



Standards Oversight Council (SOC)

Developing effective technical standards that protect Wisconsin's natural resources

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NRCS 380 Windbreak-Shelterbelt Establishment and Renovation Standard Update Team MEETING NOTES

Wednesday, September 28, 2022 ▲ 1:00pm – 3:30pm ▲

Online meeting

1:00 Welcome & Introduction (Kate, Allan)

Goal: Welcome and review today's meeting objective.

Attendance: Kate Brunner, Allan Braun, Mic Armstrong, Matt Wilson, Drew Zelle,
Shannon Rohde, Peter Wisniewski, Mike Stanek, Tony Johnson, Jeremiah
Auer

Absences: Michael Demchik, Roy Diver

Guests: none

The draft standard is out for Initial Review now. This meeting today will shift focus to start work on the guidance document and develop a plan for completing it.

Notes Review (Kate)

Goal: Review and approve 8/31/22 draft meeting notes.

Draft notes from August meeting were emailed to the team for review. Team discussion:

- Only 1 open Action Item related to a presentation we are going to hear today from Mic and Jeremiah.
- Drew previously asked about order of the headings since Plans and Specs and O&M come after Considerations. Allan checked and this is rigid; section order can't be changed.
- Initial Review is underway. **Kate** will receive all the comments then consolidate for the team to review and address before the next meeting (Oct. 26).
- No other questions or comments to the notes were raised by the team, so Kate will post online as final.

Tree Nurseries (Mic and Jeremiah)

Goal: Review the tree seed and nursery process. Identify key points to inform the guidance document.

Mic and Jeremiah lead the team in their presentation on tree seedlings and nurseries.

Key points from Mic's portion of the presentation and team discussion:

- Sourcing seeds and seedlings should be relatively local so the plants are hardy and suitable for WI. Seedlings grown in other states using midwestern seed sources may be fine, but seedlings grown anywhere using seed from non-hardy sources will be unsuitable.
- In plug or containerized production, in order to get one tree per plug, seed must be primed prior to seeding. Different species have specific needs for storage (e.g. water soaked/cold stratified, warm/cold stratified, air dried and high graded). High grading is a process, using an air column separator, that removes hollow seeds and impurities that may plug delicate vacuum seeders.
- Greenhouses are set up with a lot of considerations--heat, ventilation, irrigation water, bird protection. Seedlings need specific climate and moisture to become established.
- In order to produce a more fibrous root system on species like oak, after stratified acorns germinate the emerging growing tip is either cut or "air pruned" by placing germinated acorns on a mesh screen for a day or two.
- Plugs and containerized plants extend the planting season, Bare root planting after June in Wisconsin is risky, even with cold storage available. Plugs, pots and rootbags can be planted into the fall.
- Transplanters are available with cups instead of the clips used on bare root planters. Models are available that can plant through plastic mulch, but so far, none have the capacity to plant through fabric weed barriers - you secure it over the trees and cut holes as Shannon does in his program. There are also hand tools that work well for plug planting.
- Seedling pots vary from small plugs to #25 pot, made from plastic, paper, Styrofoam, fabric, fiber or wood. Different pot shapes can train the roots to avoid circling roots which tend to always circle, potentially limiting lateral root spread.
- Cuttings for some trees can be planted as sticks which will root in the ground. These may be available as sticks or as rooted cuttings.
- Both deciduous and conifer cultivars are often propagated by cuttings at different times of the year. They may be available as rooted cuttings but more likely are grown on to larger sizes in containers or the field.
- Micropropagation – a large number of plants are produced by tissue culture. Could be shrubs, fruit trees, shade trees, root stocks for grafting.
- When planted in the field, cover crops and companion crops can also be used for allelopathic effects (to discourage broadleaf weeds). The cover crop may need termination, either with herbicide or clipping before they till.
- Grafted nursery stock of one tree into another can have root stocks (understock) grafted with an interstock with a third section as a top graft. They may not all be even the same species. Never bury the graft union to the rootstock, it should always be above grade.
- Field budding – A low bud on the understock is sliced off and replaced with a bud from another (the scion) so that they are identical size oval shapes. For example, Honeycrisp apple budded onto an "M9" dwarfing apple rootstock. The part of the

rootstock above the bud is clipped off in the fall and the new bud continues to grow the following season, becoming the main trunk.

- Trees can be shipped as bare root up to around 10' tall. Larger nursery stock needs to be container grown or field dug as ball and burlap.
- Nurseries would provide planting instructions specific to the species and size of plant and type of container e.g. to keep the burlap and wire basket intact. Burlap is sometimes cut at grade, a couple of wires in the basket may be cut to allow for flexibility of emerging roots. Always take care there are no air pockets around the ball, either by digging the hole much larger than the ball and loose filling all air pockets with dirt, then "mudding in" to fill voids. Alternatively cutting the hole to match the exact shape of the ball, usually with a tree spade, eliminates air pockets.
- Irrigation may be needed if soils dry out before tree establishment. Drip tube with the emitters by each tree or more inexpensive drip tape are good options which can be laid on top of the ground (under weed barrier if that is used) or buried a few inches. Some kind of water filter will likely be needed to prevent plugging the system.
- Other planting consideration: neonicotinoids can be problematic if plant flowers soon after planting—it can be transmitted to pollinators.

Key points from Jeremiah's presentation:

- Jeremiah's work is focusing on reforestation efforts on both public and private lands. WI DNR Nurseries produce seedlings at the Wilson State Nursery in Boscobel. They grow only native species, largely from native seed. They grow 35-38 species—selected based on demand and ability to get seed.
- DNR involves their own staff for seed collection but purchase most from the general public. Seed collection times vary by species and extend from late spring, all summer and into autumn.
- DNR processes, cleans and stores all their seeds. All large seeded species (acorns, hickory, walnut, etc.) are planted in the fall. Conifers cones are processed using a kiln and screens at the Hayward State Nursery.
- At the right storage conditions, conifers can be stored for 30+ years. Hardwoods and shrubs for only 3-5 years.
- Mulch, cover crops, straw, and seed mats are used to protect the seed in winter. Those species that produce seed in the spring are planted as soon as possible to take advantage of the cooler temperatures. If they are planted too late, the summer heat can cause stresses, and added irrigation is required to keep the conditions ideal for germination.
- Tree seed germination is unreliable, it is impacted heavily by environment, pollination, insects and disease—they get what they get.
- For easier planting, especially if planting by hand, DNR encourages landowners to plant 1-year old hardwood or 2-year old conifers. When using a tree planter, larger sizes are easier to plant and therefore acceptable.
- They top prune seedlings for easier shipping. All stock is vertically and/or horizontally root pruned.

- Larger seedling stock can be created by a lower density seeding. Some larger plants are only available to state-owned lands.
- WI State nurseries only produce bare root stock. They have the authority to produce plugs if the market requires, but at this point, have not had any requests. Private nurseries produce these plugs. In general, they are more uniform, are quicker to produce and extend the planting season.

The team will keep in mind this information as we work through guidance document information.

Guidance on the Guidance (Allan)

Goal: Review typical NRCS guidance document layout and the current (2011) [Forestry Technical Note 4](#).

Allan introduces the typical NRCS guidance document layout, and goes over what the current one has in it with some suggestions for improvements.

- The current document (Forestry Tech Note 4) is older structure. The species list will be carried over but more species can be added, and we can also add columns for important characteristics. The figure will also be carried into the new guidance document. Kate can help with graphics/CAD if needed.
- New guidance document structure – Introduction, Purpose statements (from the std), Where Used (similar to std), Resource Management System (instructions for how it fits in with other complementary practices), Wildlife (benefits, concerns), Planning Considerations (the meat of the guidance—how do you do it?). There can be subheadings under Planning Considerations.
- Team should keep track of reference materials they use for citation in the Resources.

Break as needed

Outlining Guidance Document Revisions (Allan, Kate)

Goal: Review list of topics previously identified for the guidance document and identify team assignments to draft the details.

Kate has been taking note of the topics the team has mentioned would be better for a guidance document. The list was sent that to the team along with the meeting agenda and we review and discuss on-screen together. Team members are identified to help prepare a written description for each topic that fits their expertise. The volunteers will develop a short (like ½ page) document of key information for insertion in the guidance document.

The work product is due mid-Nov. **Kate and Allan** will then merge the information together and edit for the team to review for the Nov. 30 meeting.

Kate will email each of the volunteers a reminder of their assignments with updated information from the meeting.

Plan of Action (Kate, Allan)

Goal: Review next steps and action items.

Next team meeting is scheduled for October 26, 2022. We'll have the Initial Review comments in so the team will shift back to the standard in Oct. then back to the guidance doc at Nov. 30 meeting.

Action items:

- **Kate** will email each of the volunteers (**Allan, Mike S, Shannon, Matt, Peter**) a reminder of their assignments with updated information from the meeting. Homework will be due Nov. 11. See "Windbreak guidance doc ideas" file.
 - Kate and Allan will merge the information together in a revised guidance document for review at the Nov. 30 meeting.
- **Kate** will receive the Initial Review comments then consolidate for the team to review and address before the next meeting (Oct. 26).
- **Kate**: finalize 8/31 notes and post online
- **Kate**: prepare today's draft meeting notes for Team review.
- **Kate & Allan**: prepare 10/26 agenda.

3:30 **End**— Meeting concludes at 3:20 pm