CPPBAL5XX1 Analyse factors affecting bushfire behaviour

UNIT MODIFICATION HISTORY	
Release 1	This version first released with CPP Property Services Training Package Release 15.0 New Unit of competency

Unit Code	**CPPBAL5XX1**
Unit Title	**Analyse factors affecting bushfire behaviour**
Application	This unit specifies the skills and knowledge required to conduct a site visit to observe and collate conditions for a development site, and assess and quantify factors affecting bushfire behaviour to produce a basic report. The unit applies to individuals who are paraprofessional workers and have technical and theoretical knowledge on bushfires. They demonstrate autonomy, judgement and responsibility in a range of contexts within broad but established parameters, and communication and analytical skills to determine and transmit solutions to complex problems to others. No licensing, legislative or certification requirements apply to this unit at the time of publication.
Prerequisite Unit	Nil
Competency Field	039905 Fire Technology
Unit Sector	TBC

ELEMENTS		**PERFORMANCE CRITERIA**	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Prepare for site assessment	1.1	Identify site to assess from planning documents
		1.2	Coordinate site visit with stakeholders
		1.3	Conduct and record observations for bushfire potential according to current industry standards and workplace procedures
		1.4	Identify site specific hazards, assess risk and implement controls according to workplace procedures for site visits
2	Assess site conditions for potential bushfire fire risk	2.1	Orient plans/maps and locate key features on site
		2.2	Identify typical local seasonal weather conditions and likely impact on potential bushfire risk
		2.3	Determine current and potential site fuel loads from existing vegetation and site conditions
		2.4	Identify topographic information and consider impact on potential bushfire risk
		2.5	Identify potential sources of ignition for bushfire for site

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3	Assess adjoining property conditions and potential for fire risk	3.1	Locate adjoining properties from maps and determine purpose and function
		3.2	Identify adjoining property vegetation cover and type
		3.3	Identify topographic information for adjoining properties
		3.4	Identify potential sources of ignition for bushfires on adjoining properties
		3.5	Assess adjoining properties characteristics and conditions for potential contributing factors for bushfire risk for site
4	Analyse potential for bushfire for site	4.1	Consider bushfire behaviour models and potential impact for site
		4.2	Analyse identified factors and quantify bushfire risk
		4.3	Identify firefighting methods and materials used by agencies in bushfire control
		4.3	Determine types and limitation of firefighting control methods and materials specific to site
5	Prepare summary report on bushfire risk for site	5.1	Collate observations for site and adjoining properties
		5.2	Prepare a summary report of likely bushfire risk and potential control strategies available for site

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FOUNDATION SKILLS Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. **OR** This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria:	
Skill	**Description**
Reading skills to:	
Writing skills to:	
Oral communication skills to:	
Numeracy skills to:	
Learning skills to:	

UNIT MAPPING INFORMATION	No equivalent unit
LINKS	The Companion Volume Implementation Guide for the CPP Property Services Training Package is available at: https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b

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TITLE	Assessment Requirements for CPPBAL5XX1 Analyse factors affecting bushfire behaviour
PERFORMANCE EVIDENCE To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by:	

Conducting site assessments for at least 2 different sites and analyse factors on each site for potential bushfire risk, including:
• identify and assess the characteristics and factors for the site and adjoining property contributing to bushfire risk including:
  • vegetation type
  • fuel load including, ground, ladder and elevated fuel
  • topography
  • seasonal climatic conditions
• quantify bushfire behaviour for site according to recognised bushfire behaviour models
• document bushfire risk and present to stakeholders.	

KNOWLEDGE EVIDENCE To be competent in this unit, a candidate must demonstrate knowledge of:

• fire and the principles of development including:
  • fuel
  • ignition
  • oxygen
  • waste products
  • principles for extinguishing fire
  • fire progression from ignition to ash
• properties of fire, heat and combustion including:
  • conduction, convection and radiant heat transfer
• common types of fuel in rural and peri urban environments, including:
  • ground fuel
  • ladder fuel
  • elevated fuel
  • vegetation and fuel loading, including, natural landscapes and
• topography and the movement of bushfire
• common firefighting methods and materials used to control bushfires, including:
  • controlling fire with fire
  • reducing fuel by clearing or burning
  • starving fire of oxygen
  • reducing fire temperature
• impact of fire retardants on agriculture, horticulture and ecological environments
• common sources of ignition for bushfires, including:
  • accidental human activity, including machinery, smoking, escaped fires, electrical power poles
  • deliberate human activity through vandalism and arson
  • natural fires from lightning strikes
  • fire generated embers
  • radiant heat

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- direct flame contact
- impact of weather conditions on bushfire, including:
  - temperature
  - humidity
  - rain
  - wind
  - fire generated micro environments
  - burn patterns and relation to weather conditions
- bushfire behaviour models.

ASSESSMENT CONDITIONS

Assessors must satisfy the requirements for assessors contained in the Standards for Registered Training Organisations.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting where these skills and knowledge would be performed.

Candidates must have access to:

- at least 2 different sites to assess
- legislation, regulations, standards and codes of practice relevant to bushfire modelling
- client or stakeholders

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