming

The Brisbane City Council has produced guidelines and Fact Sheets on stormwater pollution from building sites to show builders and construction companies how to stop sediment from washing off their sites.



FOR ADDITIONAL INFORMATION:

The Brisbane City Council has produced guidelines called ***Best Practice Guidelines for the Control of Stormwater Pollution from Building Sites*** which includes information on Erosion and Sediment Control Management Plans.

Click on the following link to access the guidelines:

www.brisbane.qld.gov.au/BCC:STANDARD:1431290852:pc=PC_693

2.2.2 Energy efficiency guidelines

At the time of writing this Study Guide, several Local Governments in the State have introduced mandatory guidelines for acceptable energy efficient design in their region.

This concept has now been taken up by the State Government who are currently developing guidelines that will be progressively implemented across the State.

2.2.3 Environmentally friendly housing

The design of a house must, of necessity, take into account various requirements, such as:

- **Aesthetics** - how the house looks
- **Function** - does the house meet the needs of the occupants
- **Finance** - can the house be built within budget

There are other factors which responsible building practice requires to be considered even though they may not be mandatory at present. These include:

- **Energy efficiency** - minimise the use of non-renewable energy in the production of materials and products and the construction and operation of the house
- **High thermal comfort** - provide a house design that allows its occupants to live their lifestyles in comfort, while consuming minimal non-renewable energy
- **Low environmental impact** - minimise the environmental impact from the construction and occupancy of the house
- **Sustainable practice** - maximise the longevity of the house by good design, detailing and selection of appropriate materials

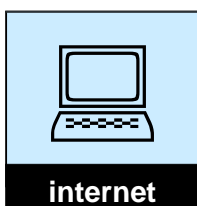
2.2.4 Universal (accessible housing)

The principal of universal housing is based on the belief that a house should be designed for all future possibilities, including changes in the mobility levels of the occupants. It is estimated that 35% of the population have will restricted mobility at some time in their life, either through age, accident, illness or other causes.

When planning your new project you should consider the incorporation of design features which promote ease of access and involve easy-to-use fixtures for people with restricted mobility and dexterity. This may include such features as an open plan design, wider hallways and doorways, spacious bathrooms and the use of ramps in place of steps.

Planning for the future

Altering an existing house to accommodate special needs or changing lifestyles can cost up to three times more than incorporating the same inclusions during the initial design-and-build stage. For example, you do not have to include such things as grab rails in bathrooms at the time of construction. However, by adding fixing points during construction (these should be noted on the plans for later reference) the rails can be added when needed without having to remove wall linings to add the fixing points later.



FOR ADDITIONAL INFORMATION:

Go to the “Smart Housing” home page at www.build.qld.gov.au/smart_housing/index.asp.

Section 3: Budget, Estimating and Programming

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3.1 Estimating, Costing and Budgets

This area is the most important area relating to the financial success of your project.

If you are one of those rare people where cost is no object then this area may be of little concern to you. However, if you are like everyone else who must consider value for money, then this section will give you some basic information about how to predict the total cost for your project and ensure the actual price paid adheres closely to the predicted cost.

As mentioned above, one of the major considerations in any Owner Builder project is the final cost. Mismanagement in this area can create disastrous results. It is no use beginning a project only to find that you run out of money before the project is considered finished. Estimating is the process of predicting the costs of a project before any physical work is commenced.

3.1.1 What is estimating?

Estimating is the task of working out what the expected production cost of any product should be. In the case of an Owner Builder project it is the expected cost of building, renovating, extending or relocating the house and includes material, labour and any other costs associated with the project.

The purpose of estimating

The purpose of estimating is to be able to forecast the total cost of the project. This may sound like a very easy task.

First you prepare a take-off for the project - this is basically a list of all the materials and labour to be used in the project plus any associated activity or requirement that has a financial impact on the project.

Next you get prices for each item in the take-off - these prices are best obtained from the suppliers and Trade Contractors you intend to use on the project (try to get three quotes for each).

Now just total up all the item prices and hey presto, there's the total price!

That is precisely all you need to do. But what happens if the Trade Contractors' prices are not available, or if there is a component that you are unfamiliar with, or you cannot get a price in time, or if the house is not of a type you are familiar with?

You will then be required to make a judgement of what the price will be. For an estimate to be accurate the estimator is required to be well versed in:

- Various methods of construction
- The organisation of construction
- The capacity (in time) of labour to perform a task
- The capacity of plant and equipment

Another skill that you should try to develop is that of negotiation, that is the ability to negotiate prices from both suppliers and Trade Contractors.

3.1.2 The estimate

A good estimate is one that accurately predicts the actual cost of construction. While there are many variables involved, it should be your objective to correctly estimate the costs of construction and arrive at a price that is neither too high nor too low.

If the estimated price is too high, then you may not proceed with the project which, in actual fact, could be within your financial capacity. On the other hand, underpricing may have even more serious consequences since if the estimated price is too low you may run out of money before completing the project.

In estimating, you must be aware of the fact that in housing construction there is more than one way to accomplish any task and that each project, even those involving essentially the same house design, should be regarded as an individual case. Each site will have its own particular characteristics and each Trade Contractor has their own preferred methods of working.

3.1.3 When to produce an estimate

A reasonable estimate can be achieved at the design stage. Building consultants can guide you in this area. To be able to accurately estimate the final cost of the project a number of factors should be considered, including:

- Type of construction - has a direct bearing on costs, depending on how many specialist Trade Contractors are needed and their availability
- Time of year of construction – weather & public holidays (esp. Christmas) may extend timeframes
- Availability of materials - some materials may be in short supply and alternatives may be necessary
- The type of work you are prepared to do and are realistically capable of doing on the project yourself

3.1.4 Methods of estimating

There are many different ways of estimating the costs of a project.

Many builders use their past experience on similar projects to develop accurate estimates. Some builders also use 'square metre' rates based on their previous work to help them calculate the cost of part or the entire project.

On new or unfamiliar work, however, builders will often resort to the materials and labour method of costing using an item-by-item approach to that project. This method is considered by many in the industry to be the most accurate method of estimating the final cost of a project. However, it is also the most time consuming.

From the above then, some specifics should be considered:

- Rate per square metre of finished project
- Comparison of costs of similar project
- Cost of materials and labour

Some of the different approaches to estimating are described next.

Costing by area (use for preliminary estimate only)

A rough estimate of total cost can be calculated by multiplying the total floor area of the building by an amount per square metre. You can base your amount per square metre on what a Builder might charge to build a similar type of house. That is, you look for a project home of comparable style, size, building material, fittings and inclusions (including the same number of bathrooms) on a block of land similar to your site (preferably a block of similar size, slope and soil type).

For example, a rough estimate for a 4 bedroom, 2 bathroom house with an area of 200m², using a figure of \$900/m² might be 200m² x \$900/m² = \$180,000. If the building was built with more expensive materials or fittings/inclusions, you may need to use a higher figure, say \$1,100/m². This method of estimating is quite rough being subject to many variables and should only be used to gain a preliminary 'order of magnitude' estimate, not the final price.

If you are using an average cost per m² advertised by a large building company as a basis for your estimate remember that, although the building company's prices include a profit margin, they may also be based on lower material costs than you can hope to achieve as an individual builder because of their bulk buying power.

Costing by material and labour

Calculating and adding all the material and labour costs is probably the most accurate method of estimating the total cost of your project. However, this will take some time because to get an accurate estimate you will have to assemble all the quantities and get costings and quotes etc.

The task can be done for you, for a fee, by a quantity surveyor or building consultant. The accuracy of their work will depend on the accuracy and detail of the information you give them, so you will need to supply plans and as much supporting material as possible.

Alternatively, you can do the calculations yourself but knowledge of estimating is required. You will first need to compile a list of materials with quantities and then take the list to suppliers to price. The labour content can be obtained by getting the labour costs for each task (based on sub contract rates but excluding any work you will perform yourself), and adding these together (don't forget to include fees and professional services, such as those associated with preparation and lodgement of plans).

Costing by a costing guide or estimating manual

Cost guides and estimating manuals are generally quite accurate and reasonably easy to use. Be aware though that the prices listed in these guides and manuals are average figures and actual costs will vary in each situation.

This method utilises the combination of cost per product unit and average labour cost. The Reeds and Rawlinsons manuals are two of several guides suitable for this purpose.

To ensure all costs are covered the Owner Builder is advised to draw up a cost chart. This is a list of all materials and products installed by the various trade areas. Each heading is further divided into two columns which allow you to compare the estimated cost against the actual cost. Price variances may be readily seen as the construction progresses.

The collation of the construction costs is the process of estimating.

Accuracy in this area is critical for Owner Builders. An inaccurate estimate may mean having to forego carpets, curtains or new white goods which you planned to purchase at the end of the project or, worse still, cause you to run out of funds before finishing the house itself.

When calculating the costs for your project don't forget to allow for the purchase and installation of fixtures, fittings and white goods, as well as the need for professional services or extra materials which might be required due to design variations.

Even with the best efforts, mistakes or oversights can still occur in the process of estimating, particularly with a project as detailed as the construction of an entire house. For this reason it is common practice to include a contingency sum in the estimate to cover unforeseen expenses.

Costing guides are ideal for getting a reasonably accurate preliminary costing for your project. They can also assist you in developing a material and labour list which is then used to more accurately predict the cost of your project. It is not recommended, however, that the labour rates in cost guides be used as a *final* price for your project estimate. Wherever possible get *actual* quoted prices (at least 3) from Trade Contractors.

3.1.5 Items commonly overlooked by the inexperienced estimator

Just about anyone will pick up the so-called 'big ticket' items when first producing an estimate. However, these same people will often miss or overlook the small and relatively inexpensive items such as the many different screws and nails needed, the one bottle of wood glue needed by the fit out carpenter and other such bits-n-pieces. Without these items the job cannot be completed and when you add up the cost of all these bits, it will often run to many hundreds of dollars.

If you insist on doing your own estimating, utilise your suppliers as many offer a quotation/estimation service. But be aware that these quotations/estimates are often carried out with an 'all care but no responsibility' clause which means that if they make a mistake you still wear the cost. So unless you are an experienced estimator in the type of work you propose to undertake, it is advisable to have the help of someone experienced in estimating this type of work.

3.2 Budgets

An estimate is an approximation or prediction of the cost.

It is not a signed, sealed and delivered fixed price. However, if you spend the time on obtaining valid quotations and estimates from reputable suppliers and Trade Contractors your estimate should allow you to contain your costs within reasonable limits.

The total estimated cost of your project becomes your budget once the project begins. There are many ways of administering a budget during a project.

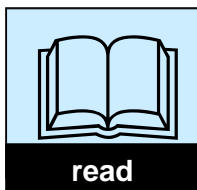
One of the simplest ways is to translate all the items, in their sections, into a small exercise book. This becomes your project bible. Whenever you enter a payment, update the total variance for the project.

The book should be ruled up with at least four columns – one each for *item description*, *estimated cost*, *price paid* and *variance*. You may also include columns for *date*, *invoice number*, *supplier*, *cheque number*, etc., thus creating your own cash book (larger newsagents or stationery suppliers will often carry books appropriately ruled for this purpose). **For more details on recording of payments refer to Section 3.4 Record Keeping.**

3.2.1 Extras

Any items that you purchase that are not shown in your budget are 'all variance'. This means that you would need extra money to cover these items. However, if you did provide a contingency amount in your estimate, extras should be recorded under this heading. Be careful though, the main purpose of any contingency amount is to offset any missed essential items, not to pay for extravagances or luxuries.

Keeping your budget strictly up-to-date will enable you to quickly see if your project is likely to exceed your finances (and by how much) and hopefully allow you to take any necessary remedial action in time.



FOR ADDITIONAL READING ABOUT THIS TOPIC:

Refer to the reference book "***Building Your Own Home***".

Details of this book may be found on page 105 in the section titled *Books*.

Example of an Estimate Summary Sheet:

COST CENTRE	MATERIAL & PLANT COSTS \$	LABOUR COSTS \$	TOTAL OF ITEM COSTS \$
Professional Fees: Plans, Engineering, Supervisor			
Preliminaries: Permits & Fees, Insurances, Signs, Surveying, Soil Test, Temporary Services			
Demolition: Full/partial Demolition, House Removal			
Excavation: Earthworks (cut/fill), Footings			
Termite Management: Under Floor, Exterior Walls, Perimeter Treatment			
Concrete Work: Bored piers, Strip footings, Pad footings, Slabs (on ground, elevated), Pump			
Brickwork: Ground Floor Walls & columns, 1 st Floor Walls & Columns, Lintels, DPC, Flashings, Ancillaries			
Blockwork: Ground Floor Walls & columns, 1 st Floor Walls & Columns, Bond Beams, Core Filling, Ancillaries			
Exterior Coating: Texture Coating on Brick/Block/Sheeting, Waterproofing of Blockwork			
Structural Steel: Columns, Beams, Galvanising			
Metalwork: Hand Rails, Stair Stringers & Step Treads, Sundries			
Carpentry: Timber &/or Steel for Sub-floor, Flooring, Framing & Trusses, Cladding, Eaves & Gable Sheeting			
Insulation: Floors, Walls, Roof, Ceiling			
Staircase: Staircase, Balustrade			
Joinery: Door Frames, Architraves, Skirtings, Stops, Strips, Shelving			
Roof Plumber: Metal Fascia/Barge, Gutters, Valleys, Down Pipes			
Windows: Timber, Aluminium, other			
Sheet 1 C/F TOTAL \$ =			

COST CENTRE	MATERIAL & PLANT COSTS \$	LABOUR COSTS \$	TOTAL OF ITEM COSTS \$
Sheet 1 B/F TOTAL \$ =			
Doors: External, Internal, Garage			
Plastering: Walls, Ceilings, Cornice, Friezes & Features			
Cabinetmaker: Kitchen, Bath, Ensuite, Powder, Laundry, Wardrobes – Built-in, Other			
Tiling: Waterproofing to Wet Areas, Wall & Floor Tiling, Friezes, Soap Holders etc			
Paving: Concrete/Paving for Paths & Driveway			
Painting: Exterior, Interior, Hand Rails			
Plumbing: Water Connection & House Piping, Gas Connection & House Piping, Waste Connections to Drains			
Drainage: Sewer Pipes, Septic System, Mini Domestic Treatment Plant, Stormwater Drains			
Electrical: Switchboard, Lights, GPO's, Phone, TV, Computer, Audio			
Floor Coverings: Carpet, Cork, Vinyl, Underlay			
Landscaping: Turf, Mulch, Plants, Fencing, Retaining Walls			
Appliances: Electrical/Gas Appliances, Hot Water, Bath, Spa, Taps, Basins, Sinks, Toilets, Laundry Tub, Fans, Light Fittings etc			
Miscellaneous: Security, Intercom, Fly Screens, Floor Sanding/Finishing			
Other:			
(Sheets 1 & 2) TOTAL \$ =			

3.3 Planning and Scheduling

Once you have picked up your approved plans from your Local Government or Private Certifier you will be anxious to start.

**Hold On... Take
a breath...
Have you got an action plan in place?**

To continue, you will need to be very organised! As with most operations, there is a logical sequence of events. To ensure that your project runs in a smooth and organised fashion you must have a schedule to continually refer to.

A construction schedule is probably the second most important tool that an Owner Builder needs. The schedule is used to help prepare the estimate and then to assist with the timing and coordination of activities on the project.

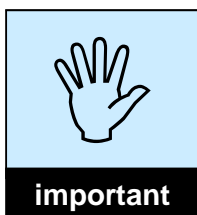
Even the largest and most organised builders have an easy, ready reckoner to help maintain structured progress of the project.

Most construction companies use a construction bar chart. An example of this follows on a later page.

If the chart is to be truly effective as a tool each stage of construction should be represented by two lines, as follows:

- One line, drawn say in black or blue, indicating the estimated time frame - this line is drawn when you are planning the construction; and
- Another line, drawn in another colour, reflecting the actual time frame - this line is drawn as the construction progresses.

From this bar chart it is very easy to see how your project is progressing in relation to your desired schedule.



NOTE:

The bar chart may need to be amended from time to time if there is a major delay or a speeding up of the work. The chart should be redrawn taking into account the alteration.

3.3.1 Producing a bar chart

The actual drawing up of a bar chart is only the final stage of a process involving the identification, sequencing and recording of the key stages in the construction process. The whole process involves at least the following steps:

- i) Listing all the activities to be represented;
- ii) Allocating a duration to each activity;
- iii) Deciding when each activity will commence (sequencing); and
- iv) Drawing the bar chart.

Step 1: Listing the activities

The first thing to do is to decide on the degree of breakdown (i.e. the amount of detail) of the activities that will be shown on the bar chart. The answer depends on what use the chart will be put to. For example, for preliminary planning purposes you can draw a bar chart showing the complete construction of a house in just five activities. As the planning progresses the number of activities depicted increases and a more accurate timeline appears. Finally, the bar chart shows a detailed breakdown of activities.

Step 2: Allocating time to activities

To allocate time to each activity first you must answer the following question: *What will be the time scale? Will it be hours, days, weeks, months etc?* The time scale will depend on the duration of the project and the breakdown of the activities.

Most construction bar charts used on-site are drawn using a day as the smallest defined grid line. In charts working on days, the inclusion of weekends will depend on whether or not work is planned for 5, 6 or 7 days per week. If work is programmed for Monday to Saturday, then it is best to work on a six-day week. If work usually only happens on week-days then a five-day week would suffice.

Step 3: Deciding on activity start dates

Now that you have the duration of each activity you must decide when each activity will commence. The simplest way to arrive at the start date for each activity is to decide what activity must be completed before the activity under consideration may begin (i.e. consider where that particular activity fits in the overall construction process).

In simple charts (e.g. the 5-stage chart mentioned in Step 1) each activity can only be done once the previous activity has finished. So the starting time for each activity is the finishing time for the previous activity. In this case it is not necessary to list the start time for each activity as this will be found when drawing the chart. At this stage the important point is deciding on the dependency of each activity (referred to as the 'precedence').

As the number of activities increases in complexity you will find that there are some activities that can, or should for efficiency reasons, be carried out at the same time. For example, in Figure 11 the plumber and the electrician can do their work at the same time, but not at the same time as the roof tiler. This is a very important point. Remember, while there are some activities that can coexist, there are others that should follow one after another.

Hints on using a 'precedence' table:

- Write down all the activities in some logical sequence (don't try to make it perfect, just so long as it is reasonably close)
- Next, number all activities from top to bottom
- Next, note the activity which follows the first activity in your list
- Continue through the list noting the activity which immediately precedes and follows each activity
- One activity can have more than one activity preceding (called a precedent) or following (called a dependant)

Step 4: Drawing the bar chart

Now that all the details are available you can begin to draw the bar chart, though there are a few points to note before you put pen to paper:

- A bar chart is best drawn on either purpose-drawn sheets or graph paper
- Bar charts are almost universally drawn with time increasing from left to right across the chart and activities down the page with the first activity at the top and the last activity at the bottom

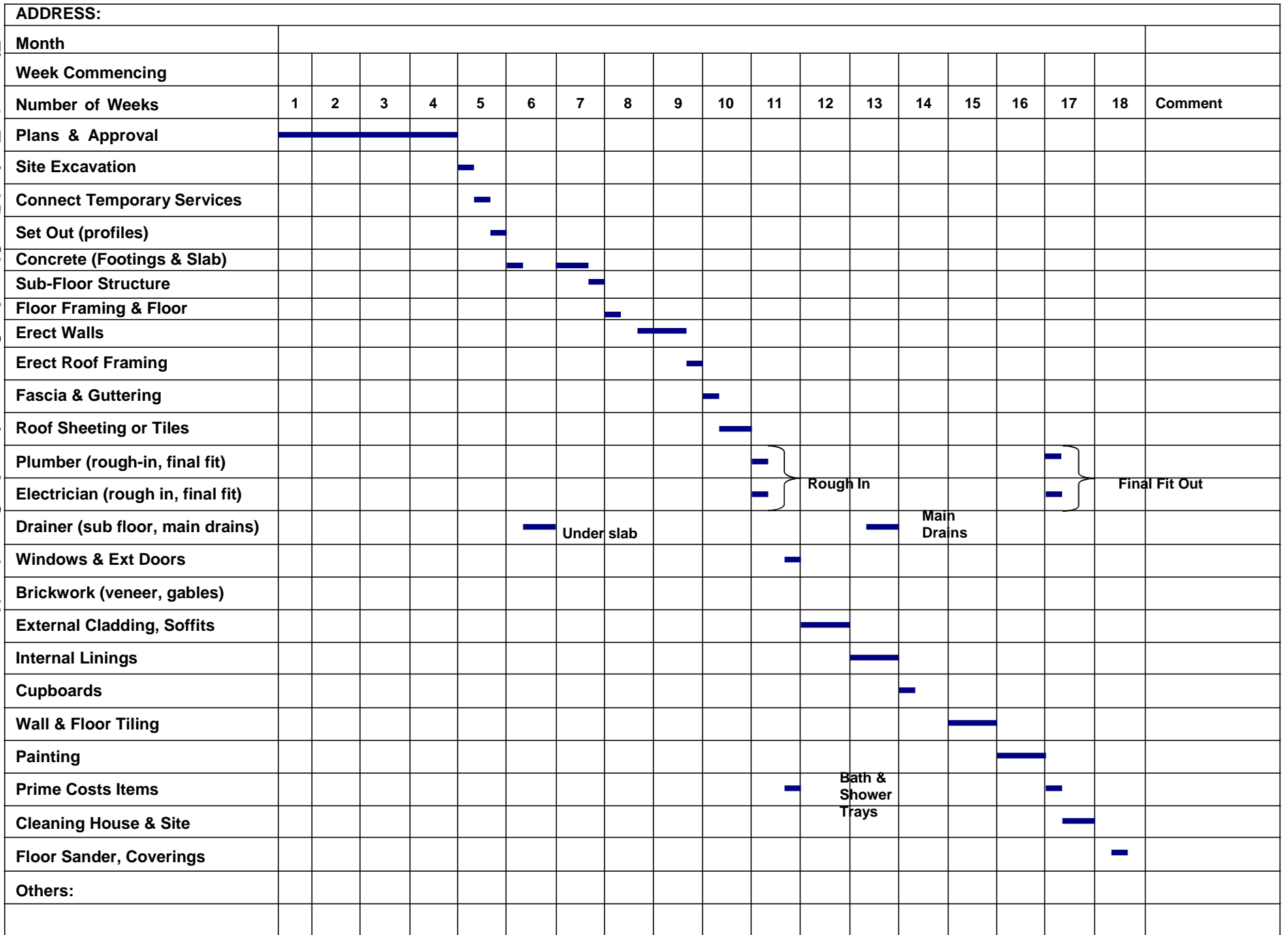
Now you are ready to begin drawing your chart.

Follow the steps below:

- i) Mark out the columns and write down the headings.
- ii) Write all the activities down the left hand side of the sheet.
- iii) Mark any public holidays or Rostered Day Off's by shading the appropriate column(s).
- iv) Mark in all the activity durations in pencil - begin drawing the bars lightly in the main part of the chart commencing with the first activity.
- v) Using your list of activities with the notes on the following and preceding activities, you should be able to quickly complete the entire chart.
- vi) Once you are satisfied that the chart is correct, you can go over the bars in your choice of either dark pencil, felt pen, ink or coloured pencil.

(Drawing bar charts is really a quick and easy process so long as you do the preparation first. If you don't prepare, then you will find yourself having to erase sections and redraw them.)

Figure 3: Typical Bar Chart for Construction of a Complete House



Tips for drawing house construction bar charts

The bar chart for a house is best drawn up using a 5mm feint-ruled graph paper of around A3 size. Depending on the duration of the project you could make 5mm equal to one day or 10mm equal to 1 week.

If you cannot get A3 paper, join two A4 sheets along the long edge after trimming the sheets so that the graph paper appears continuous across the join. You should be able to get A4 graph paper pads from your local newsagent.

3.3.2 Controlling cost and time

Financial control, project construction planning and construction scheduling all go together to provide an important management tool. This information enables you to accurately assess progress and performance of the project against your budget expenditure.

A continuous review of the construction program (the Bar Chart) is required as you cannot always predict such uncontrolled factors as bad weather, late arrival on site of materials or Trade Contractors, etc. The bar chart discussed in the previous section is the main document for your construction program and is a living document which will need regular revision.

If you are unsure of timeframes for construction of your project, consult your Building Consultant, licensed Trade Contractor or supplier.

The success of your project will be largely dependent upon your ability to manage the construction process and co-ordinate the resources involved.

This skill requires the Owner Builder to think ahead and have a basic knowledge of each building activity and where it fits in the overall construction process. This means that you must be able to link up human resources (skilled labour) with the appropriate material resources at the right time to ensure that the work is done as scheduled.

Obviously there will be times when you will be facilitating several activities at once.

3.3.3 Sequencing building activities

An example of a sequencing of basic building activities (in this case for brick veneer construction on a ground slab) would be:

- Excavate site platform
- Set-out the footings, excavate and pour
- Form up and pour the floor slab
- Set-out and construct house frame (timber, brick, block, steel)
- Erect the roof framing/trusses
- Fix roof cladding
- Install external windows, plumbing and electrical (rough in)
- Finish internal and external walls
- Internal fitout, including services
- Landscaping

Your Local Government or a Private Certifier will need to be consulted prior to the commencement of your project to ensure you understand the time frame needed to clear the application process and when to book for inspections, as a backlog of work may hinder your project's progress.

EXAMPLE OF A TIME PLAN	
STAGE	ACTUAL WORKING DAYS
Pre-Planning	5 weeks
Excavation	2 Days
Setting Out	1 Day
Footings	2 Days
Base	2 Days
Floor	1 Week
Walls & Roof Framing	1 Week
Roof	3 Days
Services Rough-in	3 Days
Internal & External Linings	5 Days
Services	5 Days
Fitout & Finish	15 Days
TOTAL NO OF CONSTRUCTION DAYS	52 Days

NOTE:

- The number of actual working days required for each stage indicated in the example above may vary in practice, depending on the method of construction
- The total duration of your project from start to finish will be considerably longer than the total number of actual working days, depending on down time between stages, the time lost for holidays and wet weather, etc.

3.4 Record Keeping

As an Owner Builder, you will need to be aware that the volume of paperwork to be dealt with will be considerable. An accurate record must be kept of all aspects of the project from initial planning through to final payments. A system will need to be established and maintained for the sole purpose of running your building project as a business.

Key tools to help you to monitor and control your project include:

- A record keeping system, and
- An orderly filing system

3.4.1 File system

Keeping records (paper-based or computer based) is very important for any substantial project. Developing and maintaining orderly record keeping and filing systems will be fundamental to your ability to monitor and control your project. This will assist you to file and retrieve information easily.

You should maintain different files (or sub-files within a file), books and journals for different categories of information. The file system on the following pages is a suggested starting point.

For most projects you should only need four discreet sets of records. These are:

- A Master file
- Site Diary
- Purchase Order Book
- Petty Cash Book

3.5 Organisation of Suppliers

By the time your project is about to begin you should have decided on your suppliers (at least for all major items).

It is important when ordering materials from the pre-arranged suppliers that you refer to the planning schedule you have prepared for construction.

It would be a mistake to do any of the following:

- Have too many materials delivered at once - they could be damaged or stolen
- Have too few materials delivered, or order them in the wrong sequence - this could lead to frustration, inconvenience and unnecessary delays for both you and your Trade Contractors

Take note of the Trade Contractors working on your site and the requirement for other Trade Contractors to work with them at different stages.

IMPORTANT: All of the above will determine when you order the materials for your project. (Refer to Producing a bar chart in Section 3.3.1).

Because material left on site may be stolen if you are not there to receive it, ask your supplier to advise you in advance of the date and time of any deliveries. Discuss your delivery arrangements with your Trade Contractors prior to engagement so that they know what to do if you are unable to be on site when a delivery is made.

3.5.1 Deliveries of materials

When materials are delivered to site you should check that the quantities and quality matches your order. If not, make notes about any discrepancies (e.g. shortages or damage) on the supplier's copy of the delivery docket before signing. Contact the supplier as soon as possible so that the problem can be rectified (e.g. by adjustments to the next delivery).

3.5.2 Paying accounts

Some suppliers may allow you to pay for your goods by way of an account. That is, you pay for the goods after they are delivered. You may get 7-day, 14-day or 30-day from delivery or end-of-following-month terms.

When paying accounts, note any variations (e.g. shortfalls or damaged goods not yet replaced) clearly on the invoice and only pay for what you have actually received. The following checklist could assist you:

- Keep track of, and file together by supplier, all orders sheets, delivery dockets and invoices relating to the same order
- Check that materials supplied are as ordered and at the quoted prices
- Compare quotations, delivery dockets, invoices and orders to be sure you are only paying for goods actually received and ordered and that they are at the agreed price
- Keep track of your finances and only order items essential to complete the project
- To maintain the goodwill and cooperation of your suppliers, pay all accounts on or before the due date

Any delay in paying your accounts could mean a delay in receiving more materials until the account is paid, or a demand to pay cash for all future deliveries. Be sure you regularly check your finances and arrange them so that you can pay your accounts on time.

3.5.3 Warranties

Some items supplied to your project will have a manufacturer's written warranty. Be sure to keep all paperwork relating to these items in a file for future reference. Read the conditions on any paperwork (delivery dockets, warranty certificates etc.) to be aware of time limits for claims on faulty items.

It is very important that you make any claims relating to damaged or faulty products as soon as possible.

3.6 Payments to Trade Contractors

3.6.1 Progress payments

The amount and timing of progress payments should have been determined and recorded in the contract prior to the commencement of the project. The Owner Builder is expected to respect claims under the contract and pay on time.

The following is a list of considerations with regard to progress payments:

- Monitor work progress and anticipate when to expect a claim
- Review the terms and conditions of contract to determine if the payment is due
- Ensure sufficient funds are readily available to make payment on time
- Inspect the work to ensure it is satisfactory and the stage completed before payment is made
- Do not pay for unfixed materials or unfinished stages
- Advise Trade Contractor immediately if payment may be delayed
- Only make payments to the person(s) or company who is identified as the Trade Contractor in the contract
- Is the progress payment subject to a **retention provision** in the contract? If so, ensure the amount paid accurately reflects this [NOTE: The question (and percentage) of retentions on progress payments is a matter for negotiation. Although there are no legal requirements binding on the Owner Builder, in terms of fairness it is recommended that no more than 10% be retained from any one progress payment prior to practical completion. Once practical completion has been reached, it is recommended that no more than 2.5% of the contract price be retained for a maximum of 6 months as a defects liability protection. Whether or not retentions are included in their written contracts, Owner Builders may present their domestic building disputes, including those of a contractual nature, to the Commercial and Consumer Tribunal. **See Section 8.4 for the Tribunal's contact details.**
- For record-keeping purposes pay by cheque, not cash, and only on receipt of a Tax Invoice – the invoice must be titled 'Tax Invoice' and also show the ABN (an 11 digit number, usually in the form 99 999 999 999) for that supplier/ Trade Contractor
- Use a progress payment certificate – refer to Figure 4 on next page.

Progress payment certificate

The example shown on the next page (Figure 4) is a certificate for recording progress payments in accordance with industry standards. The use of this certificate will provide an accurate record of payments made to the Trade Contractor in accordance with your written agreement.

PROGRESS PAYMENT CERTIFICATE NO. 2

Owner:.....

Site Address:.....

Trade Contractors Name & Contact Details:.....

.....

.....

CONTRACT STATEMENT

Contract Sum	1	\$6,000.00
Variations Previously Claimed (show additions as '+' and deletions as '-')	2	+\$400.00
Variations this Claim (show additions as '+' and deletions as '-')	3	-\$100.00
ADJUSTED CONTRACT SUM	(1+2+3=)	\$6,300.00
Total Value of Work to Date	5	\$2,000.00
Total Payments to Date	6	\$950.00
Total Retention to Date	7	\$50.00
Amount of this Claim	(5-(6+7)=)	8
Retention for this Claim (5%)	(8x0.05=)	9
CALCULATE PAYMENT FOR THIS CLAIM	(8-9=)	\$950.00
Total paid to Date (including this payment)	(6=10=)	11
Total Retention to Date (including this payment retention)	(7+9=)	12
BALANCE OF ADJUSTED CONTRACT SUM STILL OWING (Excluding all Retentions)	(4-(11+12)=)	\$4,300.00

Signature of Owner:.....

Date:.....

Signature of Trade Contractor:.....

Date:.....

Figure 4: Typical Progress Payment Certificate

NOTE: The numbers in brackets are to show you how the values are derived in this example; they would not appear on an actual Progress Payment Certificate.

3.6.2 Variations

Any variation must be in writing detailing the changes required and costs involved. Once accepted a variation forms part of the contract and is to be paid when the appropriate stage has been reached.

3.6.3 Final payment

As Trade Contractors complete their work they will want final payment. There is no reason to delay this payment if the work has been completed satisfactorily.

If the work is required to be inspected for compliance (e.g. with building and plumbing regulations), you should ensure your contract provides that the final payment may be delayed or withheld until a satisfactory inspection has been completed.

Some things to do or check regarding the final payment:

- Read your contract carefully and comply with the provisions which relate to the final payment
- Conduct your own careful final inspection to ensure all work agreed to has been satisfactorily completed in accordance with your written agreement
 - If not completed satisfactorily, immediately advise the Trade Contractor, verbally and in writing (if you are entitled to withhold monies under your contract, the retention should correspond with the amount required to complete or rectify the job and the balance of the final payment should be promptly forwarded to the Trade Contractor)
 - **NOTE: If you are in any doubt about your right to withhold a payment**, or what your contract allows in this regard, be sure to obtain legal advice – **failure to do so may result in a legal dispute which is costly in time and money**
- Be sure you advise Trade Contractors what to do with their rubbish - whether to remove off site or to place in a bin or designated area (this should be stated in your written agreements)
- Calculate the final payment of the contract allowing for variations, if any
- If you are satisfied with the work, thank the Trade Contractor and make the final payment



NOTE:

Trade Contractors are running a small business and require their payments on time to continue to operate. Unnecesssary delays in payment should be avoided. For advice on what to do in the event of a dispute with a Trade Contractor, see *Section 8.3 'Conflict Prevention and Resolution'* on page 97.

Section 4: Finance and Taxation

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4.1 Finance and Loan Requirements

4.1.1 Approaching lending institutions

When approaching a lending institution for money don't be reluctant to ask for a quote (including all service charges) for the finance you require. Secondly, do not feel rushed to sign up immediately. Take time to compare the offers received from different lenders before committing yourself.

To be truly professional in your approach to the lending institutions, and to give yourself the best chance of success, you will need to present a well prepared and documented proposal (If in doubt, ask the lender for a little more money than you think you'll need – it's preferable to having to come back and ask for more finance later). You should provide as much supporting detail as possible concerning your project, including:

- Detailed plans
- Full budget estimates
- Your proposed construction schedule
- Details of your income and your partner's income if they will be involved in the loan (e.g. pay slips and recent group certificates)
- A statement of personal assets and liabilities is also likely to be required

Important matters to consider when arranging your finance include:

- Stamp duty
- Insurance costs
- Interest and Monthly Repayments
- Term of the loan
- Account-keeping fees
- Time to set up and approve the loan

One very important point to discuss with the lender is how they will pay the money to you. There are several options here:

- Pay at designated stages (progress draws)
- Pay on invoice (usually on a periodic basis, e.g. 7 days for a Trade Contractor and 30 days for a supplier)
- Lump sum to your account and you then handle all the payments

The contractual arrangements you make with your Trade Contractors and suppliers must be in accord with the draw-down facility that you establish with your lender so that you will always have sufficient funds readily available to meet your obligations.

When you are establishing a finance facility with a lender, it will be very important to your credibility that your submission includes realistic timeframes and costings which you can support with detailed workings (e.g. project schedule/bar chart and detailed estimate with supporting quotes).



FOR ADDITIONAL INFORMATION:

Information about mortgage finance providers and products may be obtained from the following sources (among others):

Australian Consumers Association – www.choice.com.au

The ACA, an independent consumer watchdog group, is well known comparisons of products and services. Some general financial information is available free of charge from the ACA web site while access to other material and reports may require subscription to Choice magazine.

Bank Choice - www.infochoice.com.au/banking

This web site provides a useful comparison, in table format, of the interest rates and fees charged by a wide range of finance providers.

4.2 Government Assistance

From time to time both Federal and State governments provide grants, rebates and concessions to people (particularly first home owners) to assist them with the purchase or construction of a home.

At the time of publication of this document (September 2008), the following grants, rebates and concessions were available in Australia:

- First Home Owner Grant
- Transfer Duty Concession
- Home and Garden Waterwise Rebate Schemes
- Solar Bonus Scheme
- Solar Hot Water Rebate Program

Be sure to contact the relevant government bodies (detailed below) to obtain up to date information on these assistance schemes.

First Home Owner Grant

This grant, funded by the Federal Government but administered in Queensland by the Queensland Government's Office of State Revenue, was introduced on 1 July 2000 to help offset the impact of the Goods and Services Tax (GST) when buying or building a home. The grant is a one off payment \$7000 (at the time of publication) payable to eligible first home owners. There is currently no means test involved and no limit on the price of the property.

To find out the latest information about this grant, including eligibility requirements, contact the Office of State Revenue at:

www.osr.qld.gov.au/fhog/first-home-owner-grant/index.shtml

OR

by the toll free enquiry line: **Ph. 1300 300 734**

Transfer Duty Concession

In addition to the first home concession, home concessions also exist for the purchase of a home that is not a first home. A transfer duty liability is created when a person enters into a dutiable transaction relating to dutiable property in Queensland. In most instances, transfer duty is calculated on the value of the property or consideration involved. Depending on the nature of the transaction, certain concessions and exemptions are available.

To find out the latest information, contact the Office of State Revenue (contact details given above).

Queensland Government Renewable Energy Rebate Schemes

For more information on renewable energy incentives, together with Fact Sheets and other practical advice on energy efficient construction and appliances, contact the Queensland Government's Environmental Protection Agency at:

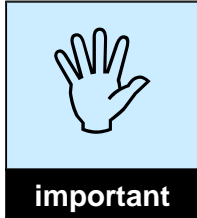
www.sustainableenergy.qld.edu.au

OR

by telephone: **1300 369 388 (8.00am to 6.00pm)**

4.3 Financial Records

As an Owner Builder you will need to keep records of all financial transactions associated with the project - it really is a necessity.



NOTE:

Failure to keep accurate records has been identified as a major cause of Owner Builders failing to complete their projects or exceeding their budget & therefore having to borrow more and in some cases much more.

In Section 3.2, you were provided with tools to estimate the cost of your project and maintain a budget, but without keeping accurate financial records all your work could be wasted.

If you do not have accurate, up to date information you will be unable to make the right management decisions at the appropriate time to keep your project on track.

Every Owner Builder will need to use most, if not all, of the following financial documents:

- ▶ Contract agreements
- ▶ Copies of quotes
- ▶ Cash book
- ▶ Copies of sales invoices
- ▶ Cheque butts
- ▶ Petty cash book
- ▶ Bank statements
- ▶ Record of loan agreement payments

4.3.1 The cash book

Probably the most important information is your cash position. This is the money currently available for making payments to suppliers and Trade Contractors.

For this purpose a cash book is used. The cash book details the different types of payments and the amount left over. Your cash book may be divided up into several columns which identify all cash outlays.

The cash book should have a 'total' column which records the current balance in your loan account. With each entry you will adjust the balance accordingly. This will give you ongoing information about your current cash position.

DATE	CHQ NO	PAYEE	CHQ AMOUNT	COMMENT	BALANCE
					\$100,000
15/1/08	123450	Bills Bobcat Hire	\$575-00		\$99,425
30/1/08	123453	John's Concreting	\$15,595-50	All labour & material for footings & slab (Budget \$16,150)	\$83,829.50
2/2/08	123456	Bob's Bricklaying	\$3,500	1 st progress draw (\$10,000 budgeted)	\$80,329-50

Figure 5: Example of a Cash Book

NOTE: There are several computer software packages available to the Owner Builder which perform the same function as a cash book. As an alternative to these packages you could set up a spreadsheet to serve as your cash book (you could use a layout similar to that in Figure 5 above).

4.4 Establishing Supplier Accounts

Choosing suppliers

The choice of suppliers will impact not only on the overall cost of your project but also on how smoothly it runs. Some Owner Builders waste valuable time searching for the ultimate bargain in building materials. Remember: factors like reliability, willingness to provide friendly advice and assistance, the quality and range of materials offered, ability to deliver to site, and the availability and terms of credit may be even more important than the ticket price of the product and should be carefully considered when choosing your suppliers.

Most material suppliers will welcome new accounts. Ask to speak to the manager about your requirements. Do not be tentative in discussing the factors mentioned above as they may vary considerably from supplier to supplier.

Don't hesitate to ask your licensed Trade Contractors where they purchase their supplies. Local knowledge may save a lot of wasted time and money. Contractors may be especially well placed to advise on the reliability of particular suppliers (a 2 % discount in price may be more than outweighed by the fact that the supplier is unable to deliver the material when promised and needed on site).

Supporting documentation

For the best results Owner Builders should have all relevant documentation well organised and ready for presentation (e.g. in a folder) when introducing themselves to suppliers. In addition to the specific details of your project (including material lists/quantities, schedules and plans), be sure to have financial references (i.e. contact details of businesses you have dealt with in the past who can testify to your reliability and credit worthiness) on hand as they will help you to obtain the best payment arrangements (e.g. a 30 day account instead of cash on delivery).

Having this material readily available and well presented will save time and assist you in your dealings with suppliers. Remember that you will have only one chance to make a favourable first impression.

Points to raise with suppliers

The following are key questions you should ask suppliers:

- Mode of payment – cash, weekly, monthly?
- Deliveries - time, cost?
- How many types of product are available?
- Can this supplier match a cheaper price offered by another supplier?
- Availability of materials?
- Is there a quantity take-off service? (i.e. where the supplier calculates the quantity of the product required for the job – NOTE: You should check the supplier's calculations before accepting their quotation/estimation)
- May excess materials be returned for credit?

4.5 Taxation and Portable Long Service Leave Levy

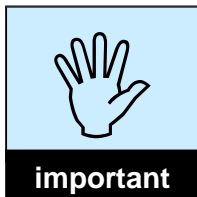
4.5.1 Applicable taxes

Introduction of a new taxation system on 1 July 2000

On the 1st of July 2000 the Australian Government introduced comprehensive changes to the process of levying taxes on individual and business incomes. The Goods and Services Tax (GST) - a 10% tax on all goods and services provided - and Pay As You Go Tax (PAYG) are the two new systems that impact on the building industry in general. However, these new arrangements have little direct impact on the Owner Builder, and none from a reporting perspective (unlike the previous PPS tax system which no longer applies).

GST (Goods and Services Tax)

GST impacts on the Owner Builder in the fact that most of the materials used in a house are now subject to GST. Also, all contracts are subject to GST and it must be included in the Contract Price (i.e. the supplier or service provider cannot quote a price then seek to charge you an additional, separate amount for GST).

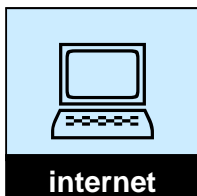


NOTE:

GST must be included in the total amount shown on a contract, invoice, receipt or quotation. The amount of GST included in the supplier or service provider's account (which they must remit to the ATO) must be separately shown on the documentation they give to you.

Pay As You Go Tax (PAYG)

Under PAYG, Trade Contractors now report on and pay their own taxes. There are now no responsibilities on the Owner Builder in this respect.



FOR ADDITIONAL INFORMATION:

Refer to www.ato.gov.au for general taxation information.

4.5.2 Portable long service leave levy

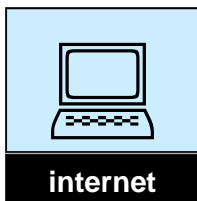
This levy is a general charge that is payable on all building and construction projects in Queensland that are going to cost \$80,000 or more, unless subject to exemption (see exemption categories on the form).

If you are carrying out work under your Owner-Builder Permit you will be exempt from payment of this levy. However, Owner Builders still need to notify Q-Leave about the work by completing and submitting all the necessary paperwork required by the Act. You will not be required to pay the levy as Owner Builders come under the exempt category (refer to Section 71 (1) in the ***Building and Construction Industry (Portable Long Service Leave) Act 1991***).

To obtain exemption, complete a Notification and Payment Form (available from any Australia Post Office) ensuring you have stated your Owner-Builder Permit number on the form. The form should then be stamped/receipted for nil payment at an Australia Post Office.

However, if you do not have your Owner-Builder Permit number when lodging the forms, you will have to pay the levy. You can apply for a refund once you have obtained your permit number.

Produce the yellow copy of the receipted form at your Local Government office or to your Building Certifier prior to receipt of your development permit.



FOR ADDITIONAL INFORMATION:

Refer to www.qleave.qld.gov.au

OR

Free Call Levy Payers Help line on 1800 803 481

Section 5: Legislation

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5.1 Obligations under the QBSA Act 1991

The *Queensland Building Services Authority Act 1991* ('the QBSA Act') allows persons (who are not licensed building contractors) to build their own home on land owned by them.

The Act provides that BSA may issue an Owner-Builder Permit to the owner of land. This permit allows the owner to carry out certain prescribed building work on that land. The type of building work that may be carried out is domestic building work.

The Owner-Builder Permit does not permit the holder to carry out building work that is regulated by a statute other than the QBSA Act or building work in relation to a multiple dwelling or commercial or industrial buildings.

5.1.1 Owner builder permits

One of the requirements to obtain an owner builder permit is the successful completion of an owner builder course. Below is an extract from the QBSA Act.

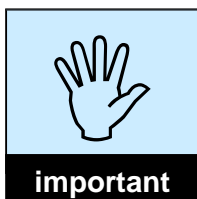
Part 3 Licensing - Section 44B Criteria for granting application for permit

- (1) *The authority may grant the application only if the authority is satisfied-*
- (b) *That an applicant, or a director of a company that is an applicant, has successfully completed an owner-builder course;*

In addition the QBSA Regulation 2003 further states:-

Part 4 Owner Builders Permits

- (21) **Prescribed course—Act, s 43D, definition owner-builder course**
For section 43D, definition owner-builder course, the course prescribed is the Course in Preparation for Owner Builder Permit 39219QLD or a course the authority considers is at least equivalent to that course.



NOTE:

The value of the building work for the purpose of the QBSA Act is the equivalent cost calculated at normal commercial rates for all the work to be done including all labour & materials (i.e. the price that a Builder or Trade Contractor would charge for carrying out the same work).

You will require an owner-builder permit if the value of the work is \$11,000 or greater.

You do not need an Owner-Builder Permit for work less than \$11,000.

5.1.2 Limitations and obligations placed on owner builder permits

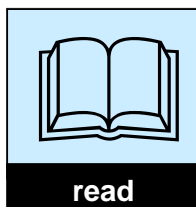
The Act and the Regulations impose certain limitations and obligations upon Owner Builders.

The following should be noted:

1. The Statutory Insurance Scheme which protects consumers who contract with licensed contractors does not cover owner built work.
2. The Act provides that an applicant is not entitled to be issued with an Owner-Builder Permit where that person has been issued with a permit in the last 6 years. (Refer Section 44B (1)(c) of the QBSA Act).
3. An applicant is not entitled to be issued with an Owner Builder Permit where that applicant has had an owner-builder permit cancelled in 3 years preceding the application.
4. An applicant is not entitled to be issued with an Owner Builder Permit where the applicant is a banned individual.
5. All applicants must be deemed to be a fit and proper person to hold a permit.
6. The Commercial and Consumer Tribunal operates separately to BSA and is intended to have exclusive jurisdiction over domestic building disputes.

Consumers (the building owner) can seek to have disputes resolved as quickly and inexpensively as possible through the Tribunal (cost of application at October 2008: \$229).

Parties to a domestic building dispute are referred to mediation by the Tribunal. If the parties fail to agree at mediation, then a Tribunal member may, as a last resort, impose a decision which binds the parties. This process in the Tribunal is designed to minimise the need for expensive court action. The Tribunal publishes case studies to promote awareness of consumer issues affecting building work.



FOR ADDITIONAL READING ABOUT THIS TOPIC:

Read BSA Information entitled *Dispute Prevention* and *Dispute Resolution*.

This information may be accessed on BSA's website at www.bsa.qld.gov.au From the Home page, click on 'Consumers' then 'During Building' then on the '*Dispute Prevention*' or '*Dispute Resolution*' links.

5.2 Notification on Certificate of Title

When BSA issues an Owner-Builder Permit, BSA is required to notify the Registrar of Titles of the granting of the permit. The Registrar of Titles will then make a notification on the certificate of title to the land specifying that an Owner-Builder Permit has been granted in relation to building work performed on that land.

The purpose of this requirement is to ensure that potential purchasers of the land are made aware that the building work was not performed by a licensed Builder but by an Owner Builder. The notification may be removed by the Registrar of Titles after a period of seven years has elapsed from the date of the entry of the notification. (Refer to Section 46 of the QBSA Act).

Warnings to purchasers of owner built houses

For a period of 6 years from the date of completion of their project, Owner Builders are required to provide a notice and a warning to purchasers of their property to the effect that owner builder work has been performed on the site.

The relevant provisions of the QBSA Act and QBSA Regulation 2003 are set out below:

QBSA Act (Section 47):

- s47. (1) If -
- (a) building work is carried out on land by a person who is not licensed to carry out that building work; and
 - (b) the land is offered for sale within 6 years after completion of the building work;
- the vendor must, before the contract of sale is signed by the purchaser, give the prospective purchaser a notice containing details of the building work and a warning in the form required by regulation.*
- (2) *If a notice is not given as required by this section, the vendor will be taken to have given the purchaser a contractual warranty (which operates to the exclusion of any inconsistent provision of the contract of sale) that the building work was properly carried out.*

QBSA Regulation 2003 (Part 4 Section 22):

- S22. (1) *The notice to be given to a prospective purchaser of land under section 47(1) of the Act must -*
- (a) *state that building work detailed in the notice has been carried out under an owner-builder permit by a person named in the notice; and*
 - (b) *contain a warning in following terms –*
WARNING - THE BUILDING WORK TO WHICH THIS NOTICE RELATES IS NOT COVERED BY INSURANCE UNDER THE QUEENSLAND BUILDING SERVICES AUTHORITY ACT 1991
- (2) *The notice must be given in duplicate, and the purchaser must sign 1 copy of the notice and return it to the vendor on or before signing the contract.*



important

NOTE:

The Act provides that in the event that this warning is not given, the Owner Builder is deemed to have given the purchaser a warranty that the building work was in fact properly carried out (See s 47(2) of the Act).

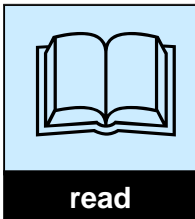
5.3 Owner Builder Site Signs

Finally, the Act requires an Owner Builder to display on your building site, a sign showing the number of the Owner-Builder Permit.

The sign must be:

- a) made of waterproof materials;
- b) of an area no less than 0.5m² (e.g. a sign approximately 900mm wide x 560mm high would comply); and
- c) printed in letters at least 5cm high & placed in a way that can be easily read from the nearest street alignment.

and remain visible throughout the duration of the performance of the building work.
(Refer to Part 6 Section 28 of the QBSA Regulation 2003).



FOR ADDITIONAL READING ABOUT THIS TOPIC:

For further reading of Acts & Regulations related to Owner Builders consult the following:-

- ***Queensland Building Services Authority Act 1991***
- ***Queensland Building Services Authority Regulation 2003***
- ***Domestic Building Contracts Act 2000***
- ***Building and Construction Industry Payments Act 2004***
- ***Building and Construction Industry Payments Regulation 2004***
- ***Commercial and Consumer Tribunal Act 2003***
- ***Commercial and Consumer Tribunal Regulation 2003***

These may be purchased through GoPrint or are accessible online at www.legislation.qld.gov.au.

5.4 Relevant Administrative Authorities

Owner Builders need to be aware of the different administrative authorities that, through legislation and associated regulations, regulate and control building activity, including Owner Builder work.

Listed below are some of the Acts, Regulations, Standards and Codes that may influence your building project:

- The ***Integrated Planning Act 1997 (and the Integrated Planning Regulation 1998)***
- The ***Building Act 1975 (and the Building Regulation 2006)***
- The ***Metropolitan Water Supply and Sewerage Act 1909***
- The ***Workplace Health and Safety Act 1995 (and the Workplace Health and Safety Regulation 1997)***
- The ***Queensland Building Services Authority Act 1991 (and the Queensland Building Services Authority Regulation 2003)***
- The ***Domestic Building Contracts Act 2000***
- The ***Building and Construction Industry Payments Act 2004 (and the Building and Construction Industry Payments Regulation 2004)***
- The ***Environmental Protection Act 1994 (and the Environmental Protection Regulation 1998)***
- Your Local Town Plan
- Relevant Australian Standards
- The ***Building Code of Australia***

5.4.1 Relevant bodies

The provisions of the above Acts, Standards and Codes mean that you will have contact with several administrative authorities which will have varying levels of control over your project.

Some examples of these relevant authorities include:

- Building Services Authority
- Your Local Government (in particular the Building, Town Planning and Plumbing Departments)
- Private Certifier
- The Forestry Department and other State Government Departmental bodies
- Electrical and Gas Supply Authorities
- Communications Service Providers
- Of those listed above, as an Owner Builder you will probably have most contact with your Local Government and/or Private Certifier.

5.4.2 Local government responsibilities

Local Governments administer building regulations at a local level. Private Certifiers also have some control in this area. Matters over which Private Certifiers have no authority and which can only be decided by Local Government include assessing town planning matters; reviewing the capacity and location of public utilities (e.g. sewer mains, water supply, etc.); exercising discretion on the siting of buildings (e.g. reducing the set-back requirements); and granting exemptions to the requirements for installation of swimming pool fences.

General knowledge of the relevant laws and regulations assist the Owner Builder in knowing who to approach for information about a particular item. However, most communication will be done through your Local Government building office or Private Certifier.

When all plans have been drawn, a site investigation completed, and the foundations and floor or slab have been designed by an engineer, application can be made to a Building Certifier for approval to build.

All forms must be correctly filled out and fees paid. Details of documents required at lodgement are available from Building Certifiers (i.e. your Local Government Building Certifier or Private Certifier). Your licensed plumber may have to sign some of these applications before the Building Certifier will release them.

A temporary power supply will be needed for construction. A temporary power pole can be hired for the construction period and your Electricity Supply Authority will connect the power when the necessary forms are lodged and fees and deposits paid.

5.5 Licensing Requirements for Trade Contractors

BSA licences builders and trade contractors in many different classes of licence including those listed below. A licence is required if an individual or company wants to carry out or supervise building work over the value of \$1100 (including labour and materials), or wants to carry out or supervise work of any value in the following areas:

- Plumbing and Drainage
- Gasfitting
- Termite Management - Chemical
- Completed Residential Building Inspection
- Fire Protection
- Building Design
- Site Classifier

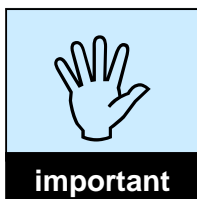
Each class has a [Scope of Work](#). It is important that the work your trade contractor intends to perform is covered in that Scope of Work. If this is not covered by one class of licence the trade contractor may have to hold more than one class. A licence can only be issued to either an individual or a company. BSA does not licence trusts or partnerships. For a check of your trade contractor's licence please visit BSA's web site.

5.6 Approvals and Inspections

5.6.1 Building approvals

When you get your final working drawings from the designer you will have to apply for building approval from a Building Certifier (formerly known as a 'building surveyor/inspector') who can be either a Local Government Building Certifier or a Private Certifier. They will check that the plans comply with both the Building Code of Australia (BCA) and the Building Act 1975 (and associated Regulation).

Some Building Certifiers produce a checklist to ensure that people applying for building approval submit all documentation necessary for their application.



NOTE:

You MUST NOT commence construction until you have received building approval for your plans.

All work must comply with the approved plans. Any variations from the approved plan will require amended plans to be approved. This may incur a further fee and could delay progress on your project.

5.6.2 Inspections – who is responsible?

Throughout the various stages of construction there is a need to control the standard of workmanship and to ensure that the work is consistent with the approved plans and complies with the relevant building codes, regulations and Australian Standards. The first part (quality control) is your responsibility while the second part (compliance with the approved plans and codes) is the responsibility of a Building Certifier.

The main responsibility of the Building Certifier is to ensure that the construction complies with the Building Code of Australia (BCA) and the approved plans. Building Certifiers are not supervisors or quality control inspectors.

Quality control is your responsibility. If you feel that you do not have the necessary skill for checking the quality of workmanship then you should employ someone with the necessary experience. What may be an acceptable standard in someone else's eyes may not necessarily satisfy you. It is strongly suggested you take the time to inspect the quality of a licensed Trade Contractor's work on some recently completed projects prior to entering into any formal agreements with that person.

An Owner Builder should consider the following points in relation to quality control:

- A competent person should inspect all work (e.g. a building consultant may be employed to inspect work on site at regular intervals)
- It is advisable to have these inspections whilst the licensed Trade Contractor is on-site (ensure this procedure was agreed to by both yourself and the licensed Trade Contractor at the signing of the contract)
- Who controls the standard of workmanship?
- The trade work may meet certain standards and be structurally correct, but this alone may not ensure a tidy finish
- Ensure all persons know the limits of their responsibilities whilst on site

5.6.3 Compliance inspections

As an Owner Builder it will be your responsibility to inform the Building Certifier when the project has reached the stage where inspection is required. This will occur at various intervals during construction. When you collect your approved plans from the Building Certifier you should receive some inspection notice forms which you are required to complete and return.

For the construction of an entire home, the following building inspections are compulsory under the ***Integrated Planning Act 1997*** and must be carried out by either a Building Certifier or a competent person authorised by the Building Certifier:

- ▶ Footings
- ▶ Slab-on-ground
- ▶ Frame (i.e. ready for roof)
- ▶ House Final



NOTE:

You will also have to provide copies of the following certificates to the Building Certifier where relevant to your project:

- ▶ **Wet seal – for tiled showers**
- ▶ **Glass – for windows and sliding glass doors**
- ▶ **Termite management systems**
- ▶ **Roof trusses**
- ▶ **Any Engineer’s certificates**
- ▶ **And any other relevant certificates the certifier may require.**

Check with your Local Government or Private Certifier for any additional inspection requirements in your particular area such as:

- ▶ Landscaping (not in all areas)
- ▶ Pool and pool fencing

For the construction of an entire home, the following plumbing inspections are compulsory under the ***Metropolitan Water Supply and Sewerage Act 1909***. These can only be carried out by your Local Government Plumbing Inspector.

- ▶ Drainage – under slab
- ▶ Plumbing rough-in (and stacks for high set or 2 storey houses)
- ▶ Drain test
- ▶ Plumbing final

Generally, the Building Certifier will need at least one or two days notice prior to the time when the inspection is to be carried out.



FOR ADDITIONAL READING ABOUT THIS TOPIC:

Read BSA information entitled ***Building Approvals and Inspections***.

This information can be accessed on the BSA website at www.bsa.qld.gov.au (From the home page, click on 'Consumers' then 'During Building' and then on the 'Building Approvals' and 'Inspections' link).

Section 6: Workplace Health and Safety

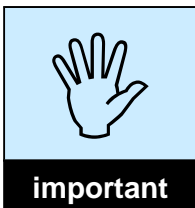
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6.1 Workplace Health and Safety

The Queensland Workplace Health and Safety Act 1995

The Workplace Health and Safety Act 1995 (the WH&S Act) places special obligations on all persons engaged in the construction of buildings. The obligations are different for different classifications of people as follows:

- ▶ Principal Contractors (almost all Owner Builders will take on this role and the associated obligations)
- ▶ Persons in Control of a Workplace (most Owner Builders will also take on this role although if a supervisor is employed the supervisor would assume this role)
- ▶ Employers and Self-Employed persons (including Trade Contractors)
- ▶ Workers (Wage and Salaried Employees)



NOTE:

A person may have obligations under more than one area of the WH&S Act. For example, an Owner Builder who also does work on a site will have the obligations of a Principal Contractor as well as a Worker. If the Owner Builder also employs direct labour, then the Owner Builder would also have the obligations of an Employer.

NOTE: Workplace health and safety is an aspect of building work which has been subject to important changes in recent years. The information on the following pages is provided to give you a general guide only to your obligations under the Workplace Health and Safety Act 1995 and the Workplace Health and Safety Regulation 2008. It is very important that all Owner Builders obtain the latest information and documentation on this subject (see below) and fully understand their obligations before commencing their building project.



FOR ADDITIONAL INFORMATION:

Refer to www.deir.qld.gov.au/workplace/index.htm

OR

Phone 1300 369 915

To get **MORE SPECIFIC INFORMATION** on this topic:-

The following brochures contain information relevant to an Owner Builder and are available from your local Workplace Health and Safety Office or the web site noted after each brochure:

- ▶ ***A Quick Start to the Workplace Health and Safety Act 1995***
www.deir.qld.gov.au/pdf/whs/whs_act_quick_start.pdf
- ▶ ***Safety Guidance for House Builders***
www.deir.qld.gov.au/workplace/business/construction/guidance-notes/index.htm
- ▶ ***Obligations of a Principal Contractors***
www.deir.qld.gov.au/workplace/law/codes/plant/appendix4/index.htm

6.1.1 Obligations under the Workplace Health and Safety Act 1995

Obligations of a Principal Contractors (Section 31 of the WH&S Act)

A 'Principal Contractor' is a person appointed by the owner of a project to be responsible basically for the overall safety of employers and employees, plant, equipment and members of the public who may be affected by the works associated with construction of a project.

An Owner Builder would generally be regarded as the Principal Contractor and Person in Control of the Workplace unless the Owner Builder appoints a supervisor or overseer who is charged with full control over that project. This person would then be obliged to take on the responsibilities of the Principal Contractor.

Owner Builders (as the Principal Contractor) will have the following obligations:

- To ensure the workplace health and safety of persons arising from:-
 - A hazard at the workplace for which no other person owes a workplace health and safety obligation; and
 - Anything that has been provided for the general use of persons at the workplace.
- If the Principal Contractor reasonably believes, or should reasonably believe that a person at the workplace is not discharging the persons workplace health & safety obligation to:-
 - Direct the person to comply with the persons workplace health and safety obligation; and
 - If the person fails to comply with the direction – ensure the person stops work until the person complies with the obligation.

Owner Builders (as the Principal Contractor) must also:

- Coordinate, supervise and oversee construction in a way that prevents or minimises risks to the health and safety of persons at or near the workplace during the work; and
- Consult with each of the following persons who are involved in the construction work in relation to identifying hazards association with the construction work and assessing risks that may result because of the hazards:-
 - The Designer;
 - The Project Manager;
 - Any other relevant person; and
- Notify another person of any matter of which the principal contractor is aware , or should reasonably be aware, that may affect the capacity of that person to comply with the persons obligations under the Act; and
- Provide safeguards and take safety measures prescribed under Regulation.
- To assist the Trade Contractors to fulfil their health and safety obligations by using their authority to ensure work on site is carried out in an orderly manner.
- To ensure that plant and substances provided for general use are safe and do not present a risk of disease or injury to people.
- To ensure that site activities are safe and without risk of illness or injury to the public who may be either on or near the site.
- To provide safeguards and take safety measures prescribed by regulation.
- If a Trade Contractor on site is not complying with his or her health and safety obligations, the Owner Builder must instruct the Trade Contractor to comply with those obligations. If the Trade Contractor does not comply with that instruction, the builder must direct the Trade Contractor to stop work until the obligations are complied with.

Obligations of Persons in Control of Workplaces [Section 30 of the WH&S Act]

The person in control of a workplace is the person who has responsibility for the day-to-day activity on-site including overseeing and coordination of contractors, delivery of supplies, etc.

The person in control of a workplace has the following obligations:

- To ensure the risk of injury or illness from a workplace is minimised for persons coming onto the workplace to work;
- To ensure the risk of injury or illness from any plant or substance provided by the person for the performance of work by someone other than the persons workers is minimised when used properly;
- To ensure there is appropriate, safe access to and from the workplace for persons other than the persons workers.

Obligations of Persons Conducting Business or Undertaking [Sections 28 & 29 of the WH&S Act]

A person who conducts a business or undertaking has an obligation to ensure that their own health and safety and that of their workers and any other persons, are not affected by the conduct of the relevant persons business or undertaking.

A person conducting a business or undertaking has the following obligations:

- Providing and maintaining a safe and healthy work environment;
- Providing and maintaining safe plant;
- Ensuring the safe use, handling, storage and transport of substances;
- Ensuring safe systems work;
- Providing information, instruction, training and supervision to ensure health and safety.

Obligations of Workers and other Persons at a Workplace (Section 36 of the WH&S Act)

A worker or anyone else on site has an obligation to ensure their own health and safety and that of other persons, including members of the public, are not adversely affected.

A worker or anyone else on site has the following obligations:

- To comply with instructions given by the employer about health and safety issues.
- To use personal protective equipment as provided by an employer, in accordance with training.
- Not to wilfully or recklessly interfere with or misuse anything provided for workplace health and safety at the site.
- Not to wilfully place at risk the workplace health and safety at the site.
- Not to wilfully injure himself or herself.

6.1.2 Workplace health and safety standards

There are three (3) types of workplace health and safety standards:

- Regulations - these must be followed
- Advisory Standards - these should be followed
- Industry Codes of Practice - these should be followed

Regulations

Some regulations are Workplace Health and Safety Standards that either prohibit exposure to a risk or prescribe a way to prevent or minimise exposure to a risk. For example, a regulation for noise may state a level of noise exposure that must not be exceeded. To meet your obligations under the Act you must comply with these regulations [Note: Regulations must be followed as is – no alternative method or approach offering equivalent protection is permitted]. Some of the matters covered by regulations include:

- Noise
- Confined spaces
- Hazardous substances
- Lead
- Asbestos removal

Advisory Standards

Advisory standards provide guidance on meeting workplace health and safety obligations concerning particular hazards. An advisory standard:

- Gives practical advice about specific risks and ways to control those risks
- May be used to help identify what control measures need to be written into the

Workplace Health and Safety Plan

The following are some of the available advisory standards that have been developed for the construction industry:

- Falls from Heights
- Work on Roofs
- Falling Objects
- Asbestos Removal

Control measures which may be used to manage exposure to the risk are detailed in each advisory standard. If the advice in an advisory standard is not followed some method that identifies and manages exposure to that risk, and which offers at least the equivalent level of protection, must be adopted and followed.

Industry Codes of Practice

Industry Codes of Practice provide practical advice on meeting workplace health and safety obligations in a part of an industry. The Codes cover specific industry related risks and ways to control those risks and may be used to help identify what control measures need to be written into the Workplace Health and Safety Plan.

The following are examples of advisory standards that have been developed for the construction industry:

- Manual Handling in the Building Industry
- Personal Protective Clothing in the Building Industry

As with advisory standards, if the advice in an industry code of practice is not followed some method that identifies and manages exposure to that risk, and which offers at least the equivalent level of protection, must be adopted and followed.

6.1.3 How to meet your obligations

- Ensure that you have met all your responsibilities as a Principal Contractor and/or a Person in Control of a Workplace and/or a Employer/Self-employed person and/or a Worker (see previous pages in this section).
- A person who has a workplace health and safety obligation under the Act must fulfil that obligation. There are three (3) aspects to meeting this obligation:
 - Regulations must be followed
 - Advisory Standards and Industry Codes of Practice, or an alternative risk management method which offers at least the equivalent level of protection, must be adopted and followed.
 - Where there is a risk about which no Regulation, Advisory Standard or Industry Code of Practice has been made, a person may choose any appropriate way to meet their obligation. However, the person must take reasonable precautions and exercise diligence in making sure the obligation is met.
- In order to better understand their obligations and the risks inherent in their building project, Owner Builders should complete the WH&S General Safety Induction Course (see next section for further details).
- One very specific point that you need to be aware of in the current climate of increasing litigation is that alcohol should not be allowed to be consumed on your site. This is not to say that you cannot buy a beer for your Trade Contractors or their workers, however, but that you should stipulate that they take it home for consumption otherwise you could be seen to have some responsibility if someone had an accident after consuming alcohol on your site.

6.1.4 General safety induction

General Induction provides an opportunity for people working in the industry to gain some understanding of the types of hazards likely to be found on construction sites and the way risks from these hazards should be managed.

Employers, self-employed persons and workers must hold general induction evidence before construction-type work is started. General induction evidence means:

- A statement of attainment or induction card issued by a Registered Training Organisation for successfully completing the General Safety Induction Course 30215QLD.

Where they take on the role of Principal Contractor, the Owner Builder has to make sure that any employers or self-employed persons coming on-site have the required general induction evidence outlined above. It is the responsibility of employers to ensure that their workers have the appropriate general induction evidence.

Additionally, if the Owner Builder intends to play any part personally in the construction work on-site the content of the general induction course will be valuable in assisting them to identify, assess and manage construction-related workplace health and safety risks.

Details of who can provide the new WH&S General Safety Induction Course, which has a nominal duration of 4 hours, are available from:

<http://www.deir.qld.gov.au/workplace/training/training/rto/induction/index.htm>.

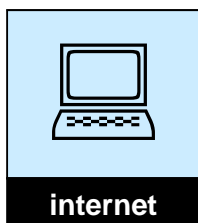
Construction Workplace Plans and Work Method Statements

When Owner Builders perform the role of a Principal Contractor, they must develop a **Construction Workplace Plan** for their project before work commences and also to collect **Work Method Statements** from contractors carrying out high-risk construction activities (defined in the WH&S Regulation 2008) on the Owner Builder's site. Owner Builders in this case are also responsible for monitoring and reviewing contractors' compliance with their work method statements.

The Department of Employment and Industrial Relations has prepared a sample Work Method Statement to give an idea of the quality and quantity of information required in this document. This sample can be obtained from the following link:

http://www.deir.qld.gov.au/pdf/whs/traffic_code2008_appendix2.pdf

Generic **Work Method Statements** for specific trades may be available from some industry associations.



FOR ADDITIONAL INFORMATION:

Refer to www.deir.qld.gov.au/workplace/index.htm

OR

Phone 1300 369 915

6.1.5 Understanding infringement notices

The Division of Workplace Health and Safety is able to issue *infringement notices* (on-the-spot fines), *improvement notices* (requiring something to be attended to within a specific timeframe), and *prohibition notices* (stop-work notices) in the event that a principal contractor, employer or self-employed person is found to be not complying with relevant workplace health and safety legislation.

If you are not sure of your obligations contact the Division of Workplace Health and Safety. If you have any questions about the WH&S obligations of an Owner Builder, check with the Division of Workplace Health and Safety.

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7.1 Public Liability

When the project is under construction it is impossible to supervise it constantly, day after day. Friends, family, new neighbours and the general public may wander onto the site at any time to inspect progress. Regardless of precautions taken by the Owner Builder, visitors to the site could fall or injure themselves and seek to claim damages against the Owner Builder (as the owner/controller of the site).

An insurance advisor/broker should be consulted for professional advice on the choice of policy and company, and also premium costs before commencement of the project.

7.2 Construction Insurance

This type of policy (sometimes known as Contractors All Risk insurance) provides cover for financial losses suffered due to storm, fire, explosion, accidental or malicious damage, theft, damage in transit and other defined events which may occur during construction. Be sure to check the policy document to find out specifically what is included, and more importantly, what is excluded.

Some insurance companies may offer a reduced rate if Construction Insurance and Public Liability Insurance are taken together. It may also be possible to reduce premiums through the use of excesses (i.e. where the policy owner covers some – e.g. the first \$200 - of the cost of any claim and pays a lower insurance premium).

7.3 Compulsory Superannuation Payments

At the time of print an Owner Builder is not responsible for paying the compulsory contributions on behalf of Trade Contractors' employees. However, if you engage workers on a labour-only basis (e.g. weekly/fortnightly wages for hours worked) you may have superannuation obligations. If in doubt contact the ATO for advice.

7.4 Personal Accident and Sickness

Personal accident and sickness insurance may be available and should be considered if you will be on site frequently. In the event of injuries that prevent work, this type of insurance will pay an agreed amount based on your income at the time.

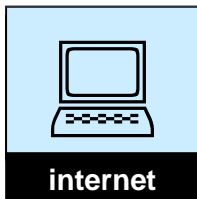
If you already have this type of insurance, check with your insurance company to see if your policy will need to be amended due to your new role as an Owner Builder.

7.5 Workcover

WorkCover insurance (previously known as Workers' Compensation) provides compensation to workers for loss of income due to work related injuries or illness. There is a legal obligation for anyone who employs another person to take out WorkCover insurance.

Owner Builders usually sub-contract the work out to other people and in those circumstances you are not required to have cover, except if the contract is a 'labour only' contract.

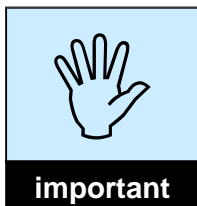
However, if you do engage Trade Contractors, be sure to sight and check evidence that they have current WorkCover insurance. If staff are employed for a single task on a wage (e.g. Paid per hour or day) WorkCover insurance cover must be taken out by the employer.



FOR ADDITIONAL INFORMATION:

Refer to www.workcover.qld.gov.au

To protect yourself in all circumstances as an Owner Builder (particularly where Trade Contractors may have failed to meet their obligations) it is highly recommended that you contact WorkCover prior to engaging any Trade Contractors to ascertain your liability to pay WorkCover insurance.



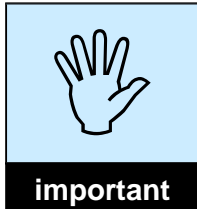
NOTE:

Workcover Queensland will provide you with written advice on your liability to pay Workcover Insurance.

Contact Workcover on 1300 362 128.

7.6 Trade Contractor - Proof of Insurance

Whenever you engage a Trade Contractor, whether to work for you in your capacity as an Owner Builder or just to do a small project around the house, ask to see evidence of all their insurances. Before any Trade Contractor commences work on site you should insist on sighting annual renewal certificates for all their insurance policies.



NOTE:

NEVER ACCEPT A COVER NOTE AS PROOF OF INSURANCE – these can be cancelled or allowed to lapse. Always ask to see the policy schedule and the payment receipt for the current period.

When you sight the Trade Contractor's insurance policies you should record the following information and keep it with other relevant details on the Trade Contractor (keep a record on file for every Trade Contractor):

- ▶ The insurance company
- ▶ Type of cover
- ▶ Policy number
- ▶ Expiry date for each insurance policy
- ▶ Name of the insured (this should also be the name that appears on any contract between yourself and the Trade Contractor)



NOTE:

One very important point to note is that the ultimate liability on-site usually rests with you, the Owner Builder. You may be judged to be wholly or partially responsible for payment of any claim made against you or a Trade Contractor. It is therefore imperative that you have current and sufficient insurance cover.

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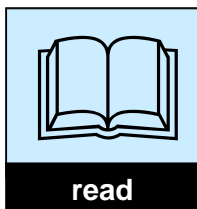
8.1 Trade Contractors and Contracts

As an Owner Builder, even if you are a building tradesperson, you will not normally take on the construction of the entire house yourself. In addition to the occupational licensed trades, such as Plumbing and Electrical, you will also need to consider contracting with other trades.

The **Queensland Building Services Authority Act 1991** (the QBSA Act) requires Builders, Trade Contractors and Building Designers to be licensed. To contract with an Owner Builder they will need to hold a BSA Contractor licence (see 'Dealing with your BSA Licensed Contractor' section on BSA's website). Phone BSA on 1300 BSA BSA (or visit BSA's web site at www.bsa.qld.gov.au) to check if the Trade Contractor's licence is current and appropriate.

As an Owner Builder it may be your first time in dealing with licensed Trade Contractors and for the inexperienced person there are some good guidelines to follow.

It is important that you have a signed contract so that you as the Owner Builder and the Trade Contractor (e.g. Bricklayer, Carpenter or Tiler) both have a thorough understanding of each other's responsibilities on the project.



FOR ADDITIONAL READING ABOUT THIS TOPIC:

Read BSA Information entitled '*Dealing with your BSA Licensed Trade Contractor*' and '*About your Building Contract*'

This information may be accessed on BSA's website at www.bsa.qld.gov.au (From the Home page, click on 'Consumers' then 'Starting Building' then on the '*Dealing with your BSA Licensed Trade Contractor*' or '*About your Building Contract*' links).

8.1.1 How do I find and select a trade contractor?

When looking for Trade Contractors, a good starting point is to talk to people you know personally who have relevant experience and qualifications (e.g. Friends who have built recently, or who are Builders or Trade Contractors themselves).

Other ways of locating an experienced, properly qualified contractor include:

- Trade and builder associations (these organisations can also help you obtain details of local Trade Contractors and may be a helpful source of technical information for your project)
- Yellow Pages and advertisements in local newspapers
- Visit local building sites where appropriate

Having made contact you will need to consider the following:

- Ask to see the Trade Contractor's licence and write down the name and number that appears on the card (See Figure 1 in Section 2.1.1). Phone BSA or visit the web site to confirm that the contractor is currently and appropriately licensed to perform the work you want them to do.
- Ask for a list of recent clients. (Check with those clients about the Trade Contractor's workmanship, reliability and client service.)
- Does the Trade Contractor have a good track record in your area?
- Do you feel comfortable talking with the Trade Contractor? Is the communication two-way?
- Does the Trade Contractor show an interest in your project?
- Can the Trade Contractor fit in with your schedule and how much notice does the Trade Contractor usually require?

You need to get at least 3 quotes from experienced, properly qualified Trade Contractors, especially for the major parts of your project. When you have narrowed your list of Trade Contractors down to those you will ask to quote on your project, consider the following:

- Have you discussed all relevant points with the Trade Contractor, including your expectations regarding the finish, quality and material to be used in the work?
- Will the Trade Contractor provide a written quotation for all work? (A written quote, which can be incorporated in a contract, is essential for minimising the risk of misunderstandings or disputes)
- Are there any items not covered in the quote?
- Have you agreed on who does what?
- Will the Trade Contractor be able to finish on time, or are the Trade Contractor's present commitments on other projects likely to delay your project?
- Can the Trade Contractor provide a list of the materials required for their work?
- What payment arrangements (deposit and progress payments schedule) does the Trade Contractor normally use?

Discuss and clarify the following points with the Trade Contractor before agreeing to engage them:

- Does the Trade Contractor possess current and adequate insurance cover for employees and third party cover? (You will need to see documentary evidence).
- Which party is to perform the cleaning up of the site during construction and on completion? (Don't take this for granted – if a contractor fails to clean up their mess it will mean extra work for you!!)
- Provision for retentions to minimise the risk of the Trade Contractor failing to meet their agreed obligations.
- Which party is to provide and erect any scaffolding? (Note: A 'certificate to erect scaffold' is required for the erection of scaffolding where a person can fall 4 metres from the work platform. Depending on the type of scaffold needed, the erector will require either a basic, intermediate or advanced certificate. Refer to the WH&S Act or to your local WH&S office to check which types of scaffold the person can erect.)
- Who will be responsible for notifying the following at appropriate stages of the work (where applicable):
 - Building Certifier/Local Government Plumbing Inspector (for mandatory inspections)
 - Engineer
 - Building Consultant (if one is engaged to supervise quality)

8.1.2 Contractual requirements

Once you have chosen the Trade Contractor you would like to do the work, it is important that you record in writing all details of your agreement. This is best done through the use of a contract conforming to the above guidelines, or for smaller job a written quote supported, where appropriate, by plans and specification.

Applicability of Domestic Building Contracts Act 2000 to Owner Builders

The *Domestic Building Contracts Act 2000* (the DBC Act) regulates contracts for domestic building work over \$3300 between building contractors and homeowners. It does not, however, regulate contracts between a building contractor and sub contractors. For the purposes of the DBC Act an Owner Builder falls within the definition of a 'building contractor' – therefore the contractual arrangements between an Owner Builder and their Building Contractors are not covered by the requirements of the DBC Act.

BSA strongly recommends that for their own protection Owner Builders always use a written contract in accordance with Part 4A of the QBSA Act (supported by detailed specifications and plans where appropriate) to ensure that the agreements they reach with Builders or Trade Contractors, irrespective of the value of the work, are fully and accurately documented.

Proper documentation will go a long way towards minimising the risk of a costly, disruptive dispute. The written contract should clearly state the following:

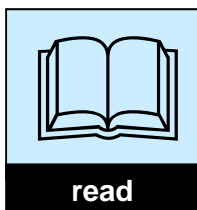
- The name of the Builder/Trade Contractor who is contracted to carry out the building work
- The licence number of the Builder/Trade Contractor
- The address of the land where the building work is to be carried out
- The scope of the building work covered by the contract [NOTE: Where appropriate the description of the work should be supported by plans and specifications and include any special requirements with regard to finish/materials/construction, etc.]
- The commencement and completion dates or a time frame for performance of the contracted work. Any grounds for extensions of time should be clearly stated.
- The amount to be paid for the contracted work (inclusive of GST), including details of the amount and timing of any deposit and progress payments – where appropriate - in addition to the final payment. It is recommended that deposits never exceed 20% of the contract value. The timing and amount of any progress payments included in your contract should be directly related to (and not in advance of) work progress. [In practice, it is customary on very small, quick jobs for all or nearly all of the money to be paid on completion.]
- The parties' agreement about retention amounts and securities to be held (if any) [NOTE: The question, and percentage, of retentions on progress payments is a matter for negotiation between the Owner Builder and their Trade Contractors. In terms of fairness it is recommended that no more than 10% be retained from any one progress payment prior to practical completion. Once practical completion has been reached, it is recommended that no more than 2.5% of the contract price be retained.]
- Any variations to the contract should be recorded in writing and include full details of the change

Appropriate contracts

A number of industry associations produce standard form contracts which may be appropriate for Owner Builder projects.

It is a good idea to have valid written and signed contracts for all work performed by others, no matter what the value of the work (in some cases where the value of the work is small a detailed written quote may suffice). A written document not only protects you and the Trade Contractor, it also defines all the work to be done and outlines the key responsibilities of both parties.

It is strongly recommended that, before entering into any contract, you read the information identified next. Afterwards if you still have concerns or questions you may need to seek legal advice.



FOR ADDITIONAL READING ABOUT THIS TOPIC:

Read BSA Information entitled '***Reducing the Risk of Things Going Wrong***' and '***Dealing with your BSA Licensed Trade Contractor***'

This information may be accessed on BSA's website at www.bsa.qld.gov.au (From the Home page, click on 'Consumers' then 'Starting Building' then on the '*Reducing the Risk of Things Going Wrong*' or '*Dealing with your BSA Licensed Trade Contractor*' links.

Once the work gets underway BSA strongly recommends that you take care to ensure:

- That you stick to the contractual arrangements and never pay early or in advance of progress on the project;
- Progress payment arrangements (timing and exact amount) set out in your contract are directly related to work progress
- Always inspect and check that the work is satisfactorily completed in accordance with your written agreement before making the final payment
- If you have any further questions concerning payment arrangements, seek legal advice.

8.1.3 Important notes to note relating to contracts

- Whatever the value of the work, make sure that (after paying the minimum deposit) you never pay for work before it is completed as this may expose you to the risk of financial loss in the event of the Trade Contractor going broke or otherwise failing to complete the job.
- Once agreement has been reached, both parties must sign the contract and retain a copy.
- Ensure that the person with whom you are signing the contract is the principal of the firm or business which will be performing the contracted work.

8.1.4 Tendering checklist

The following is a checklist of steps in the tendering process:

- Make contact.
- Send out copies of plan and specification to Trade Contractors (try to get at least 3 quotes) and allow approximately 2 weeks before chase up.
- Compare prices received on an equal basis ('apples with apples').
- Check Trade Contractor's qualifications, references and past work, and insurance policies.
- Conduct final negotiations.

Always try to work within your budget, but never at the expense of quality or workmanship. Also, record all details of the final agreement in writing. Give a signed copy to the Trade Contractor and retain a copy for your own records.

8.1.5 Intolerance within the building industry

There is an attitude among some industry people in the building industry that anyone (men or women) who does not work in the industry knows nothing, or at best very little, about how to build a house, extension or renovation etc. Because of this attitude some Owner Builders, particularly women, may experience varying amounts of difficulty when negotiating or dealing with some Trade Contractors and suppliers.

The best way anyone can counter an attitude of this nature (i.e. "I know best what you need/want as I'm the expert."), irrespective of your gender, is to do your research about the work or material to be done or supplied prior to contacting the Trade Contractor/supplier. If you are unfamiliar with the work or material make use of your consultant(s) and industry organisations such as Queensland Master Builder's Association (QMBA) and Housing Industry Association (HIA). Timber Queensland is particularly helpful for timber related issues (e.g. flooring, framing, decks, etc.).

A warning though: knowledge of your subject is a wonderful thing, but don't try to flaunt it or impress the other person as a little knowledge can be very dangerous and you may only reinforce what you are trying to overcome.

Your research is done so that you can negotiate from a position of understanding, not expertise - that is still your Trade Contractor or Supplier's position.

But never forget that it is your money and your project, so do not let anyone else dictate to you. Accept advice willingly but ultimately ***you will have to live with the results of your decisions.***

8.2 Responsibilities of the Owner Builder

As the Owner Builder you will be ultimately responsible for the following:

- ▶ Setting out the project
- ▶ Providing storage facilities and temporary services
- ▶ Paying Trade Contractors
- ▶ Satisfying compliance inspections (building and plumbing)
- ▶ Ordering and arranging delivery of materials and plant
- ▶ Coordinating project progress
- ▶ Organising regular cleaning up on the site
- ▶ Learning to understand and speak building jargon
- ▶ Managing the effects of weather (and other delays)
- ▶ Solving demarcation problems between Trade Contractors
- ▶ Answering queries from Trade Contractors about any aspect of the project
- ▶ Selecting and ordering fixtures and fittings (e.g. plumbing fixtures and white goods)
- ▶ Preventing and resolving disputes
- ▶ Maintenance
- ▶ Site safety

To meet all of these obligations you will need to be physically fit and well organised and to be successful you will need to devise a specific daily routine and adhere to it as closely as possible.

NOTE: The following areas of work can only be performed by properly licensed or certified professionals:

- ▶ Plumbing
- ▶ Drainage (sewerage, septic, sullage, etc.)
- ▶ Gas fitting
- ▶ Electrical
- ▶ Demolition
- ▶ Removal of hazardous substances (e.g. asbestos, lead-based paint)
- ▶ Scaffolding where a person can fall 4m or more
- ▶ Pest control (installation of termite management systems)

8.2.1 Meeting with the neighbours

It is important to meet with all your immediate neighbours before any construction starts to inform them of your intentions and the fact that there will be construction noise from time to time (this is especially important in suburban locations or where neighbours are close).

Initiating this sort of friendly meeting up front should foster good relations. Remember, you are going to have to live with your neighbours for some time to come. First impressions count. Also, most neighbours will often 'keep any eye on things' and let you know if something untoward occurs on site when you're not there. Constant communication with your neighbours is the key to 'keeping the peace'.

If you are doing an extension or renovation, especially if it will involve significant noise or dust, you should also inform your current neighbours of what will be occurring.

NOTE: The following is an extract from the *Environmental Protection Regulation 1998: 6W Building Work*

“A builder or building contractor must not carry out building work on a building site in a way that makes or causes audible noise to be made from the building work–

- (a) on a Sunday or public holiday, at any time; or*
- (b) on a Saturday or business day, before 6.30 a.m. or after 6.30 p.m.”*

Breaches of this provision can incur a significant fine (up to \$1,500).

As breaches are complaint driven, it is in your interests to maintain good relations with your new (or existing) neighbours. You need to make your Trade Contractors aware of what arrangements you make with your neighbours as ultimately your neighbours will tend to hold you responsible for the actions of your Trade Contractors.

8.2.2 Supervision of the work

If you decide to engage a Building Consultant (e.g. licensed builder, engineer, etc.) to supervise your project, check that they have appropriate qualifications and experience. Talk to past clients. You will then need to determine and clearly explain to the building consultant what responsibility, authority and role you intend them to have.

You must be very specific what authority you are delegating to the Building Consultant. Your Trade Contractors and suppliers should also be advised of these arrangements or they may be unsure from whom to take instructions.

If the building consultant’s role is only to control the work on site, you must be in constant touch with them or be able to be contacted at any time to ensure that materials are delivered prior to when they are needed. Try not to interfere with your Building Consultant’s authority. Allow the building consultant to do what you are paying them for.

The building consultant is your liaison with the Trade Contractors (and suppliers). It is their job to control the day-to-day operations on-site. Any directions should always be passed on to the building consultant who will then give them to the Trade Contractor (or supplier). If you do have to give personal direction or want to have a discussion with a Trade Contractor (or supplier) you should first discuss this with your building consultant. Also, the Building Consultant should be present at the meeting. Regular communication is the key.

8.2.3 Coordination of the project

All Trade Contractors should know where and when their services will be required so as to avoid any on-site delays. Be sure that all Trade Contractors understand that they must show up on time. A reminder phone call a few days beforehand may be a good idea. Care must also be taken to avoid any hold ups that may be caused by materials not being available on time. If there is a delay for any reason, contact all people who will be affected by the delay as soon as possible. (Your project schedule should be of help here.)

Some trades rely on other trades and have to work together at certain stages of the project. Be sure that each tradesperson knows who they need to co-ordinate with. Site meetings are a good way to bring tradespeople together for the purposes of co-ordination. (Do not over-do these meetings as time is money to Trade Contractors.)

Tradespeople need time to arrange their workload so as to avoid wasting time between jobs. Try to give tradespeople at least 24 hours notice of any changes to the building program (longer would be better).

If a tradesperson 'walks off' the site before completing their contract because of a dispute, inform them orally and in writing that they may lose part of the monies owing to them, depending on the cost of completing the work, and that you reserve your rights to terminate the contract and employ another tradesperson to finish the work if it is not completed in a reasonable time. (Obtain legal advice if you are unsure of your rights, or the correct procedure, regarding contract termination).

If you cannot keep the material supplies up to the tradespeople, they may have to leave the site to do other work and it may be some time before you can get them back to your site. If it is your obligation to provide materials, you cannot penalise the tradespeople for your failure.

8.2.4 The sequence of work

In general, the following is the normal sequence of a project involving the construction of an entire home. The sequence could vary in detail but should be the same in general no matter what building system is adopted:

- 1st. Prepare and clear site
- 2nd. Construct footings/subfloor
- 3rd. Construct floor
- 4th. Erect walls and roof structure
- 5th. Install service pipes, wires, windows, etc. (this may need to be done at the same time as the item above or after the next item and some fixtures, such as a bath or spa, may need to be installed as well)
- 6th. Install roof covering
- 7th. Install internal and external linings
- 8th. Install joinery and cabinets
- 9th. Apply finishing coverings (paint, tiles, carpets, etc.)
- 10th. Install and connect service outlets/fixtures
- 11th. Clean-up and move in

The following headings in this Section give an indication, in greater detail, of the sequence of construction and where applicable, the type of Trade Contractor who commonly performs each task. It should be noted that this sequence may vary depending on the type of house being built and the building method adopted.



NOTE:

The type of work a particular Trade Contractor may perform will depend on the type of BSA licence they have. Before engaging a contractor you should check their licence card and note the licence class or classes which appear on it. Each licence class has a 'scope of work' associated with it which details what work the licence holder may perform.

For the latest information on what work each Trade Contractor may do, contact the nearest BSA office or check the BSA web site at www.bsa.qld.gov.au.

Clear site (excavator)

Clear the site of all unwanted vegetation that could inhibit construction. An excavator/drott may be required to level the site as per plans and specification. Try to limit the area disturbed by excavation. NOTE: Large trees should always be removed by a specialist.

Erosion and sediment control devices will need to be installed at this time. Discuss this with your installer prior to commencing any work on-site. For example, you may need to install some controls (e.g. sediment control fence below the area to be excavated and turfed sediment traps) prior to excavation commencing and then use the excavation equipment to install some controls (e.g. diversion channel up-hill from the excavation and a stabilised entry to the site).

Temporary power and water (electrician, plumber)

Before construction starts you will need to organise the following temporary services (consult with appropriate Trade Contractors):

- Electricity – if overhead, a temporary power pole may have to be hired
- Telephone – in areas with underground telephone services notify the service provider as they may be able to use the same trench as the underground power supply
- Water – your Plumber will be able to connect temporary water though you may need to have a tank or a water connection installed
- A site toilet – is required and is best arranged at this stage (may be arranged through most building equipment hire services)

Set out (surveyor, concretor, carpenter, bricklayer)

For this task it is recommended that you engage a Surveyor, Concretor, Carpenter, Bricklayer or someone with experience in this area. Remember if this part is not done accurately it could be an expensive mistake. Distances from boundaries to the building and the dimensions of the building are critical. The distances from the boundaries (can be called 'clearances') to the building shown on the approved plans will be checked for compliance with building regulations by the Building Certifier at the time of the footing inspection.

Excavation of footings (concretor, excavator)

In many cases the Concretor may control this area of work utilising a competent excavator operator. Mistakes here will cost money as too large a footing can use a lot more concrete. After excavation all steel specified for the foundation design is placed in the trenches and fixed into position ready for the engineer and/or compliance inspection.

Footing inspection (building certifier)

Give the specified notice (usually 24 to 48 hours) to the Building Certifier. The engineer, if used, will also need some prior notice. (Contact the engineer before starting the project to determine how much lead time is required.)

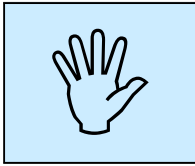


NOTE:

1. Try to avoid any lengthy delays between completing the preparation and pouring the footings. It is imperative to give due consideration to the weather, especially if rain is forecast as water will quickly gather in open trenches which can cause considerable delays and be costly to clean up.
2. If footings are to be dug, prepared and poured in one day, you may need to give notice one or two days prior. Speak to the Building Certifier about what latitude there is in specifying an exact time of day (e.g. between 1-00pm and 1-30pm or just AM or PM).

Pouring the footings (concretor)

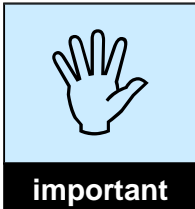
Immediately after the footing inspection(s) is carried out the concrete should be poured for the footings.



NOTE:

The wet concrete should not be allowed to fall from a height of more than 1m as this could cause the large aggregate to clump at the bottom of the trench. This is termed 'segregation of the mix' and has an adverse effect on the strength of the finished concrete. Segregation can also occur if the wet concrete is poured too quickly from the chute to get it to flow down the trenches. Concrete should be placed in its final location by allowing it to drop vertically from the end of the chute (less than 1m drop without additional vertical chutes) and should only be moved with a shovel once it is placed.

If you cannot access all parts of the site you will have to use wheelbarrows or a concrete pump to get the wet concrete to the remote areas of your site.



NOTE:

Water should never be added at the site to pre-mixed concrete. The concrete should be ordered with an appropriate 'slump' to enable ease of placement.

Under floor drainage (drainer)

Before the concrete for the footings is poured a Drainer will be needed to install any pipe work required to go under the floor (i.e. waste-water drain pipes for the bathroom, toilet, laundry and kitchen as well as water supply in some cases). If you use a Plumber/Drainer the water supply from the mains should be run up to the house and a temporary tap installed to supply water to the site (if not already done).

Under floor drainage inspection (plumbing inspector)

An inspection by the relevant Local Government Plumbing Inspector will be needed prior to covering over the pipes for slab-on-ground and low clearance elevated floor types of construction (where the floor has less than standing room clearance off the ground). Give the specified notice (usually 24 to 48 hours) to the Local Government Plumbing Inspector. This would usually be done on your behalf by the Drainer. Clarify this point when negotiating with the Drainer.

Main drains (drainer)

In sewerred areas, the sewerage and stormwater is often installed just before or just after the slab or sub-floor is constructed (this allows time for the trench backfill to compact so there should be no dips forming later in the landscaping).

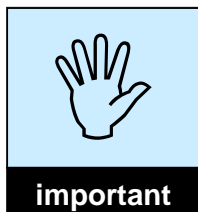
Otherwise, it would be done after all the brickwork and/or cladding and internal linings are complete (the backfilling can be combined with a major site clean up and near final trim if this option is used). The latter time would be the customary time that you would install a septic or mini-treatment system and roof water drains (to minimise the likelihood of damage to any above ground parts of tanks and fixtures).

Main drain inspection (plumbing inspector)

Give the specified notice (usually 24 to 48 hours) to the Local Government Plumbing Inspector who will inspect all pipe work prior to backfilling of the trenches.

Electrical services (electrician)

These may need to be built in under the slab or behind brickwork. A licensed Electrician will be required at this stage. In underground power supply areas, the meter box is often set-up on a temporary frame, in approximately its final location, to supply power for the site.



NOTE:

Only a licensed Electrician may perform electrical work. Electrical Trade Contractors require two licences, an Electrical Worker's Licence and an Electrical Trade Contractor's Licence. Both of these licences are issued by the Electrical Licensing Board in Queensland. Electricians do not require a BSA Licence.

Preparation of slab (concretor)

Base walls are built by a Bricklayer or fully braced edge boards (called boxing) are placed to form the perimeter of the slab. Next, the under slab area is built up with compacted fill which is screeded off level. Any additional boxing is positioned and adequately braced (e.g. for garage doors).

Before the placement of the waterproof membrane over the under slab area, the following items will need to be undertaken:

- Termite treatment system, if using chemicals (a reticulated delivery system) or graded stone barriers, and
- Under floor services positioned to plan (generally only drainage pipe work).

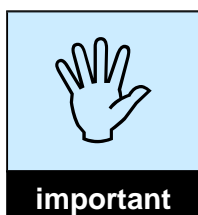
The waterproof membrane is then placed in position and all reinforcing mesh supported on bar chairs. Any boxing for recesses (e.g. for showers) or step-downs (e.g. for a sunken living room or to the garage) is now positioned and braced. Any service penetrations through the waterproof membrane must be sealed using 50mm duct tape or similar.

Termite treatment (pest controller)

An approved type of termite management system will need to be installed prior to the placement of the waterproof membrane under the slab or before work commences on the bearers. Termite mesh, reticulated delivery system for chemical poison or some other form acceptable as detailed on the approved plans will be required. (Refer to BSA information on this subject available on the BSA web site.)

Slab inspection (building certifier)

Give the specified notice (usually 24 to 48 hours) to the Building Certifier. The engineer, if used, will also need some prior notice - you will need to contact the engineer before starting the project to determine how much lead time is required.

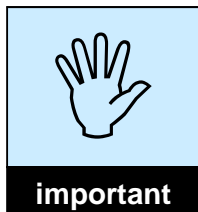


NOTE:

Try to avoid any lengthy delays between completing the preparation and pouring the slab by giving notice as the preparatory work is commencing. Give due consideration to the weather.

Pouring slab (concretor)

Where you allow the concretor to organise their own materials ensure they keep all of the docket for all materials delivered. Also ask for the concrete test results. There are several ways to pour a concrete slab. Be guided in this area by an experienced Concretor. All boxing should be done by an experienced person to ensure that there is no movement of boxing that will form bulges in the edges of the slab.



NOTE:

Water should never be added at the site to pre-mixed concrete. The concrete should be ordered with an appropriate 'slump' to enable ease of screeding.

REMEMBER:

Concrete should be placed in its final location by allowing it to drop vertically from the end of the chute (less than 1m drop without additional vertical chutes) and should only be moved with a shovel once it is placed.

If you cannot access all parts of the site you will have to use wheelbarrows or a concrete pump to get the wet concrete to the remote areas of your slab.

Walls and floor framing (carpenter, bricklayer, steel framer)

The Trade Contractor needed at this time will depend on the type of house construction you are undertaking. You will require either a Carpenter for a timber or brick veneer house, or a Bricklayer for a block or cavity brick house. If your project has block or cavity brick walls and a timber framed floor you will also require a Carpenter.

If you are using steel framing (for walls or floor), ensure the Trade Contractor is suitably trained and experienced in that system.

Roof framing (carpenter, steel framer)

The cutting out of a roof or the standing of trusses is a job for an experienced Carpenter.

If you are using steel trusses, ensure the Trade Contractor is suitably trained in that system.

Frame inspection (building certifier)

Give the specified notice (usually 24 to 48 hours) to the Building Certifier.

Guttering and downpipes (plumber, metal-fascia/gutter installer)

After all wall and roof framing is completed, the fascia and barges (if metal) and gutters are fixed, taking care to fall gutters to the correct downpipe positions.

Ensure valley irons are in place before any roofing goes on. Also, connect downpipe 'droppers' to temporary downpipes and pipe any rainwater away from the disturbed site area to street channel if possible or suitably approved dispersal areas to prevent soil erosion.

Roof (roof plumber, roofer)

Install roof sarking (foil or insulation backed foil or insulation blanket) prior to fixing roof battens. The roofing (generally either metal sheeting or concrete/clay tiles) can now be fixed.

Windows and external doors (carpenter, bricklayer)

Windows should be fixed as soon as possible, ensuring flashings are used where necessary. External door frames should be fixed making sure they are plumb and square. (In the case of a block or cavity brick home the Bricklayer will perform these tasks).

Services (electrician, plumber, drainer, others – as required)

Before any wall sheeting is fixed on timber or steel framed walls, or when the walls are going up for cavity brick or all block, the following Trade Contractors will be needed:

- The Plumber will 'rough in' (fix all necessary pipes into walls for hot and cold water), connect up to the mains, and test the installation for leaks
- The Drainer will run any elevated pipe work for suspended floors and arrange for their inspection
- The Electrician will pre-wire for all the power and lighting systems needed
- Pre-wiring should also be carried out now for telephone/communication, computer net work, and audio and visual systems (e.g. intercom, stereo or electronic security systems), etc.
- Pipe work should be installed for central vacuum systems and ducted air-conditioning and the like

Plumbing rough-in and elevated drain inspection (plumbing inspector)

Plumber/Drainer gives the specified notice (usually 24 to 48 hours) to the Local Government Plumbing Inspector.

Brickwork - external walls (bricklayer for brick veneer)

After sarking has been fixed to the external walls, the Bricklayer can then build the veneer to the outside of the house. The Bricklayer may either work up to the finished soffit, or the soffit can be fixed after completion of the brickwork.

The soffit option used needs to be shown on the working drawings as this will affect the design of rafters or trusses.

Internal linings (dry wall plasterer)

Before starting the interior linings:

- Ensure that all plumbing and electrical work (and any other 'hidden' services) is correct
- Check that the shower recess is properly prepared and the floor flashings are in place in the wet areas. (In some areas, a separate Local Government inspection of wet areas may be required prior to sheeting.)
- The bath/spa must be positioned and set into the wall as required

The Plasterer can now proceed. All interior linings must be fixed to the manufacturer's specifications.

Joinery (carpenter, cabinetmaker)

The Carpenter can now fix all internal doors, skirtings, architraves and shelving (for built-in cupboards such as the linen, broom, robes, etc.). Also, at this stage the kitchen cupboards, vanities and other cupboards should be installed by the Cabinetmaker who should liaise with the Plumber for sink and vanity basin installations and any necessary plumbing work. The Carpenter will then be able to finish-off any extraneous joinery and fit any mouldings as required.

Wet area flashings (waterproofing)

After the walls are sheeted, an accredited waterproofing system must be used to seal the walls and floors of all shower recesses. A copy of the wet seal certificate must go to the Building Certifier.

Tiling to walls and floor (tiler)

An experienced Tiler can make your finished bathroom look so much better (a bad tiling job can ruin the entire look of a bathroom), so it is recommended that you use an experienced Trade

Contractor rather than attempt this job yourself (unless, of course, you are qualified and experienced in tiling yourself).

When tiling the floors in wet areas, be sure that the floor is sloping to the floor waste. The Tiler can also tile the laundry and kitchen areas while they are on the job.

If you are tiling large areas of slab floor (e.g. floors in rooms such as kitchen, meals, family, rumpus etc.) you need to take measures to prevent long-term problems occurring such as cracking of the tiles, drummy tiles, etc.

Painting, internal and external (painter)

An experienced Painter will finish the internal and external surfaces making sure that any minor imperfections in the surface finish are properly rectified. A professional job at this stage can really make the difference between an average and a good finish.

A common occurrence is that following trades cause some marks or slight damage when fitting fixtures. Ensure that the Painter leaves some paint to use for touch-ups, or include in the painting contract a requirement for the Painter to come back to do the touch-ups.

Many Owner Builders do their own painting to save money. To ensure a high quality finish, always use good quality paint and apply it to the manufacturer's specifications.

Shower screens, mirrors and robe doors

Once the Painter and Tiler are finished the shower screens, mirrors and aluminium framed sliding robe doors can be measured and fitted.

Final fit-out for plumbing (plumber)

The Plumber can now fit all wastes and taps to sinks and tubs, and install WCs and the hot water service. The Plumber will check that the sewerage has been connected and ensure all stormwater drainage is in place.

Final plumbing and drainage inspection (plumbing inspector)

Give the specified notice (usually 24 to 48 hours) to the Local Government Plumbing Inspector. This would usually be done on your behalf by the Plumber. Clarify this point when negotiating with the Trade Contractor.

Final fit-out for electrical (electrician)

The Electrician will now fit all switches, power points and wire up all electrical fittings (e.g. stove, hot water service, range hood, etc.). Don't forget smoke detectors!

Other services (others - as required)

The telephone company should be notified so that the installation of phone and fittings and cable (if required) can be undertaken. All other service providers should be notified to allow installation of fittings and fixtures.

Perimeter termite treatment (pest controller)

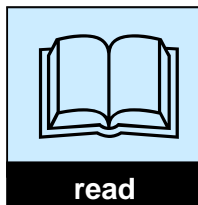
Should you choose to use a chemical perimeter soil treatment system you may be required to install a 300mm wide x 50mm deep concrete cap for protection. Retain the treatment certificate for future reference.

Whatever termite management system you choose, a durable notice that describes the system and its maintenance requirements must be permanently fixed to the building in a prominent location (usually in the electrical meter box)..

The perimeter treatment will need to be redone if the soil beside or adjacent to the building, or the concrete cap, is disturbed in any way (such as laying a path or landscaping adjacent to the building).

To maintain the termite management system on your property regular inspections of the dwelling are required to be carried out by a BSA licensed Pest Controller as re-treatment will most likely be needed from time to time.

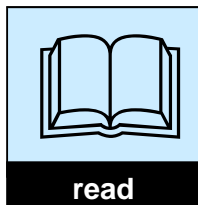
These inspections should be carried out at least annually although more frequent inspections may be required depending on local conditions. Your Pest Controller will advise you about this.



FOR ADDITIONAL READING ABOUT THIS TOPIC:

Read BSA Information entitled '*Termite Management – What Owners Need to Know*' and '*Termite Management Systems*'

This information may be accessed on BSA's website at www.bsa.qld.gov.au (From the Home page, click on 'Consumers' then 'Starting Building' then on the '*Termite Management – What Owners Need to Know*' or '*Termite Management Systems*' links.



FOR ADDITIONAL READING ABOUT THIS TOPIC:

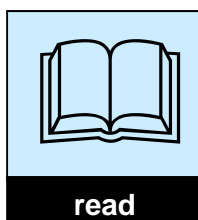
Read BSA Information entitled '*Termite Management – After Moving In*'

This information may be accessed on BSA's website at www.bsa.qld.gov.au (From the Home page, click on 'Consumers' then 'Completed Building' then on the '*Termite Management – After Moving In*' link.

Final inspection (building certifier)

Give the specified notice (usually 24 to 48 hours) to the Building Certifier.

Disconnect temporary services.



FOR ADDITIONAL READING ABOUT SPECIFIC AREAS IDENTIFIED BY BSA AS NEEDING ATTENTION IN NEW BUILDING WORK:

The following topics are very useful information:-

- Waterproofing
- Paint & Plasterboard Guides
- Roof Flashing
- Subsidence
- Fire Separation
- Stormwater Drainage
- Foundations & Footings
- Guidelines for Sanitary & Stormwater Installation on Reactive Clay Soil

This information may be accessed on BSA's website at www.bsa.qld.gov.au (From the Home page, click on 'Builders/Contractors' then on the 'Technical Information' link.

8.3 Conflict Prevention and Resolution

As an Owner Builder, conflict prevention and resolution will need to be a priority in the management of your project. Listed below are some issues you will need to be mindful of in managing your project:

- Always have written contracts with your Trade Contractors so that the work to be undertaken, payment terms and time limits are clear to both parties. Conflict often results when key arrangements are not fully and accurately recorded in writing.
- Do be courteous and respectful to Trade Contractors (and their workers) as they are trained specialists whose skills you need to complete the project. Co-operation and harmony will be important in ensuring that the project progresses smoothly with minimum delays.
- Do leave Trade Contractors (and their workers) alone to carry out their work if and when your assistance is not required. When you inspect their work, do so unobtrusively but with the Trade Contractor's full knowledge.
- Beware of supplying Trade Contractors with second hand or inferior materials. As well as compromising the work of the Trade Contractor, and the overall integrity of your project, such materials may actually be more time consuming and expensive to install than quality products.
- Always make payments promptly and within the time stipulated in the written agreement. If there is some legitimate reason (as defined in the agreement) for delaying a payment, contact the Trade Contractor as soon as possible to resolve any issues and then make payment promptly when the problem is resolved.



important

NOTE:

As mentioned in Section 3.6.1, Owner Builders may refer disputes with Trade Contractors regarding domestic building work to the Commercial & Consumer Tribunal (CCT).

Contact CCT on 3247 3333 or writing to GPO Box 2469, Brisbane, QLD 4001 or at the website at www.tribunals.qld.gov.au.



read

FOR ADDITIONAL READING ABOUT THIS TOPIC:

Read BSA Information entitled '*Reducing the Risk of Things Going Wrong*', '*Dispute Prevention*' or '*Dispute Resolution*'.

This information may be accessed on BSA's website at www.bsa.qld.gov.au (From the Home page, click on 'Consumers' then 'Starting Building' then on the '*Reducing the Risk of Things Going Wrong*' OR from the 'During Building' link & then on the '*Dispute Prevention*' or '*Dispute Resolution*' links.

8.4 Move In and Maintenance

If you are building a new home, moving in can occur once the building is ready for occupation.

8.4.1 Points to consider when moving in

You would normally move in once the services are connected and the building can be securely locked up.

You should also observe the following:

- ▶ Take out a full householder's insurance policy.
- ▶ Ensure that your keys are collected from Trade Contractors.
- ▶ Let your new neighbours know that you are moving in.
- ▶ Don't leave valuable or irreplaceable items in the house if it is to be left unattended for long periods (The risk of theft from houses is particularly high while people are moving in).

8.4.2 Connection of services

When nearing the end of the project final connections to services will need to be made. In some cases (e.g. electricity) service providers may require a deposit and their procedures may cause delays. Advise Trade Contractors of any changes to your schedule. Sometimes inspections may be required before connections are made.

The hot water system needs to be full of water before electricity is connected to the system (it is also harder to steal!).

Some Local Governments require payment of a bond or lodgement of a bank guarantee before building approval is given to ensure that certain commitments are met (e.g. a bond may be required to cover repair of any damage to footpaths which might occur during construction). Be sure to obtain refund of the deposit or release of your guarantee as soon as you have met the relevant commitments.

8.4.3 Final inspection

From Section 5.6 you will have obtained an understanding of your Building Certifier's inspection procedures, including at what stages the mandatory building inspections are required for the construction of a new home. Be sure to obtain the certificates of inspection and keep them in a safe place.

8.5 Checklists

Below and on the next two pages are three checklists that may be of assistance to you:

- This first list below is a list of general items prior to considering moving in.
- The second list is a list of specific items that most Building Certifiers will consider during a final inspection. NOTE: In that list the acronym BCA stands for the Building Code of Australia.
- The third list is of maintenance items. Generally, the maintenance of an owner built project is the responsibility of the owner.

8.5.1 General items

Items you should be aware of are listed below:

- All keys collected from Trade Contractors.
- Householder's insurance policy arranged.
- New neighbours informed.
- Measures taken to minimise theft whilst moving in.
- Electricity, telephone, etc. deposits paid.
- Inspections before connections completed.
- Hot water system full of water.
- Cleaning services arranged.
- Refunds received for security deposits (e.g. Local Government).

8.5.2 Specific items

The following list should serve as a guide to help you determine when your house is ready to be inspected:

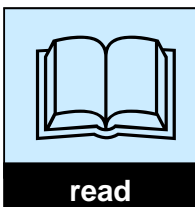
- Is the building generally in accordance with the approved plans?
- Have all facilities been provided?
- Is the building generally complete and habitable (requirements include: facilities for washing clothes and the preparation and cooking of food; a bath or shower; a toilet and wash basin; etc.)?
- Is the building weatherproof and vermin-proof?
- Is the road and gutter clean of old concrete and building spoil?
- Fences not to exceed 2000mm in height from ground level.
- Gates not to open over footpath.

- All downpipes connected to stormwater.
- Are all weepholes clear and not covered by landscaping (including under windows)? Do not rake or poke sharp objects into weepholes to clean them or you could puncture the DPC.
- Check for minimum height of floor level above landscape (min. 225mm) and paths (min.150mm).
- Ensure adequate site drainage exists (in some cases this may require yard gullies to be piped to the kerb and channel or to roof drains) may require additional fill.
- Cut and fill and any retaining walls to comply with the requirements of the relevant Local Government.
- Final ground level must slope away from the building in accordance with footing design and Local Government requirements.
- Check siting, including setbacks (this would only be inspected at this time where the final inspection is also the first inspection; siting would normally have been checked at an earlier inspection).
- Laundry seal around laundry trough pipes to be vermin-proof.
- Hot water tank pipes and electric cable to be vermin-proof (through wall).
- Toilet door to comply with Qld amendments to BCA.
- Vermin-proof bathroom pipes and seal side of vanity.
- Window openings to comply with relevant conditions.
- All windows and sliding glass doors comply with relevant Australian Standard (AS 2047 – 1999 & AS 1288-2006).
- Tread width and rise of stairs to meet BCA.
- Handrails and balustrades to stairs and balconies to meet BCA requirements.

8.5.3 Maintenance

- If faulty workmanship is found, it may be possible to have the tradesperson responsible return and make adjustments.
- If major failure occurs, immediately inform the Trade Contractor, both verbally and in writing. If the Trade Contractor fails to respond within a reasonable time despite agreements made in the contract, contact BSA or your solicitor. (The key responsibilities of Trade Contractors should be detailed in your contracts).
- Yard work or landscaping is to be carried out with due consideration to other components of the building. Excavations should not be done near to the house unless qualified persons are involved.
- You may need to redo the perimeter (in-ground chemical) termite protection if the soil adjacent to the building is disturbed in any way.

- Do not allow concrete slabs, soil or landscaping (bark, etc.) to encroach on the weep holes of the brickwork.
- Retaining walls may be required within the site. Make sure that these are constructed to a suitable design (if they exceed a certain height, retaining walls will require an Engineer's Certificate and/or building approval).
- If you have excavated on the boundary, it is your responsibility to retain. If you have filled, it is also your responsibility to retain.
- Fences are normally jointly owned on side and rear boundaries.
- Speak to your neighbours or inform them by letter of your intention to construct a fence on your shared boundary. While it is common practice for the costs of boundary fences to be shared, do not expect neighbours to pay half the cost if the fence you intend to build is more elaborate than usual for your area. Once a fence is erected, it becomes jointly owned. If it is on or near the boundary, it is considered to be servicing both sites.
- Do not plant trees which will grow high and have large root systems too close to the house - trees should generally be planted no closer than their mature height or spread whichever is greatest as tree roots can cause severe damage to footings and slabs (check expert advice on tree planting).
- Monitor the perimeter of the house at least every six months for termites. Do not disturb tell tale mud tunnels - obtain the advice of a qualified pest controller at once.
- If you have a timber floor, do not block off air vents to walls below the floor.



FOR ADDITIONAL READING ABOUT THIS TOPIC:

Read BSA Information entitled '*Minimising the Risk of Subsidence*' and '*Subsidence Fact Book*'.

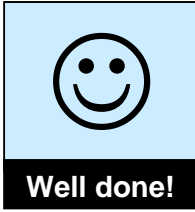
This information may be accessed on BSA's website at www.bsa.qld.gov.au (From the Home page, click on 'Consumers' then 'Completed Building' then on the 'Subsidence' link.



BEFORE YOU FINISH YOU SHOULD READ THE FOLLOWING:

Read BSA Information entitled '*Applying for an Owner Builder Permit*'.

This information may be accessed on BSA's website at www.bsa.qld.gov.au (From the Home page, click on 'Consumers' then 'Owner Builders' then on the '*Applying for an Owner Builder Permit*' link.



CONGRATULATIONS!!!

YOU HAVE NOW REACHED THE END OF THE OWNER BUILDER STUDY GUIDE

This guide was designed to provide you with information relevant to the management of the Owner Builder process. It in no way attempted to tell you how to build your project, rather, its intent was just to provide you with some proven tools to assist you monitor and control the project.

Good luck with your project!!

Appendix A: List of External Resources

On the following pages are lists of reference materials provided as a further source of information.

Building Services Authority Information

The following BSA Information may be of interest to Owner Builders and is available from BSA's website at www.bsa.qld.gov.au:-

- **Free Information Seminars**
- **Building Options**
 - *Display Homes*
 - *Individually Designed Homes*
 - *Swimming Pools*
 - *Sustainable Housing*
 - *Project Homes*
- **Starting Building**
 - *Dealing with your BSA Licensed Trade Contractor*
 - *Termite Management - What Owners Need to Know*
 - *Publications for Home Owners*
 - *Seven Easy Steps to Building or Renovating*
 - *Reducing the Risk of Things Going Wrong*
 - *Dispute Prevention*
 - *Subsidence*
 - *About your building contract*
 - *Contract checklist*
 - *Do you need to use a BSA licence holder*
 - *Termite Management Systems*
- **During Building**
 - *Building Approvals and Inspections*
 - *Dispute Resolution*
 - *Facts for Home Builders and Renovators*
- **Completed Building**
 - *Termite Management - After Moving In*
 - *Maintaining your Home*
- **Owner Builders**
 - *Thinking of Owner Building*
 - *Applying for an Owner Builder Permit*
 - *Approved Courses for Owner Builders*
 - *Owner Builder Course Exemptions*
 - *Forms for Owner Builders*

For more information on some technical items identified by BSA as potential problems areas, go to BSA's web site Home Page and click on 'Builders/Contractors', then on 'Technical Information' - or call 1300 272 272.

Legislation

These Acts may be purchased through the Queensland Government printers (called GoPrint) or you can access them on the government legislation web site at:-

www.legislation.qld.gov.au/OQPChome.htm.

The Acts are listed alphabetically on the web site. Some of the Acts and Regulations relevant to Owner Builders include:

- *Queensland Building Services Authority Act 1991*
- *Queensland Building Services Authority Regulation 2003*
- *Commercial and Consumer Tribunal Act 2003*
- *Commercial and Consumer Tribunal Regulation 2003*
- *Building and Construction Industry Payments Act 2004*
- *Building and Construction Industry Payments Regulation 2004*
- *Building and Construction Industry (Portable Long Service Leave) Act 1991*
- *Building and Construction Industry (Portable Long Service Leave) Regulation 2002*
- *Workplace Health and Safety Act 1995*
- *Workplace Health and Safety (Codes of Practice) Notice 2005*
- *Workplace Health and Safety Regulation 2008*
- *Domestic Building Contracts Act 2000*
- *Domestic Building Contracts Regulation 2000*
- *Environmental Protection Act 1994*
- *Environmental Protection (Air) Policy 1997*
- *Environmental Protection (Noise) Policy 1997*
- *Environmental Protection Regulation 1998*
- *Environmental Protection (Waste Management) Policy 2000*
- *Environmental Protection (Waste Management) Regulation 2000*
- *Environmental Protection (Water) Policy 1997*
- *Integrated Planning Act 1997 (and Regulations)*
- *Building Act 1975*
- *Building regulation 2006*

Energy Efficiency in Residential Construction:

For additional reading on energy efficiency in residential construction (including advice on appliances, insulation and lighting), phone the Queensland Government's Energy Advisory Service on Freecall 1300 369 388, between 8.00am and 6.00pm or visit their web site at:

http://www.epa.qld.gov.au/environmental_management/sustainability/energy/.

Lending Institutions

For more information, and a list of lending institutions, go to the following Internet web site at:

www.apra.gov.au

Click on 'Authorised Deposit -taking Institutions'. This will take you to a page that will give you access to a list of financial lending institutions. Click on the type of your choice.

Books

- ***Building Your Own Home***
Author: George Wilkie
Publisher: New Holland Publishers (Australia) Pty Ltd
Available from most bookstores and larger newsagents

The following Owner Builder books, though not referenced in the Study Guide may also be considered valuable for building projects:

- ***The Australian House Building Manual***
- ***How to be a Successful Owner Builder and Renovator***
- ***The Roof Building Manual***
- ***Australian Decks and Pergola Construction Manual***
- ***The Australian Renovators Manual***

Building Products and Materials

Though not referenced in this guide, the following web site provides a Building Materials Product Directory: www.aecinfo.net.au and has a very extensive list of links to product and material suppliers.

Taxation and GST

For further information regarding GST, and taxation generally, visit the following ATO web site: www.ato.gov.au/

Worker Checklist

WorkCover Queensland has a 'Worker Checklist' you can use to see if you are required to have a WorkCover policy. The checklist may be accessed on the following web site: www.workcoverqld.com.au/

Workplace Health and Safety - General

The following website contains relevant information for building and construction: www.deir.qld.gov.au/workplace/business/construction/index.htm

Construction Safety Plan and Work Method Statements

The Division of Workplace Health and Safety provides information regarding Construction Safety Plans and Work Method Statements. This information may be obtained from the following website at www.deir.qld.gov.au/workplace/business/construction/methods/index.htm.

Appendix B: Glossary of Terms

Articulation	(in masonry) 10mm regularly spaced vertical joints filled with compressible/expandable material to prevent or limit cracking in long masonry walls due mainly to soil movement.
Australian Standards	(or AS) These are nationally recognised standards that set the minimum criterion for many things used in our daily lives (e.g. AS1684 is the Australian Standard for designing timber framing members in houses).
Bar Chart	(also called a schedule or construction schedule) It is a graphical representation of the expected sequence of activities for a project drawn to a time scale with a scaled bar drawn to represent the expected time that each identified activity will take.
BCA	The Building Code of Australia is a national code developed to ensure all building work in Australia meets pre-determined minimum standards.
Budget	An allowance of money to complete a project.
Costing	Assigning a dollar value to a unit of material, labour or other item in an estimate.
Designer	Generic term for Architect, Building Designer or Engineer who may be employed to design and draft house plans.
Estimate	A detailed listing of the descriptions, quantities and prices for all the elements needed to complete a task.
Footing	The concrete footing is the lowest component of a building and is directly in contact with the ground or placed in the ground (refer Foundation).
Foundation	The soil surrounding the footings of a building that bears the weight of that building.
Kit Home	A package product containing most or all the materials necessary to construct a new house - some suppliers also provide building services to various stages of completion.
Labour Only	(In a contract) The contractor does not supply any material (or little) to go into the job, though often provide all their tools and equipment.
Lock-up	When the building has all external cladding, roof sheeting, windows and doors fitted and the building cannot be entered without a key.
m	Abbreviation for Metre which is a measure of length.
mm	Abbreviation for Millimetre which is a measure of length (1m = 1000mm).

m2	Abbreviation for Square Metre which is a measure of area (1m ² = 1m x 1m).
m3	Abbreviation for Cubic Metre which is a measure of volume (1m ³ = 1m x 1m x 1m).
MPa	Abbreviation for Megapascals which is a metric measure of pressure – used with concrete to measure its load carrying capacity.
RDO	Abbreviation for Rostered Day Off which affect union affiliated workers – check with an industry association for a schedule of dates.
Roof-on	The time when the roof covering material is installed and is usually considered a significant point in the construction of a building.
Rough-in	Installation of any of the services (e.g. pipes, ducts and wiring) that are concealed in walls, ceilings and floors.
Set out	(of the building) Establishing reference marks prior to digging the footings that will be used to locate the exterior of the building and any necessary internal features (e.g. a change in level of a slab).
Slump	(Slump test) A test performed on the wet concrete that provides a guide to the workability of the concrete
Stress Grade	(relating to timber) A measure of the load carrying capacity of timber.
Take-off	Establishing the quantity of materials or labour required for a component or task.
Timber Durability	A measure of the life expectancy of timber placed in the ground – termed ‘in-ground contact’.
Working Drawings	The approved plans for a project (i.e. those sets that are stamped and signed by the Building Certifier)

Stop press

Current Requirements for the Protection of Steel Items Built into Masonry --BCA 2010 Clause 3.3.3.5

Composite Construction

Use of Steel

The use of built in steel in buildings is generally as a component of the integral strength and cohesion of a structure.

Design and construction efficiency, structural reliability and general good appearance of buildings are examples of its value and utility.

These are accepted and necessary attributes much used for critical composite engineering, subject to adequate corrosion protection of steel.

The recent adoption of significant changes in the level of steel protection measures follow, for the guidance of designers, building practitioners and certifiers.

The principal reasons for the **code upgrade** are to **improve installation efficiency**, **extend service life** and to **contain costs**. These notes provide the practical reasons for the development and adoption of the upgraded BCA 2010.

Critical Information

Critical factors in design, practice and certification.

Corrosion of steel in composite construction inflicts damage in two ways.

- 1 Steel surface degradation by corrosion, leading to pitting and the overall loss of structural integrity
- 2 Masonry cracking, resulting from the increase in steel section thickness, of up to three (3) times in volume, caused by the formation and expansion of corrosion products

Explanatory Notes for Builders & Owner Builders

This Advisory reflects the notes of the BCA revision group, of 2009 /2010 changes

Principle Changes Summary

Replacement of the 2 corrosion zones previously used, with the 5 zones of corrosion recognized, in Australian, New Zealand and International standards.

- Upgrading of steel surface preparation from limited hand wire brushing to Blast Cleaning to grade 2.5
- Replacement of decorative domestic enamels and obsolete coatings with protective coatings designed specifically for steel.
- Provision of a schedule of coating systems suitable for the 5 exposure conditions
- A guide to assessing the corrosivity zones of Australia.
- Microclimate description, identification and corrosion allowances required.

Explanatory details of the corrosion impact in "sheltered conditions" and contaminant accumulations on such steel surfaces.

Atmospheric Corrosion Factors

Predicting the occurrence of these atmospheric zones, by consideration of the following:-

- Climatic conditions and seasonal variations
- Humidity occurrence
- Condensation and the resulting time of steel surface wetness
- Topography
- Wind influences
- Microclimates;-coastal, industrial, agricultural and sheltered dampness

Steel contaminant build up over time includes soluble salts, sulfur dioxide, oxides of nitrogen, pH extremes, waste products, fertilizers, fungicides and others which, are corrosion stimulants.

All of these issues should be seen in light of the inaccessibility of built in steel items for maintenance.

Attention is drawn to extracts from AS 4312 "Atmospheric Corrosivity Zones in Australia" by permission of Standards Australia, for education and training purposes. This standard is recommended further reading.

Technical reference papers, case study evidence of corrosion and the explanatory notes from the independent working group, are also available.

Steel items built in to masonry require consideration of the following service conditions:

- Steel items are often located in a sheltered or shielded position within buildings where they have long term (years) exposure to atmospheric contaminants such as marine salts, agricultural chemicals or other airborne corrosive influences, but are excluded from the cleansing effect of rain and the drying influence of sunshine and open ventilation. These situations often results in the condensation of moisture and the accumulation of contaminants on steel surfaces, which will significantly increase the rate of corrosive attack;
- Protective coatings on steel can experience some impact damage during delivery and installation of steel items within the building. This process will have a damaging influence on coated steel surfaces and its corrosion resistance and service life;
- Built in steel in masonry does not guarantee the components isolation from corrosive environments;
- Lack of access for inspection or maintenance normally excludes in-service repair as a valid method of extending service life.
- Lightweight lintels, or products with thinner coatings, are suitable only for mild service conditions, where service life is normally proportional to coating thickness.
- It is critical to assess the corrosivity levels at the building location and to use appropriate and sufficient steel coatings to ensure the structural components meet the required service life.

Alignment of Steel Protection in the BCA 2010 to Other Standards

General Information

The upgrade in the corrosion provisions of the BCA reflects a revision of the minimum standard for steel treatment in the previous BCA Steel protection Table 3.4.4.2 to a level consistent with the following national and international steel corrosion control standards for engineering purposes.

Standard references are:

- ISO 9223 corrosion of metals and alloys: Corrosivity of atmospheres-- Classification
- ISO 14713 Protection against corrosion of iron and steel in structures:-Zinc and Aluminium.
- ISO12944-5 Corrosion protection of steel structures by protective paint systems
- AS 3700 The Masonry Code
- AS/NZS 2699 Part 3 Lintels & Shelf Angles: Durability requirements¹
- AS/NZS 2312 Guide to the protection of steel against atmospheric corrosion by the use of protective coatings
- AS 4312 Atmospheric corrosivity zones in Australia
- AS 2309 Durability of galvanized and electro-galvanized zinc coatings: Performance ratings²
- NZS 4210 Code of practice for masonry construction: -Materials and workmanship.
- NZS 4230 Code of practice for the design of masonry structures
- The BCA 2010

Recommended further reading on this subject is contained in the relevant sections of these codes and standards.

¹ This standard was introduced after the Newcastle earthquake of 1998 as a reference document for AS 3700, the Masonry code, adopted by the New Zealand codes NZS 4210, code of practice for masonry construction materials and workmanship and NZS 4230 code of practice for the design of masonry structures.

² This standard provides a performance rating of the many grades of Zinc products now available, **where the service life of zinc coatings is proportional to coating thickness.**

Procedures for assessing the required corrosion protection

The above standards, while dealing with differing aspects of steel protection and specifications, have several things in common, now contained in the BCA 2010, namely;

- 1) Protective product specifications to meet the corrosion severity determined
- 2) Sound application practice and procedures for steel preparation and the application of coatings;
- 3) The means of assessing corrosion levels for specification purposes.

Protective products and application practice are normally included in suitable specifications, but corrosion rates by location are seldom available despite their critical importance

Recent Australian /New Zealand standards have made progress in combining the relevant collective data from all available sources including ISO, CSIRO, BRANZ, State Government Authorities and the consensus reached by the committee members of the standards listed above.

AS 4312 is a recommended summary of the sources of data and key corrosion influences of which the two most important in Australia are time of steel surface wetness and airborne salt where most of the population live within 50 Kilometres of the coast.

Many factors influence levels of salinity and surface wetness and thus the rate of corrosion including beach surf conditions, topography, and prevailing wind as described in this standard.

Wind action is a constant feature of many Australian coastal areas, of which the frequently reported afternoon breeze of Fremantle is typical, however the general effect of prevailing wind and topography is not well known and its scale and location often difficult to map.

Importantly the BCA revision now provides information, which in general, conforms to other current standards listed, by providing a practical guide for assessing corrosion rates at various locations.

Where doubt remains of how severe corrosion is at a given location, the next higher level of protection will be applicable.

Specific corrosion provisions adopted in BCA 2010

Classification of the atmospheric corrosivity zones in Australia³

A description of the severity and location of the five main corrosion zones of Australia, as internationally recognised.

CorrosivityCategories

Table 3.1 of AS 4312 & as a reference in many steel standards

ISO 9223 and ISO 14713	ISO 12944 and this Standard	Description	Mild steel corrosion rate (µm/y)
C1	C1	Very low	<1.3
C2	C2	Low	1.3–25
C3	C3	Medium	25–50
C4	C4	High	50–80
C5	C-5I	Very High— industrial	80–200
C5	C-5M	Very High—marine	80–200
—	(T) (See Note)	Tropical	See Clause 3.2.6

NOTE: The tropical category is not in ISO 12944.

³ Classification of atmospheric corrosivity zones of Australian & New Zealand--Categories referred to are by their adoption from the following sources:-

Australian /New Zealand Standards, AS/NZS 2312 & AS 4312 based on ISO 9223, ISO 14713:1999 and ISO 12944-5, generally aligned by the categories of The Masonry Code AS 3700 and the BCA 2010.

The following climatic conditions are also important.

Macro Climate

The general prevailing weather conditions within a local area, where this area is larger than a microclimate. The macroclimate may be very different to the regional conditions due to local effects, such as vegetation, topography and meteorological conditions.

Microclimates

Guide to the location of microclimatic conditions within the major corrosion zones.

Coastal salts and some local influences such as agricultural chemicals or industrial discharges also add to the difficulty of assessing service environments with risk of inadequate protection.

Sheltered structural and built in steel items.

Descriptions and ways to recognize the accelerated rate of corrosion of steel sheltered from washing by rain, but prone to the accumulation of humidity and corrosive contaminants.

Protective coating specifications for steel

Provision of appropriate steel preparation practice and protective coating guide lines, suitable for steel in structures or built in steel in masonry for composite construction.

Monitoring of steel surface preparation, appropriate for the protective coating types specified in the code.

Improved capabilities during construction and in service

- Offsite completion of coating
- Impact resistance of coating during freight and installation
- Reduced site time occupancy
- Fewer site inspections
- First cost and life cycle savings
- Support of warranty undertakings

Summary

Check list of Objectives

To ensure that by the specification and use of the most appropriate protective coatings, there is no loss of function of the steel items, or adverse effect on the masonry over a design life of 50 years.⁴

Special attention may be required for those steel items deemed to be in the most severe exposure classification where the use of steel protection with a specifically designated corrosion resistance may be required, e.g. stainless steel, hot dip galvanising/duplex or other high performance coating systems.

Corrosive exposure

Assessment of corrosive influences at a building location should include practical evidence, the interacting topography, design of buildings and site specific, microclimates.

Impact resistance

Protective coatings shall have sufficient impact resistance to ensure that during manufacture, in transit and during installation, they remain intact under normal handling procedures.

Nomination and approval of steel protection systems

Identification and approval of a sufficiently durable grade of steel protection is required for use in masonry and composite construction in buildings suitable for withstanding a wide range of environmental conditions.⁵

⁴ Product manufacturers offering statements of compliance, should ensure that such assurances are capable of verification

⁵ Colour coding for identification of corrosion protection capability, is included in support standards of AS 3700 the Masonry code, which is referenced in the BCA.

BSA OFFICES

BRISBANE

299 Montague Road West End QLD 4101
Facsimile 3225 2999
GPO Box 5099, Brisbane, QLD 4001

CAIRNS

181 Aumuller Street
Westcourt QLD 4870
Facsimile 4048 1124
GPO Box 5099, Brisbane, QLD 4001

GOLD COAST

Robina Super Centre
86 Robina Town Centre Drive
Robina QLD 4226
Facsimile 5575 7666
GPO Box 5099, Brisbane, QLD 4001

MACKAY

25 River Street
Mackay QLD 4740
Facsimile 4953 4151
GPO Box 5099, Brisbane, QLD 4001

MARYBOROUGH

1/208 Lennox Street Maryborough QLD 4650
Facsimile: 4122 3814
GPO Box 5099, Brisbane, QLD 4001

ROCKHAMPTON

164 Berserker Street (cnr Elphinstone St)
North Rockhampton QLD 4701
Facsimile 4926 1377
GPO Box 5099, Brisbane, QLD 4001

SUNSHINE COAST

Unit 7, WIN Television Centre
Cnr Baden Powell St & Maroochydore Rd
Maroochydore QLD 4558
Facsimile 5459 9655
GPO Box 5099, Brisbane, QLD 4001

TOOWOOMBA

Clestrain Mall, 131A Herries Street
Toowoomba QLD 4350
Facsimile 4638 1917
GPO Box 5099, Brisbane, QLD 4001

TOWNSVILLE

287 Ross River Road
Aitkenvale QLD 4814
Facsimile 4725 3401
GPO Box 5099, Brisbane, QLD 4001



PHONE BSA ON 1300 272 272

OR



VISIT BSA's WEBSITE AT

www.bsa.qld.gov.au