

# THE VICTORIAN TREE INDUSTRY (VTIO) TREE CLIMBING POLICY

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## **1. ACKNOWLEDGEMENTS**

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## **2. CLIMBING ATTIRE**

### ***2.1) Climber:***

- ◆ All jewellery, including ear rings, rings and necklaces must be removed or covered with tape.
- ◆ Long hair is to be restrained.

### ***2.2) Climber to wear:***

- ◆ Comfortable clothing that is close fitting without restricting movement.
- ◆ Lace up safety boots with high ankle support.
- ◆ Eye protection.
- ◆ HI – VIS clothing.
- ◆ Climbing helmet.

#### **If spur climbing:**

- ◆ Boots require a flat reinforced instep with a well defined heel to locate spur stirrups

### ***2.3) Climbers and Chainsaws:***

- ◆ Approved cut resistant trousers.
- ◆ Lace up, high ankle boots.
- ◆ Approved ear and eye protection.
- ◆ Helmet.

### 3. CLIMBERS ABILITY

#### 3.1) *Climbers must:*

- ◆ Be physically and mentally fit.
- ◆ Exhibit zero blood alcohol and be free from the effects of any drugs (any prescribed medication will require a medical certificate.)

#### 3.2) *Climbers training:*

An Unsupervised climber must have Certificate III in Horticulture (Arboriculture) **or as a minimum** have demonstrated competency in the following skill sets (Nationally Accredited Units of Competency):

- ◆ A current First Aid Certificate (Level Two or equivalent) and maintain their CPR currency on an annual basis.
- ◆ RTF1002A Support Arboricultural Work, RTF2027A Undertake Standard Climbing Techniques & RTF3702A Undertake Aerial Rescue – covering Tree Hazard & Risk Assessment, Rope and Harness Climbing Techniques, Use of Spurs, Aerial Tree Rescue.
- ◆ RTF3019A Remove Trees in Confined Spaces (including chainsaw use above ground).
- ◆ RTF3031A Undertake Complex Tree Climbing.
- ◆ Arboricultural Chainsaw Operators Certificates Level 1, 2 & 3 (RTC2304A Operate & Maintain Chainsaws, RTC2005A Fell Small Trees and RTF3007A Fell Large Trees or equivalent).
- ◆ Any other necessary training and experience to carry out the specific work required, i.e. Worksite Traffic Management, OH&S Card, Limits of Approach, etc.
- ◆ Minimum 500 hours of logged supervised climbing.

## 4. CLIMBING CREW

### 4.1) Crew size:

- ◆ A minimum of two suitably trained people should be present on every job site. One person "**The Climber**" and one "**Ground Crew**".
- ◆ Rural work site "**Crew**" Refer to clause 6, "Work Site Safety", which states that communication must be available at all times. If you are in an extremely remote and hazardous area your Hazard Assessment would identify that you require a third person on site.
- ◆ At least 2 competent tree climbers must be present on any job site.

### 4.2) Ground crew duties:

- ◆ Have a Zero blood alcohol level and be free from the effects of any drugs (prescribed medication may require a medical certificate).
- ◆ Maintain a clear and safe work site and a calm and controlled working environment.
- ◆ Ensure that any person or other worker within the work site is fully aware of the nature of the work and is aware of what is taking place.
- ◆ Ensure that any worker on site is wearing a hard hat and Hi – Vis clothing or reflective vest if required.
- ◆ Minimise all ground level noise to maintain communication with climbers.
- ◆ Wear a safety helmet and Hi – Vis tops or reflective safety vest **at all times**.
- ◆ Wear cut resistant trousers or chaps, helmet, safety glasses and ear muffs if chainsaw is used.
- ◆ Maintain communication with the climbers at all times.
- ◆ Public and traffic must be excluded from the work site and adequate signage that complies with the current Australian Standard must be clearly visible.
- ◆ Consider and anticipate the climber's needs and actions at all times.
- ◆ Be aware of all hazards on the site and be prepared to warn climber.

- ◆ Remain on the work site and remain attentive until the climber has exited the tree.
- ◆ Consider a rescue plan for each individual situation as it is encountered.
- ◆ Rescue an injured climber if necessary. (trained climber)
- ◆ Administer first aid as required.

**One ground crew member may be able to assist up to three climbers provided that:**

- ◆ Communication is maintained at all times with each climber.
- ◆ The work site is confined to a manageable area.
- ◆ The work is not being undertaken in close proximity of powerlines as the role of being an “Observer or Spotter” is to observe for one person ONLY.
- ◆ The work site and job requirements do not compromise verbal and visual communication between each climber and the ground crew.
- ◆ The ground crew’s primary duties are to observe and assist the climbers.
- ◆ Safety is not compromised.

***4.3) Ground crew training:***

**Must have:**

- ◆ A current First Aid Certificate (Level Two or equivalent) and maintain their CPR currency on an annual basis.
- ◆ Arboricultural Chainsaw Operators Certificates Level 1 & 2 (RTC2304A Operate & Maintain Chainsaws and RTC2005A Fell Small Trees or equivalent).
- ◆ Any other necessary and relevant training and experience to carry out the specific work required, i.e. Worksite Traffic Management, OH&S Card, Safety Observer/Spotter, etc.
- ◆ Appropriate training and assessment in the use of Arboricultural machinery, e.g. wood-chippers, stump-grinders, if these are to be used on site.
- ◆ Competent use of ropes and ground rigging.

## 5. WEATHER CONDITIONS

### ***5.1) The climbing crew will need to consider the following when determining safe weather conditions for tree climbing:***

- ◆ Ability, training and experience of climbing crews.
- ◆ Species of trees to be climbed, e.g. smooth bark compared to rough bark.
- ◆ Nature of work to be performed, e.g. close to trunk, minor pruning, compared to removal of long, heavy, slippery branches.
- ◆ Acknowledge that tree climbing is a strenuous activity.
- ◆ High temperatures - climber fatigue accelerated.
- ◆ Low temperatures - climber fatigue accelerated.
- ◆ Humidity - climber fatigue accelerated.
- ◆ Wet trees provide poor grip, foot and hand holds.
- ◆ High winds can cause branch or trunk failure and unpredictable movement with rope tension varying.
- ◆ Wind may limit verbal communication and climber ground crew visibility.
- ◆ Erratic gusting winds are more unpredictable than strong steady winds.
- ◆ Fog and mist may limit climber visibility.
- ◆ Efficiency may be severely reduced in adverse weather conditions. If steady rain, work should cease.

### ***5.2) Tree climbing in adverse weather:***

Climbing may be considered unsafe if the following limits are exceeded.

Additional safety precautions **MUST** be initiated should situations necessitate climbing. In adverse weather conditions, shorter working periods should be considered, e.g:

- ◆ Temperatures above 37 °C or below 5 °C.
- ◆ Wind chill factor reduces temperature to below 5 °C.
- ◆ Humidity above 85%, temperature above 35 °C.
- ◆ Wind Speed above 25 Knots (60 km/h approx., 6 on the Beaufort wind scale,

large branches in motion, whistling heard in telegraph wires. Beaufort Wind Scale (see attachment).

- ◆ Rain 1mm in a 10 minute Period.
- ◆ Intermittent showers - consideration must be given to bark, foliage type, rope grip and equipment handling before work recommences.
- ◆ Steady and continuous rain - climbing should cease.
- ◆ Work should cease prior to sunset and not start before sunrise.

## 6. WORK SITE SAFETY

### **6.1) Before work commences:**

- ◆ Climber and crew to carry out job-site Risk Assessment and discuss work plan.
- ◆ Prior to climbing, the nature of all hazards of the site must be established and strategies devised to minimize them.
- ◆ A complete St. Johns First Aid Kit (or equivalent) must be positioned **on the site**.
- ◆ On site access to a telephone or two way radio must be established with location noted and site address made known to all staff.
- ◆ Interested bystanders must be kept well out of the work site (exclusion zone).
- ◆ All sites (Public parks, suburban streets, major roads etc.) must be safety signed or barricaded as each situation requires. The signage must be to the appropriate Australian Standard and conform to Vic Roads standards.

### **6.2) Possible hazards:**

- ◆ Electrical conductors - number, voltage, height and distance from work site.
- ◆ Bees, wasps, snakes or other stinging biting hazards.
- ◆ Other trees, dead limbs, intertwining branches.
- ◆ Other site works - tree falling, building, landscaping etc.
- ◆ Traffic – vehicular and pedestrian.
- ◆ Underground pipes - gas, power and water.
- ◆ Star pickets and garden stakes removed or covered if within the work site.
- ◆ Cranes.

- ◆ Earth moving equipment.

### **6.3) Working hours:**

Physical or mental fatigue can diminish a worker's ability to undertake tasks in a safe manner, increasing risks to health and safety.

In amenity tree work, where many jobs are physically demanding, the 'heaviest' jobs are often left until the end of the day. Workers who have climbed and cleared branches throughout the day may find that the trunk of a tree requires cutting up using large chainsaws and sections may then have to be lifted onto a truck or trailer.

The term 'last cut syndrome' refers to the practice of pressing on to finish a job in spite of fatigue. The job would be more safely completed the following day when workers are rested.

#### **Physical fatigue can be managed by:**

- ✓ adopting work practices that reduce effort and strain.
- ✓ job rotation of climber and grounds person throughout the working day.
- ✓ ensuring that there are enough workers to do the job safely.
- ✓ utilising better designed equipment.
- ✓ taking regular breaks to avoid build up of fatigue.
- ✓ fluid replacement and nutritious food.

### **6.4) Points to consider:**

- ◆ Species, size and condition of tree.
- ◆ Pruning operation or tree removal operation.
- ◆ Hand held branches.
- ◆ Size and weight of any branches or logs.
- ◆ Site constraints.

### **6.5) Number of climbers per Tree:**

- ◆ Normally it is one climber per tree. However, in some situations more than one climber in a tree can provide a safer method of performing the required tasks.
- ◆ Two or more climbers must be made to maintain communication.

- ◆ Climbers should work at approximately the same height.
- ◆ Climbers must be aware of the position of other climbers at all times and never remove any part of the tree that could endanger them.

## 7. TREE INTEGRITY

Every tree must be inspected before it is climbed to determine if precautions or special techniques are required for the climb. The climber must agree that the tree is safe to climb.

### ***7.1) A systematic inspection using the following guidelines:***

- ◆ What species of tree is it and what is its approximate age?
- ◆ Are there any species specific problems or hazards associated with the tree?
- ◆ Any allergies or other factors that may be detrimental to health associated with the species?
- ◆ Is the tree alive? If dead, do any specific hazards exist?
- ◆ Is the tree stable in the ground? Does it need to be braced?
- ◆ Consider using a rope to test for stability.
- ◆ Check for dead wood that may fall whilst the tree is being climbed.
- ◆ Is the trunk sound, is it decayed or damaged?
- ◆ Is it strong enough to be climbed?
- ◆ Check for branches that have developed from epicormic shoots.
- ◆ Are the major branches well attached?
- ◆ The crown has to be checked for suspended broken branches, poorly attached branches, split forks, fungal fruiting bodies, ant nests, or any other crown defect.
- ◆ Are there any foreign objects (nails, spikes, wire, bricks, concrete etc.) in the tree.
- ◆ If the tree is deemed to be unsafe to climb then alternative means of accessing the tree must be implemented, eg. erection of scaffolding, use of elevated work platforms, felling the tree etc.

- ◆ Do not swing from one tree to another unless tree integrity has been checked.

## 8. SAFE CLIMBING TECHNIQUES

- ◆ Climbing is an appropriate method of working in trees. The skills and competence of the climber and the procedures followed by people on the ground become critical to safety.

### 8.1) *Climbers shall:*

- ◆ Check all climbing equipment daily prior to use and continually throughout the day.
- ◆ The second climber shall check the main climbers' primary points of attachments before starting each work day.
- ◆ Wear a safety harness. Ensure all harnesses and other falls prevention equipment shall comply with Australian Standards or equivalent International Standard.
- ◆ Be attached to the tree or a "safe top belay" **at all times**.
- ◆ Carry a climbing rope at all times. The rope should be at least twice tree height where practicable. In certain circumstances, i.e. small trees or lopped trees where it has been identified that there is no suitable or practical attachment point, other means of secondary attachment will need to be established
- ◆ Not climb trees on spurs using only a pole belt, **a climbing rope must be carried at all times**.
- ◆ Take extreme care when establishing an anchor point. Attachment should be **around the trunk, main leader over a suitable branch**. If the anchor point is to be set out on a branch away from the main trunk, the size of the branch (diameter of attach point), its angle of attachment to the main trunk and the distance of the anchor point from the main trunk must all be carefully considered. The strength of the anchor point must be tested before climbing. This can be tested by using the body weight of the climber and ground crew on the climbing line. Where there is any doubt about its capacity as a safe anchor, then a belay stop should be established at a point where there is absolutely no doubt about the strength of the anchor. A redirect can then be established out on

the branch at the desired point.

- ◆ Use a minimum of two karabiners when a strop is used as an anchor point.
- ◆ (T.D.S) Tied, Dressed & Set Procedure - Care **SHALL** be taken that all knots are tied correctly and are physically and visually inspected prior to taking weight on them. The climber shall signal they have visually inspected their gear.
- ◆ Keep climbing rope taut at all times when it is the primary attachment. At no time should slack in climbing rope fall below climber's knees.
- ◆ Not climb above the anchor point without a second attachment point.
- ◆ Not branch walk without a second attachment if there is any risk of a dangerous pendulum fall.
- ◆ If there is a risk of a dangerous pendulum fall, measures must be taken to mitigate that risk..
- ◆ Have regular visual or verbal communication with the ground crew.
- ◆ When using a chain saw in a tree, maintain two forms of attachment unless it is unsafe to do so.
- ◆ Never use climbing ropes for any other purpose except climbing.
- ◆ Use designated lowering ropes for lowering and never for climbing.

## 9. EMERGENCY RESCUE

### *9.1) Each job site must have:*

- ◆ Access to a mobile phone or other reliable means of communication.
- ◆ A copy of the job sheet outlining the precise location of the job with the mobile phone and emergency telephone number, **000** in Victoria.
- ◆ **Risk Assessment** - Prior to commencement of work, a Job Safety Analysis must be discussed and documented.
- ◆ **Plan for aerial rescue** - at each job site, rescue kit must be within easy access, appropriate to the work being undertaken and in serviceable condition.  
The Risk Assessment for each specific job will have noted on it the **EXACT** location of the site. This will be appropriate for directing emergency services to the rescue location in the case of an emergency.
- ◆ **Rescue Kit Contents** - As mentioned above, the rescue kit must be on hand

and must be within easy access, appropriate to the work being undertaken and in serviceable condition, stored in a sturdy bag. The contents of the rescue kit should be documented on an inventory form and the form laminated and stored within the rescue kit bag. The bag should be secured with a “zip tie” or similar which can be easily cut or removed when required. As the current industry standard is that two competent tree climbers be on site at all times (one grounds person and the other in the tree) that the grounds person will have his or her own kit on site that they will use in the case a rescue needs to be performed, the contents of the rescue kit (designated for rescue purposes) as a minimum must include the following items, of which are not a part of the normal climbing kit;

- a first aid kit, sharp knife and whistle
- tape sling appropriate for a chest harness and/or re-direct,
- spare prussik,
- foot-lock prussik,
- figure ‘8’,
- 3 karabiners for the rescuers’ climbing system and,
- It is essential a rope of adequate length is on hand and ideally pre-set to provide rapid access in the case of an emergency as an access line in the tree prior to accessing the tree to perform the required works.

**The rope in the rescue kit may have prussik loop pre set and may be prepared in advance for the placement of a high point off the pre-set access line.**

- ◆ **First Aid Kit** - The contents of the First Aid Kit will need to include items for treating serious bleed injuries as well as a normal selection of equipment. First Aid Kits at the worksite must conform to Australian Standards - National Code of Practice for First Aid. On each vehicle the first aid kit location must be visible, regularly inspected, restocked and accessible to all crew members.

Ideally the First Aid Kit should be attached to the climbing harness where it is accessible more readily.

## **10. CLIMBING IN CLOSE PROXIMITY TO POWER LINES**

Climbers and the grounds person/s working in close proximity to power lines must:

- ◆ Be suitably trained and authorised in “Safe Approach Distances for non-electrical personnel” of their relevant state or territory.
- ◆ A trained and authorised “Safety Observer” must oversee the climbing operation and must have a Limits of Approach Certificate.
- ◆ Helmets (with chin straps) must be worn at all times.
- ◆ Must notify the relevant power authority that climbing is occurring in the vicinity of power lines.
- ◆ The telephone number of the relevant power company must be available to the observer should any problem or emergency occur.
- ◆ Power lines must be located and the voltage identified.
- ◆ Power lines are to be treated as live at all times regardless of shut downs.
- ◆ Distances from the lines must be estimated and appropriate action taken depending on the voltage and the nature of the required works. This may involve shut downs or other strategies.
- ◆ When accessing trees in inclement weather or trees with wet foliage, climbers **MUST** only work in trees with vegetation outside the “Safe to Approach Distances” relevant to the state or territory.
- ◆ Climbing ropes must be set with extreme caution; any possibility of pendulum swings which would break body clearance regulations must be avoided.
- ◆ Climbers or their equipment must never break body clearance regulations.
- ◆ Climbers must never climb directly above high voltage power lines.
- ◆ The observer's main duty is to ensure that the operation is conducted safely at all times.
- ◆ The observer should be organized and prepared to respond to any safety problem or emergency.

- ◆ Only non conductive materials are to be used for pole saw handles.
- ◆ Steel cable pole belts must not be used within the safe approach distance of powerlines relevant to state or territory regulations.
- ◆ Conductive ladders are not to be used in the vicinity of power lines.
- ◆ Natural fibre clothing such as cotton MUST be worn.
- ◆ Lowering ropes must be set within the tree so that cut limbs are directed away from the power lines.

## **11. CLIMBING EQUIPMENT STANDARDS**

### ***11.1) Climbing Equipment***

- ◆ All climbing equipment must be inspected at least once every six months by an independent person who is competent to do this. Dated and signed inspection forms must be recorded and filed in Company records.
- ◆ Faulty equipment must be made safe or decommissioned immediately. .
- ◆ Equipment designed specifically for the Arboriculture Industry must be used wherever available and practicable.

### ***11.2) Harness***

- ◆ Tree climbing harness must conform to A.S 1891 or equivalent and must have leg straps fitted.

### ***11.3) Karabiner:***

- ◆ Triple action self locking karabiner shall be used as a primary point of attachment.
- ◆ Karabiners with a screw gate locking device shall not be used as a climbing attachment.
- ◆ All Karabiners used for life support must be rated to a minimum 22 Kn. As listed in AS???????????????

### ***11.4) Climbing rope:***

- ◆ Climbing lines shall have a minimum nominal breaking strain of 22 kn when

new.

- ◆ Prussic Loops shall be:-
  - No smaller than 8 mm (recommended 10mm).
  - If tied with a fisherman knot, each end must protrude at least 3 times the rope diameter.
  - Replaced if the outer cover is worn through at all.
- ◆ Replaced if any section hockles, or appear stiffer than the rest of the rope.
- ◆ Replaced if it suffers any mechanical or chemical damage, or is showing obvious signs of wear.

**Note:** Natural fibre rope is **not** to be used as a climbing rope.

### ***11.5) Steel Cable Flip Line or Pole Belt:***

- ◆ Both attachment points to the harness should be minimum automatic triple locking clip or Karabiner.

### ***11.6) Climbing Spikes/Spurs:***

- ◆ Climbing Spikes shall be from a recognised manufacturer.

### ***11.7) Climbing aids:***

- ◆ All climbing aids eg. spreader bars, bridges, strops, pulleys, ascenders, Dumars, figure 8's, to be rated to 22kn.
- ◆ Chainsaws or other heavy equipment when in use by a climber must be attached to the climber by a triple locking karabiner or equivalent.
- ◆ Climbing equipment must never be used as rigging for branch lowering or controlled falling.
- ◆ Only rated hardware is to be used for branch lowering or controlled falling.

# APPENDIX 1

## ***DEFINITIONS***

- ◆ Anchor Point: A strong, safe branch or trunk crotch that can be used for the setting of a climbing rope or lowering rope.
- ◆ Ascender: An approved length of rope or mechanical device used to ascend a climbing rope.
- ◆ Belay: A fall arrest system of protection for a climber by a second person using an approved friction device.
- ◆ Ground Crew: Person who is responsible for and supervises a tree-care operation on the ground and who is required to maintain a safe working environment. The person should have appropriate training and experience for the task involved.
- ◆ False Crotch: An anchor point established where a natural crotch is not suitable. It is often a sling, with a running loop around the trunk and two karabiners forming the bearing surface for the rope.
- ◆ Spurs: Tree climbing spikes, manufactured to an approved standard, which are attached by straps to the climbers legs. To be used in tree removals or emergencies only.
- ◆ Tree Climber: Person using standard tree climbing equipment to safely ascend, descend, move freely around the tree and carry out various tasks in trees competently
- ◆ Tree: Woody plant over two metres including palms, either alive or dead. Manufactured or constructed poles or "trees" are excluded.