Modification history

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 4.0.
Release 1	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 1.0.

AHCARB403	Perform a ground-based tree defect evaluation
Application	This unit of competency describes the skills and knowledge required to examine trees from the ground, assess and test them for defects, evaluate the potential risk of failure, secure the site and report the condition to specialist arborist for a tree risk assessment. The unit applies to individuals who apply specialist skills to provide solutions to technical and unpredictable problems. They work autonomously, instruct and monitor the work of others within a team. They use discretion and judgment in the selection, allocation and use of available resources. Legislation, regulations and by-laws relating to the treatment and removal of trees apply nationally and in some States and Territories.
Prerequisite Unit	Nil
Unit Sector	Arboriculture (ARB)

Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Determine evaluation requirements	1.1 Confirm trees to be evaluated according to client brief 1.2 Undertake a site-specific job safety analysis (JSA) and record and implement control measures 1.3 Determine tree health and hazard benchmarks for project according to industry standards
2. Visual examination of tree for indicators of potential failure	2.1 Examine tree for indicators of overall poor health 2.2 Examine tree for visual defects 2.3 Examine tree for indication of damage from organisms 2.4 Assess examination outcomes to determine potential for structural failure of tree components according to industry benchmarks
3. Undertake basic testing of tree for indicators of potential failure	3.1 Conduct tests for cavities according to visual indicators 3.2 Expose root crown and examine for concealed root defects according to visual examination outcomes 3.3 Remove loose bark and examine stems for concealed defects according to visual examination outcomes 3.4 Assess test outcomes for potential impact on tree health and structural integrity according to industry benchmarks
4. Record tree attribute and indicators	4.1 Capture images and record botanical name, dimensions and location of tree under evaluation 4.2 Document the results of examinations and tests conducted for tree under evaluation 4.3 Capture images, location and visual indicators of defects in tree for inclusion in documentation 4.4 Estimate and record dimensions of defect and affected tree component

Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
5. Assess and mitigate potential risk and document actions	5.1 Identify possible targets affected by tree under evaluation from client brief 5.2 Assess identified defective tree components for structural integrity and potential risk on possible targets 5.3 Validate assessment of severe defects on structural integrity of tree with consulting arborist 5.4 Advise client of outcomes of tree defect evaluation where a heightened potential risk to targets is identified 5.5 Take action to mitigate potential risk according to client advice and work place policies and procedures 5.6 Document action taken to mitigate potential risk on target
6. Document and report hazards and recommendations	6.1 Review and assess tree defect evaluation results and consider options for resolving risk 6.2 Identify and document recommended options for client approval 6.3 Compile records, results and recommendations and document tree defect evaluation report according to workplace procedures and industry standards 6.4 Submit tree defect evaluation report to client according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	• Prepare, edit and proofread tree defect evaluation report and recommendations to ensure clarity of meaning, and accuracy and consistency of information.
Oral communication	• Presents complex information about tree defects to client using clear and convincing language, tone and pace appropriate to the clients understanding

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCARB403 Perform a ground-based tree defect evaluation	AHCARB403 Perform a ground-based tree defect evaluation	Changes to Elements and Performance Criteria to remove duplication and for clarity Updated Performance Evidence and Knowledge Evidence	Equivalent unit

Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72

TITLE	Assessment requirements for AHCARB403 Perform a ground-based tree defect evaluation

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has conducted a whole of tree defect evaluation from the ground for at least 20 individual trees from at least 15 different species. At least one defect evaluation must also be conducted with a consulting arborist.

There must also be evidence that the individual has:
- confirmed trees to be evaluated with client brief
- undertaken a site-specific job safety analysis (JSA) and recorded and implemented control measures
- determined tree hazard benchmarks for the project
- relationship between tree species and defects and potential risk
- examined trees for indicators of the following defects:
  - tree health
  - visible physical defects
  - damage from organisms
- assessed examination results to determine potential structural failure
- conducted tests to determine visual and concealed defects including:
  - sounding accessible visual and concealed defects
  - probing accessible cavities
  - exposing and examining root crown
  - removing loose bark and examining for defects
- assessed test results for structural integrity against tree hazard benchmarks
- recorded details of tree under defect evaluation including:
  - captured images of tree
  - identified tree to genus, species and common name
  - estimated approximate dimensions of tree
  - identified geographical location of tree
- recorded the following attributes of the defects:
  - image of the defect
  - location within the tree canopy
  - visual indicators of the defect
  - estimated the dimensions of defect and affected tree component
- identified potential target from client brief and assessed potential consequences of tree defects on structural integrity and risk to target
- advised client on outcomes of tree defect evaluation
- implemented action to mitigate tree hazard according to client and workplace procedures
- documented actions taken to mitigate risk
- reviewed tree defect evaluation results and assessed possible options for controlling hazard
- identified and recommended action for client approval
- compiled all results, records and recommendations and documented in tree defect evaluation report according to workplace procedures
- submitted tree defect evaluation report to client according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:
- structure and function of client briefs and their interpretation including:
  - targets and the role of targets in tree risk assessment
  - industry and client tree hazard benchmarks
- work health, safety and environmental hazards, assessing risk and the role of a JSA
- noting and specifying tree under evaluation including recording:
  - plant naming conventions

Knowledge Evidence

- • estimating tree dimensions from the ground
  - • specifying geographic location on maps, pictures and global positioning systems (GPS)
- tree examination procedures and methods from the ground including:
  - • signs and symptoms of health of trees
  - • methods for determining tree health
  - • tree anatomy and morphology relating to structural failures
- tools and equipment required to assist in tree examinations including:
  - • cameras and digital imaging
  - • sounding mallet and probing tools
  - • materials
- recognising visual indicators of tree defects, their causes and result on structural failure including:
  - • visible and concealed defects including cavities, cracks and included bark
  - • common symptoms of diseases (e.g. rot, fungal growth, loose bark)
  - • common signs of organisms (e.g. holes, frass, live organisms, loose bark)
- testing procedures for confirming visual indicators of tree health and structural defects including:
  - • sounding and probing techniques for defects
  - • loose bark removal and signs of defects
  - • exposure of root crown to identify root and crown defects
- health and approximate dimensions of the tree and affected tree part and defect
- documentation of the tree defect evaluation including:
  - • digital imaging and photographs
  - • reports and reporting styles and industry best practice
- assessing tree hazards, likelihood of failure and potential consequence and measures to rectify including:
  - • types of potential target
  - • urgency for notifications and gauging imminent threat
  - • isolation of hazardous trees
  - • move potential target
  - • size of tree and their defects
- considerations for remedial action arising from defect evaluation including:
  - • aerial inspection
  - • load testing
  - • seeking further advice from, and role of a consulting arborist
  - • laboratory testing
- documenting and presenting reports to clients.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
  - • access to at least 20 trees of 15 different species on an arboriculture work site or environment that accurately represents workplace conditions
- resources, equipment and materials:
  - • training resources of cross-sectioned tree components representing visual indicators of tree defects
  - • computer and computer software for accessing information and creating documents
  - • digital image capture devise for recording trees and their location and tree defects
- specifications:
  - • workplace procedures, instructions and client brief for trees requiring evaluation
  - • industry standards relating to tree defects and effect on structural integrity
- relationships:
  - • client and consulting arborist.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Assessment Conditions
In addition, the following specific assessor requirements apply to this unit: • arboriculture vocational competencies at least to the level being assessed • current arboriculture industry skills directly relevant to the unit of competency being assessed.

Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72