CPCCBC4001

APPLY BUILDING CODES AND STANDARDS TO THE CONSTRUCTION PROCESS

ASSESSMENT 1 – WRITTEN ASSESSMENT	
You Instructions:	

1	Provide a brief description of the given classes of buildings according to the National Construction Code.
Building Class	**Description**
Class 1a building	
Class 1b building	
Class 10a building	
Class 10b building	
Class 10c building	

☐	Satisfactory	☐	Not Satisfactory
Comments			

2	The Building Code of Australia is divided into three volumes. Briefly describe the scope of each volume.
2.1	Volume One
2.2	Volume Two
2.3	Volume Three

☐	Satisfactory	☐	Not Satisfactory
Comments			

3	Identify the state or territory you are based in. Then, based on your state or territory, identify the following: i. One Act relevant to the construction of Class 1 buildings ii. One set of regulations relevant to the construction of Class 1 buildings iii. One Act relevant to the construction of Class 10 buildings iv. One set of regulations relevant to the construction of Class 10 buildings The state or territory you identify must be the same throughout the assessments. Some acts or regulations may be repeated so long as they cover both Class 1 and Class 10 buildings.

State/Territory	
Act relevant to the construction of Class 1 buildings	
Set of regulations relevant to the construction of Class 1 buildings	
Act relevant to the construction of Class 10 buildings	
Set of regulations relevant to the construction of Class 10 buildings	

☐	Satisfactory	☐	Not Satisfactory
Comments			

4	Answer the following: i. Briefly explain what the General Requirements of buildings are. ii. Briefly explain what the Performance Requirements of buildings are. iii. Briefly explain the relationship between a building's Performance Requirements and compliance options (e.g. performance solutions, deemed-to-satisfy solutions).

Briefly explain what the General Requirements of buildings are.
Briefly explain what the Performance Requirements of buildings are.
Briefly explain the relationship between a building's Performance Requirements and compliance options (e.g. performance solutions, deemed-to-satisfy solutions).

☐	Satisfactory	☐	Not Satisfactory
Comments			

5	Using the table below: i. Identify two assessment methods that performance solutions use to demonstrate that performance requirements have been met. ii. Briefly explain what each of the assessment methods are

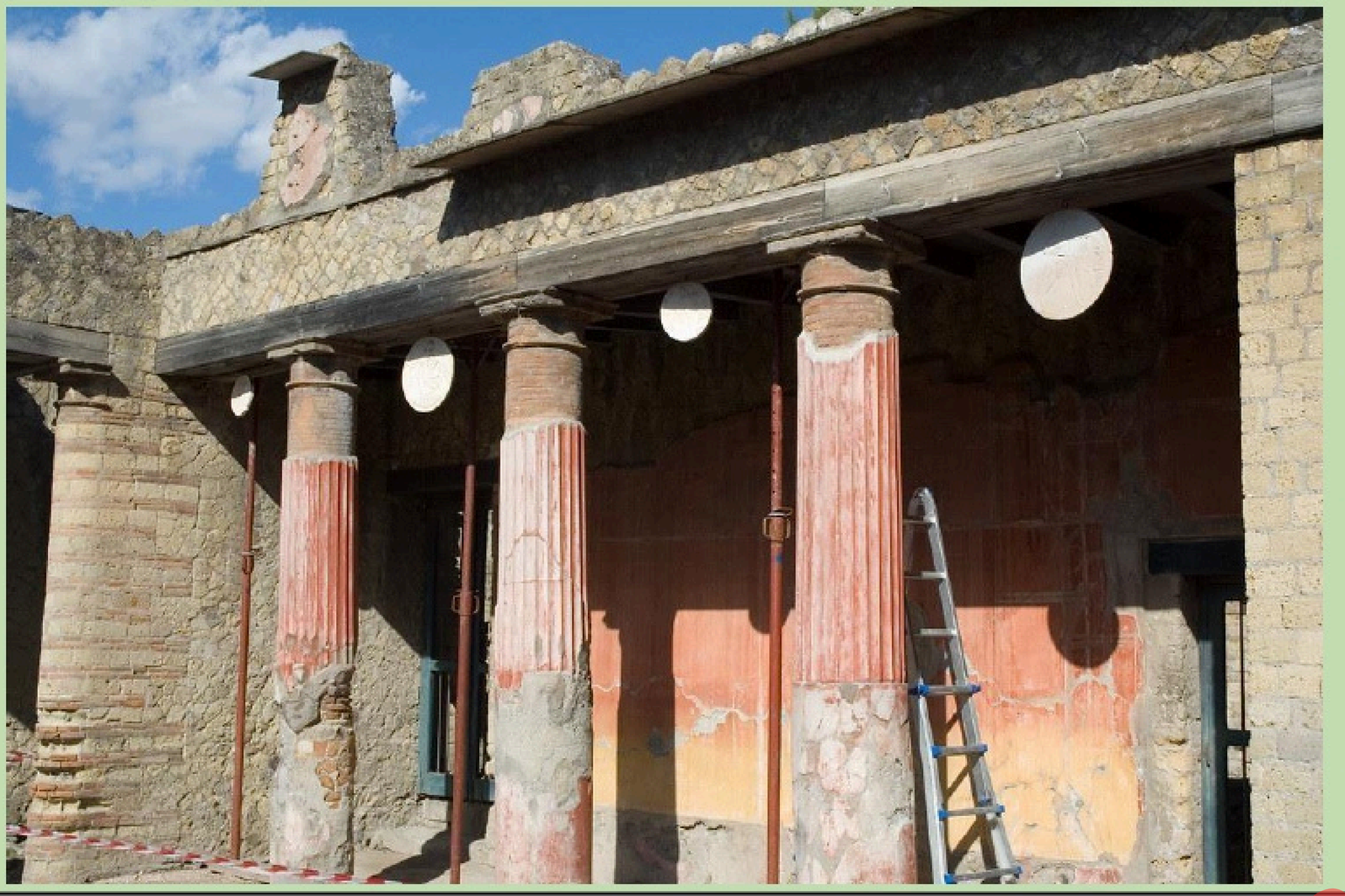
Assessment Method	Explanation

☐	Satisfactory	☐	Not Satisfactory
Comments			
6	List six ways that the evidence of suitability for building materials and products is established.		
☐	Satisfactory	☐	Not Satisfactory
Comments			
7	Complete the table below by identifying the type of fire-resisting construction (i.e. Type A, Type B, or Type C) given the following: • Class of building • Number of storerys each class of building has.		
Rise in Storeys	Class of building: 2, 3, 9	Class of building: 5, 6, 7, 8	
4 or more			
3			
2			
1			
☐	Satisfactory	☐	Not Satisfactory
Comments			
8	Access and review the following documents included with this workbook regarding quality management systems of Cascade Peaks Construction: Cascade Peaks Construction Quality System – Beginning Construction Cascade Peaks Construction Quality System – Mandatory Inspections Once you have accessed and reviewed the documents above, answer the following questions: i. Briefly explain why proper procedures for demolition and temporary fencing is needed during construction. ii. Briefly explain why mandatory inspections are needed during the construction of new buildings. iii. Identify two tasks that should be done before demolition starts. iv. Identify two characteristics that temporary fencing around a construction site should have. v. Identify two inspections that must be done by a certified building surveyor. vi. Identify two rooms in a building that must be inspected for waterproofing by a certified building surveyor.		
☐	Satisfactory	☐	Not Satisfactory
Comments			

9	Access and review Cascade Peak Construction's Safety Policies and Procedures included in this workbook. After reviewing the policies and procedures, provide the following information in the table below: i. Cascade Peaks Construction's safety policy ii. Cascade Peaks Construction's field standard safety clothing and equipment policy iii. Four registers that Cascade Peaks Construction should keep regarding the safety of its workers iv. Five safety clothing that workers must wear regardless of their task

☐	Satisfactory	☐	Not Satisfactory
Comments			
10	For each building component made of a specified material, provide one characteristic, one property, and one limitation. Characteristics refer to a material's external appearance. Properties refer to the features of a material that makes it suitable for construction. Limitations refer to the downsides in using the material in construction.		
Component	Characteristic	Property	Limitation
Brick wall			
Terracotta roof			

☐	Satisfactory	☐	Not Satisfactory
Comments			
11	Answer the following questions regarding zero-energy building: i. Define zero-energy building ii. Identify one technique used in zero-energy building iii. Identify the procedure in implementing the technique you have identified		
☐	Satisfactory	☐	Not Satisfactory
Comments			
12	Consider the columns in the photo below: Answer the following questions: i. What kind of stress is being applied on the columns by the ceiling? ii. Describe the deformation that the columns are possibly undergoing due to the stress that the ceiling is applying on them. iii. Describe what would happen to the columns if the ceiling were too heavy to be supported.		



☐	**Satisfactory**	☐	**Not Satisfactory**
Comments			
13	**Consider the rafter (assume that it is a rafter tie also connected to walls on either side) that the pots are hanging from in the photo below:** **Answer the following questions:** **i. What kind of stress is being applied on the rafter by the clay pots?** **ii. What kind of stress is being applied on the rafter by the walls?** **iii. Describe the deformation that the rafter is possibly undergoing due to the stress that the clay pots and that the walls are applying on it.** **iv. Describe what would happen to the rafter if the clay pots were too heavy to be held up by the rafter.**		

☐	Satisfactory	☐	Not Satisfactory
Comments			

14	The handrail of a staircase in a two-storey house located in a termite-risk area broke off while a resident was climbing down the stairs. The handrail was hollow and was infested with termites. Upon further inspection, most of the staircase was constructed from untreated timber, and the project plans made no mention of the fact that the house was made in a termite-risk area. Given the information above: i. Identify two factors that contributed to the degradation of the house's staircase. ii. Identify which clause from the Building Code of Australia Volume 2 was not properly applied. iii. Briefly explain how the identified clause from the Building Code of Australia Volume 2 was not properly applied iv. Identify which Australian standard was not properly applied. v. Briefly explain how the identified Australian standard was not properly applied vi. Identify one practice endorsed by Safe Work Australia was not properly applied. vii. Briefly explain how the identified practice endorsed by Safe Work Australia was not properly applied. viii. Identify what other defect the house would have considering the deviations of the construction from the code and standard. ix. Describe the extent of the work that needs to be done to rectify the termite infestation.

☐	Satisfactory	☐	Not Satisfactory
Comments			

15	An old public pool has a wooden picket fence that is 100 cm high with a gate whose latch was placed outside the fence. One day, a large group of children, aged 3 to 5 years old, visited the pool. In their excitement, some children were able to climb the fence, and some were able to unlock the gate. One portion of the fence collapsed due to the sheer number of children climbing over it. An investigation was made after the damage to the fence was done, and the investigation revealed that no research on who could possibly use the public pool was done. Given the information above: i. Identify two factors that contributed to the breach (which includes the destruction) of the fence. ii. Identify which clause from the Building Code of Australia Volume 2 was not properly applied. iii. Briefly explain how the identified clause from the Building Code of Australia Volume 2 was not properly applied iv. Identify which Australian standard was not properly applied. v. Briefly explain how the identified Australian standard was not properly applied vi. Identify one practice endorsed by Safe Work Australia was not properly applied. vii. Briefly explain how the identified practice endorsed by Safe Work Australia was not properly applied. viii. Identify what other defect the fence would have considering the deviations of the construction from the code and standard. ix. Describe the extent of work that needs to be done to rectify the breach and destruction of the fence.

☐	Satisfactory	☐	Not Satisfactory
Comments			

16	A pool in a private home was found to be draining its water onto the lawn and into the driveway of the neighbouring home, posing a danger because of the contaminated water making contact with the home's lawn and destruction of the driveway due to erosion. Given the information above:		
i.	Identify which clause from the Plumbing Code of Australia was not properly applied.		
ii.	Briefly explain how the identified clause from the Plumbing Code of Australia was not properly applied		
iii.	Describe the extent of the work that needs to be done to rectify draining problem of the pool.		
☐	Satisfactory	☐	Not Satisfactory
Comments			
17	Based on the state or territory you are in, identify the following: i. The state/territory you are based in ii. One state/territory environmental law that a construction company must abide by when undergoing a construction project. Environmental laws are laws enforced to protect the environment and/or specific aspects of an environment, such as silence, air quality, or water quality. iii. Identify two requirement that the law specifies that a construction company must abide by. Requirements may include not incurring offences provided by the law.		
☐	Satisfactory	☐	Not Satisfactory
Comments			
18	Access and review the project plan below: Case Study: Curtin, Australian Capital Territory After reviewing the project plan , answer the following questions:		
i.	What is the size of the land?		
ii.	What is the size of the house excluding the garage and laundry?		
iii.	Based on the ground floor plan, how many bedrooms does the house have?		
iv.	Based on the working drawing, in which cardinal direction is the terrace oriented?		

v.	What was used to replace bricks that were removed?		
☐	Satisfactory	☐	Not Satisfactory
Comments			
19	Access and review the project plan below: Case Study: Birkenhead, South Australia After reviewing the project plan , answer the following questions:		
i.	What is the size of the land?		
ii.	What is the size of the house?		
iii.	Based on the working drawing, how many bedrooms does the house have?		
iv.	Based on the working drawing, what is the size of the carport?		
v.	What are the walls of the house made of?		
☐	Satisfactory	☐	Not Satisfactory
Comments			
20	Define the construction terminology provided.		
Term	Definition		
Admixture (n.)			
Brace (n.)			
Masonry (n.)			
Nogging (n.)			
Pilot hole (n.)			
Plumb (adj.)			
Sanding (v.)			

Scaffolding (n.)			
Strip flooring (n.)			
Tamp (v.)			
☐	**Satisfactory**	☐	**Not Satisfactory**
Comments			

END OF WRITTEN ASSESSMENT

Before you hand in your assessment, make sure that you:

1. Have you re-checked your answers to make sure you are happy with your responses?
2. Have written/type your Name, Date Completed on the front page?
3. Have you completed the you declaration section below?

You Declaration: : I declare that the work submitted is my own and has not been copied or plagiarised from any person or source.

You Name	You Signature	Date

ASSESSOR USE ONLY

Results	☐	**Satisfactory**	☐	**Not Satisfactory**
Comments				

Assessor Declaration: I declare that I have conducted a fair, valid, reliable and flexible assessment with this you, and I have provided appropriate feedback.

Assessor Name	Assessor Signature	Date

Administrative use only

Entered onto You Management Database	**Date**		**Initial**	

ASSESSMENT 2 – YOU INFORMATION

The Practical Assessment is a set of tasks that must be completed in a workplace, or in an environment with conditions similar to that of a real workplace.

This assessment will help you demonstrate skill requirements relevant to applying building codes and standards to the construction process for Class 1 and Class 10 buildings.

The Practical Assessment includes the following:

1. Case Study

   Includes detailed scenarios and simulated environments, providing all necessary information required to complete relevant tasks and activities.

2. Project Assessment

   A set of tasks or activities completed according to set instructions and guidelines to meet the requirements of the relevant unit(s). These tasks and activities require you to have access to a real workplace.

ASSESSMENT 2 – ASSESSOR INSTRUCTIONS

The Practical Assessment is a set of tasks that must be completed in a workplace, or in an environment with conditions similar to that of a real workplace.

This assessment will help the candidate demonstrate skill requirements relevant to applying building codes and standards to the construction process for Class 1 and Class 10 buildings.

The Practical Assessment includes the following:

1. Case Study

   Includes detailed scenarios and simulated environments, providing all necessary information required to complete relevant tasks and activities.

2. Project Assessment

   A set of tasks or activities completed according to set instructions and guidelines to meet the requirements of the relevant unit(s). These tasks and activities require you to have access to a real workplace.

Overview

This practical assessment will require you to apply building codes and standards to the construction process for Class 1 and 10 buildings.

Specifically, you will be required to:

1. Classify building
2. Determine construction compliance requirements
3. Determine fire protection requirements

Read the instructions in this project carefully before proceeding.

Resources Required for Assessment

To complete this project, you will need access to the following:

- A workplace that will allow you access to:
  - A workplace that will allow you access to:
  - Computer with Internet and email access and a working web browser
  - Installed software: MS Word, Adobe Acrobat Reader
  - Government building and construction laws (both national and state/territory)
  - Government building and construction regulations
  - Current Australian building and construction codes
  - Current Australian building and construction standards
  - Building Code of Australia Volumes 1, 2, and 3
  - Project plans to the following:
    - One Class 1 building
    - One Class 10 building

    Project plans must include:
    - Information on the following building elements:
      - Energy efficiency
      - Damp and weatherproofing
      - Fire safety
      - Health and amenity
      - Structure
      - Safe movement and access
      - Ancillary provisions
    - Information must include at least one of each of the following:
      - Construction method used
      - Materials used
      - Products used
      - Other specifications common in building project plans such as floor area, orientation, number of storeys, etc.

- The following professionals:
  - Design professional
  - Building professional
  - Construction professional
- Digital tools used for communication

  Digital tools refer to the programs or software that facilitate communication, such as messaging apps and e-mail.
- Digital devices used for communication

  Digital devices refer to the devices where the programs or software are installed, such as personal computers, laptop computers, and smartphones.
- Assistance from supervisor to secure access to three different buildings

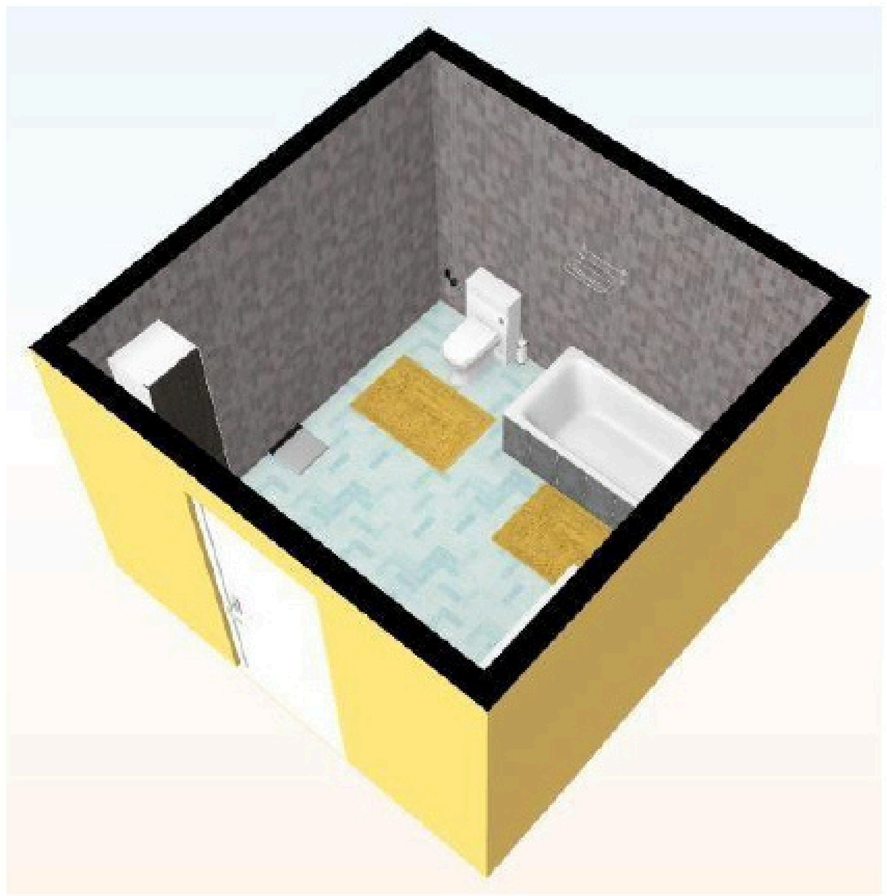
Assessment forms and templates are provided in each task in this Project Assessment.

Assessment 2 – Case Study 1 Task 1

Case Study 1 – Cascade Peaks Construction: Bathroom

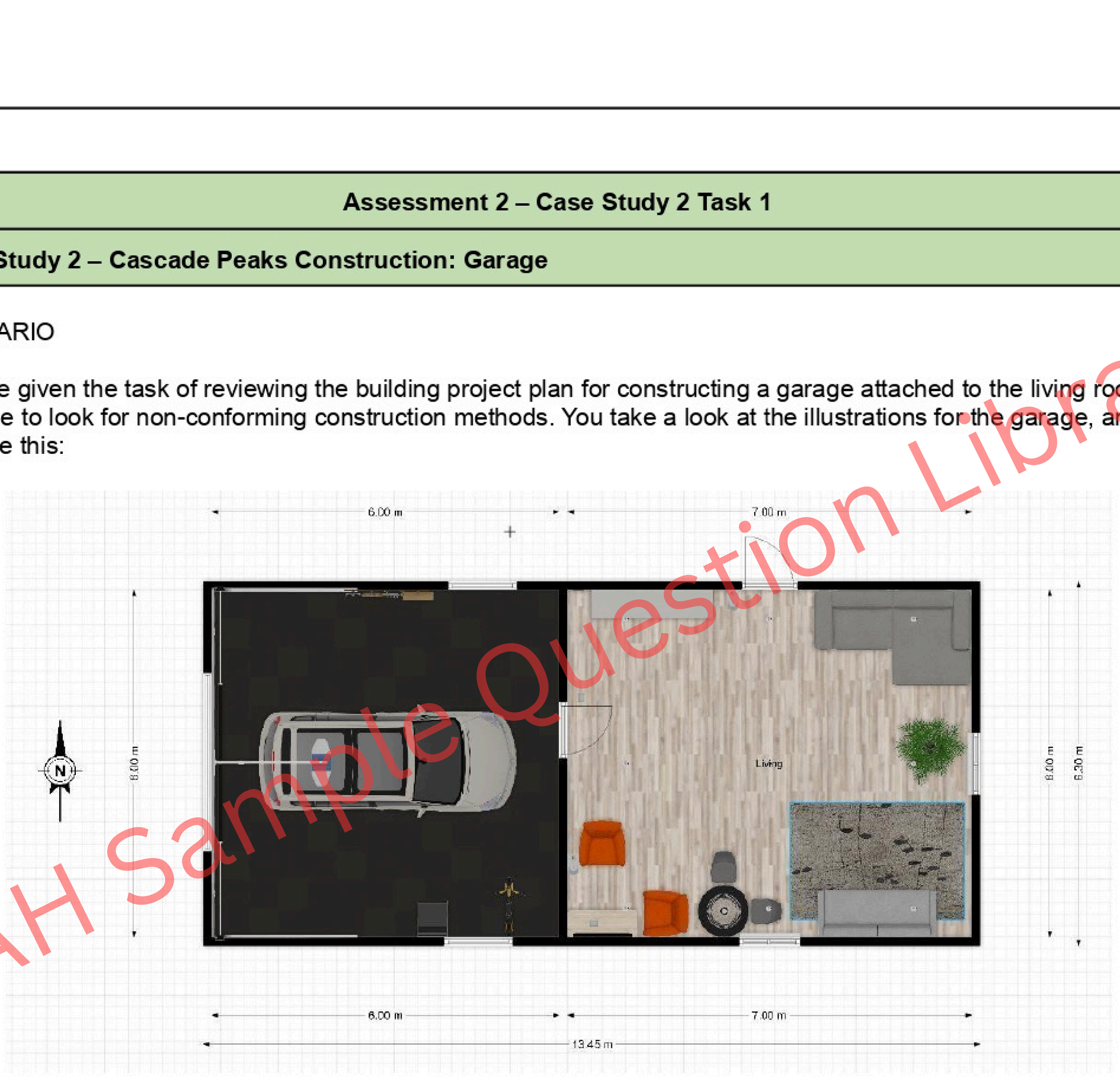
SCENARIO

You are given the task of reviewing the building project plan for constructing an additional bathroom in a house to look for non-conforming construction methods. You take a look at the illustrations for the bathroom, and you see these:



Information that was provided to you indicates that the illustrations above were provided by the owner of the house themselves who has no building or construction experience whatsoever.

1.1 Cascade Peaks Construction: Bathroom
Given the information in the scenario: i. Identify the non-conforming construction method ii. Briefly explain why the drawings do not conform to NCC's construction methods iii. Identify the probable source of the non-conformity iv. Identify a solution to ensure that the drawing conforms to the NCC v. Identify a solution to rectify the probable source of the non-conformity

Assessment 2 – Case Study 2 Task 1
Case Study 2 – Cascade Peaks Construction: Garage
SCENARIO You are given the task of reviewing the building project plan for constructing a garage attached to the living room of a house to look for non-conforming construction methods. You take a look at the illustrations for the garage, and you see this:    Information that was provided to you indicates that the illustrations above were provided by the owner of the house themselves who has had their architecture license revoked because they had designed non-conforming buildings that ended up getting built anyway. The glazing on the windows of the house also does not block sunlight well enough to prevent temperatures in the house from rising too much.

2.1 Cascade Peaks Construction: Garage
Given the information in the scenario: i. Identify the non-conforming construction method ii. Briefly explain why the drawings do not conform to NCC's construction methods iii. Identify the probable source of the non-conformity iv. Identify a solution to ensure that the drawing conforms to the NCC v. Identify a solution to rectify the probable source of the non-conformity

Assessment 3 – Project Task
Overview

This project assessment will require you to apply building codes and standards to the construction process for Class 1 and Class 10 buildings.

This project is divided into three parts:

1. Classify Buildings
2. Determine Construction Compliance Requirements
3. Determine Fire Protection Requirements

Resources required for assessment

To complete this project, you will need access to the following:

- Computer with Internet and email access and a working web browser
- Installed software: MS Word, Adobe Acrobat Reader
- Government building and construction laws (both national and state/territory)
- Government building and construction regulations
- Current Australian building and construction codes
- Current Australian building and construction standards
- Building Code of Australia Volumes 1, 2, and 3
- A workplace that can provide the following:
  - Project plans to the following:
    - One unbuilt Class 1 building
    - One unbuilt Class 10 building

    Project plans must include:
    - Information on the following building elements:
      - Energy efficiency
      - Damp and weatherproofing
      - Fire safety
      - Health and amenity
      - Structure
      - Safe movement and access
      - Ancillary provisions
    - Information must include at least one of each of the following:
      - Construction method used
      - Materials used
      - Products used
      - Other specifications common in building project plans such as floor area, orientation, number of storeys, etc.
  - The following professionals:
    - Design professional

        - Building professional
        - Construction professional
    - Digital tools used for communication

      Digital tools refer to the programs or software that facilitate communication, such as messaging apps and e-mail.
    - Digital devices used for communication

      Digital devices refer to the devices where the programs or software are installed, such as personal computers, laptop computers, and smartphones.
    - Assistance from supervisor to secure access to three different buildings

Assessment forms and templates are provided in each task in this Project Assessment.

Part 1 Classify Buildings

1.1 Secure Access to Project Plans

This task requires you to secure project plans in your workplace of buildings that are already built. Specifically, you are required to:

- Secure a copy of a project plan of a class 1 building that has not yet been built
- Secure a copy of a project plan of a class 10 building that has not yet been built

Steps to take:

1. Locate the Equipment and Program Confirmation form provided for you on the following pages.
   The Equipment and Program Confirmation form will be used to confirm the equipment and programs you used in accessing and extracting information from the project plans.
   Review the instructions here and in the Equipment and Program Confirmation form with your supervisor before starting so you can prepare for the tasks.
2. Seek assistance from your supervisor to secure copies of the following:
   i. The project plan of a Class 1 building that has not yet been built.
   The project plan must have been created during the year the latest building codes have been approved or later.
   Class 1 buildings include:
   a. One or more buildings, which together form a single dwelling, including the following:
      - A detached house
      - One of a group of two or more attached dwellings, each being a building, separated by a fire-resisting wall, including a row house, terrace house, townhouse, or villa unit

   a. One or more buildings which together constitute:
      - A boarding house, guest house, hostel, or the like that:
        - Would ordinarily accommodate not more than 12 people; and
        - Have a total area of all floors not more than 300 m2 (measured over the enclosing walls of the building or buildings; or
        - Four or more single dwellings located on one allotment and used for short-term holiday accommodation

   ii. The project plan of a Class 10 building that has not yet been built.
   The project plan must have been created during the year the latest building codes have been approved or later.
   Class 10 buildings include:
   A. A non-habitable building, including a private garage, carport, shed, or the like
   B. A fence, mast, antenna, retaining wall or free-standing wall, or swimming pool, or the like
   C. A private bushfire shelter

   One of the project plans must be for a one-storey building, and the other must be for a two-storey building.
   Because of the characteristics of Class 1 and Class 10 buildings, the project plan for the Class 1 building will more likely be the building with two storeys.
   The project plans must be designed for a residential area.
   Each project plan must include the following information:

i. At least one construction drawing

ii. Information on the following building properties:

a. Energy efficiency

b. Damp and weatherproofing

c. Fire safety

d. Health and amenity

e. Structure

f. Safe movement and access

g. Ancillary provisions

Information must include at least one of each of the following:

a. Construction method used

b. Materials used for any of the following building components:

- Walls
- Columns
- Beams
- Floors
- Roof
- Ceilings

c. Products used

iii. Other specifications common in building project plans such as floor area, orientation, number of storeys, etc.

When securing copies of the project plans, you must use the following:

i. Equipment to access information from project plans (e.g. desktop computer, laptop computer, smartphone), and

ii. At least two programs to extract information from project plans (either for computers or smartphones) to access and extract information from the project plans.

The project plans that you have secured copies of will be used in future tasks.

3. Complete the Equipment and Program Confirmation form by answering the following questions:
   1. What equipment did you use to access the Class 1 project plan?
   2. What program did you use to extract information from the Class 1 project plan?
   3. What equipment did you use to access the Class 10 project plan?
   4. What program did you use to extract information from the Class 10 project plan?
4. Have your supervisor review your completed Equipment and Program Confirmation form. Your supervisor must also complete and sign the Supervisor Declaration at the end of the form. Their signature must be handwritten.
5. Save and submit copies of the project plans. Use the filenames:
   - CPCCBC4001 1.1 Project Plan – Class 1
   - CPCCBC4001 1.1 Project Plan – Class 10
6. Save and submit the completed Equipment and Program Confirmation form. Use the filename:
   - CPCCBC4001 1.1 Equipment and Program Confirmation

Equipment and Program Confirmation	
You Name:	
Workplace / Organisation:	
Date Completed:	
What equipment did you use to access the Class 1 project plan?	
What computer program did you use to extract information from the Class 1 project plan?	
What equipment did you use to access the Class 10 project plan?	
What program did you use to extract information from the Class 10 project plan?	

Assessor Declaration: I declare that I have conducted a fair, valid, reliable and flexible assessment with this you, and I have provided appropriate feedback	**Assessor Name:**	
	Assessor Email:	
	Assessor Phone:	
	Assessor Signature:	
	Date:	

1.2 Interpret Information in Project Plans

This task requires you to identify specific information from and interpret codes and standards related to the project plans you have secured.

You must complete Task 1.1 first before proceeding with this task.

Steps to take:

1. Access and review the following:
    i. The project plans from Task 1.1
    ii. Australian standards for residential building and construction projects
    iii. The Building Code of Australia
    iv. Another code relevant to building and construction based on your state/territory.
    The codes can also differ depending on your locality (i.e. city, shire, etc.).
2. Locate the Project Plans Information form provided for you on the following pages.
    The Project Plans Information form will be used to document various information from the project plans. Review the instructions here and in the Project Plans Information form with your supervisor before starting so you can prepare for the tasks.
3. For each of the project plans that you accessed and reviewed from Task 1.1, use the Project Plans Information form to:
    i. Identify the specific subclass of the building based on the National Construction Code (NCC) classifications in the project plan
    ii. Provide a brief explanation as to why the building in the project plan is classified with the subclass you have identified.
    iii. Identify the use of the building in the project plan.
    iv. Identify the class of the site that the building will be constructed on
    v. Identify the type of construction of the building's footing based on the class of the site and material to be used on the building's footing
    vi. Briefly describe the nature of the building in the project plan.
    The nature of the building refers to the building's selling point or reasons why people would like to go and stay in or use the building.
    vii. Briefly describe the arrangement of the interior of the building in the project plan
    The arrangement of the interior of the building refers to how its features (e.g. rooms, components) are placed in the building.
    viii. Identify the building and construction code that is applicable to the building in the project plan based on your locale.
    ix. Briefly explain how the identified building and construction code is relevant to the building plan.
    x. Identify one Australian standard relevant to each building
    plan. Each building plan must have a different standard.
    xi. Briefly explain how the identified Australian standard is relevant to the building plan.
4. Save and submit the completed Project Plans Information form. Use the filename:
    - CPCCBC4001 1.2 Project Plans Information

Project Plans Information	
You Name:	
Workplace/Organization:	
Date:	
Class 1 Building Project Plan	
1. Identify the specific subclass of the building based on the National Construction Code (NCC) classifications in the project plan.	
2. Provide a brief explanation as to why the building in the project plan is classified with the subclass you have identified.	
3. Identify the use of the building in the project plan.	
4. Identify the class of the site that the building will be constructed on.	
5. Identify the type of construction of the building's footing based on the class of the site and material to be used on the building's footing.	

6. Briefly describe the nature of the building in the project plan. The nature of the building refers to the building's selling point or reasons why people would like to go and stay in or use the building.
7. Briefly describe the arrangement of the interior of the building in the project plan. The arrangement of the interior of the building refers to how its features (e.g. rooms, components) are placed in the building.
8. Identify the building and construction code that is applicable to the building in the project plan based on your locale.

9. Briefly explain how the identified building and construction code is relevant to the building plan.
10. Identify one Australian standard relevant to the building in the building plan. The Australian standard identified here must be different from the Australian standard relevant to the other building plan.

11. Briefly explain how the identified Australian standard is relevant to the building plan.
Class 10 Building Project Plan
i. Identify the specific subclass of the building based on the National Construction Code (NCC) classifications in the project plan.
ii. Provide a brief explanation as to why the building in the project plan is classified with the subclass you have identified.
iii. Identify the use of the building in the project plan.
iv. Identify the class of the site that the building will be constructed on.
v. Identify the type of construction of the building's footing based on the class of the site and material to be used on the building's footing.

vi. Briefly describe the nature of the building in the project plan. **The nature of the building refers to the building's selling point or reasons why people would like to go and stay in or use the building.**
vii. Briefly describe the arrangement of the interior of the building in the project plan. **The arrangement of the interior of the building refers to how its features (e.g. rooms, components) are placed in the building.**
viii. Identify the building and construction code that is applicable to the building in the project plan based on your locale.
ix. Briefly explain how the identified building and construction code is relevant to the building plan.
x. Identify one Australian standard relevant to the building in the building plan. **The Australian standard identified here must be different from the Australian standard relevant to the other building plan.**

xi. Briefly explain how the identified Australian standard is relevant to the building plan.