

National Certificate in Building, Construction and Allied Trades Skills (BCATS)

**Construct a non-consent timber
framed utility building as a BCATS
project**

Unit Standard – 12936

Level 2, Credit 8

Name: _____





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What you need to do

By the end of this module, you should be able to:

- calculate quantities and prepare an order for materials for a non-consent timber framed utility building;
- set out and construct a non-consent timber framed utility building; and
- complete work operations.

How you will be assessed

During this unit, you need to show your teacher/tutor that you can:

- calculate materials correctly and prepare an order for materials including posts, rails, cladding, concrete, and fixings
- set out and excavate the foundation correctly
- construct the foundation correctly
- set out, cut, assemble, and erect framing correctly
- fix wall and roof cladding and finish the building correctly
- fit exterior joinery correctly
- complete all operations safely
- clean the work area and dispose of waste
- clean and store tools, plant and equipment correctly

Glossary of Terms

Term	Meaning
Bottom plate	A plate fixed to the bottom end of studs
Bracing	A method employed to provide lateral support to a building
Cladding	The outside or exterior weathering surface of a building
Foundation wall	The part of a building which provides support for both the static and environmental forces which may be applied to the building and transfers those forces into the supporting ground
Framing	The fitting together of pieces to give a structure support and shape, and to which lining, cladding, flooring or decking are attached
Galvanised	A zinc coating used to protect metal
Pile	A block or column-like member embedded in the ground and used to transmit loads from the building and its content to the ground
Plant	Fixed equipment
PPE	Personal protection equipment
Rafter	A beam at an angle to the horizontal, running at right angles to the line of the eaves and the ridge, providing support for purlins, sarking and roof covering
Stud	A vertical framing timber
Top plate	A plate placed over the top ends of studs
Work operations	How you do a job



Sheds and Storage Lockers

A garden shed or storage locker is ideal for storing general garden equipment and smaller items of garden furniture, such as folding seats and shade umbrellas.

To achieve this unit standard, you need to construct a non-consent timber framed utility building.

This module covers the construction of a particular design of shed; however, you could choose to construct a different design to achieve this unit standard. Your teacher/tutor will tell you which project to complete.

Before planning your shed, check with your local authority on any planning restrictions.

For any construction job you carry out, it's important to:

- select and use appropriate personal protective equipment (PPE);
- use tools correctly and safely;
- clean the work area and dispose of waste; and
- clean, store and maintain tools correctly.

For any product or tool you use, make sure you read and understand any manufacturer's instructions that come with it before you start using it.

Materials

The materials required to construct a small garden shed may include:

- cement for the foundation
- timber for wall and roof framing
- plywood for the exterior cladding
- corrugated iron roofing
- breather type building paper
- wire netting to support the building paper under the roofing
- hardware (heavy duty hasp and staple)
- screws, nails
- depending on the design, you may also require paint or stain

All timber used should be specifically treated with wood preserving chemicals for outdoor use:

- Timber in contact with the ground should have a treatment level of H4.
- Interior framing not in contact with the ground should have a treatment level of H1.2.
- Framing and cladding not in contact with the ground but exposed to the elements should have a treatment level of H3.1.

Door hardware (hinges, door bolt) and fixings (nails, screws) must be either galvanised or stainless steel, if exposed to the weather.

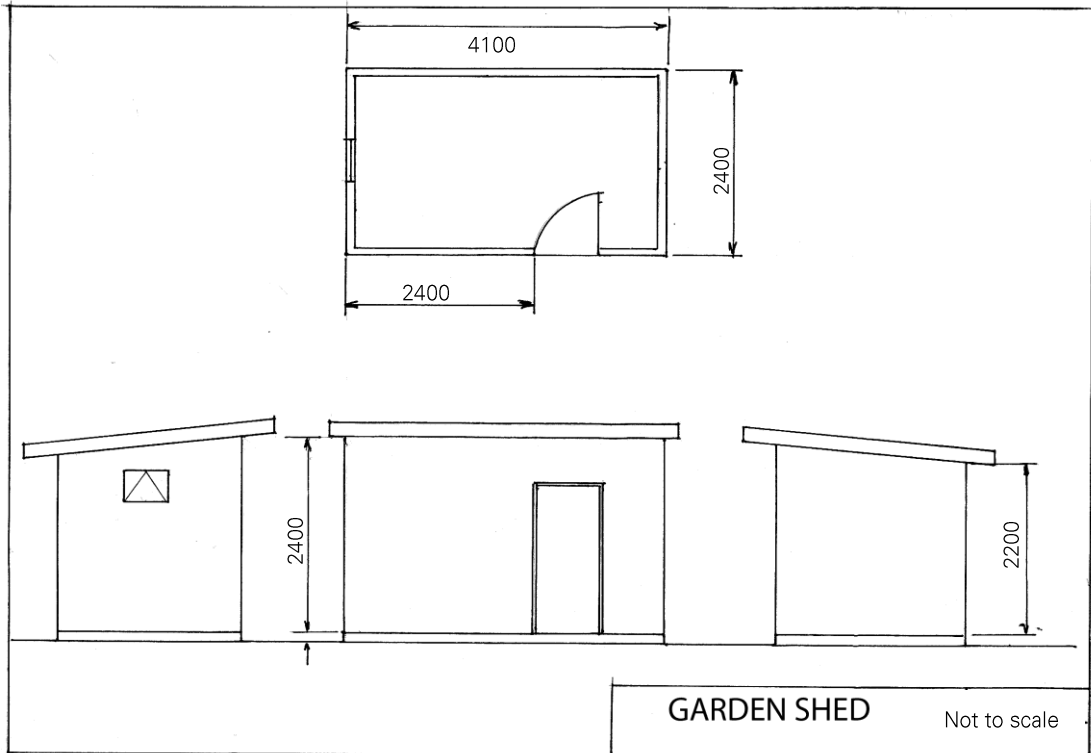
Tools required

- Electric drill
- Saw
- Spirit level
- Clamps
- Tape measure
- Hammer
- Set square
- Combination square

Calculating Quantities

Use the shed plan and site specifications to calculate the materials required.

Example



The set of scale plans and specifications for this project is found at the end of this module.

The materials required are:

- Concrete foundation framing
- Interior framing 75 x 50mm H1.2
- Door framing 75 x 25mm H3.1
- Plywood cladding 2400 x 1200 x 9mm H3.1
- Hinges 3 x 75mm (galvanised)
- Hasp and staple latch 1 x 150mm (galvanised, heavy duty)
- Padlock 1 (heavy duty)
- Pad bolt 1 x 100mm (heavy duty)
- Screws galvanised screws
- Nails galvanised nails



Preparing an Order for Materials

When placing an order with a supply merchant for building materials, you need to provide the following information. This will ensure that the right materials are supplied to the right place at the right time, and the correct information is supplied for budget and accounting purposes.

The order should be clearly written or typed, and include the following information:

- date of order
- customer's name, account number and billing address
- job identification or number
- order number
- supply merchant's name
- description of goods required and quantity
- address where the order should be delivered
- date and time required
- any other delivery details
- authorised purchaser's signature

Send the order to the supplier, allowing enough time for them to prepare and deliver it. (You should also keep a copy of the order for your records.) It's a good idea to follow up with a phone call if you don't receive confirmation that the order has been received.

When the materials are delivered, stack the timber flat and clear of the ground and keep it covered or in the shade, to prevent it deteriorating.

Constructing the Shed

An example of scale plans and specifications for this project is found at the end of this module.

Sequences of operations

- Correctly locate the position of the shed.
- Establish the building lines.
- Position the outside of the boxing for the foundation square and level.
- Check that all measurements are identical with the working drawings.
- Excavate for a concrete footing or where the ground is not level or even.
- Mix, place and finish concrete slab.
- Set out, fabricate and erect wall frames; square, level and true.
- Fix roof framing and roof covering.
- Attach exterior plywood cladding and flashings.
- Construct door and frame.
- Fix window frame.
- Install building hardware.

Material	Amount required

2. When do you need to excavate for a foundation?

3. Why is it important for all elements of the foundation to be square and level?

4. What level of treated timber should you use for the following:

Timber in contact with the ground –

Interior framing not in contact with the ground –

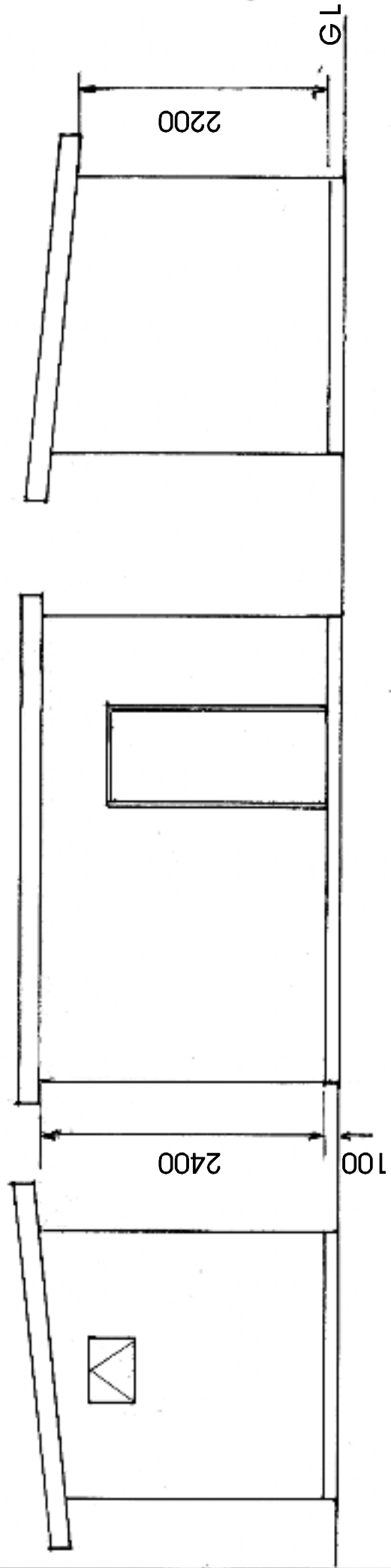
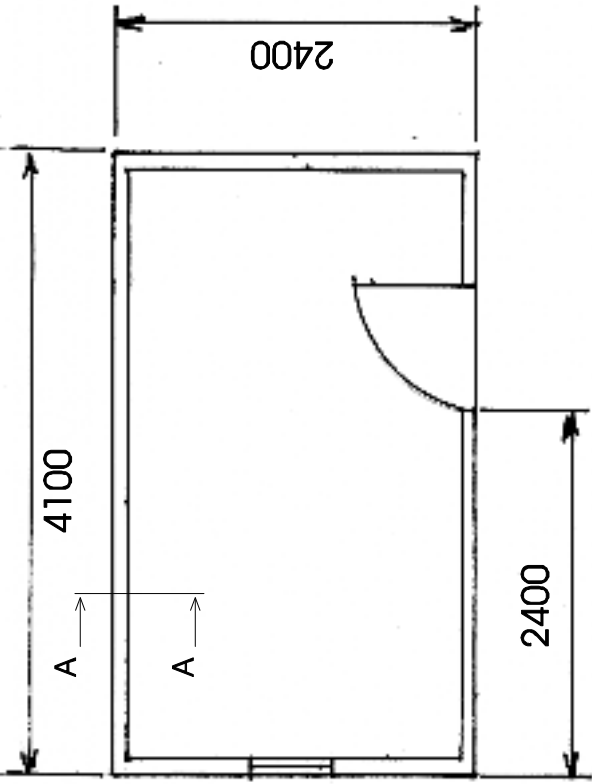
Framing and cladding not in contact with the ground but exposed to the elements –

5. Which side of the plywood cladding should face the outside?

6. Why is it important to use heavy-duty fittings for exterior joinery?

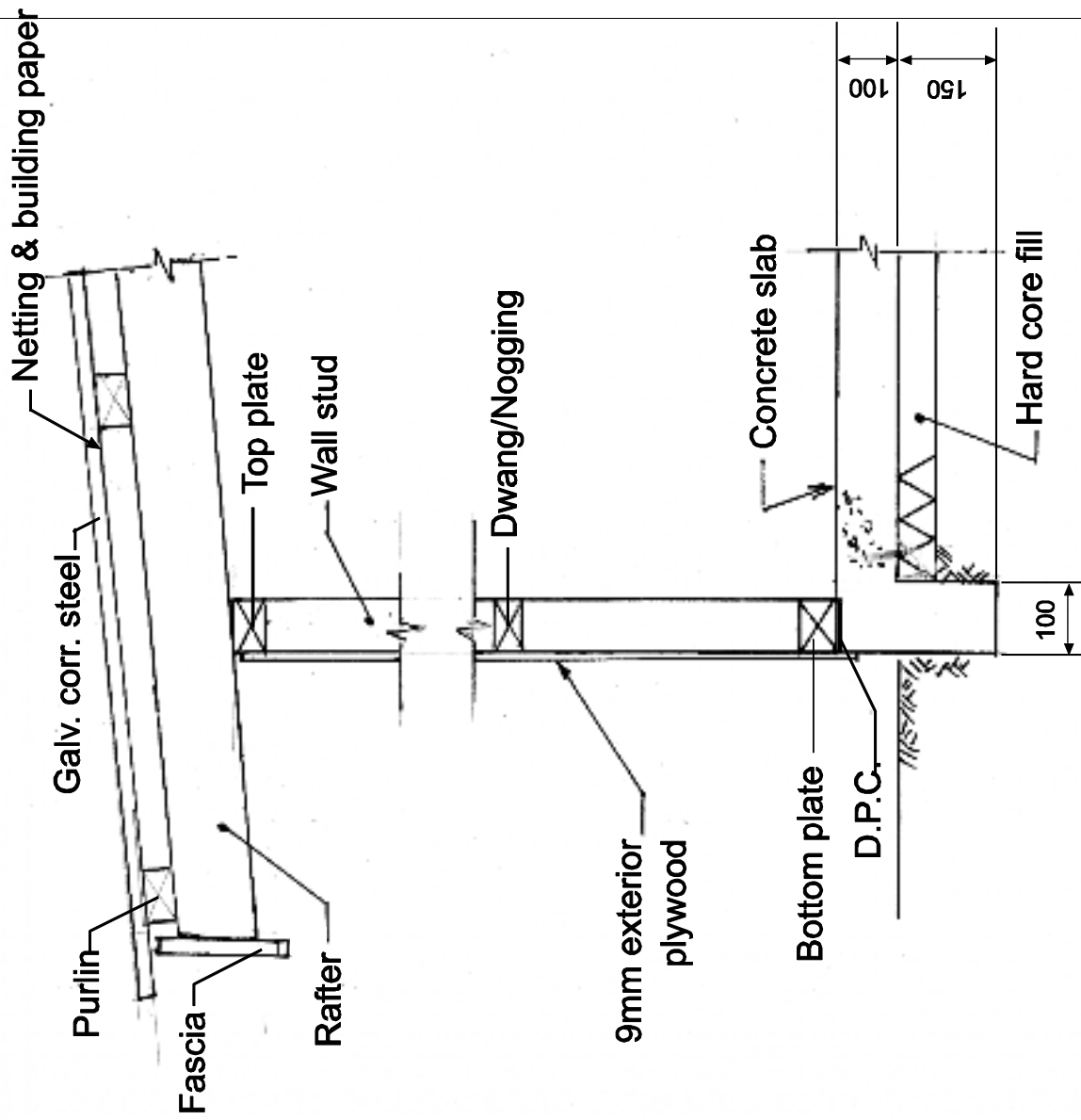
Specifications

Door	1900 x 800mm
Window	400 x 0600m
Roofing	Galvanised corrugated iron
Roof pitch	5°
Floor	Concrete slab
Exterior cladding	9mm plywood DD treated 3:1
Underlay	Breather type building paper
Framing/purlins	75 x 50mm



GARDEN SHED

SCALE 1:50



Section A - A

Scale 1:10