Australian Government

Assessment Requirements for AHCARB508 Identify, select and specify trees

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

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 used reference materials to identify and select ten trees for three distinctly different sites (a total of 30 trees), taking into account the following:

- geographical location on the site
- taxonomic characteristics
- edaphic and environmental preferences
- limitations of the tree for the site
- rationale for tree selection

There must also be evidence that the individual has compiled and updated a database for at least 50 tree species, from the taxonomic groups of angiosperms (dicotyledons and woody monocotyledons) and gymnosperms with the following details:

- botanical and common name
- general size characteristics
- canopy characteristics
- distinguishing features
- general cultural requirements

There must also be evidence that the individual has:

- consulted with client and developed a tree selection brief for the size and type of the site, including:
  - identified site conditions and constraints
  - identified limitations for tree selection
  - determined functional life expectancy of site and plantings
  - assessed tree characteristics suitable for site and client requirements
  - assessed and determined the suitability of trees for site

    - evaluated performance of trees common to a local region for suitability for planting site
- assessed the root zone profile for the tree planting site, including:
    - estimated the available root zone profile
    - verified the root zone profile is proportionate for proposed tree dimensions
    - assessed the hydrological and environmental conditions on tree selection
- tested root zone profiles for characteristics to aid tree selection for at least 5 distinct root zone profiles, including: 3 natural soils, 1 soil mix and 1 growing media. The tests must include:
    - field texture assessment
    - structure
    - compaction
    - bulk density
    - organic content
    - pH and electrical conductivity
    - infiltration rate and drainage
    - moisture holding capacity
- prepared specifications for tree selection according to industry standards including:
    - planting method appropriate to the species and the site
    - soil or media amendments from test results
- investigated the availability of potential tree stock and verified size and quantities against selection criteria and client brief
- checked and recorded quality and quantity of trees and root zone profile materials on site for quality and quantities according to specifications
- produced a report of the identification, selection and specification process and incorporated the correlated records and presented report according to client brief.

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:

- principles of consulting with clients and use and purpose of client brief
- legislative and regulatory requirements regarding tree selection, including:
    - environmental and ecological implications
    - declared and other weed restrictions
    - hazardous tree species
- assessing site characteristics for tree selection, including:
    - functional life expectancy of tree and site
    - tree functionality for specified locations
    - appropriateness of tree selection characteristics for site aspect and dimensions
- effect of site constraints on the tree selection process, including:

    - verge width
    - aerial power and telecommunications lines
    - potential to impede visual references (roads and driveways, signage, traffic lights)
    - potential to impede traffic flow and structures (footpaths, roadways, building, infrastructure)
- use of research techniques from reference materials, including:
    - plant taxonomic keys
    - electronic data
    - plant guides
- broad botanical concepts of tree selection for the following:
    - ethnobotany
    - tree morphology
    - tree physiology
    - taxonomy and nomenclature
    - environmental conditions for the functional characteristics of the tree
- basic calculations for estimating planting area and root zone profile
- root zone profile and characteristics as a determinant for tree selection, including:
    - type of root zone profile (natural soil, soil mix or growing media)
    - size and volume of root zone profile and proportion to the mature size of tree
    - site hydrology
    - specifying soils and growing media, including standards to apply
- testing and evaluating soils, soil mixes and growing media for physical and chemical properties and suitability for growing trees, including:
    - identifying soils and soil types
    - testing for pH, electrical conductivity (EC), nutrients
    - testing for wettability, moisture holding capacity, drainage, organic matter
    - amendments to improve soil, soil mix and growth media
    - growing media or soil selection and suitability for purpose
- tree selection methodology using quality criteria of suitability for purpose, including:
    - evaluation of trees common to a region
    - documenting and rationale for tree selection
    - selection of trees based on form and function
    - selection of trees for ecological and environmental purposes
    - recommendations of trees
    - matching species and cultivars appropriately to the selection criteria
    - transplanting issues for mature trees
- documenting tree specifications, including:
    - quality standards for tree stock
    - tree stock selection, type and size of plant, container or root ball
    - tree stock selection and growing media quality and specifications

    - tree planting specifications
- quality control and quality assurance, including:
    - checking procedures for deliveries of plants and growing materials with the specifications
    - how to monitor quality and apply quality controls
    - tree structural quality
    - recording quality checks on delivered plants and products
    - impact of Australian Standards AS2303, AS2223 and AS3743 on growing media and quality assurance
- design and construction of plant databases, including:
    - field design for taxonomy and nomenclature
    - field design for characteristics of tree
    - entry of tree data
- reports and reporting procedures for identification, selection and specification process.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
    - a worksite requiring tree planting, or environment that accurately represents workplace conditions
- resources, equipment and materials:
    - computer with word processing software, and database software
    - digital image capture device
    - soil testing equipment
    - loupe
    - tree reference materials, including field guides, print and digital taxonomic keys
    - live tree specimens
    - soils, soil mixes and growing media
- specifications:
    - workplace safety policies and procedures related to tree identification and selection
    - client brief and instruction for tree requirements for a specific site
    - Australian Standards AS2303, AS2223 and AS3743
- relationships:
    - client.

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

- 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.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72