Transplant small trees

AHCPGD204

Overview

By the end of this topic, you should be able to:

- Prepare for tree or shrub removal
- Prepare tree or shrub and undertake earthworks for removal
- Remove tree or shrub from original site
- Replant tree or shrub in new environment
- Complete transplant operation

What is transplanting?

- Transplanting is the process of digging and replanting trees from one location to a new location
  - Undesirable species, and trees in poor health or impractical positions (i.e. dangerous or costly) may not be transplanted

- Usually autumn and spring are considered the optimal times for transplanting
  - The plants are under the least stress in these seasons (e.g. not too hot)
  - There is less risk of inclement weather

Preparing for transplant

- To prepare for transplanting small trees, you should familiarise yourself with the following:
  - Task requirements
    - Obtain transplanting plans/instructions
    - Confirm requirements with supervisor
      - Apply active listening when receiving instructions
      - Clarify any unclear instructions with your supervisor

Preparing for transplant

- To prepare for transplanting small trees, you should familiarise yourself with the following:
  - Workplace information
    - This may be site-specific information, such as a site map or site safety plan
    - Enterprise guidelines
    - Applicable Standards, including:
      - AS 4373 which addresses pruning of amenity trees, including:
        - Root pruning
        - Reducing the risk of pathogen infection and premature death

Preparing for transplant

- To prepare for transplanting small trees, you should familiarise yourself with the following:
  - Work area
    - Take note of the plant to be transplanted
    - Determine the conditions for the new planting site
    - Be aware of the location of underground services
      - Contact Dial Before You Dig
    - Identify any WHS hazards (e.g. injuries to your person, heat stroke, sunburn, injuries from equipment)
      - Rectify and/or report hazards to your supervisor within a timely fashion – especially emergency situations

Preparing for transplant

- To prepare for transplanting small trees, you should familiarise yourself with the following:
  - Available PPE, tools and equipment
    - PPE may include: Gloves, protective clothing, wide brimmed hat, work boots
    - Tools and equipment may include: Fertiliser, hose, knife, secateurs, shovel, spade, trowel, watering can, wheelbarrow
    - Ensure they are appropriately selected, prepared and used for the task, following supervisor's instructions and manufacturer's specifications

Preparing for removal

- To prepare a tree for removal:
  - The crown must be prepared
    - Remove unhealthy branches to reduce susceptibility to pests and disease
    - The requirements will differ according to the requirements of the species and the time of removal
      - Pruning is not always beneficial, as it can reduce its ability to make food and build up reserves
    - Tie branches to the central trunk
  - The site should be cleared and watered
  - The root ball width and depth should be confirmed with the supervisor
    - The root system needs to be able to colonise new ground
    - The root ball width and depth will differ according to the species and size of the specimen
      - Generally, the diameter of the excavated root system or soil ball should be five time the base of the tree trunk (but not less than 40cm)
      - Generally, the depth of the excavation should be 2/3 of the soil ball's diameter (but not shallower than 25cm)

Remove tree from original site

- When removing the tree from the original site:
  - Prune the tree roots
    - Undertake this task months in advance to reduce the shock for the plant and to give it the best chance for surviving the move
      - The goal is to allow the plant to develop new feeder roots
      - Generally, after pruning roots, sphagnum moss/peat is placed to encourage new root growth
    - At the time of removal, roots are visible in the medium
      - Where possible, the root to be pruned should be located and exposed using minimally destructive techniques such as hand digging, compressed air or water-jetting
    - All cuts should be made with sharp tools
      - Aim for clean cuts – avoid tearing or breaking which may cause disease to set in
  - Apply anti-transpirants (as a root soak or foliar spray) to ensure the viability of the plant is maintained

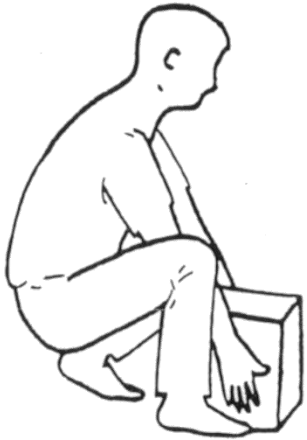
Remove tree from original site

- To remove the tree from the ground, follow these steps:
  - Gently rock the plant from side to side
  - Stabilise the tree
  - Cut the roots on the bottom of the soil ball and cut side walls of ball past the introduced medium
  - Slide protective material under the ball
    - Use an untreated natural burlap – synthetic burlap will not rot away and will eventually restrict root growth
    - Pack the roots in sphagnum peat moss or wood shavings to keep the soil ball moist
  - Grasp the corners of the protective material and lift the soil ball out of the hole
  - Wrap the protective material around the soil ball and tie it to stop it from loosening during handling
  - Use wire mesh netting to maintain the stability of the soil ball

Manual handling

- While transplanting, you will be undertaking manual handling tasks
  - Be sure to follow appropriate procedures to avoid injury

- Ensure the following:
  - Neck is upright
  - Back has natural curve
  - Feet are flat and facing the load
  - Shoulders are level
  - Knees are bent
  - Hands have a good grip around the load



Protecting the tree

- The tree may be wrapped with a protective material to avoid damage during transportation
  - For example: Sackcloth, canvas, hessian, burlap

- Trees should be protected from the following during transportation:
  - Unsuitable handling
    - Do not handle by the trunk or the crown
  - Weather extremes (heat or cold)
  - Weather exposures (e.g. rain or strong sunglight)
  - Drying out
  - Theft

Replanting the tree in the new environment

- Follow the steps outlined below when carrying out the planting process:
  - Stand the plant in the prepared hole
  - Fill the hole with backfill to ¾ full
  - Gently tamp the soil
  - Fill the hole with water and let the water drain
  - Straighten the plant
  - Finish filling the hole

The transplantation process (i.e. excavation, transporting and planting) should ideally be completed within the same day

Replanting the tree in the new environment

- The new site should:
  - Have suitable drainage
    - Test this by digging a hole, filling it with water and checking two hours later whether it has drained away
    - Soil drainage can be improved with organic matter, filling and regrading water-collecting areas, or installing drain tiles

Replanting the tree in the new environment

- The new site should:
  - Have suitable soil conditions for the plant
    - Before planting the transplanted tree, modify the soil conditions according to the cultural requirements of the species
    - For heavy soils (e.g. clay):
      - Do not be tempted to fill holes dug in heavy soils with a lighter soil or amended soil mix
        - This will create a bowl that catches and holds too much water, suffocates roots and kills the plant
      - Rather, when planting trees that require excellent drainage in heavy soils, create a raised bed for the plant
    - If the tree is not able to stand without leaning, install supporting structures immediately (e.g. staking)
      - When tying the stakes to the tree, be sure to protect the tree from damage using plastic or fabric

Replanting the tree in the new environment

- The new site should:
  - Provide adequate space for the plant
    - As a general rule, the hole should be 2-3 times wider than the root ball, and as deep as the root system
      - The finished tree should be just as deep in the new location as the old

Complete transplant operation

- The transplanted plant must be maintained with regular aftercare activities appropriate to the requirements of the species
  - Water the tree immediately after transplanting, again after 2-3 days and then again after one week
    - In summer, spray the tree crown and trunk with water
  - Apply nutrients to the plant
    - As sandy soil does not retain nutrients well, use water-soluble fertiliser in the first watering and again once or twice during the first season
  - Keep the tree free from pests
    - Use pesticides, if necessary
    - Trim away branches which are withered or affected by disease

Complete transplant operation

- As part of completing transplanting tasks, you are required to complete the following practices:
  - Clean up the work area
  - Record transplant details on appropriate paperwork
    - Record your findings as clearly as possible, being mindful of people's varying backgrounds and abilities
  - Maintain, clean and store tools and equipment according to manufacturer's specifications
    - Report faults that are discovered
  - Dispose of materials that cannot be reused or recycled
    - Be discerning with the plant material recycled into mulch. Don't risk the spread of disease.
    - Ensure that you follow the organisation's requirements for handling and disposing of waste.