

**Recommended Best Management Practices
for the Arboriculture Industry during the COVID-19 Pandemic**

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Introduction

This document serves to provide foundational recommendations for employers and employees in the arboriculture industry to aid in efforts to prevent infection and to slow transmission of COVID-19. The document contains relevant information for employers, employees, and clients involved in arboriculture practices. It is imperative that individuals involved in arboriculture practices during the COVID-19 pandemic exercise caution to prevent infection and to slow transmission of COVID-19.

The following recommendations are suggested based on the World Health Organization's (WHO) *Getting your workplace ready for COVID-19* (2020, March 3, <https://www.who.int/news-room/detail/09-03-2020-covid-19-for-health-workers>). The following recommendations are an inclusive but not an exhaustive list of recommended practices and actions to be taken in the prevention of COVID-19 in the arboriculture industry. Adherence to these recommendations does not guarantee the protection of an individual or workplace from COVID-19 infection; however, based on the information provided in *Getting your workplace ready for COVID-19* (WHO, 2020), these recommendations and measures will aid in preventing the spread of infections. Failure to follow COVID-19 guidelines may risk the health and safety of employees, clients, and members of the general public.

These recommendations should not supersede municipal, provincial/state, and federal/national laws regarding arboriculture practices, industry specific requirements during the COVID-19 pandemic, and general COVID-19 preventative measures. Failure to abide by existing and evolving recommendations and preventative measures during the COVID-19 pandemic may result in regulatory measures that further affect the arboriculture industry.

In this document, "employees" shall include any individual involved in the practice of arboriculture, including, but not limited to full-time or part-time employees, contractors, sub-contractors, and company owners involved in the operation of the business.

This document addresses recommendations in the following sections:

1. Routine Precautions
2. General Measures Specific to the Arboriculture Industry
3. Specific Recommendations for Employers
4. Client Interactions
5. Personal Protective Equipment Specific to Arboriculture
6. Management of Fleet Vehicles
7. Management of Heavy Machinery Operations
8. Management of Small Engine Equipment and Hand Tools
9. Refueling
10. Pruning Practices
11. Felling Operations
12. Tree Climbing
13. Rigging
14. Tree Planting
15. Conclusion
16. References and Additional Resources

Section 1.0: Routine Precautions

The following precautions are adapted from the World Health Organization's *Getting your workplace ready for COVID-19* (WHO, 2020) to prevent infection and to slow transmission of COVID-19.

- Maintain clean and hygienic workplaces.
 - o Disinfectants should be readily available to clean any surfaces which are touched regularly, including, but not limited to vehicle interiors, power tools, and operating controls. Disinfecting should occur at least twice daily, including, but not limited to the end of each workday.
- Promote regular and thorough handwashing by any individuals involved with your business.
 - o In the absence of handwashing facilities, alcohol-based cleansers should be readily available for all employees.
- Encourage employees to practice proper cough etiquette and hand hygiene.
- Encourage employees to avoid touching their faces.
- Encourage employees to stay home if they are feeling unwell and/or display symptoms of infection (included, but not limited to new onset of cough, sneezing, fever, runny nose, or a change in taste/smell).
 - o Encourage employees to stay home if employees are taking medication(s) which may mask symptoms of infection, including, but not limited to “paracetamol/acetaminophen, ibuprofen or aspirin” (WHO, 2020).
 - o Continue to communicate and promote that employees must stay home, even if experiencing only mild symptoms of COVID-19.
 - o Consider displaying informational posters or informational materials in the workplace.
- Employees should NOT share personal articles, food, or water.

Section 2.0: General Measures Specific to the Arboriculture Industry

Section 2.1: Employee Rotation and Disinfecting

- Whenever possible, prevent the rotation of employees to different workstations, duties, or time slots in order to reduce the risk of infection and transmission of COVID-19.
- Where employee rotation cannot be avoided, employees should properly disinfect all surfaces, including, but not limited to the interior of fleet vehicles, heavy machinery, and workplace gear and tools in accordance with the World Health Organization's disinfecting protocols.

Section 2.2: Food and Water

- Employees should NOT share food or water with other individuals.
- Employees should arrive to work with sufficient food and water for the workday.
- Employees should be discouraged from eating in fleet vehicles or other enclosed vehicle areas.

Section 2.3: Employee Rest Periods (Meal Break, Rest Break)

- Employees should maintain a minimum of 2 meters (6 feet) from other individuals during rest periods/breaks.

Section 2.4: Crew Meetings

- Safety meetings, jobsite briefings, and other crew meetings should be conducted with a minimum of 2 meters (6 feet) between employees.

Section 2.5: Use of a Spotter

- When a second employee is required to act as a safety observer for another employee, the safety observer should maintain a minimum distance of 2 meters (6 feet) whenever safe, allowable, and feasible to do so.

Section 2.6: Arboriculture Road Signage.¹

- A specific employee should be assigned the task of distributing the necessary arboriculture signage when required

¹ "Arboriculture Road Signage" refers to the signage typically used in arboriculture, including, but not limited to signage indicating change in traffic flow patterns, roadside workers signage, no-parking signage, "Tree Work Ahead" signage, barricades, and pylons.

Section 3.0: Specific Recommendations for Employers

Section 3.1: Employers should recognize that COVID-19 can result in stress and anxiety among employees. Employers should support employees in accessing necessary resources when applicable.

Section 3.2: Adapt sick day policies to encourage employees to remain home when expressing symptoms of COVID-19, including, but not limited to coughing, shortness of breath, etc.

Section 3.3: Encourage employees to self-isolate following travel or direct contact with an ill person.

Section 3.4: Employers should not disclose personal medical information about employees to other individuals.

Section 3.5: To prevent workplace discrimination, employers should not make determinations of risk for COVID-19 infection based on race or country of origin.

Section 3.6: Employers should consider ceasing operations when an employee has tested positive for COVID-19 or the crew has come into contact with a client who has tested positive for COVID-19.

Section 3.7: Employers should consider supporting employees who use personal vehicles to drive to jobsites.

Section 3.8: Consideration should be given to adjusting payment deadlines and/or minimizing late-payment fees to accommodate for economic disruptions impacting clients as a result of COVID-19.

Section 3.9: Employers should encourage cashless transactions, especially electronic, remote, or online payment platforms.

Section 4: Client Interactions

Section 4.1: General Recommendations for Interactions with the Client

- Employees should respect physical distancing guidelines of a minimum of 2 meters (6 feet) during any interaction with the client.
- Whenever possible, conversations should be conducted through a telephone call or through electronic, remote, or online platforms including, but not limited to email.

Section 4.2: Interactions with the Client during Estimating/Quoting

- Encourage the client to mark/indicate the tree(s) to be estimated/quoted using a non-invasive indicator (including, but not limited to flagger's tape).

Section 4.3: Estimates and Invoices

- The exchange of estimates, invoices, and/or any other documents should be delivered to the client remotely using an electronic, remote, or online platform whenever possible.
 - o If the client is not able to access online options, the quote should be left in the mailbox or an area that does not require direct interaction with the client for delivery of the quote.
- Where documents must be signed in-person, do NOT share writing utensils.

Section 4.4: Instructions to the Client Preceding the Undertaking of the Services²

- The employee conducting the estimate/quote should request that the client move/relocate any items located within the estimated drop zone.
- Examples of items include, but are not limited to portable firepits, recycling bins, and lawn chairs.

Section 4.5: Contact with the Client During Undertaking of the Services

- Employees should limit interactions with the client during the undertaking of the services.
- Any immediate information required should be directed to the employee who performed the estimate/quote to minimize contact with the client.
- If the drop zone is extended during the conduction of the work, the client should be requested to move any property from out of the new drop zone if it is safe, allowable, and feasible to do so. During this time, the employees should stand a minimum of 2 meters (6 feet) from the client.

² For the purposes of this document, "the Service" or "the Services" describes arboriculture activities, including, but not limited to tree removal, tree pruning, and tree planting

Section 4.6: Receiving Payment

- In the suggested adherence to the use of cashless transactions, clients should be encouraged to pursue cashless transactions, especially electronic, remote, or online payment platform including, but not limited to e-transfers or credit card transactions over the phone.

Section 5.0: Personal Protective Equipment³ Specific to Arboriculture

There are inherent risks of transmission of COVID-19 through the sharing of Personal Protective Equipment (PPE) specific to arboriculture, including, but not limited to helmets, ear protection, eye protection, and chainsaw-protective clothing. Accordingly, the following recommendations specific to PPE are:

Section 5.1: The employer should make available the necessary PPE for employees. This would reduce the possible sharing of PPE.

Section 5.2: No employee should share PPE with another individual. Employers should prohibit the sharing of PPE

Section 5.3: PPE should be in the care of the employee to whom it is assigned.

Section 5.4: PPE should NOT be stored loosely within fleet vehicles or other enclosed areas. PPE should be stored in separate air-tight containers as assigned to individual employees.

³ In the context of this document, “Personal Protective Equipment” or “PPE” shall refer to equipment specific to arboriculture, including, but not limited to helmets, ear protection, eye protection, chainsaw-protective clothing, and fall restraint harnesses. This is distinct from the context of healthcare environments.

Section 6.0: Management of Fleet Vehicles

Section 6.1: An employee should be assigned to a specific fleet vehicle, wherein that employee should be the only individual to drive or operate the fleet vehicle unless fully and completely sanitized.

- No other employee should enter or operate the fleet vehicle for any reason, including, but not limited to reversing, hitching a trailer or wood/brush chipper, getting keys for an exterior tool compartment, or operating any controls within the vehicle, including, but not limited to strobe switches or the Power-Take Off (PTO).
- Rotation of fleet vehicles between employees should only be done when the fleet vehicle is properly disinfected.

Section 6.2: Fleet vehicles should be sterilized twice daily, including, but not limited to the end of each workday.

Section 6.3: No more than one employee should occupy a vehicle at any one time unless a passenger compartment is isolated and with an independent ventilation system.

Section 6.4: Employees should drive their personal vehicles to the jobsite when there is an insufficient number of fleet vehicles available for employees to adhere to physical distancing guidelines and Section 6.3.

Section 6.5: Employees who must arrive on site in their own vehicles should operate and park their vehicles in a manner in accordance with local statutes.

Section 6.6: An employee's personal vehicle should not be used during the arboriculture operations, including, but not limited to acting as a blocker vehicle behind a chipper.

Section 7.0: Management of Heavy Machinery Operations

Section 7.1: Wood/Brush Chipper Operations

- Only one employee should operate the key, clutch, or throttle of the wood/brush chipper.
- Only one employee should be responsible for the movement and adjustment of the chipper chute.
- Only one employee should be responsible for chipper maintenance (i.e. greasing the chipper, replacing chipper knives).
- Physical distance of a minimum of 2 meters (6 feet) should be maintained between all employees while feeding material into the wood/brush chipper.
 - o This recommendation still allows for the continued cycle of workers feeding wood debris (branches, limbs, stem sections, etc.) into the chipper. This prevents sustained time between materials being fed into the chipper.
 - o When feeding large wood debris into the chipper requires additional employees to aid in feeding the material, employees should minimize the amount of time that they are within 2 meters (6 feet) of each other.

Section 7.2: Cranes and Knuckle Booms

- Only one employee should be responsible for the operation of a crane or knuckle boom.
 - o The operator's cab should be disinfected in the same manner as the interior of fleet vehicles (disinfected twice daily, including at the end of each workday).
- Only one employee should be responsible for the laying of dunnage, matting, outrigger pads, etc.

Section 7.3: Aerial Lifts⁴

- Only one employee should be assigned to operate the aerial lift.
- The employee assigned to operate the aerial lift should NOT share the fall restraint harness(es) for use in the aerial lift with other employees nor allow other employees to come into contact with the fall restraint harness(es).
 - o The fall restraint harness(es) should be treated in the same manner as Personal Protective Equipment (PPE) as described in Section 3.0.
- Any aerial tools used while aloft (including, but not limited to hydraulic saws) should be disinfected upon descent.
- Only one employee should be responsible for the laying of outrigger pads.

Section 7.4: Skid Steers and Mini Skid Steers

- Only one employee should be assigned to operate the skid steer or mini skid steer.
- The operator controls of skid steers and mini skid steers should be disinfected twice daily, including at the end of the workday.

⁴ The term "Aerial Lift" shall include aerial units such as, but not limited to overcenter and non-overcenter aerial devices, forestry units with an aerial device, and mobile/tracked aerial work platforms.

- Skid steers operator cabs should be disinfected in the same manner as the interior of fleet vehicles (disinfected twice daily, including at the end of the day).

Section 7.5: Use of Ground Mats

- When using ground mats to reduce vehicle compaction/impact on turf, the ground mats should be lifted by one employee. When a single employee cannot lift/carry a ground mat safely, a second employee should assist in lifting/carrying at the furthest possible distance from the first employee.
 - o Further explanation: if the ground mat is a 4x8 sheet of plywood, the two employees should carry the ground mat from the furthest ends, thus maintaining an 8-foot distance between the two employees.

Section 8.0: Management of Small Engine Equipment and Hand Tools

Section 8.1: Chainsaw, Leaf Blowers, and Other Handheld Power Equipment

- Handheld power equipment (including, but not limited to chainsaws and leaf blowers) should NOT be shared by multiple members of the crew.
 - o A handheld power tool (including, but not limited to chainsaws and leaf blowers) should be assigned indefinitely to an employee to operate.
- Handheld power equipment (including, but not limited to chainsaws and leaf blowers) should be maintained by the employee assigned as the operator of the particular handheld power tool.
- Employees should be responsible for the sharpening of their chainsaw(s) to minimize transmission.
 - o Sharpening tools should be disinfected between use.

Section 8.2: Hand Tools

- Tools including, but not limited to rakes, shovels, and axes should be assigned to employees for individual use until fully and completely disinfected.

Section 9.0: Refueling

Section 9.1: Refueling at Gas Stations

- Employees should adhere to appropriate hand hygiene practices when refueling fleet vehicles, machinery, etc. at a gas station, including wearing gloves when possible.
- Employees should adhere to physical distancing recommendations of 2 meters (6 feet) during the interaction with gas station staff or other individuals.
- Employees should adhere to cashless transactions by using the “tap” feature of a credit or debit card whenever possible when paying for fuel.

Section 9.2: Refueling of Small Engines

- An employee should be assigned the responsibility of mixing gasoline and two-stroke engine oil. The mixed gasoline canister and two-stroke engine oil container should not be handled by other individuals.
 - o Because the employee has been in close contact with the mixed gasoline canister, this employee should be responsible for the refueling of the engines, as mentioned in Section 7.2.2 as “Employee B”.
- An employee should be assigned to refuel all equipment, including refilling bar and chain oil.
 - o Employee A, who has been assigned to a specific piece of equipment (ex: chainsaw) should open the necessary fuel and/or oil caps required for Employee B, the employee who has been assigned to refuel/refill all equipment, to carry out the task.

Section 10.0: Pruning Practices

This section will use the term “sterilization” to describe the act of disinfecting pruning tools (including, but not limited to handsaw blades) between cuts for the purpose of reducing the spread of certain tree/vegetation diseases.

Section 10.1: Pruning operations should be limited to essential pruning tasks.

Section 10.2: The sterilization of pruning tools should be undertaken by only one employee to minimize multi-person contact with the disinfectant bottle.

- In practice: Employee C might hold their pruning tool (ex. handsaw) in front of them for Employee D to sterilize. This prevents Employee D from possibly transmitting COVID-19 via the handle of the pruning tool.

Section 10.3: If sterilizing agents for pruning tools are not readily accessible to crews as a result of a market shortage of specific disinfectant solutions as a result of COVID-19, pruning should be limited to tree(s) which require immediate pruning or have limited risk of pest spread.

Section 11.0: Felling Operations

Section 11.1: Use of Control Lines⁵

- When hand-pulling a control line during the felling of a tree or section of a tree, the employees should maintain suitable physical distance of 2 meters (6 feet) while pulling on the control line to minimize the potential for COVID-19 transmission.

⁵ A “Control Line” shall describe a rope installed in the tree to provide directional control during felling operations. Other common names for “Control Line” include, but are not limited to “taglines”, “pull ropes”, and “bull ropes”.

Section 12: Tree Climbing

Section 12.1: Climbing gear should be assigned to a specific individual and no gear should be shared between climbers.

Section 12.2: The climber should be responsible for the handling of their own climbing gear, including the care and maintenance of climbing gear.

Section 12.3: The climber should consider washing climbing gear and climbing ropes to reduce the possibility of transmission between employees.

- Washing of climbing gear and climbing ropes should be undertaken at the guidance of the manufacturer(s). Consult care and safety instructions provided by manufacturer(s) for more information.

Section 13.0: Rigging

Section 13.1: Only one employee should be responsible for the installation of the lowering device and the installation of the rope in the lowering device. This employee should also be responsible for tending to the rope during rigging operations.

Section 13.2: Employees should consider wearing gloves when using ropes that continue to come into contact with other employees.

- When untying the knot tied to the lowered piece (branch, limb, etc.), care should be taken to minimize the contact with the end section of the rope, as this leg of the rope has been in contact with the Climber/Arial Lift Operator.

Section 14: Tree Planting

Section 14.1: Ordering and Receiving Trees from a Nursery⁶

- When ordering or receiving (picking up) trees from a nursery, employees should adhere to physical distancing recommendations of 2 meters (6 feet) when in contact with the nursery staff.
 - o This may include:
 - Placing an order by telephone or online.
 - Adhering to the use of cashless transactions, such as utilizing the “tap” feature on credit and debit cards or electronic transfer.

⁶ “Nursery” will include, but not limited to “nurseries”, “garden centers”, and “greenhouse”.

Conclusion

As the COVID-19 pandemic continues to affect industries, arboriculture generally remains an essential service in many countries. In the interest of preventing infection and slow the transmission of COVID-19, arboriculture practitioners should consider adopting these recommendations. While the recommendations are not exhaustive, they provide a foundation for the prevention of infection and the slowing of transmission of COVID-19 in the arboriculture industry. It may be necessary to review and revise these recommendations as information becomes available regarding COVID-19 preventative measures. Similarly, these recommendations should be reviewed and revised when applied to one's own company. These recommendations might be viewed as applicable to related industries, including urban forestry and horticulture.

The author suggests further research into providing economic incentives for arboriculture companies to practice COVID-19 recommendations in the workplace.

The author suggests familiarizing oneself with the municipal, provincial/state, and federal/national regulations, policies, and guidelines for general and occupational health and safety during the COVID-19 pandemic.

The author further suggests accessing additional resources from the WHO; links to additional resources are included in the "Additional Resources" section.

Notice

The author is not a public health practitioner and the contents of this documents should not be construed as medical advice.

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Additional Resources

Additional further information is available through the World Health Organization via the following links:

Find the latest information from the World Health Organization on where COVID-19 is spreading:

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/>

Advice and guidance from the World Health Organization on COVID-19:

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

<https://www.epi-win.com/>

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