

Project Instructions - Hemlock Sapling Potting

This document is for the leader of a charitable project approved by the SGH Board to pot rescued saplings that will be used for future planting, donated to schools or other nonprofits, or offered for adoption. A potting project can be done simultaneously with a rescue project with some volunteers digging and some potting, as an immediate continuation of a rescue project using the same set of volunteers, or as a completely separate project. It is best, however, to minimize the amount of time between the digging and the potting.

Project planning

1. Secure permission of property owner or land manager where potting will take place.
2. Engage an adequate number of volunteers from SGH membership, Master Gardeners, students seeking service credit hours, and other organizations. If the potting is done as a continuation of a sapling rescue project, all or some of those volunteers may stay to do the potting. Once the potting station is set up, a typical group of 3 volunteers can pot 24 saplings in an hour.

When volunteers sign up, SGH will confirm their participation by email and send a copy of the *Project Details*. In addition, for any volunteers who are minors, SGH will send a permission form that must be signed by a parent or guardian and brought to the project.

3. Based on the number of saplings to be potted, SGH will estimate and acquire the necessary supplies for potting – such as soil amendments, HWA treatment product, etc. – and an adequate supply of appropriate tools. See *Checklist*.
4. Have project materials, tools, and supplies on site prior to potting project. Be sure tools are clean, in good working condition, and marked with owner's name.
5. Arrange to get fresh water from a hose or faucet if possible or plan to bring gallons of water. If water will be taken from a stream, bring one or more clean containers to use for dipping. Chemical jugs must never be dipped into a waterway.
6. Make copies of the *Release / Waiver of Liability* on which volunteers will sign in as they arrive at the project and *Volunteer Instructions* to use during the potting.

Orientation for volunteers

1. **Welcome volunteers** as they arrive. Ask each participant to sign the *Release / Waiver of Liability* form and fill out and wear a name tag.
2. **Make sure each participant is properly attired** -- Dressed for the weather and terrain with long pants and long sleeved shirt, sturdy shoes/boots with socks, work gloves. Provide work gloves for anyone who doesn't have them.
3. **Explain project significance** to natural and human communities (*adjust depending on audience*):
 - **Aesthetically**, hemlocks contribute greatly to the enjoyment of those who live, work, and play among them, as well as the many people who come to north Georgia for tourism and recreation.
 - **Ecologically**, hemlocks help maintain the health and biodiversity of our forests and provide food and habitat for a diverse population of birds and other animals, shade for native plants, and cool temperatures for trout streams.
 - **Environmentally**, hemlocks are vital for protecting the quality of our waterways and watersheds, preventing soil erosion on mountain slopes and around waterways, and maintaining our air quality.
 - **Economically**, healthy mature trees such as hemlocks support jobs and local tax revenues associated with tourism and recreation and supporting the value of private properties and the community as a whole.
 - **And on a personal note**, hemlocks are the favorite tree of so many people who grew up visiting the woods, taking their children and grandchildren to the woods for memorable family outings, and teaching lessons of respect and personal responsibility, wise use of resources, and environmental stewardship.
 - **But they are under attack** by an invasive insect, Hemlock Woolly Adelgid (HWA), and most will die unless action is taken to prevent it. Even with our efforts to chemically treat as many trees as possible and to support the establishment of biological controls, the overall number of hemlocks in the landscape will be greatly reduced over time.
 - **And that's where we come in.** By preparing these saplings to be used for future planting, donation to schools and other nonprofits, or offered for adoption, as we are doing today, we are helping to ensure there will be a population of healthy hemlocks for future generations.



Project preparation

Explain that volunteers will be potting little trees in 1-gallon pots in a prepared soil mixture made of 2/3 native soil brought from the digging site and 1/3 special soil amendments and soil additives for optimal soil structure and nutrition. They will stake the little trees loosely and give them a special initial watering mix that will promote root growth and protect them from adelgids for their first 5 years. After potting, the little trees will be transported to a sapling nursery for 6 to 12 months to reestablish their root system and put on at least one season of new growth.

1. **Explain layout of potting station(s)** and location of extra materials. Assign 2 or 3 volunteers per potting station and have them set up the potting stations as shown in Attachment 1.
2. **Have volunteers dig native soil** from near the rescue site and put into tub #1. Each tub full of native soil is usually enough to pot 24 1-gallon saplings.
3. **Have volunteers prepare the amendment mix** in tub #2 as follows:
 - a. Combine ½ bag of each: top soil, compost / humus, Mr. Natural Woodland Soil Mix, and Mr. Natural Worm Castings.
 - b. Add these little by little into the tub and use a shovel to mix thoroughly as each ingredient is added so as not to layer the different kinds of soil amendments.
4. **Have volunteers prepare final potting mix** in tub #3 -- combining 2/3 native soil and 1/3 amendment mix. This will be used to fill pots 1/3 full at Station 1 and cover the roots of the saplings once they're in the pots at Station 2.
5. **Have volunteers prepare baggies of soil additives mix**, 1 baggie per 1-gallon pot, as follows:
 - a. 1 tsp Espoma HollyTone fertilizer
 - b. 1 tsp Ironite granules
 - c. 1 tsp Soil Moist water retention granules
6. **Have volunteers prepare gallons of initial watering solution** in 1-gallon containers with pouring spout as follows. Each gallon is usually enough for 8 trees.

If using Bayer Advanced Tree & Shrub for 1-year protection: *(This is the one we usually use.)*

- 122 oz of water (put water in first)
- 4 oz of undiluted Bayer Advanced Tree & Shrub
- MiracleGro Quick Start root stimulator – 1 capful

If using Imidacloprid 75 WSP for 5-year protection:

- 122 oz of WARM water (put water in first)
- 1 baggie pouch of Imidacloprid 75 WSP (shake well to mix thoroughly before adding root stimulator)
- MiracleGro Quick Start root stimulator – 1 capful

If using Imidacloprid 2F / 2L for 5-year protection:

- 124 oz of water (put water in first)
- 2 oz of undiluted Imidacloprid 2F/2L
- MiracleGro Quick Start root stimulator – 1 capful

Potting Tasks

Give out volunteer instructions for potting. Explain the process and demonstrate with the first sapling. Ask if there are any questions. Then get started.

AT STATION 1

1. **Choose appropriate size of pot for root ball.** Fill pot 1/3 full of final potting mix. Add 1 baggie of soil additives to pot and mix thoroughly. Do NOT pack it down.

AT STATION 2

2. **Carefully remove sapling and root ball from bag**, break off excess edge of root ball if necessary (do this over tub #1 containing native soil), and place the sapling root ball into pot. Spread the root out on top of soil and tuck any extra long roots up under the sapling trunk.
3. **Add enough final potting mix to just cover roots** and press soil down *gently*. Be sure no roots are sticking up above the soil.
4. **Insert your hand vertically** all around the edge of the pot to be sure all roots are covered. Add more final potting mix around edges if needed.

AT STATION 3

5. **Cut a bamboo stake** so that it's a few inches shorter than the extended top leader and insert it into pot close to stem and on back side of the tree. Do this gently so as not to damage the tender feeder roots.
6. **Secure the main stem to the stake** with a 4" piece of velcro tape. Tape should be placed about 2/3 of the way up the stem and wrapped *loosely* enough to insert a finger in the loop. If the sapling is taller than 24", use an additional piece of tape at 1/3 of the way up the stem.
7. **Press soil down firmly** to remove air pockets.

AT STATION 4

8. **Water gently** with 8 ounces of initial watering solution per 1-gallon container. If this causes any roots to become exposed, add more final potting mix to just cover them and press down again.
9. **Place potted saplings in the shade.**
10. An hour later, **press soil down gently again** and add more final potting mix if any roots have become uncovered.

At end of potting project

1. **Collect SGH tools** and other supplies from volunteers and make sure all are accounted for. Tools/equipment should be cleaned on site or bagged and taken home for cleaning. Make note of anything that needs repair or replacement.
2. **Forward original** signed *Release / Waiver of Liability* forms to Donna. Project leader may retain a copy.
3. **Thank volunteers for their good work** and wish them safe travel home.

Transporting potted saplings to nursery

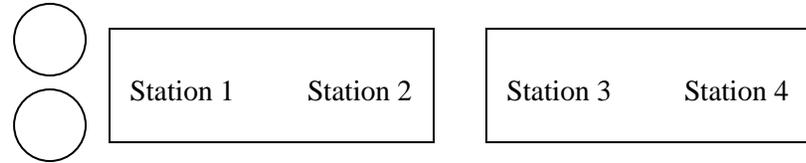
1. **Place potted saplings in grocery bags** tied with one loop to load into vehicle and transport back to nursery.
2. It is best to **transport potted saplings in cargo area** inside vehicle. If transporting them in the open bed of a pickup truck, cover them with a tied-down tarp to prevent wind burn.
3. At their destination, remove bags and **place them in a semi-shady location** protected from the wind.

Maintaining potted saplings

1. Give ½ quart of water per 1-gallon container twice a week for first month, then weekly during weeks with no rain.
2. In spring and fall, re-apply 1 tsp Espoma HollyTone and 1 tsp Ironite as needed to maintain plant vigor.
3. In spring and summer, prune any dead or damaged branches just outside the nearest joint. Do not prune in fall or winter.
4. If maintaining the saplings through the winter, put mulch around the containers to protect roots from freezing.
5. When saplings are adopted or donated, provide the recipient a copy of the SGH planting and care instructions entitled *Caring for Your Hemlock Sapling*. It can be downloaded from the [Resources](http://www.savegeorgiashemlocks.org) page of our web site www.savegeorgiashemlocks.org.

Attachment 1 – Layout for Potting Stations

Use three large tubs for soil and two 6-foot folding tables, placed end to end with a bit of walking space between them. The first table is for stations 1 and 2; the second table is for stations 3 and 4. The setup is designed for an assembly line kind of activity with each potting station focusing on one main activity:



Station 1 – mixing soils, filling pots half way, adding baggie of soil additives

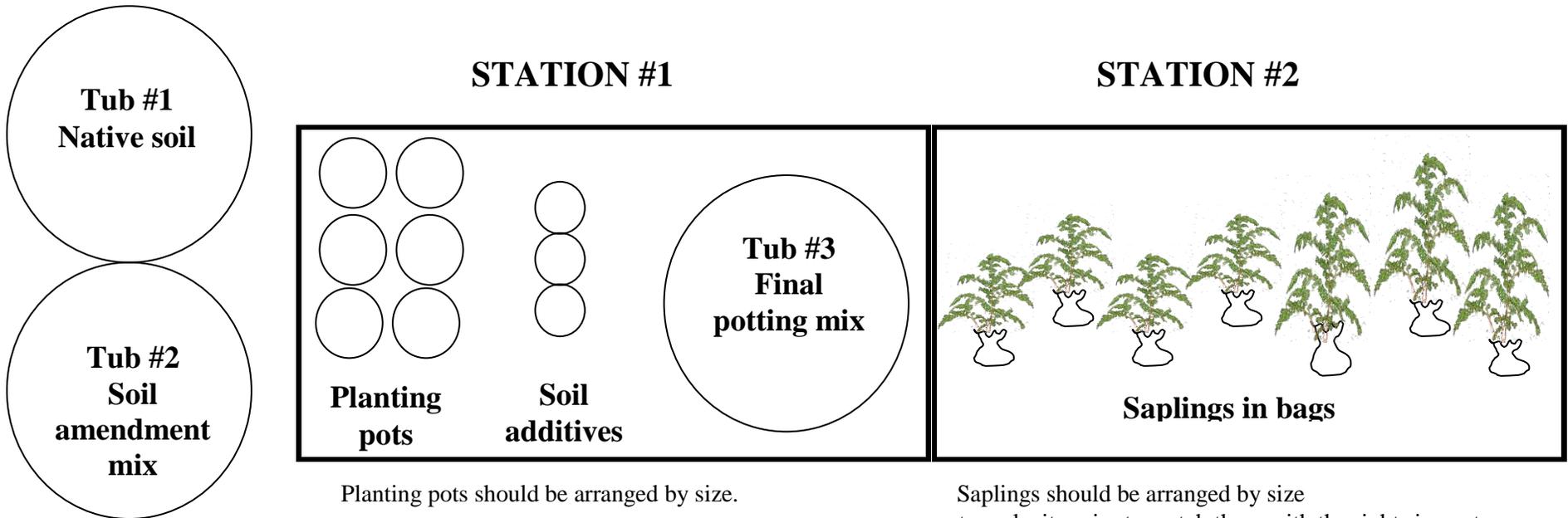
Station 2 – preparing root ball, placing sapling into pot, and pressing soil

Station 3 – staking and securing with velcro tape

Station 4 – watering, adding more final potting mix if necessary, and placing potted trees in shade.

Here are the details for each station.

FIRST TABLE

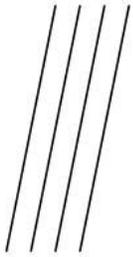


Planting pots should be arranged by size.

Saplings should be arranged by size to make it easier to match them with the right size pot.

SECOND TABLE

STATION #3



**Bamboo stakes
& pruners**



**Velcro tape
& scissors**

STATION #4



**Watering
mixture**



**Grocery bags for
finished potted trees**

