



CPCBC4012B READ AND INTERPRET PLANS AND SPECIFICATIONS

THEORY EXAM INSTRUCTIONS

- This exam will occur under standard assessment conditions.
 - An oral examination may be allowed under certain circumstances. Answers will be documented and FT003 (Oral examination declaration form) must be completed.
- Participants must provide enough detail in their responses to demonstrate their knowledge and skills.
- Please fill in the details below, providing your name, signature and date of assessment.
 - Your signature acknowledges that this is your own work.
- If a participant initially answers a question incorrectly but modifies their response, they must follow the instructions below:
 - If a participant changes their response in writing, they must put their initials next to the written change.
 - If a participant changes their response verbally, this must be noted on the exam paper by the assessor.

Participant name

DAVID MOORE

Participant signature



Assessor name

Assessor signature

Date

Click here to enter a date.01/06/2018

Number of questions	Number of questions answered correctly	Satisfactory?	
		Yes	No
77		☐	☐



ASSESSOR COMMENTS

D



Q1. What does the term 'plan' mean when referencing plans and drawings for construction purposes?

Answer

All drawings for a proposed house are known as "plans", a plan is a view which shows the layout of the house.

Types of plans :-

- Block plans
- Site plans
- Floor plans
 - Basic floor plan
 - General arrangements plans
- Elevations
- Estate road layout.



Q2. Name the people and organisations who will have an interest in plans and drawings for a construction project.

Answer

- Client and lending body
- Local council
- Supply authorities (water, sewerage, drainage)
- Electrical, gas and cable supply companies
- Builders and sub-contractors wanting to quote.
- Engineers
- Real estate agents
- Neighbours
- Kitchen manufacturers
- Environmental agencies





Q3. What will plans show to the interested parties?

Answer

What will be built and details on materials, techniques and standards to follow.
May include :-
• sketches (Design)
• Engineer drawings (Construction)
• Preliminary + Final drawings (Construction)



Q4. What types of plans is it necessary to be familiar with for building and construction projects?

Answer

• Sketch
• CAD drawings
• Presentation drawings
• Block
• Site
• Floor
• Foundations
• Roof
• Elevations
• Service drawings





Q5. All plans and drawings give a compass direction.

Which compass direction is always shown and on which drawings is it likely to be found?

Answer

North shown on key, site, block, floor plans



Q6. What does a location plan contain?

Answer

- Lot number/s
- deposit plan numbers
- north point
- Scale (1:5,000)



Q7. What does a site or block plan contain?

Answer

- Datum height with reference point to other site levels.
- Building orientation to north point
- Site boundaries / existing buildings
- Plan page, client name, address, scale, dates
- Trees / vegetation
- Contour / slopes - 500mm intervals
- Depths / Distances / Drainage
- Services





Q8. What features would you expect to look for and find on plans and drawings for a construction project?

Answer

- Location
- Heights
- Materials
- Council approved
- Engineer drawings
- Service locations (water, sewerage)
- Dimensions
- Orientation (North)
- Boundary
- Measurements
- Existing buildings
- Vegetation
- Access
- Contact numbers for contact/persons involved e.g. builder.





Q9. What do floor plans identify?

Answer

- A drawing to scale
- Above view
- Distances
- Openings
- One level of a structure
- The use of all rooms



Q10. What are elevation views? What do they provide to the plan reader?

Answer

The view when standing in front of a wall
Single or multi-story.

- Includes:- Finish to walls/heights/windows/doors.
- Direction of view N, S, E, W



Q11. What is a section?

Answer

A section is a vertical view or slice through the
building.

- Includes:- heights, positions, floor scales, details.





Q12. What are detailed drawings?

Answer

Provide a detailed description of geometric form of a part of an object such as a building, bridge, tunnel, machine, plant.



Q13. What are specifications?

Answer

Specifications describe the materials and workmanship required for a development, they may be read alongside other information such as quantities, schedules and drawings.



Q14. What information will you find in a title block to a drawing?

Answer

- North Point
- Project Name
- Project Number
- Drawing Title
- Scale
- Date
- Drawing No.
- Revisions
- Contact Details





Q15. What is the significance of the Australian Architectural Standards?

Answer

To provide information on standards, certification schemes and other industry specific information for architects.



Q16. What will you find in the Waste Management Plans & Site Management plans?

Answer

Written records to achieve set goals/targets
Schedules/contracts.



Q17. What is a landscape plan?

Answer

Include natural elements like flowers, trees and grass as well as man made elements.



Q18. What is the purpose of a shadow diagram? Who primarily would seek one?

Answer

To view and calculate the amount of shadow cast by a proposed development use by developers/city planners.





Q19. What is a bracing schedule?

Answer

Gives a detailed plan on fixtures and spacing for wall or roof bracing.



Q20. What must we do with plans and drawings in our on-site environments?
How often should plans and drawings be viewed on site?

Answer

Have plans and drawings in an easy accessible location for reference with client or contractors. This location should be clear of obstacles or wheather. Revisions changed when nessessary and updated to sub-contractors. Plans and drawings should be viewed regularly and correct information and quality control measures enforced at all times.





Q21. Explain the meaning of the abbreviations in the table below.

Answer

Abbreviation	Meaning
ACRYL	Acrylic
AS	Australian Standard
ASSD	Assumed Datum
B	Basin
BN	Bull Nose
BTH	Bath
BWK	Brickwork
CB	Concrete Block
CF	Concrete Floor
CG	Clear Glass
CJ	Ceiling Joist
CORR	Corrugated
CWT	Coldwater Tank
DG	Double Glazing
DH	Double Hung
DPC	Damp Proof course
DSB	Distribution Switch Board
DW	Dishwasher
EJ	Expansion Joint
FPBD	Fibrous Plaster Board
FFL	Finish Floor Level
FHR	Fire Hose Reel
GPO	General Purpose Outlet
HBD	Hardboard
HTR	Heater
HWD	Hardwood





Q24. What are working drawings? What do they record?

Answer

A blue print complete with section views inc dimensions details and notes to enable construction. Record the appearance and construction of building, used as preliminary construction plans.



Q25. What is an isometric view?

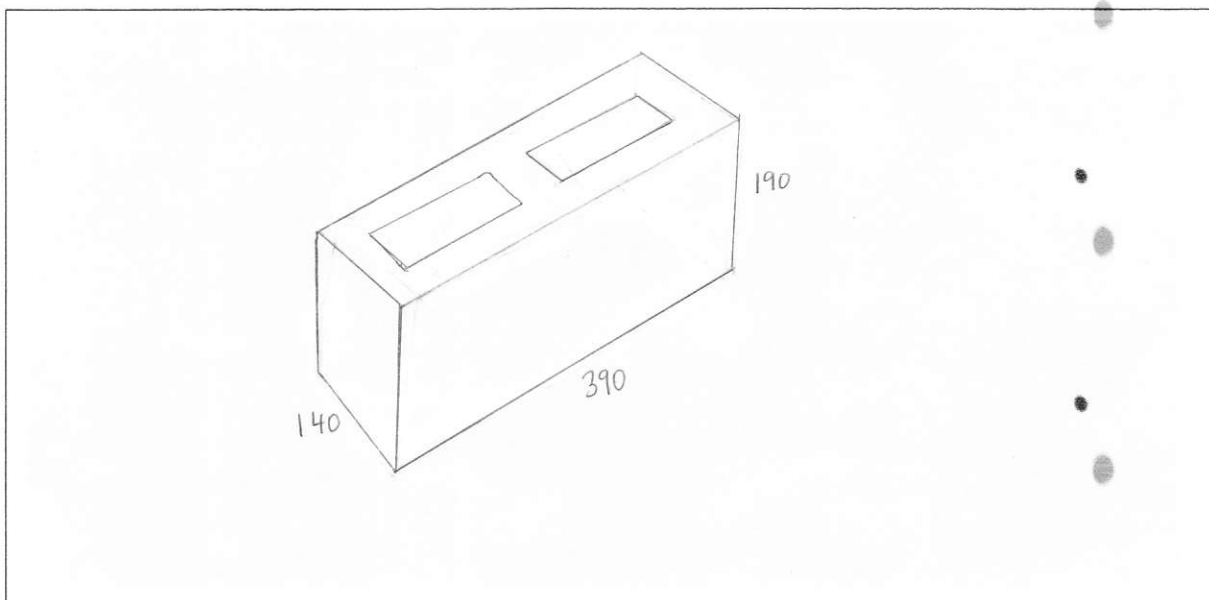
Answer

Method of showing three faces of an object on one drawing



Q26. Sketch a concrete block in isometric view.

Answer



Q22. Why and when would you use presentation drawings?

Answer

Used to convey basic design concepts from a design team to the client or other persons.

- public hearings for agencies to determine its impact on the community.
- Shows compliance



Q23. Service drawings provide information about a variety of different components and equipment. In order to identify individual items, it is usual to give them a reference number on drawings such as services layout drawings and location plans.

What details might we expect to see from service drawings?

Answer

- hot and cold water supplies,
- Sanitary appliances
- refuse disposal
- heating
- Ventilation
- Air con
- Electrical / gas installations





Q27. What is the purpose of perspective projection and representation in drawing of architectural buildings and edifices?

Answer

A type of drawing that graphically approximates on a planar (two-dimensional) surface showing the images of a three-dimensional objects so as to approximate the actual visual perception.

~~The purp~~

The purpose is to give a three dimensional view of a building for the viewer to get a realistic view of a development project.



Q28. What is a topographical survey?

Answer

A survey that gathers data about the elevation of points on a piece of land and presents them as contour lines.





Q29. What is an ecological survey?

Answer

Ecological surveys provide an outline view of what a particular area was like at the time of surveying

Purpose:-

- Document any changes in the environment from construction/development.
- Observe how each section has changed from year to year.

Q30. What is significant to keep in mind when developing the Schedule of Quantities (also known as a Bill of Quantities)?

Answer

- * Do not rush to develop and give time to process tenders to achieve both price + quality for cost.
- * Check that quantities and materials are correct for contractors
- * Important detail/document in the overall contract.
- * clients happy with plan

Q31. What should be applied in consideration of stress, load and bearing calculations in the design, the drawings and the building of a structure?

Answer

Considerations should be made when variations to the plan/contract are made or changes. Make sure working plans are up to date and if plans change then consult the engineer to specify if stress, load and bearing calculation need to adjust. E.g. more weight add may need better foundations.



Q32. What is a prime cost (PC) item? Give an example.

Answer

Money included in the contract price to purchase specific items e.g. tiles, taps.

*Builder to estimate at lowest cost.

Client wants a hardwood stainless/stainless door with electronic entry compared to standard external door with standard things.





Q33. What is a provisional sum (PS) item? Give an example.

Answer

Money included in the contract sum to cover work/materials not detailed when entering the contract. ☐

* Site work costs

* Old pool hidden ~~up~~ under-ground which needs to be removed.

Q34. Suggest when you would need to provide 'additional' plans. Give some examples of such plans.

Answer

- * Council sewerage pipeline plans
 - * Detail section plan gas fitting from manufacturer
 - * Council waterway run off plans
 - * Detail on truss to batten tie down strap
 - * Waste water the septic treatment
 - * NBN internet connection for electrical
 - * Safety plan, traffic management plan
 - * Emergency evacuation plan.
- ☐



Q35. How do you identify and record customer variations?

Answer

All variations and changes to the construction contract must be done in writing and signed by both client and builder or builder and sub-contractor. QBCC variation template may be used to document the variation.

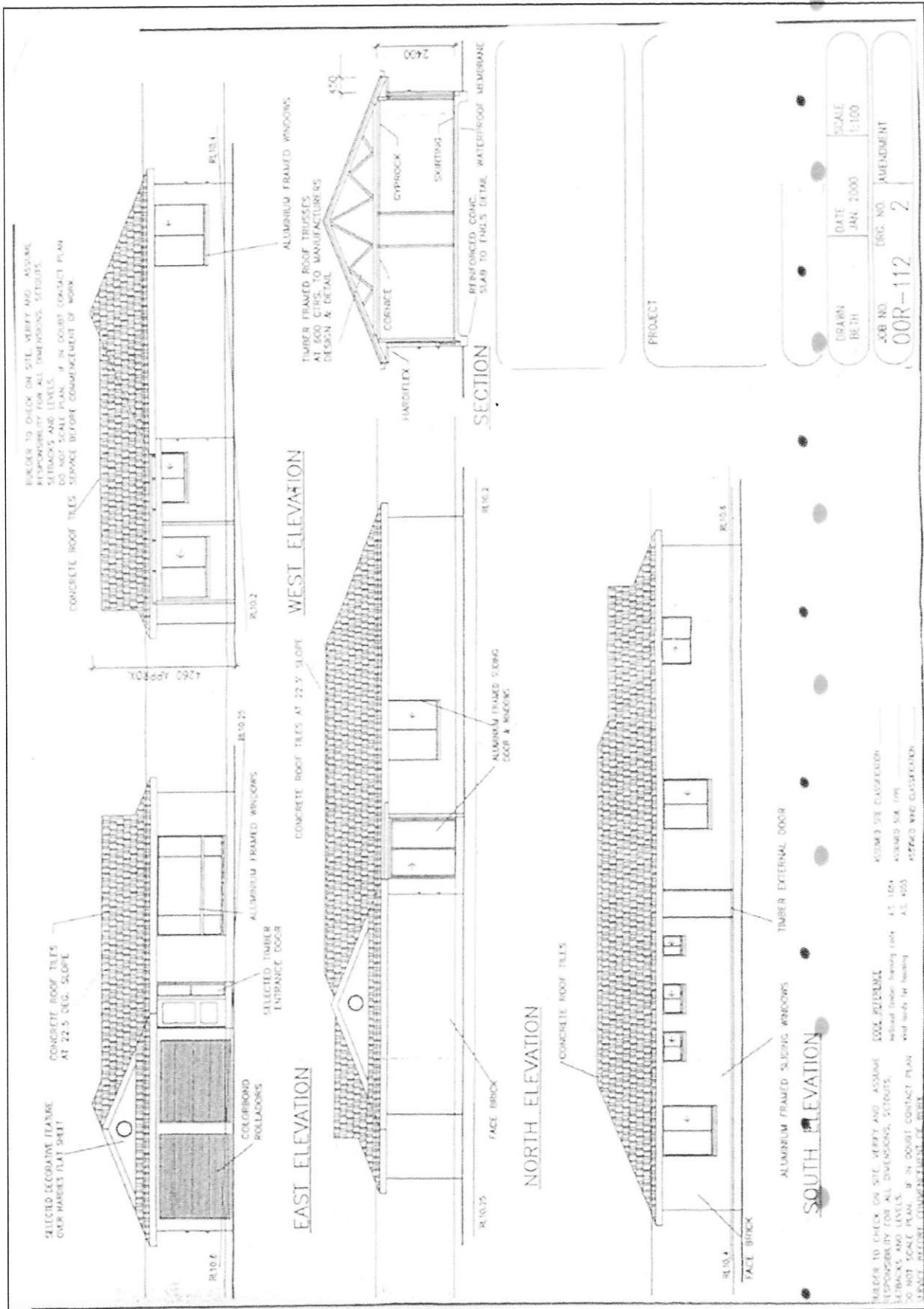


Q36. When reading and interpreting (or amending) variations project specifications, what documentation should you also refer to?

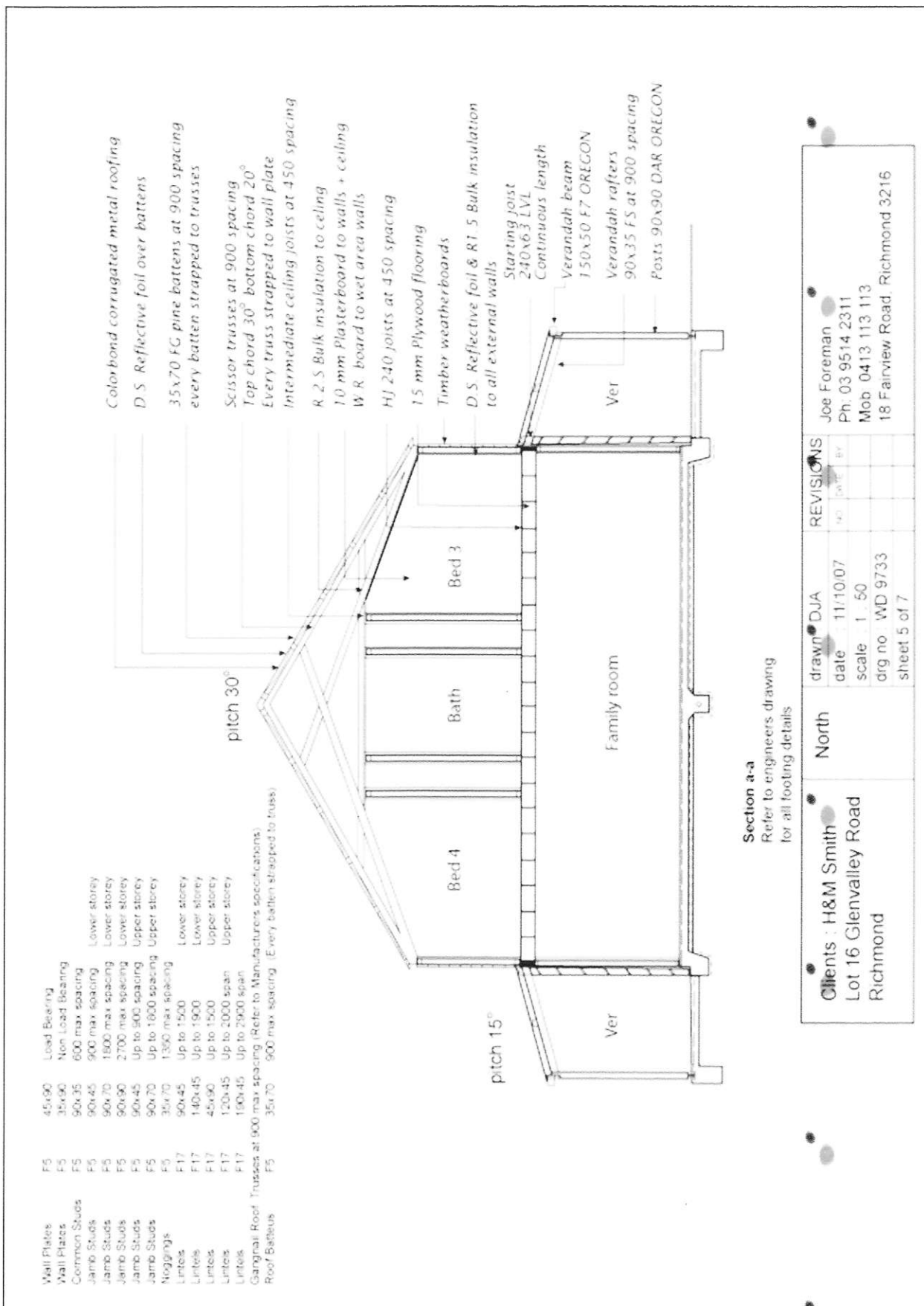
Answer

Building Code of Australia or QBCC and refer to your contract to determine if a variation is or is not included in the Contract.





Refer to the sectional drawing below to respond to Q43. to Q63.

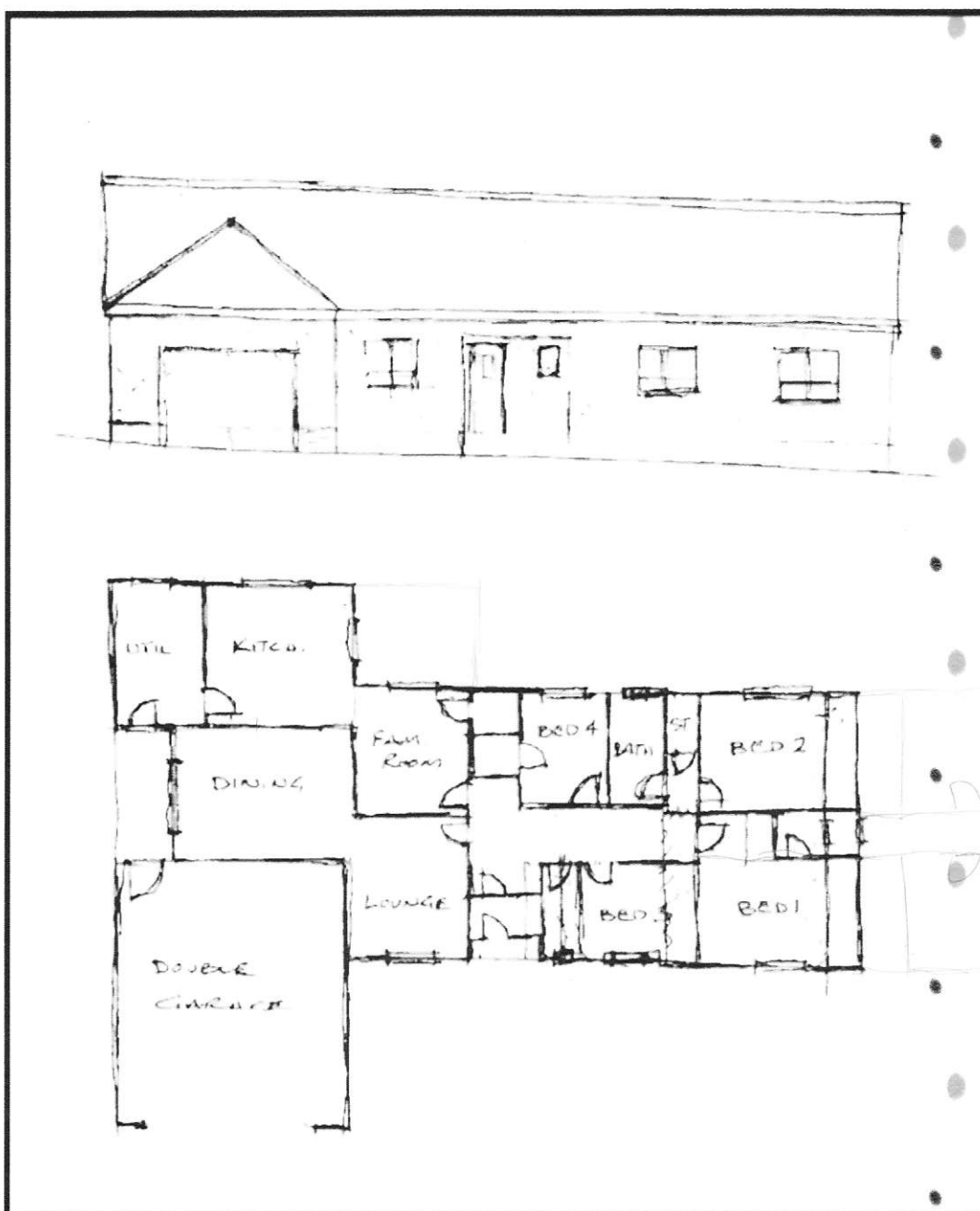




- Q76. You have spoken with a client on the phone and they are seeking to make amendments to some plans. They wish to add two more bedrooms to extend their home from the current four bedrooms to six bedrooms.

The two new bedrooms are to both have ensuites (including single shower in each, double bowl vanity unit and under cupboard and toilet) with walk in robes, including the extension of the existing hallway with built-ins for the existing Bed 1 and Bed 2. The Family Room is to be extended to the rear wall in line with kitchen rear wall.

The client has faxed through the image below. Re-sketch and redesign the drawing and add the two new bedrooms along with extended hallway, ensuites, walk-in robes and the Family Room extension for consideration by the client.





Q37. So you don't end up in a dispute what strategies can you employ with your customer/client/home owners?

Answer

- * Have contract witnessed/notarized by other party
- * Keep conversations in writing (email) to use as evidence if need be.
- * Plan in advance for smooth sailing operation. (preconstruction work)

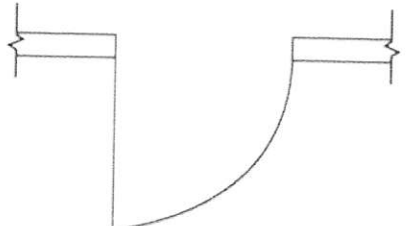
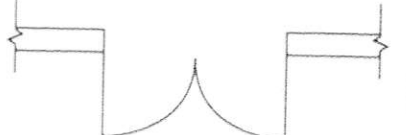
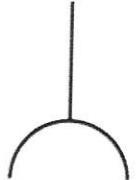


Q38. Name each of the drawing symbol images shown in the table below.

Answer

Name	Image
Double brick wall	
Brick and timber wall internal	
Timber Wall frame	

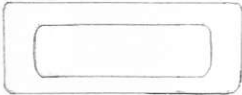
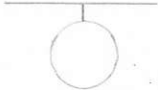
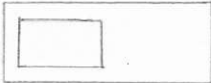
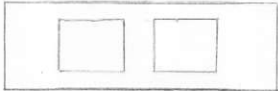
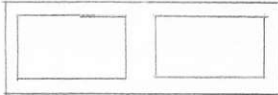
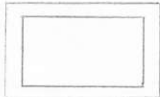
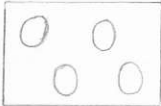


Window	
Window with Sill	
Single Door Interior	
Twin Door	
Pocket Door	
Single sliding Door	
Electrical Joint	



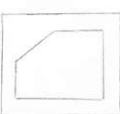
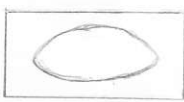
Q39. Draw symbols for the following items.

Answer

Item	Drawing
Basin	
Bidet	
Bath	
Drinking fountain	
Sink: Single bowl	
Sink: Double bowl	
Tub: Double	
Tub: Single	
Drinking trough	
Hotplates	

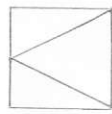
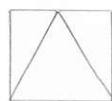
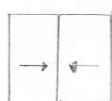




Shower	
Shower bath	
Urinal stall	
Vanity basin	
Water Closet (Toilet)	

Q40. Draw the following window symbols in elevation.

Answer

Item	Drawing
Hinged at side	
Hinged at top	
Sliding horizontally	
Fixed	

Q41. Draw symbols for the following items.

Answer

Item	Drawing
Brickwork	
Blockwork	
Concrete	
Plaster/Render	



Q42. Provide a description of the residence shown in the plan drawing below.



Answer

A small residence which is described as one level of the house with stairs in the centre. A master bedroom and second bedroom at the rear. Ensuite connecting to the master bedroom leading into a kitchen and living room going to a small porch externally. At the front of the house is a garage.





Q43. Give a brief description about the building from the detail available in the sectional drawing.

Answer

Two story residence with bedrooms on the second floor and wrap around verandah. The house is of timber construction with scissor trusses and a 30° pitch.



Q44. Who is the client?

Answer

H+M Smith



Q45. Where is this project to be built?

Answer

Lot 16 Glenvalley Road, Richmond



Q46. What are the contact details for the draftsman?

Answer

Joe Foreman
Ph: 03 95142311
Mob: 0413113113
18 Fairview Road Richmond 3216



Q47. What sheet number is this drawing?

Answer

Sheet 5 of 7



Q48. What timber is required for loading and non-load bearing walls?

Answer

F5(45 x 90) and F5 (35 x 90)





Q49. What spacing is recommended for common studs?

Answer

600mm max spacing

☐

Q50. What type of roof truss is to be installed?

Answer

Scissor trusses
Top chord - 30°
Bottom chord - 20°

☐

Q51. What centres are the trusses positioned at?

Answer

900mm c

☐

Q52. What size are the veranda posts?

Answer

90x90

☐

Q53. What timber species are the veranda posts to come from?

Answer

DAR OREGON

☐

Q54. What pitch is the roof?

Answer

30° pitch

☐

Q55. What size are the noggings and at what spacing?

Answer

F5 (35x70) 1350mm spacing

☐

Q56. What size are the ceiling joists?

Answer

F5 (70x35)

☐



Q57. What timber is used for roof battens and what spacing?

Answer

F5 (35x70) 900mm &

☐

Q58. What thickness is the plasterboard sheeting?

Answer

10mm

☐

Q59. What type of flooring is to be installed?

Answer

15mm Plywood Flooring

☐

Q60. What is the roof cladding material?

Answer

Colorbond corrugated metal

☐

Q61. Where will you find information about the footings?

Answer

Section 9-9 engineers drawings

☐

Q62. What do the letters DAR refer when timber ordering?

Answer

Dressed All Round (DAR) Timber

☐



Q63. Explain 240 x 63 LVL. What does it refer to on the section?

Answer

Laminated veneer lumber (LVL) the starting ~~joint~~ joist continuous length (240x63).



Refer to the drawing overleaf to respond to Q64. to Q75.

Q64. What is the number of the drawing?

Answer

2



Q65. What is the Job Number?

Answer

00R-112



Q66. What is the scale of the drawing?

Answer

1:100



Q67. What does the drawing show?

Answer

Elevation view: - North, South, East, West.
Roofing detail, wall finishing
Section Detail of internal finish.
Title Block





Q68. Which view shows the front of the house?

Answer

East view

☐

Q69. How many motor vehicles can be parked in the garage?

Answer

2

☐

Q70. What are the window and doors made from?

Answer

Aluminium, timber, sheet metal (rollerdoor)

☐

Q71. What is the size of the eaves?

Answer

450mm

☐

Q72. What are the eaves lined with?

Answer

Hardiflex

☐

Q73. What type of roof structure is the roof built from?

Answer

Timber framed trusses (600 #)

☐

Q74. What is the roof cladding materials made from?

Answer

Concrete roof tiles

☐

Q75. What is the roof pitch?

Answer

22.5° pitch

☐

SKETCH



Answer





Q77. Referring to Q76. compose an email to the client, providing an estimate of the additional labour hours/costs and material quantities/costs that have resulted from the their request.

Answer

Attached is the estimated additional Labor hours/
Costs and materials quantities/costs that have
resulted from your request for the change to plans
2x extra bedroom and extension on family room

480 hrs/labor @ \$40 ph = \$19 200 labor (50%)

material = \$19 200 (50%)

Labor/material = \$38 400

Builders Margin = \$7 680 (20%)

= \$7 68 (10%)

Total Cost ^{inc GST} = \$46 848