CPCCBC4010B APPLY STRUCTURAL PRINCIPLES TO RESIDENTIAL LOW RISE CONSTRUCTIONS

Practical Task 1

Description of task:
A suitable observer is to verify the participant's ability to apply structural principles to the erection and demolition of a low rise residential structure (Classes 1 and 10).

The participant is to gather evidence of how they have completed each component of the Practical Task, which is to be submitted with this Practical Assessment sheet. Evidence to be submitted may include:

- Photographic evidence of projects, including detailed descriptions of all structural elements
- Documentation from a project structurally designed; for example a garage, small extension, etc. including:
  - A copy of the plans and/or specifications
  - Identification of site classification, uplift forces, wind ratings,
  - Component selection methods – for example; BCA references, Australian Standard references

The observer is to provide detailed comments on the tasks completed by the participant. The assessor is to verify the observer's comments in the Assessor Comments section, and provide the Practical Assessment outcome on the front cover of this document.

Resources required:
Plans, computer, suitable work area appropriate to the construction process.

Assessment of task

Name of participant:	Nathan Weiss
Name of observer:	Laurence Court
Role of observer (Confirm suitability to sign)	Builder
Email address of observer	laurencemcourt@outlook.com
Signature of observer:	
Date:	29/05/2021

When completing the task, did the participant:	**Tick if satisfactorily completed. Provide comments if left unticked.**
1 Apply structural principles to planning	
1.1A. Identify main structural principles that apply to the erection or demolition of the structure.	☑
1.1B. Describe structural performance in terms of the effect of section properties on various materials.	☑
1.1C. Explain structural performance characteristics of the slabs, floors, beams, columns and retaining walls – and apply to the planning of the construction work.	☑
1.1D. Coordinate demolition of existing structures in accordance with safe work practices, legislative, environmental and planning requirements.	☑
2 Structural integrity of buildings	
1.2A. Consult relevant industry professionals to provide advice regarding the design process and structural integrity of the proposed building – using language and concepts appropriate to cultural differences (including non-verbal communication).	☑

1.2B.	Collect and analyse project documentation to assist with the analysis of plans and specifications.	☑
1.2C.	Analyse project documentation for compliance with National Construction Code requirements for bushfire, high wind, earthquake and alpine environments.	☑
1.2D.	Assess new and emerging building technologies, techniques and materials for application to the construction process and their compliance with National Construction Code requirements and Australian standards.	☑
1.2E.	Conduct pre-commencement site inspection to confirm analysis.	☑
	3 Footing system	
1.3A.	Set out footings in accordance with building plans.	☑
1.3B.	Assess structural integrity of the footings specified in the plans for compliance with relevant codes and accepted industry construction principles.	☑
1.3C.	Lay footings specified in building's plan, checking for compliance with project documentation.	☑
1.3D.	Plan, implement and check damp coursing, provision of termite barriers and other relevant techniques in accordance with codes, standards and industry practice.	☑
	4 Floor system	
1.4A.	Assess concrete slab or bearers and joists specified in building plan for structural integrity and compliance with relevant codes and accepted industry construction principles.	☑
1.4B.	Supervise laying of floor system specified in building's plan, checking for compliance with project documentation.	☑
	5 Structural and non-structural wall systems	
2.5A.	Identify and analyse technical construction principles and performance of materials to be used in the construction in the planning of the building and construction project.	☑
2.5B.	Plan, implement and check application of bracing requirements, tie-downs, tolerance, allowances and fixing and installation of components for compliance with relevant Australian standards, codes and manufacturer specifications.	☑
2.5C.	Select structural timber members for low rise buildings to conform to AS1684 requirements.	☑
2.5D.	Put processes in place to ensure quality of the frame – whether factory pre-cut and pre-nailed, factory pre-cut and assembled on site, or cut and assembled on site.	☑
2.5E.	Attach and check vapour permeable sarking or a waterproof membrane relevant to the construction method.	☑
	6 Roof system	
2.6A.	Assess structural integrity of roof system components specified in building plan for compliance with relevant codes and accepted industry construction principles.	☑
2.6B.	Plan, implement and check erection of roof trusses in accordance with requirements of building plan, type of roof being construction, relevant codes and accepted industry construction principles.	☑
2.6C.	Put processes in place to ensure quality of the manufactured roof trusses or hand-cut roof system.	☑
2.6D.	Plan roof sarking and cladding and supervise installation for compliance with codes, standards and industry practice.	☑
	7 External wall cladding	
2.7A.	Assess structural performance of cladding to be used for bracing in the frame construction for compliance with relevant codes, manufacturer specifications and accepted industry construction principles.	☑
2.7B.	Supervise installation of cladding as specified in building plan, and check for compliance with standards and accepted industry construction principles.	☑
2.7C.	Supervise installation of windows and external doors to ensure compliance with relevant codes, manufacturer specifications and accepted industry construction principles.	☑

The Participant's performance was: ☑ **Satisfactory** ☐ **Not Satisfactory**

OBSERVER COMMENTS

Nathan has demonstrated to me that he can successfully apply structural principles to residential low rise constructions. Nathan has shown that he can read and understand plans while applying the relevant Australian standards and manufactures instructions. I would be confident that Nathan would be successfully able to apply all structural principles when building.