



50 Million Tree Program

Planting Delivery Agent Agreement

Between

Forests Ontario

and

South Nation River Conservation Authority

for the period

October 1, 2022, to September 30, 2023

Planting Delivery Agent Agreement

This Agreement is effective as of 1st day of October 2022.

BETWEEN

Forests Ontario (FO)

of the First Part

AND

South Nation River Conservation Authority herein referred to as the Planting Delivery Agent (PDA)

of the Second Part.

WHEREAS

FO's mandate is to increase tree planting on public or privately owned lands in Ontario through collaborative arrangements with Government and local tree planting delivery agents (PDAs);

WHEREAS

FO will increase tree planting by providing PDAs with financial support through the 50 Million Tree Program (50 MTP) that will be directly used to reduce tree planting costs;

WHEREAS

FO must demonstrate an increase in tree planting as a result of the financial support provided to PDAs;

WHEREAS

South Nation River Conservation Authority is committed to work with FO in facilitating the role of PDA, defined as an agency who is actively delivering local tree planting programs and will be a planting partner delivering the 50MTP;

AND WHEREAS

The Agreement, together with all 50 MTP Guidelines referenced hereto are incorporated by reference and constitutes the entire Agreement between the Parties.

NOW THEREFORE, the parties hereto mutually agree as follows:

1. The PDA shall be responsible for the implementation of this Agreement and shall:

- 1.1.** Adhere to all conditions identified in the 50 MTP Guidelines.
- 1.2.** Provide FO with the number of trees the PDA planted under their tree planting program.
- 1.3.** Provide FO with a description of the property being planted and other required information via the FO online reporting system.
- 1.4.** Review, sign and maintain landowner agreements with landowners using the template provided by FO (see 50 MTP Guidelines).
- 1.5.** Ensure that site plans are developed for each property and include prescriptions for site preparation, tree planting, tending, etc.; and are submitted via the FO online reporting system.
- 1.6.** The PDA will identify other funding sources contributing to the project, i.e., NRCan's 2 Billion Tree Commitment, landowner contribution, PDA in-kind funds, other funding etc.
- 1.7.** Identify and track seedlings reserved for the 50 MTP from each partner nursery using the stock tracking template provided (see 50 MTP Guidelines).
- 1.8.** Inspect all stock prior to planting to ensure that it is locally sourced and appropriate for attaining the goals and objectives of the site plans. Nursery stock used in the program will meet the Nursery Stock Size Parameters listed in the 50 MTP Guidelines.
- 1.9.** Ensure that all planting prescriptions are completed in accordance with good forestry practices and that a member (Full or Associate) of the Ontario Professional Foresters Association (OPFA) certifies all prescriptions and site plans. The OPFA member must also sign the invoice summary(ies) for site plans, refill, post plant reports, and survival assessments.
- 1.10.** Ensure that all sites planted under this Agreement are in accordance with the site plan attached to the landowner agreement.
- 1.11.** Coordinate and/or supervise the ordering and shipping of trees, site preparation, planting and tending of eligible sites.
- 1.12.** Ensure that all services provided are conducted by qualified agencies or individuals with proven related tree planting experience.

- 1.13.** Ensure that all staff and contractors that may be retained for various activities associated with the planting operations, are adequately covered with at least \$2,000,000 of public liability insurance and provide proof of workers' compensation and any other licenses or permits required to perform any of the services provided (e.g., pesticide exterminator license). A certificate of insurance must be available upon request by FO.
- 1.14.** Ensure that any operations carried out by the landowner and paid for under this program, are done in accordance with FO's Best Management Practices for Tree Planting (see 50 MTP Guidelines) and with the necessary licenses and permits (e.g., pesticide exterminator license).
- 1.15.** Ensure that post-plant reports include number of trees planted, planting quality assessment, tending activity, four (4) geotagged photographs of the planting site pre- and post-planting, operational costs, and geospatial coordinates of the planting site(s) for each property, and is submitted via FO's online reporting system.
- 1.16.** Ensure that survival assessments are conducted according to the procedures outlined in the 50 MTP Guidelines at years two (2) and five (5) following the planting; and the data is entered into FO's online reporting system, along with detailed reports of follow-up tending activities.
- 1.17.** Ensure that a refill treatment is planned for every planting site where survival is lower than 60% (see 50 MTP Guidelines).
- 1.18.** Ensure that activities carried out by the PDA, staff, or agents thereof under this Agreement, comply with all federal, provincial, and municipal laws.
- 1.19.** Ensure that all invoice(s) are completed on PDA letterhead and submitted with the signed invoice summary(ies) generated from FO's online reporting system.
- 1.20.** Ensure that FO and the 50 MTP are recognized in any relevant social media posts, communications materials and/or correspondence with landowners
- 1.21.** Support the planning and implementation of a site visit if FO, a sponsor, or funding agency supporting a 50 MTP project requests a site visit, and landowner permission is obtained. FO and/or one of its sponsors/funding agencies will not enter any property or project area without permission of the landowner.

2. FO shall be responsible for the implementation of this Agreement and shall:

- 2.1** Designate a contact liaison person to receive updates on PDA activities.
- 2.2** Assist the PDA in reviewing progress and implementation of this Agreement.
- 2.3** Authorize all planting sites prior to implementation. Confirmation notice via email will be provided to PDA upon authorization of each submitted site.
- 2.4** Report promptly to the PDA any corrective measures required that are consistent with the objectives of this Agreement.
- 2.5** Maintain a copy of the required reports for each site planted under FO's 50 MTP through FO's online reporting system.
- 2.6** Ensure that payments are made to the PDA within 30 days of receipt of invoice(s) with appended invoice summary(ies), and any required reports attached as determined and at the sole discretion of FO;
- 2.7** If FO, a sponsor, or funding agency supporting a 50 MTP project requests a site visit, FO will reach out to the PDA to contact the landowner to obtain permission. FO and/or one of its sponsors/funding agencies will not enter any property or project area without permission of the landowner.

3. Term of Agreement

- 3.1.** This Agreement shall be in effect as of October 1st, 2022, to September 30, 2023.
- 3.2.** FO has the right to terminate this Agreement at any time upon sixty-day written notice to the PDA.
- 3.3.** Upon termination of this Agreement, FO shall only pay for trees planted or other silvicultural operations completed as per the amounts approved, and subject to any adjustments contemplated in the 50 MTP Program Guidelines.

4. Financial Provisions

- 4.1.** FO's funding commitments contained herein are conditional upon the allocation and payment of relevant monies from Natural Resources Canada (NRCan) and other funding sources.
- 4.2.** A maximum of **\$1.85** per seedling will be available to the PDA for new tree planting project costs under the 50 MTP.
- 4.3.** Funds from FO can be applied to the full cost of all expenses, including HST. The cost breakdown is outlined in Table 1 (refer to page 7 of this Agreement).
- 4.4.** Partner nurseries (Somerville Seedlings, Ferguson Tree Nursery, Pineneedle Farms, PRT) have received a deposit per seedling for stock being grown for the 50 MTP. The partner nurseries will deduct the stock deposit amount per seedling for stock purchased on the final nursery invoice to the PDA.
- 4.5.** Once FO has approved submitted site plans, FO shall pay the rate per tree, with stock

deposit deducted.

- 4.6.** Stock sourced from other nurseries must be approved by FO prior to reserving stock. If approved, the PDA will receive payment for the stock deposit and rate per tree at time of post-plant payment.
- 4.7.** Once FO has approved post-plant reports submitted by the PDA, FO shall pay the balance of the \$1.75 rate. The final rate applied may vary, depending on:
- stock deposit payment
 - seedling allocation in approved site plan(s)
 - total number of seedlings planted at project close.
- 4.8.** Once FO has approved Year 2 and Year 5 survival assessment reports submitted by the PDA, FO shall pay \$0.05/seedling per assessment.
- 4.9.** All monies received from FO are inclusive of all applicable taxes.
- 4.10.** The PDA covenants and agrees that in the event any site plans are cancelled, the PDA will reimburse FO for all funding received from FO, including stock deposit payments.
- 4.11.** The PDA shall be obligated to reimburse FO for applicable costs outlined in clause 4.2 no later than September 30th of the planting year. If the PDA fails to reimburse FO for costs associated with cancelled site plans, FO shall be entitled to reduce any future funding payable to the PDA equal to amounts owed to FO.
- 4.12.** The claims for payment, requests, notices, and information referred to in this Agreement shall be sent in writing or by any method of telecommunications and, unless notice to the contrary is given, shall be addressed to the party concerned at the following address:

To: Forests Ontario
15 Maple Ave unit #103
Barrie, ON L4N 2N6
Phone: 416-646-1193 Ext. 227
Email: restoration@forestsontario.ca

To:
Attention: Cheyene Brunet
38 Victoria Street
Finch, Ontario, K0C 1K0
Email: cbrunet@nation.on.ca
Phone: 877-984-2948

Notification will be effective 5 business days after being sent.

Table 1: 2023 Schedule and Rate Structure for 50 MTP Planting Projects

Activity	Deadline to submit via FO's online reporting system	Rate per Seedling
2023 Planting Projects	Spring 2023	\$1.85
Allocation turn-back	February 3 rd , 2023	N/A
Site plan submission	March 6 th , 2023	Rate varies depending on <ul style="list-style-type: none">• stock purchased• stock deposit
Post-plant report submission	July 31 st , 2023	Rate varies depending on <ul style="list-style-type: none">• stock deposit payment• seedling allocation in approved site plans• total number of seedlings planted at project close.
Survival assessment: year 2	November 30 th , 2024	\$0.05
Survival assessment: year 5	November 30 th , 2027	\$0.05
Refill request submission	November 30 th , 2022	\$1.75

5. Audit and Accounting Provisions

5.1. The PDA shall maintain a physical or digital copy of the site plan, post plant report, survival assessments, maps, photographs, cost information and any other related material including accounts of its revenue received and expenses incurred and paid in connection with this Agreement for a 15-year period. The PDA shall make such accounts and records available at all reasonable times for inspection and audit by FO, NRCan or its authorized representative who may make copies and take extracts therefrom.

6. General Provisions

- 6.1.** Participation in the 50 MTP is strictly voluntary and specifically any projects or activities which involve land must have the authority and cooperation of the landowner on whose land the proposed project or activity is to take place.
- 6.2.** Failure to fully comply with the terms and conditions of this Agreement will disqualify the PDA for the 50 MTP or any other FO programs. If a PDA does not conform to this Agreement, including the 50 MTP Guidelines, the non-conformance will be reviewed by FO who will: i) develop corrective actions to be implemented by the PDA at the PDAs own expense, or ii) deem the PDA ineligible from further participation in the program.

7. Indemnity

- 7.1.** The PDA shall indemnify and save harmless NRCan, FO and its employees and agents from or against any and all claims, damages, loss, costs and expenses which they or any of them may at any time incur or suffer as a result of or arising out of: i) breach of this Agreement, and; ii) any injury to persons (including injuries resulting in death) or loss of or damage to property which may be or be alleged to be caused by or suffered as a result of the carrying out of any work or Activities or any part thereof in connection with this Agreement, except to the extent caused by a breach of duty of FO, its employees or agents.

8. Force Majeure

- 8.1.** The Parties shall not be in default or in breach of this Agreement due to any delay or failure to meet any of their obligations caused by or arising from any event beyond their reasonable control and without their fault or negligence, including any act of God or other cause which delays or frustrates the performance of this Agreement (a “force majeure event”). If a force majeure event prevents the performance of this Agreement, FO will only be liable for its proportionate share of the eligible expenditures incurred and paid to the date of the occurrence of the event.
- 8.2.** The performance of the obligation affected by a “force majeure event” as set out above shall be delayed by the length of time over which the event lasted. However, should the interruption continue for more than thirty (30) days, this Agreement may be terminated by FO.
- 8.3.** Should either Party claims the existence of a “force majeure event” as above, prompt notice thereof shall be given to the other Party and the Party claiming the existence of a “force majeure event” shall have the obligation to provide reasonable satisfactory evidence of the existence of such event and use its best efforts to mitigate any damages to the other Party.

This Agreement has been executed on behalf of FO and on behalf of the PDA by an officer duly authorized in that behalf.

SIGNED,

South Nation River Conservation Authority

Name: Carl Bickerdike, CAO

Forests Ontario

A handwritten signature in black ink, appearing to read "Rob Keen", followed by a period. The signature is written in a cursive, flowing style.

Rob Keen, FO CEO



50 Million Tree Program Guidelines

Updated: January 2023

All sections and appendices within these Guidelines correspond to the 50 Million Tree Program Planting Delivery Agent Agreement for the period of October 1, 2022 and September 30, 2023. These program guidelines shall be binding on the PDA.

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Section 1: 50 MTP Program Guidelines

1.1 Application and eligibility to become a Planting Delivery Agent

- Any local tree planting agency (e.g., local stewardship groups, Conservation Authorities, forestry consultants, etc.) with proven afforestation expertise to meet 50 Million Tree Program (50MTP) guidelines will be provided the opportunity to apply to become a Forests Ontario (FO) Planting Delivery Agent (PDA);
- Any new agency interested in participating in the 50 MTP must apply to FO. The application will be reviewed by FO in accordance with the 50 MTP eligibility criteria. Based on FO review, the applicant may be approved for participation in the program.
- Once approved, PDAs are not required to reapply each year.
- New PDAs will sign agreements with FO to conduct planting operations. Agreements will stipulate the conditions that must be met (as presented in these guidelines) for planting sites to be eligible for funding. See PDA Agreement, Table 1: Schedule and Rate Structure for 50 MTP Planting Projects for program deadlines.
- PDAs with no past involvement in FO programs will be limited to an allocation of no more than 20,000 seedlings for their first year. Any changes from this amount will be based on recommendations from FO. Subsequent annual allocations will be based on first year results.
- Nurseries providing seed or stock to the 50 MTP will not be permitted to also act as PDAs unless approved on a case-by-case basis by FO.

1.2 Funding Allocations

- PDAs will receive from FO an annual funding rate and seedling allocation to apply to planting sites eligible under the 50 MTP. Specific funding will be approved on a site-by-site basis upon the timely submission of a fully completed and approved site plan and post plant report through FO's online reporting system.
- The funding from FO and the landowner contribution can be used for:
 - Office overhead
 - Maintenance of financial and other required records
 - Site visits and site plan development
 - Coordination and delivery of site plan operations
 - Site preparation
 - Stock
 - Stock delivery
 - Cold storage
 - Planting
 - Planting Quality Assessments
 - Survival Assessments

- Tending
- OPFA Registered Professional Forester (RPF) signatures
- Other (as approved by FO)
- Payment of funding will be carried out in interim payments. Payments will be deducted from the total funding amount for each planting site.

1.3 Site Selection Criteria

- A planting site:
 - Must support one or more of the 50 MTP eligible project types
 - May be on privately or publicly owned land in Ontario (e.g., municipal lands, parks, idle farmland etc.).
 - Must be able to support a minimum of 500 planted trees per site.
 - Must have native tree species planted, up to a maximum of eight (8) species per site.
- Reforestation sites will not be considered eligible for funding under the 50 MTP (areas harvested for timber, firewood, etc.).
- Trees must not be planted for the purpose of growing Christmas trees, landscape stock production, or reforestation.
- Sites that are shallow, infertile, drought-prone, or very wet that are expected to limit tree growth or survival should be avoided due to survival outcomes.

1.4 Eligible Project Types

The following project types are eligible under the 50MTP.

1. Afforestation

- A site that can support tree planting on land that is mostly open with no previous tree cover, including marginal or abandoned farmland.
- Density of planting must be between 1200-2200 seedlings/hectare. Exceptions may be made with prior approval from FO.

2. Riparian

- A site that can support trees adjacent to the banks of waterbodies such as creeks, streams, ponds, and rivers.
- Avoid planting trees in poorly drained, saturated soils. Staggered planting is recommended.

3. Windbreak

- Row(s) of trees planted strategically to act as a windbreak to reduce soil erosion/snow drift, protect livestock, enhance wildlife corridors, and increase biodiversity and productivity of the site.
- For reference: http://www.lrronline.com/Extension_Notes_English/pdf/wndbrk.pdf

4. Restoration

- Sites that have been impacted by natural disturbances including fire, wind/ice storm damage, insect damage, and/or require under-planting to establish regeneration for future forest growth.
- New trees should be spaced a minimum of 2 metres away from existing live trees.
- Prior to site plan development, reach out your Field Advisor for project eligibility.

1.5 Eligible Seedling Stock and Tracking

- Only seed-zone appropriate seedlings can be planted under 50MTP. If seed zone suitable stock is not available, the PDA must request permission from FO to plant stock outside of their seed zone.
- Only nursery stock of acceptable size, quality, and age (as defined in Section 3) can be used in 50MTP projects.
- Source-identified species with lot numbers and spring lift dates are required. Acceptable species are listed on the “Species Eligibility” page of the FO online reporting system. If a specific species is not included, the PDA must contact FO for approval prior to planting.
- Species at risk (e.g., Butternut) will be considered on a case-by-case basis, please contact FO to review site plans containing species at risk.
- Trees must be purchased from the following nurseries: Somerville Seedlings, Ferguson Tree Nursery, Pineneedle Farms, or PRT. Tree orders placed through other nurseries may be considered for funding on a case-by-case basis. The PDA must submit a written request and receive approval by FO, prior to reserving stock.
- When reserving stock, PDAs must notify the nursery if any stock included on the order is not for a FO program to allow for stock deposit tracking, an example tracking template can be found in Appendix 6.

1.6 PDA Agreement with Landowners

- PDAs coordinate the signing of a 15-year “Landowner Tree Planting Agreement” with 50 MTP landowners (see Appendix 3).
- Both the landowner and the PDA have individual roles and responsibilities that will ensure the protection and management of the planting project for 15 years.
- Landowners should contribute to the planting of their property, so they have a vested interest in the project. It is recommended that they pay a minimum charge per seedling to the PDA or make other in-kind contributions. It is up to the PDA to determine any additional costs to deliver the project.
- Any work performed by the landowner will be considered as an in-kind contribution. The landowner cannot be reimbursed using 50MTP funding, unless a legal contract between the PDA and landowner is prepared and the landowner possesses all legal requirements as a contractor including liability insurance, WSIB, appropriate licences, etc.

1.7 Site Plan Submissions and Payment

- After a site visit, a site plan is prepared by the PDA and includes required information as outlined in the site plan template (see Appendix 1). A property may have more than one planting site.
- Site plans require approval and signature from a full or associate member of the OPFA confirming the project follows the standards of good forestry practices.
- Site plans for projects scheduled for planting are submitted into FO’s online reporting system for review to ensure the site meets the programs requirements.
- Changes can be made to a submitted and approved site plan. If resubmission of a site plan is needed, the PDA is required to contact FO.
- Once a site plan is approved, an invoice summary is generated from FO’s online reporting system.
- Invoice summary(ies) are to be signed by a member of the OPFA.
- The PDA submits the signed invoice summary(ies) and invoice(s) with matching amount (inclusive of HST) to FO for interim payment.

1.8 Planting Quality Assessments

- Quality assessments are conducted by the PDA in accordance with FO’s Planting Quality and Survival Assessment Procedures (see Section 4).
- For projects where nursery stock is planted at irregular spacing to establish the new forest (e.g., forest restoration project types), a standard quality assessment will not be possible. The PDA will assess the planting effort as the project is completed to confirm that quality, density, and depth of planting was accomplished according to the approved site plan. The PDA will provide this information to FO.

1.9 Post Plant Reports and Payment

- A post-plant report is prepared by the PDA after the planting is completed for each property. The site plan includes required information as identified in the post-plant report template (template provided in Appendix 2). The post-plant report is then submitted by the PDA into FO's online reporting system.
- FO shall have 30 days after submission by the PDA to review the post-plant report to determine the amount of program funding the PDA is eligible for, according to the PDA Agreement. Once FO approves the post-plant report, an invoice summary can be generated from FO's online reporting system.
- Once the post-plant submission is approved, an invoice summary is generated from FO's online reporting system.
- Invoice summary(ies) are to be signed by a member of the OPFA.
- The PDA submits the signed invoice summary(ies) and invoice(s) with matching amount (inclusive of HST) to FO for final payment.

1.10 Photo Guidelines

- FO requires two (2) geotagged photographs of pre-planting site conditions and two (2) geotagged photographs of post-planting site conditions for a total of four (4) geotagged photographs for each site.
- These four (4) photographs will be required as part of the post-plant submissions in FO's online reporting system. Photographs should be 1.0 MB in size at a minimum, be taken using a digital camera or mobile device with photo-taking capabilities.
- Pre-planting photographs must include a wide view of the site that will be planted, taking in as much of the perimeter and site detail as possible (see Figures 1 and 2 for examples of acceptable and not acceptable pre-planting photos, respectively).



Figure 1: Acceptable pre-planting photo.



Figure 2: Not acceptable pre-planting photo.

- Post-plant photographs must include as many planted trees within view as possible. See Figures 3 and 4 for examples of acceptable and not acceptable post-plant photos.



Figure 3: Acceptable photo at post-plant.



Figure 4: Not acceptable photo at post-plant.

1.11 Site Audits

- FO will assess a representative sample of PDA sites, typically during planting operations.
- Audits will include site visits to inspect planting quality, stock quality and handling, planting operations, and review of information for the site including site plans, post plant report, maps, invoice to landowner, contractor invoices and nursery invoices.
- An acceptable audit result is achieved when the PDA demonstrates the application of good forestry practices and program delivery consistent with the intents and goals of the 50 MTP and FO.

1.12 Survival Assessments and Payment

- Survival assessments will be completed by the PDA in year two (2) and year five (5) of a planting project. For example, if a planting is completed in spring of 2023, the 2nd year survival assessment will be conducted in fall of 2024, following two growing seasons.
- Survival assessments will be carried out according to FO's Survival Assessment Procedures (see Section 4). Survival assessment information will be submitted using FO's online reporting system by November 30th of the required year.
- For funding purposes, survival assessments are considered part of the planting operations.
- Survival assessment payment will be based on the original number of trees reported planted on the site as per the post-plant report.
- Funding associated with survival assessments will be paid to PDAs upon completion and

submission of data into FO's online reporting system for each of the required assessments.

- Once the survival assessment submission is approved, an invoice summary is generated from FO's online reporting system.
- Invoice summary(ies) are to be signed by a member of the OPFA.
- The PDA submits the signed invoice summary(ies) and invoice(s) with matching amount (inclusive of HST) to FO for final payment.

1.13 Tending

- Responsibility for tending operations will be identified in the landowner agreement and site plan.
- Tending is performed to maintain high survival and growth rates. Tending could include controlling competition from other vegetation and limiting damage from animals and other pests, among other examples.
- Where the PDA realizes funding surpluses during planting, there is an expectation to manage those funds to carry out subsequent tending operations necessary to ensure long-term survival and growth.

1.14 Refill Planting

- If survival percentage for a project is <60%, it may be eligible for refill funding. For example, if a property has two planting sites: Area A with 70% survival and Area B with 50% survival, the PDA can apply for refill funding for Area B only.
- Sites are eligible for one refill treatment within 5 growing seasons of the initial planting. For example, a 2018 planting with <60% survival can apply for refill funding until November 30th, 2022, for refilling in the spring of 2023. Refill requests for sites planted beyond the 5-year growing season will require FO approval.
- PDAs report on reasons for poor survival and justify additional investment.
- PDAs apply for refill to FO by November 30th of a given year.
- All refill applications are reviewed by FO. Approved refill funding is based on the annual available budget.
- Once a refill application is approved, the site is re-planted the following season and the refill stocks are submitted via FO's online reporting system to be approved by FO.
- The PDA submits an invoice and invoice summary to FO according to the same payment procedures described for site plan and post-plant payments above.

Section 2: Best Management Practices for Tree Planting

2.1 Planting Practices

- Each planting hole needs to be of a size that will accommodate the entire root system of the tree in a natural spread-out position and not in tangled, bunched, or doubled-up position. Avoid 'J' roots. Note: Make sure you know if the stock you are receiving from the nursery is root pruned or not. Non-root pruned material will need a much larger hole to plant properly, especially heavy tapped rooted species.
- Each tree needs to be planted to a depth so that, after filling in and compacting soil about the roots, the soil comes to a point at or near the root collar on the tree stem where roots are not exposed, and no branches and tree leaves are covered with soil. In the case of container stock each container should be planted so as not to leave any of the paper pot (and/or plug) showing above the ground.
- Soil needs to be filled in and compacted around the roots to remove air pockets and firmly anchor the tree in an upright position.
- Each planted tree must be capable of withstanding a reasonable tug by hand without being extracted from the soil.
- The planter must not damage the tree during the planting processes, including breaking branches and buds, snapping roots, and removing the bark and exposing cambium tissue.

2.2 Storing and Handling Nursery Stock

- Only the nursery stock that can be planted in one day should be removed from the storage site. If environmental conditions are hot and on-site storage is not able to keep stock cool throughout the day, then perform several trips to the cooler to restock inventory at the site.
- Bareroot Stock:
 - Spring-lifted stock should be kept between 3 to 5 °C before delivery to the field.
 - Spring-lifted stock should be planted as soon as possible after lifting.
 - On site, store the containers (bags) of nursery stock in a shaded, cool place. Use silva-tarps when a reefer or a fully insulated storage system is not available to maintain the standard storage temperature.
 - Measure and record the internal temperature of the bags. Keep the container temperatures below 10 °C.
 - Store nursery stock in a shaded, cool place with space between the containers to permit the circulation of air between containers.
 - Do not pile the containers.
 - Prevent unnecessary drying of nursery stock by opening containers only when nursery stock is required for planting and by keeping containers closed at all other times. Note: If the temperatures warm up more than anticipated

throughout the day and the stock is not able to be returned to the cooler in a timely manner, then the bags should be opened slightly to allow excess heat to escape the packaging.

- Avoid any unnecessary handling of nursery stock.
- Avoid exposure of the root system on windy and/or sunny days. Roots can dry out and die within minutes which means the tree is also compromised.
- Always keep water on-site in case dipping of roots is required throughout the day.
- If roots need to be moistened, limit the duration in the water to a few minutes and avoid submerging foliage in the water.
- When transporting stock on site, it should be carried in a planting pail bag or other container with the roots of the nursery stock protected by at least 5 centimeters of water in the pail or moist peat moss or equivalent packing material in the bag.
- When nursery stock is removed from the storage site(s) or delivery point(s), it should be transported directly to the field storage or planting site(s).
- Provide adequate covering to protect the nursery stock from sun and wind exposure during transport (i.e., Silva-tarp, enclosed-fully insulated containment system).
- Do not overload planting pails, bags, or other containers.
- During temporary stoppages in planting, place planting pails, bags or other containers containing nursery stock in a shaded area.
- During planting, remove only one tree at a time from the planting pail, bag, or other container
- Minimize exposure of nursery stock roots to air and direct sunlight.
- Do not root prune nursery stock. Communicate pruning expectations with the nursery prior to pick up or shipment of stock.
- Plant all stock removed from the containers by the end of the day. However, if this stock is not able to be planted, the remainder should be returned to the container and sealed, and then planted the following day (note this on the planting sheet in case there are issues after planting).

2.3 Poor Planting Practices

Situations in which trees are considered improperly planted:

- Unsuitable micro-sites
 - Rotten log, pure duff, stumps, bottom of gullies or depressions subject to flooding, cut banks, roadside fill, raised humps of loose soil or debris.
- Unsuitable root placement
 - Where tree is placed in the planting hole with roots not in a near-natural arrangement.

- Roots are doubled up, twisted, and tangled or container stock with excessive damage.
- When roots are exposed.
- Unsuitable planting hole
 - If the tree has been planted too far below or above the root collar.
 - When living branches or foliage are buried in the soil or in the case of container stock where any part of the paper pot or plug is showing above the ground.
 - Having more than one (1) tree or container per hole.
 - When a planting hole is not large enough to accommodate the entire root system of the tree.
- Unsuitable Positioning of Crown and Stem
 - Trees that are planted in a leaning position greater than a 15-degree deviation for hardwoods or 30-degree deviation for conifer from the vertical are considered improperly planted.
- Unsuitable Distances
 - Where a tree is planted too close to another tree within a row or between a row. Table 1 demonstrates the prescribed spacing.
 - For other spacing, close tree infraction occurs if spacing is closer than 80% of prescribed distance (e.g., prescribed spacing 2.6m, 2.1m).

Table 1: Prescribed spacing guidelines for 50 MTP

Prescribed Spacing (Tree X Row)	Prescribed Spacing Close Tree Infraction (if closer than; Tree X Row)
1.8 x 1.8m	1.4 X 1.4m
1.8 x 2.1m	1.4 X 1.7m
2.0 x 2.0m	1.6 X 1.6m
2.1 x 2.4m	1.7 X 1.9m
3.0 x 3.0m	2.4 X 2.4m
4.0 x 4.0m	3.2 X 3.2m

Section 3: Stock Standards and Protocol

Nursery Stock Size Class Parameters and Protocol

FO provides stock specifications to ensure that partners obtain adequate stock to establish forests under the 50 MTP. PDAs should ensure that proper site preparation and tending plans are established and implemented to ensure the survival of the planted seedlings.

The standards listed below are minimum standards for bare root stock. Seedlings that do not meet these specifications must be brought to the attention of the Nursery and FO.

General Specifications:

Seedlings

Must meet the site needs and be compatible with vegetation control measures.
Seedlings should appear vigorous and healthy

Shoots

Ideally seedlings should have a dominant leader clearly dominant above all other shoots with at least a 1-inch differential between leader and lower shoots

Roots

Must be well developed and pruned where necessary to efficient handling as well as optimum root growth after out-planting.

Table 2: Acceptable minimum values for bare root stock

Specifications	All conifers except pines	Pine species	Deciduous species
Height (cm)*	15	15	25
Stem Diameter (mm)**	3.6	3.6	4
Ht/ Dia. Ratio***	<70:1	<60:1	<70:1
% of seedlings meeting minimum standards	≥95%	≥95%	≥95%

Table 3: Acceptable minimum values for container stock

Specifications	All conifers except pines	Pine Species	Deciduous Species
Height (cm)*	15	15	25
Stem diameter (mm)**	3.0	3.0	4.0
Ht/ Dia. Ratio***	<70:1	<70:1	<70:1
% of seedlings meeting minimum standards	≥95%	≥95%	≥95%

*Height is measured at the root collar or apparent root collar to top of terminal bud.

** Stem diameter is measured at root collar or apparent root collar.

***The Height Diameter Ratio is provided to reduce the susceptibility of physical damage that could occur in nursery and out-planting, as well as to ensure the seedling has the adequate resources in the initial year during establishment. PDAs should ensure that proper site preparation and tending plans are established to ensure the survival of the planted seedlings.

Section 4: Planting Quality Assessment and Survival Assessment Procedures

Factors affecting tree survival change from the time the tree is planted to when it reaches 'free-to-grow'. Trees need to be monitored and assessed throughout this establishment period, prompting the appropriate management, and tending activities to ensure survival. These assessments include evaluating the planting quality as well as the survival and overall health of the trees.

1. Planting Quality Assessment (at time of planting)

As soon as planting begins, the PDA or planting supervisor must conduct this assessment to evaluate the quality of planting. Any problems identified in this assessment must be communicated to the planting crew and remedied immediately.

What to look for:

- Planting in unsuitable microsites i.e., rotten logs or stumps, depressions at risk to flooding, highly eroded areas.
- Improper root placement in the planting hole including roots in an unnatural position, doubled up, twisted, and tangled, etc.
- Unsuitable planting depth including too far or above the root collar, live branching or foliage buried in the soil, root exposure etc.
- Planted at an angle greater than 15° from the vertical for hardwoods or 30° from the vertical for conifers.
- Inappropriate spacing either too close within rows or between spacing. The spacing is too tight if it is closer than 80% of the prescribed spacing.

Planting Quality Assessment Procedures:

A visual assessment will address any initial issues as planting begins. Once the planting crew has settled into the site, the formal assessment can take place. The data recorded during the formal assessment must be submitted in the post plant reporting for each site of a planting site.

a) Visual Assessment:

- Inspect more than 10% of the firstly planted seedlings to identify problems.
- Follow closely behind the machine planter or individual hand planters to assess their planting quality and provide training if necessary.
- Perform spot checks at random to ensure the quality standard is maintained.
- Work with planting supervisor to correct any problems identified.
- All stock handling and planting quality must meet the requirements in Section 3.

b) Formal Assessment:

1. Select a random starting point and assess the first 10 trees encountered in that row (Figure 5).
2. After inspecting the first 10 trees, move to the next row, and assess the next 10 trees (Figure 5).
3. If a row ends before the sampling is complete, move to the adjacent row.
4. 2-5% of each site should be assessed.
5. Record all assessment results, per site. The name of the assessor, number of trees sampled, and number of trees planted properly will need to be entered in the post-plant report submitted using the online reporting system. A sample of the post plant report required information can be found in Appendix 2.

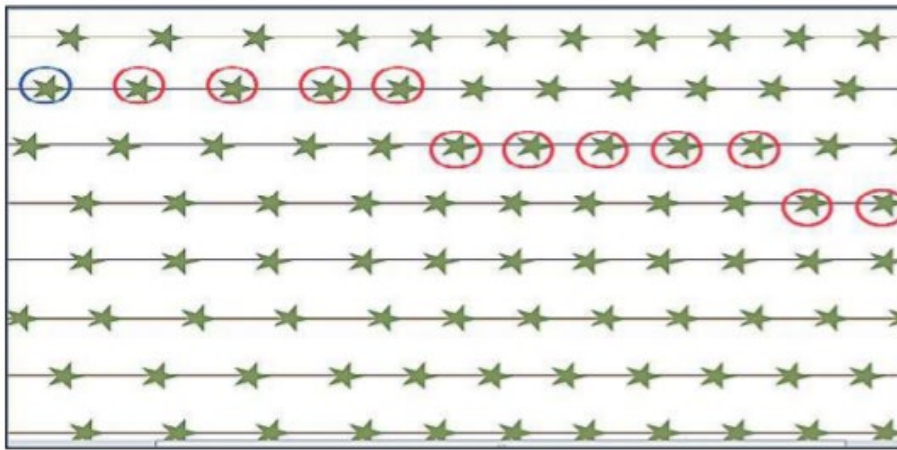


Figure 5: Quality and survival assessment pattern, example using groups of 5 trees (Source: Southern Ontario Afforestation Guide 2018).

2. Survival Assessments (2 and 5 years after planting)

Survival assessments in the first few years of a tree's growth will indicate whether management activities need to be implemented or adjusted. A common example is the need for control of competing vegetation. The information collected through this assessment can produce a recommended tending schedule including suitable time of year for the work to be completed. This inspection will also determine whether refill planting is recommended.

What to look for:

- Prolonged lack of growth, lack of or early browning of leaves and needles, and brittle or missing branches.
- Identifying possible reasons for poor survival including vegetation or weed competition, girdling by rodents, browse, pest damage, and environmental factors (i.e., drought).

- If trees have been removed or destroyed (i.e., lawn mower) notify landowner of your concerns.
- Sites are eligible for refill on sites where survival is less than 60%.
- Adjust species in refill prescription if necessary, including the need for drought resistant species.

Survival Assessment Procedure:

Refer to Appendix 5 for the Survival Assessment form

1. Follow the planting quality assessment – Formal Assessment process as listed above.
2. A tree passes the assessment when it is healthy (i.e., increased height and spread, proper colour, etc.).
3. A tree fails the assessment if it is dead, dying, or missing from the spot it should be located.
4. A survival assessment is required for each site within a property/project.
5. 2-5% of the trees within each site should be assessed.
6. The name of the assessor, number of trees sampled, number of dead trees, and comments will be entered using the online reporting system. See Appendix 5 for survival assessment template.

Appendix 1: Site Plan Template

50 MTP- Site Plan Template

Prepared by: _____

FO Code: _____

Date Prepared: _____

PDA: _____

Property Owner/s:			Location of planting	
			Roll #:	
Mailing Address:		Lat	County	
		Lon	Township	
			Ward	
			Lot	
Home Phone:			Conc.	
Work Phone:			911#	
Email:			Property	
			Acreage	
Landowner Objectives:				

Sites summary

Site name	Site area (ha)	Species	Seedlings Planned (#)

General Information

Site name: _____ Area: _____ (ha)

Access: _____

Is this site an agricultural shelterbelt or similar farm feature? Check one: ☐ No ☐ Yes

Previous land use (check one):

☐ Residential

☐ Cash crop rotation

☐ Forest/tree plantation

☐ Pasture/hay production

- ☐ Fallow
- ☐ Fruit orchard

- ☐ Gravel pit
- ☐ Parkland

Primary land use of site after planting (in the future, what do you project the majority land use will be at this site). Check one:

- ☐ Barren
- ☐ Annual
- ☐ Cropland
- ☐ Perennial cropland
- ☐ Forest
- ☐ Large-scale commercial or industrial
- ☐ Small-scale commercial or industrial

- ☐ Grassland
- ☐ Natural urban area (river valleys, natural parks)
- ☐ Recreation lands (parks, golf courses, etc.)
- ☐ Wetlands

Topography: _____

Competition (check one): ☐ Low ☐ Moderate ☐ High

Competition details: _____

Living biomass at this site before planting (What kind of living plants are covering the ground? Check all that cover half or more of the site's area:

- ☐ Crops
- ☐ Small trees
- ☐ Peat
- ☐ Grasses
- ☐ Large trees
- ☐ No live biomass
- ☐ Shrubs
- ☐ Moss

Dead organic matter (dead plant material) found at this site before planting, not including soil components (What sorts of dead organic matter are present?). Check all that cover half or more of the site's area:

- ☐ Fine organic matter, such as leaf litter or blades of grass
- ☐ Medium organic matter, such as dead branches, or twigs of any size
- ☐ Large pieces of organic matter, like dead tree trunks, or dead shrubs, whether standing or on the ground
- ☐ Crop residues or other agricultural organic matter
- ☐ No dead biomass

Site Productivity Estimate (this refers to plant growth potential on a particular site). Estimate the value based on soil quality, topography and climatic factors. Check one: ☐ High ☐ Medium ☐ Low

Project type (if you select Forest Restoration you will required to select type detail as well). Check one:

- ☐ Afforestation
- ☐ Riparian
- ☐ Windrow
- ☐ Forest Restoration

Project type detail (fill out only for Forest Restoration project type). Check one:

- ☐ Fire
- ☐ Windthrow
- ☐ Ice storm damage
- ☐ Flooding
- ☐ Insect
- ☐ Other

Existing vegetation: _____

Invasive species: _____

Soil characteristics

Drainage (check one):

- ☐ Poor
- ☐ Imperfect
- ☐ Moderately Well
- ☐ Good
- ☐ Rapid
- ☐ Very Rapid

Texture (check one):

- ☐ Very Gravelly
- ☐ Gravelly Sandy
- ☐ Sandy
- ☐ Gravelly Loamy
- ☐ Coarse Loamy

- ☐ Silty
- ☐ Fine Loamy
- ☐ Clayey
- ☐ Shallow (<50 cm to bedrock) – all textures

Moisture regime (check one):

- ☐ Very Moist
- ☐ Moist
- ☐ Moderately Moist
- ☐ Very Fresh

- ☐ Fresh
- ☐ Moderately Fresh
- ☐ Moderately Dry
- ☐ Dry

Depth (check one):

- ☐ < 30 cm Very Shallow
- ☐ 60 cm Shallow

- ☐ 120 cm Moderately Deep
- ☐ 120+ cm Deep

Depth to distinct mottle (check one):

- ☐ < 30 cm Very Shallow
- ☐ 60 cm Shallow

- ☐ 120 cm Moderately Deep
- ☐ 120+ cm Deep

Depth to free carbonates: _____ (cm)

Stock Needs

Stock				Seedlings expected
Source	Lot	Lift date	Species	

Planting prescriptions

Provide full details of any site preparations that you will undertake. If you select 'Other' in any category, you must include the details in the 'Other preparations' text box below.

Select this box if nothing was done:

- ☐ No preparations were done

Soil preparations (check all that apply):

- ☐ Mixing
- ☐ Mulching
- ☐ Trenching
- ☐ Other

Clearing preparations (check all that apply):

- | | |
|---|-----------------------------------|
| <input type="checkbox"/> Tree knockdown | <input type="checkbox"/> Thinning |
| <input type="checkbox"/> Brush clearing | <input type="checkbox"/> Mowing |
| <input type="checkbox"/> Other | |

Chemical preparations (check all that apply):

- ☐ Fertilization
- ☐ Post-plant herbicide treatment
- ☐ Pre-plant herbicide treatment
- ☐ Other

Residue preparations (check all that apply):

- | | |
|---|---|
| <input type="checkbox"/> Burned on site | <input type="checkbox"/> Burned in facility |
| <input type="checkbox"/> Left on site | <input type="checkbox"/> Salvaged and removed |
| <input type="checkbox"/> Other | |

If you selected "Other" in any of the above preparation categories, you must provide clear details here: _____

Planting method (options: hand, machine, both): _____

Planting spacing: _____ (m)

Tending: _____

Planting Costs

Cost category	Cost description	Cost per unit	Units	Cost total
Site Preparations				
Planting				
Direct Seeding				
Tending				
Other				

Property funding

Partner	Category (Cash, In-Kind, Other)	Amount (\$)	Details

Site plan approval by OPFA Member (full or associate) in Good Standing: I certify that I have the expertise relevant to tree planting practices and the above site plan follows sustainable Forest management practices and has the potential to result in a well-stocked, productive plantation.

Name (printed): _____ **Signature:** _____ **Date:** _____

Appendix 2: Post Plant Report Template

50 MTP Post Plant Report

Section A

FO Code Number:

PDA File Number (optional):

Section B - Planting Details

Site Preparation	Description		
Start date	Completion date		
Completed by	Unit cost	Total cost	
Planting	Planting Method	Hand	Machine
Weather Conditions			
Start date	Completion date		
Completed by	Unit cost	Total cost	
Tending	Description		
Weather Conditions			
Start date	Completion date		
Completed by	Unit cost	Total cost	

Section C - Stock Needs

Species Planted	Quantity	Source	Age	Lift Date	Seed Source	Stock Lot # and Comments
Total						

Section D - Planting Quality Assessment

Date of Assessment	Sampled	Planted OK	Percent Quality			
Overall Quality	0	0	0%			

Comments

Name of Planting Agency Representative

Signature

Name of OPFA Member (full or associate)

Signature

Appendix 3: Landowner Tree Planting Agreement Template

Landowner Tree Planting Agreement

Between

(name of PDA)

and

(name of Landowner)

Owner's Name: _____ FO Code: _____

Address: _____

Phone: _____ Business: _____

Property Location:

Lot: _____ Concession: _____ Geographic Township: _____

Latitude (Decimal Degrees): _____

Longitude (Decimal Degrees): _____

Roll No: _____

AGREEMENT

I, the Owner of the above-mentioned Property, agree to the following terms:

- 1) To contribute a minimum \$____per tree toward plantation establishment costs beyond any in-kind contribution I may make toward implementing the site plan. Any work performed by landowner will be considered as an in-kind contribution and I cannot be reimbursed using 50 MTP funding.
- 2) At my expense, to protect the trees from fire, livestock, pests (e.g., mice, insects, disease), machinery damage, and excessive weed growth, to the best of my ability.
- 3) Not to cut, harvest, or otherwise remove the trees from the planted area for a minimum of 15 years after planting.
- 4) To allow the Planting Delivery Agency (PDA), Forests Ontario (FO), or representatives of project funding agencies entry onto the Property to conduct site visits, post-planting inspections and/or survival assessments. FO and its funding agencies will not enter any property or project area without permission of the landowner and accompaniment of the PDA.

- 5) Agree to the implementation of a Site Plan prepared by the PDA, including activities that have been assigned to me, the Owner.
- 6) If available, to have a sign posted on the Property by the PDA describing the Program.
- 7) To assure in advance of planting at my own expense that:
 - a) the planting area is adequately fenced from livestock, and;
 - b) the site is clear of movable debris to allow access for site preparation, planting and tending operations. If the planting location (as per the Site Plan) is not fenced or cleared of debris, the PDA reserves the right to not proceed with the activities described in the Site Plan.
- 8) The PDA, NRCan and FO are not responsible for the failure of a tree or trees to become established but will make all possible efforts to see that the project is properly designed and carried out.
- 9) To absolve the PDA, NRCan and FO, of any liability in connection with projects undertaken through the planting program on the Property.
- 10) To indemnify and save harmless the PDA, NRCan and FO from and against all costs, claims, demands, suits, actions, and judgments made, brought or recovered against the PDA, NRCan and FO resulting from or arising out of any alleged act or omission by the Owner, in connection with the services provide or purported to be provided pursuant to this Agreement.
- 11) If the seedling stock is unavailable, or the PDA is unable to deliver the Program, the planting will be cancelled, and the Owner will receive a full refund of the funds paid by the Owner to the PDA.
- 12) Pending final approval, the 50 MTP may cover a portion of the project cost, as listed in the quote. If funds are unavailable, the Owner can proceed with the planting at full rates, a reduced planting agreed upon by the Owner and PDA, or a cancellation of the planting.
- 13) This Agreement is a matter of contract between the PDA and _____ (*name of Owner*) and is not binding on subsequent landowners.
- 14) If the event that the Owner sells the Property, all obligations of the Owner under this agreement will cease.

Owner	Date
Witness	Date
PDA Name	Date
Witness	Date

Note: Agreement to be signed in duplicate, one copy retained by the Owner and one by the landowner

Appendix 4: Planting Quality Assessment Template

50 MTP Planting Quality Assessment Form

Site Assessor:	_____	Date:	_____
Landowner:	_____	FO Code:	_____
Year planted:	_____	Page	___ of ___

Row or Plot #	Date of Plant	Species	Properly Planted	Improperly Planted	Total Sampled	% Properly Planted
Total Trees Assessed						

(1) Total Trees Planted on Site

(2) Total Trees Assessed

(3) Percent Sample Assessed ((1)/(2))

Note: A minimum 2% random sample of the total number of trees planted is recommended

Appendix 5: Survival Assessment Template

50 MTP Survival Assessment Form

Site Assessor: _____	Date: _____
Landowner: _____	FO Code: _____
Year planted: _____	Page ___ of ___

Row or Plot #	Year Planted	Species	(a) Live Trees (1)	Dead Trees (2)	(b) Total Trees (1+2)	(a)/(b) % Survival
Total Trees Assessed						

Calculation of Percent Sampled

(1) Total Trees Planted on Site (2) Total Trees Sampled (3) Percent Sampled ((2)/(1))

Note: 2-5% random sample of the total number of trees planted is recommended

Appendix 6: Seedling Stock Purchase Tracker Template

Forests Ontario Seedling Stock Purchase Tracker

One form per nursery

PDA:

Season: Spring 2023

Item Code	Species	Age	Zone	(Nursey Name) Allocation	50 MTP	OTC Program	Other*

*Tree sales not related to FO Programs