

SUGGESTED CONSTRUCTION SEQUENCE - Owner Builders

ARRANGE SERVICES

Arrange with your electrician a temporary supply of electricity. Also organise with your plumber a water supply for the duration of the job. Council regulations require that a site toilet be provided and where necessary footpath crossings, which will be installed by council.

ARRANGE SUB-CONTRACTORS

The following sub-contractors should be contacted.

1. Excavator
2. Electrician
3. Plumber & Drainer
4. Gasfitter
5. Concretor
6. Carpenter
7. Bricklayer
8. Waterproofer
9. Plasterer (internal linings)
10. Roofer
11. Tiler (wall & floor)
12. Floor sander
13. Painter

When contacting the sub-contractors it is important to remember that they may have several jobs on at once and, with weather interference, it is wise to be prepared for flexibility in your schedule.

MATERIALS

The suppliers you will need to arrange for materials and approximate delivery dates are:

- Sand, gravel & filling
- Bricks
- Hardware
- Concrete
- Timber
- Roofing
- Windows, doors and other joinery
- Tilt and Roller Doors
- Wallboard and plasterboard
- Kitchens
- Paint & wallpaper
- Light fittings

It is vitally important that you liaise with your sub-contractors and suppliers with regard to timing of deliveries. You must ensure that materials are delivered when your subbie is ready to do a particular job. It isn't much good to have your Concretor arrive and not have concrete available. You will find that some sub-contractors, such as electricians, will wish to retain responsibility for supply of their own materials. This situation will vary from trade to trade so be aware of who is supplying what, and when payment is required.

CLEAR & ESTABLISH SITE

Prepare the site for building by removing all vegetation that may inhibit building. It may also be necessary to employ an earthmover to level the block. Information on levels will be available from your surveyor.

SET OUT

Have your surveyor organise the set out for you.

PLUMBER - Pipes

The plumber will be needed to install all the pipes which will be under the flooring of the house.

PLUMBER - Drains

This is an important task undertaken by your plumber. Liaise with him as to when drains should be excavated, laid and backfilled. He may wish to do this after the floor brickwork or at some other stage.

EXCAVATION OF FOOTINGS

Many owner-builders think they will save money by doing their own excavations but this is most unwise. It is not economical and extremely hard work to excavate firm subsoils by hand. Footings are usually excavated using a backhoe and it is important you employ a specialist excavating company. Also footings and floor slabs must be designed in accordance with Australian Standard 2870 and structural details may be required by the council. It may be necessary to approach a consulting engineer in this regard.

Don't leave excavations open for longer than necessary. Rain can wash in soil and cause cave-ins, creating additional work and eventually more concrete. Allow the Concretor to organise his own materials and supplies. Keep docketts and ask for concrete test results. Footings and/or piers should be poured at this time. However, piers often need to be constructed separately to footings. Check with a structural engineer. Clean and tidy the site before the bricklayer starts.

BRICK BASE

Sub-floor brickwork, dwarf walls & piers

The footings should be allowed to cure for a minimum of seven days before continuing construction. During this time, bricks for the base and sand supplies should be delivered. Make sure that set out pegs haven't been disturbed before further work begins. Building regulations call for a minimum of 230mm clearance below the lowest sub-floor member. Now is the time, before the bricklayer begins, to select the type of jointing you will be using between the bricks, e.g. raked, ironed, flush.

TERMITE TREATMENT

Contact your local council for their individual requirements prior to proceeding with construction works.

There are a number of ways to protect structural members subject to attack by subterranean termites:

- i) Physical barriers;
- ii) Soil treatment

Physical barriers for timber floor construction are mandatory and take the form of ant caps to piers and continuous ant capping to brick walling in the sub floor area. Soil treatment under slabs can be either by chemical and non chemical means.

CONCRETE SLAB

Unless the site is flat and sandy it may be necessary to excavate. Again, the set out for the excavation should be done by a surveyor, setting the appropriate levels. It is important that the excavator abides by the levels - failure to do so will cost you time and money. Before the excavator leaves the site, ensure that there is a minimum of 50mm of packing sand available.

Often however, compacted base material is specified to be 150mm thick. The degree of accuracy of excavation will depend on the type of soil encountered. It may be prudent to cut and fill where required, moving soil from the deeper areas of the excavation to the shallower areas. If you find this necessary be sure to use similar soil types for fill. You may be required to have piers down into soil of a similar type to the excavated areas, right throughout the filled areas.

It could also mean that part of the slab will be suspended and you may be required to submit engineers plans to council. All vegetation must be removed from the construction area, with the excavation allowing for clearance around the building for subsequent paving and adequate surface drainage. Ensure that the site is left tidy, with all unwanted soil removed. The set out for the slab should be completed by your surveyor.

FORMWORK OR BOXING

This should be undertaken by your Concretor. Unless you are an expert, don't attempt to carry out this important part of the construction.

PLUMBER

At this stage the plumber can provide waste pipes for the later installation of fittings. Satisfy yourself that all appropriate floor wastes have been included before further progress, and that these pipes have been inspected by the necessary authority before

concrete is poured. Failure to do this could result in expensive inconvenience. When the plumber has completed work on the internal waste pipes and fill has been placed and levelled, call in the pest controller to treat the ground before the membrane is laid.

Contact the county council office with regard to electricity supply and a telephone company for the provision of supply pipes in the slab. Consider the installation of gas services before pouring the concrete.

VAPOUR BARRIER & REINFORCEMENT

These steps follow in sequence. The vapour barrier consists of polythene sheets laid over the entire slab area. All the joints should be lapped by not less than 200mm to ensure a continuous membrane beneath the slab area. Any penetrations such as plumbers' waste pipes or heating ducts should be secured through the membrane and all joints must be sealed.

The reinforcement is now placed as specified. The use of a specialist concretor will ensure the reinforcing will be in the correct place or position when the concrete is poured.

It is vitally important that the membrane is not damaged during reinforcing - if damage occurs make sure it is repaired before the pouring of the concrete.

After the steel has been placed and the job is ready to pour, a council inspection must be carried out before work proceeds.

POURING OF CONCRETE

This is the specialised field of the Concretor. Ensure that once the pour is started it is completed as soon as possible. The slab will be weakened if fresh concrete is placed against partly set concrete.

Make sure that the membrane is not broken during the pour and that neither reinforcing nor plumbers' waste pipes are disturbed or moved.

The slab should not be allowed to dry too quickly as this may produce cracks in the surface and in extreme cases, structural faults.

FLOOR FRAME

Your carpenter will place the bearers first, then the floor joists. Once the bearers and joists are fixed the carpenter should ensure that the floor frame is flat. If this is not checked at this stage, irregularities could occur later which could be difficult to rectify.

Before the flooring is fixed, check to see that the bearers are resting on the piers and there are no gaps

between. Furthermore, the joists should be fixed tight to the bearers. This will save you having to correct squeaks at a later stage.

A council inspection is required prior to the placement of the floor.

Sheet flooring (particle board) is the most widely used floor-type and is most satisfactory if the floor is to be carpeted. It is imperative that both be fixed to the manufacturer's specifications.

WALL FRAME

The Owner-builder would be advised to utilise prefabricated wall frames. Time is vitally important and prefabricated wall frames will simplify the job. Wall frames are to be manufactured or constructed in accordance with Australian Standard 1684 unless otherwise specified. Their use reduces cutting and assembly costs on the job and theft of materials from the site is reduced.

ROOF TRUSSES - Carpenter

For the same reasons as above, prefabricated roof trusses should be used. They are designed and engineered to suit spans, roof coverings and loadings. The supplier will specify placement and necessary spacing and will supply all associated hardware such as bracing, triple grips (for fixing down the trusses) and any other items required.

WINDOWS & EXTERNAL DOOR FRAMES - Carpenter

Window frames should be placed and fixed as soon as possible, making sure that flashings are used where required. External door frames should be fixed, making sure they are square and plumb. After the carpenter has finished a check should be made.

ROOF & GUTTERING - Plumber

After completion of the frame, the plumber is required to fix the guttering prior to the roof covering. The valley flashings should also be in place. The plumber should ensure that the guttering will fall to the position of the downpipes.

At this time the plumber will do a "rough in", a term referring to fixing of hot and cold water services and drainage points in the walls. Where gas is to be used, it is important to contact the new houses division of your local gas authority to discuss the rough in and your final connection to the main system. Make sure that all supply pipes are pressure tested before internal linings are fixed. A council inspection is required before the external linings are fixed.

ROOF COVERING

Whatever material is being used for the roof it should be fixed to the manufacturer's specifications. These will be available from your supplier.

Sarking is strongly advised, as it will give added security against water penetration should accidental damage occur to your roof. Sarking prevents the entry of dust and also cools the house in summer and warms in winter, helping to reduce energy bills. It is a low cost item which will give you added protection if the roof is damaged.

WALLS - Bricklayer

Brick walls are constructed in two stages. The first, dwarf walls are constructed after the footings have been completed. The second stage is after the roofing is completed and the meter box is in place.

EXTERNAL DOORS, DECKING AND STEPS - Carpenter

External doors can now be installed by the carpenter. Decking and steps can also be undertaken at this time. Nogging and trimming are put in place for future fittings such as shelving, towel rails, wardrobes etc. Check to see that wall bracing is securely fixed. Eaves should be lined and the sub-floor access door constructed and fitted.

WIRING - Electrician

The electrician will place the lighting and power cables. The initial plan will have indicated where power outlets and lighting points are to be placed.

TELEPHONE

A telephone company should be advised of your requirements so that pre-cabling can be done.

GAS

The gasfitter will place the gas pipes to the locations of the appliances.

BRICK CLEANING

If bricks are used in your construction, the brick cleaner should be contacted at this point.

WET AREA FLASHING

After the wall framing and sheeting has been completed prepare the wet area surfaces by removing all debris, including mortar deposits. Using an accredited water proofing system flash all the internal angles formed between the floor and the walls and to shower uprights (1.8m). For concrete floors the full

shower base should be sealed and, on particle-board, the whole bathroom floor should be sealed. Your professional applicator will use a suitable water proof membrane which is flexible enough to allow for normal movement in timber framed structures. It must be tough enough to resist any damage during installation of the floor-surfacing material and compatible for bonding with flexible adhesive.

WALL INSULATION

If wall insulation is required it should be done after the brick cleaning and prior to the linings.

INTERNAL LININGS - Plasterer

Prior to proceeding with the internal linings satisfy yourself that all tradespeople have performed their tasks correctly. It will be too late after the house has been lined. Make certain the floor tiler has poured the shower bases and is prepared for the wall linings to proceed and see that the floor flashings are installed in the wet areas. A separate council inspection of all wet areas is required prior to internal linings being installed.

Ensure all trimming for fittings etc. is placed, walls are straight, power and light points are in the right position and plumbing points are correctly positioned. Check that wall cavities, vermin wire and wall ties are clear of mortar.

The plasterer may now proceed fixing the linings to the manufacturers specifications. Walls must be straight with no bulges or irregularities. Cornices straight and even and neatly joined.

JOINERY & FIX OUT - Carpenter

The carpenter can attend to all the internal doors, bath, shower, kitchen cupboards and any extraneous joinery, as well as the mouldings.

FLOOR SANDER

Carpeted areas require a basic sand. However, where carpet is to be laid, surfaces should be even and sound. On sheet type flooring, a vinyl can be adhered directly to the floor surface.

Where floors are to be polished a great deal more has to be done. After the basic sand a fine sand is carried out followed by two or three coats of lacquer. Naturally all nail holes should be punched and filled.

WALL & FLOOR TILING

Check to see that joints and junctions are watertight in and around the showers and bath. Leakage from these areas could mean costly damage, structurally

and superficially, so ensure all is waterproof.

Joints must be straight and even. Make certain the tiler is using a high quality adhesive and it is being used as specified: by the manufacturer.

The grouting to the joints must be pushed in and finished off neatly. An additive to the grout will help prevent it flaking and falling out.

PAINTER

A close scrutiny of all rooms and cupboards is essential prior to painting. Imperfection on the surfaces of walls and ceilings should be corrected, nail holes filled and sanded off, no unsightly splintering or grooves should be seen in the mouldings and all should be securely fixed, ready for the painter.

Don't stint on the quality of the paint - it is advisable to use a washable paint on the walls.

While appearance is the most important factor ensure that the paint is applied to the manufacturer's specifications. The paintwork should be flat and even with a minimum of brush or roller marks. Painters should always be using drop sheets to prevent spillages on expensive fittings and brickwork.

PLUMBER - Final

The plumber will complete the plumbing by fitting wastes to the basins, sink tubs, showers etc. Taps will be fixed, hot water service connected, toilet suites fitted and, if necessary, the dishwasher installed.

Ensure that downpipes are fitted neatly and the sewer is connected. The stormwater drains should be connected and inspected by council.

Where gas is to be used, it is important that you contact the gas authority to discuss both the installation and types of appliances available. If a mains gas supply is unavailable in your area, bottled gas may still be a viable financial alternative, especially for cooking and heating.

ELECTRICIAN - Final

The fixing of switches, installation of power points and wiring of fans, stoves, hot water systems, range hood, waste disposal unit and room heaters should be completed.

The electrician's work will be inspected by the appropriate authority before the supply is connected.

TELEPHONE

Arrange for final installation.

CEILING INSULATION

Insulate ceiling cavity once the electrician has finished.

LANDSCAPING

Landscaping can be undertaken at this stage. Take care not to disturb the termite barrier.

Choice of paving falls into two categories, concrete or tile. The most widely used is concrete, which is inexpensive and practical. In some areas it will need steel reinforcing, particularly where driveways are concerned.

Steel reinforcing is not expensive and will help prevent cracking, especially areas where vehicular traffic may occur.

Paving must provide a fall to ensure that water will not run back towards the house or under it.

It may be necessary to build spoon drains which discharge into the stormwater drainage system. Drainage of this type, i.e. surface water, is not permitted to flow into sewerage drains.

FINISH UP

Garage doors and various other fitments, including shower screens, mirrors, flyscreens, security doors etc., should now be given a thorough clean up.
