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Natural Resources Conservation Service

TREE PLANTING PLAN (REVISED 7/5/2018)
SCOTT ROSENBERGER
AGRICULTURAL CONSERVATION EASEMENT PROGRAM –
WETLAND RESERVE EASEMENTS (ACEP-WRE)
54-7103-1701-MF2
T3N, R4E, S-4, 5, 8, 9, 16, & 17, LEE CO., AR;
T4N, R4E, S-33, ST. FRANCIS CO., AR
EASEMENT ACRES – 1,275.1
TREE PLANTING ACRES – 595.1

All site prep and planting activities MUST be according to this prescription and established NRCS specifications. Activities not meeting these specifications will not be paid.

All technical questions should be referred to the NRCS inspector for this project (Rich Johnson at 501-676-0283 ext. 110).

CURRENT CONDITIONS

The easement is located in the Lower St. Francis watershed in the east-central Delta of Arkansas (maps attached). It abuts Crowley's Ridge on its west side, and on its east side abuts the St. Francis River Floodway for a distance of three miles. The easement is near a large concentration of other WRP/WRE easements.

The easement consists of about 90% agricultural land (primarily soybeans) and 10% bottomland/upland hardwoods. Of the portion to be reforested, 81% is poorly drained Alligator clay (pH 4.9), 0-1% slopes, rarely flooded, on flats; 9% somewhat poorly drained Falaya silt loam (pH 5.1), 0-1% slopes, occasionally flooded, in drainageways; 5% somewhat poorly drained Convent silt loam (pH 7.0), occasionally flooded, on natural levees; 2% somewhat poorly drained Arkabutla silt loam (pH 5.2) on floodplains; 1% poorly drained Fluvaquents (pH 5.1), in floodplains; 1% well-drained Memphis silt loam (pH 5.4), 1-3% slopes, in loess hills; 0.5% well-drained Natchez silt loam (pH 6.2), 20-40% slopes, on loess hills; and 0.5% moderately well-drained Collins silt loam (pH 5.2) in drainageways.

PRESCRIPTION

A total of 595.1 acres will be reforested to bottomland/uplands hardwoods, which occurred here prior to the site's conversion to agriculture. Site preparation and tree planting will be conducted

as described below under 490-Tree/Shrub Site Preparation and 612-Tree/Shrub Establishment, respectively (maps attached).

490-Tree/Shrub Site Preparation

The following site preparation will be done:

1. August to October, 2018 – When soil conditions are dry, all 595.1 acres to be planted to trees will be mowed and will then be subsoiled (ripped) on 12-foot centers (subsoiling specifications attached). **WHOEVER PERFORMS THE SUBSOILING IS RESPONSIBLE FOR CONTACTING ARKANSAS ONE CALL (811 OR 1-800-482-8988) AND AVOIDING ANY UNDERGROUND UTILITY LINES. The landowner is responsible for having the planting area in a relatively smooth condition prior to mowing and ripping being conducted, including removing ruts or hips caused by agricultural operations.**
2. On all 595.1 acres to be planted to trees, a herbicide that is 75% sulfometuron methyl by weight will be sprayed in a 4-foot-wide band centered over the rips at a rate of 4 ounces/acre + 1% surfactant volume-to-volume in a total spray volume of 10 to 15 gallons/acre, either at the time of ripping or up until the time seedlings are planted (but not after they are planted). **HERBICIDE APPLICATIONS MUST BE IN ACCORDANCE WITH THE LABELS OF THE PRODUCTS USED!**

612-Tree/Shrub Establishment

A total of 595.1 acres will be planted to a mixture of native bare-root bottomland/upland hardwood trees to assure establishment of a diverse forest community. The seedlings will be planted between January 1 and March 31, 2019 (planting outside of these dates requires prior approval from NRCS), at a spacing of 12 feet x 12 feet (303 trees/acre). A stand will be judged successful if after the first growing season a minimum of 50% of the prescribed number of planted seedlings (152 trees/acre) survive. NRCS will decide if volunteer seedlings in addition to the planted seedlings will allow the stand to meet ACEP-WRE objectives. The establishment of bottomland/upland hardwoods will provide a diverse plant community similar to natural conditions.

Trees will be planted by hand. Tree planting will be conducted according to the attached NRCS tree planting specifications. In addition, trees will be planted only after rainfall has sufficiently

closed the subsoiled furrows (rips), unless approved otherwise by NRCS; in such cases, trees will be planted next to the rips.

Three different tree species groups that are adapted to site conditions will be planted. Tree Group 1 will be planted at the higher elevations not normally subject to flooding (silt loams, loess). Tree Group 2 will be planted on more than 80% of the tree planting area, mainly on poorly drained clay soils in the floodplains subject to annual flooding. Tree Group 3 will consist of two rows of baldcypress planted along the full-pool lines of the shallow-water impoundments, as well as baldcypress planted throughout the created slough. A total of 180,400 trees will be planted (tables below).

Tree Group 1 85.4 acres		
Species	**%**	**Number of Trees**
Cherrybark Oak	59.2	3,600
Water Oak		3,600
Swamp Chestnut Oak		3,600
Shumard Oak		3,600
Pecan		1,000
Blackgum	40.8	5,400
Red Mulberry		5,200
Total	100.0	26,000

Tree Group 2 488.2 acres		
Species	**%**	**Number of Trees**
Nuttall Oak	62.7	30,000
Willow Oak		30,000
Pin Oak		20,000
Overcup Oak		12,800
Sugarberry	37.3	19,200
Persimmon		19,200
Baldcypress		16,800
Total	100.0	148,000

Tree Group 3 21.5 acres		
Species	**%**	**Number of Trees**
Baldcypress	100.0	6,400
Total	100.0	6,400

Total 595.1 acres		
Species	**%**	**Number of Trees**
Cherrybark Oak	60.0	3,600
Water Oak		3,600
Swamp Chestnut Oak		3,600
Shumard Oak		3,600
Nuttall Oak		30,000
Willow Oak		30,000
Pin Oak		20,000
Overcup Oak		12,800
Pecan		1,000
Blackgum	40.0	5,400
Red Mulberry		5,200
Sugarberry		19,200
Persimmon		19,200
Baldcypress		23,200
Total	100.0	180,400

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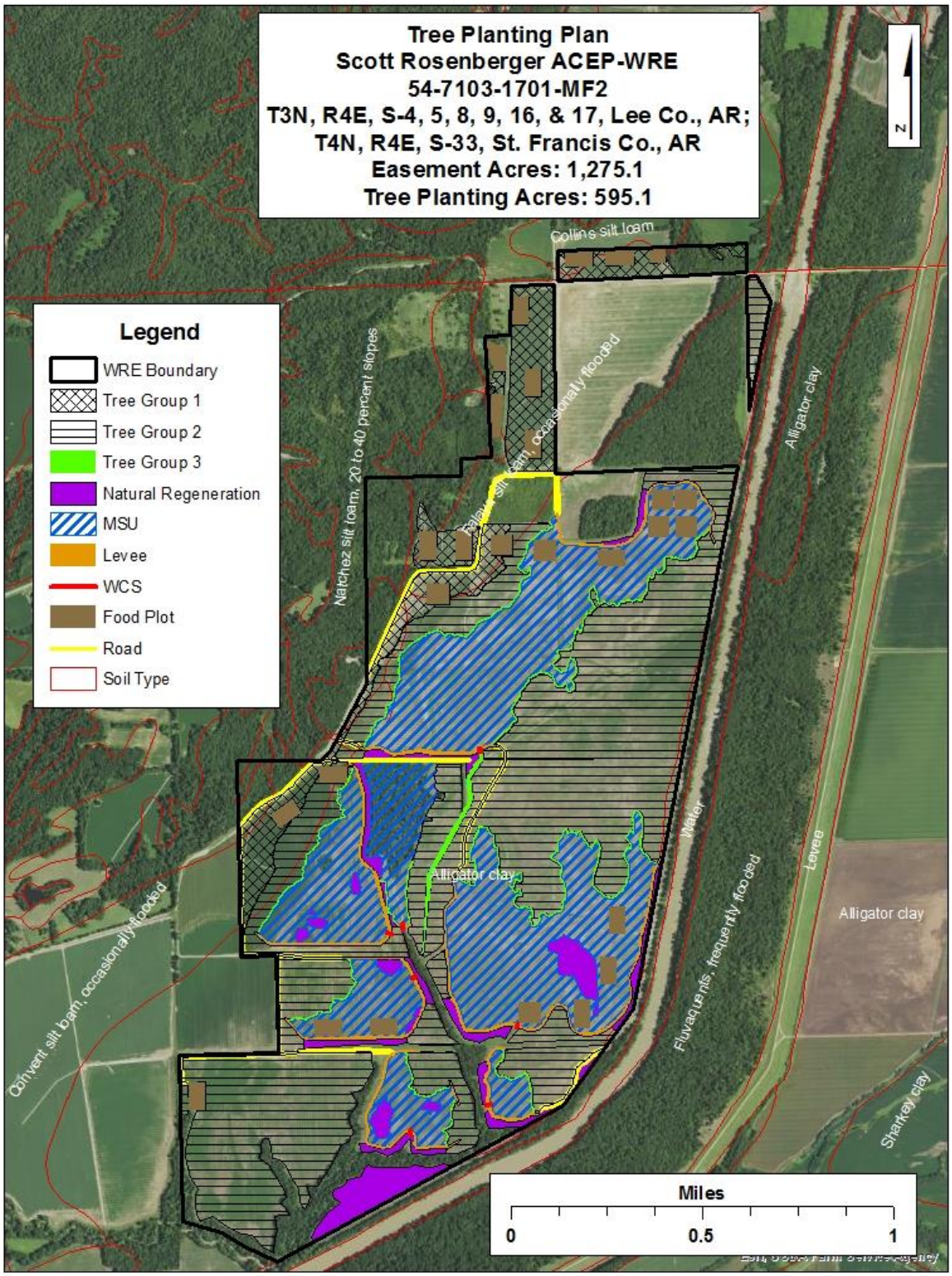

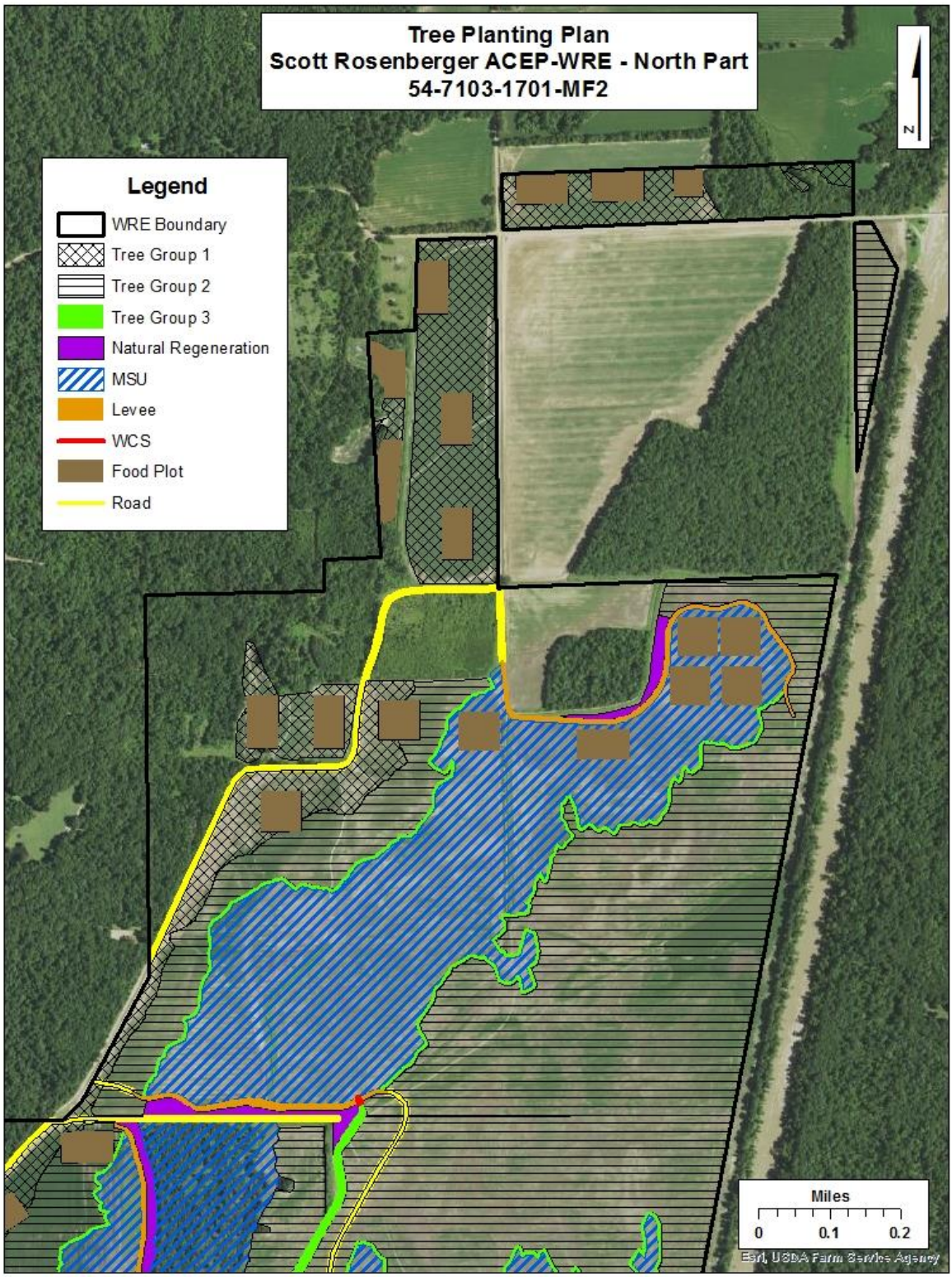
Tree Planting Plan
Scott Rosenberger ACEP-WRE - North Part
54-7103-1701-MF2
N
Legend
WRE Boundary
Tree Group 1
Tree Group 2
Tree Group 3
Natural Regeneration
MSU
Levee
WCS
Food Plot
Road
Miles
0
0.1
0.2
Esri, USDA Farm Service Agency

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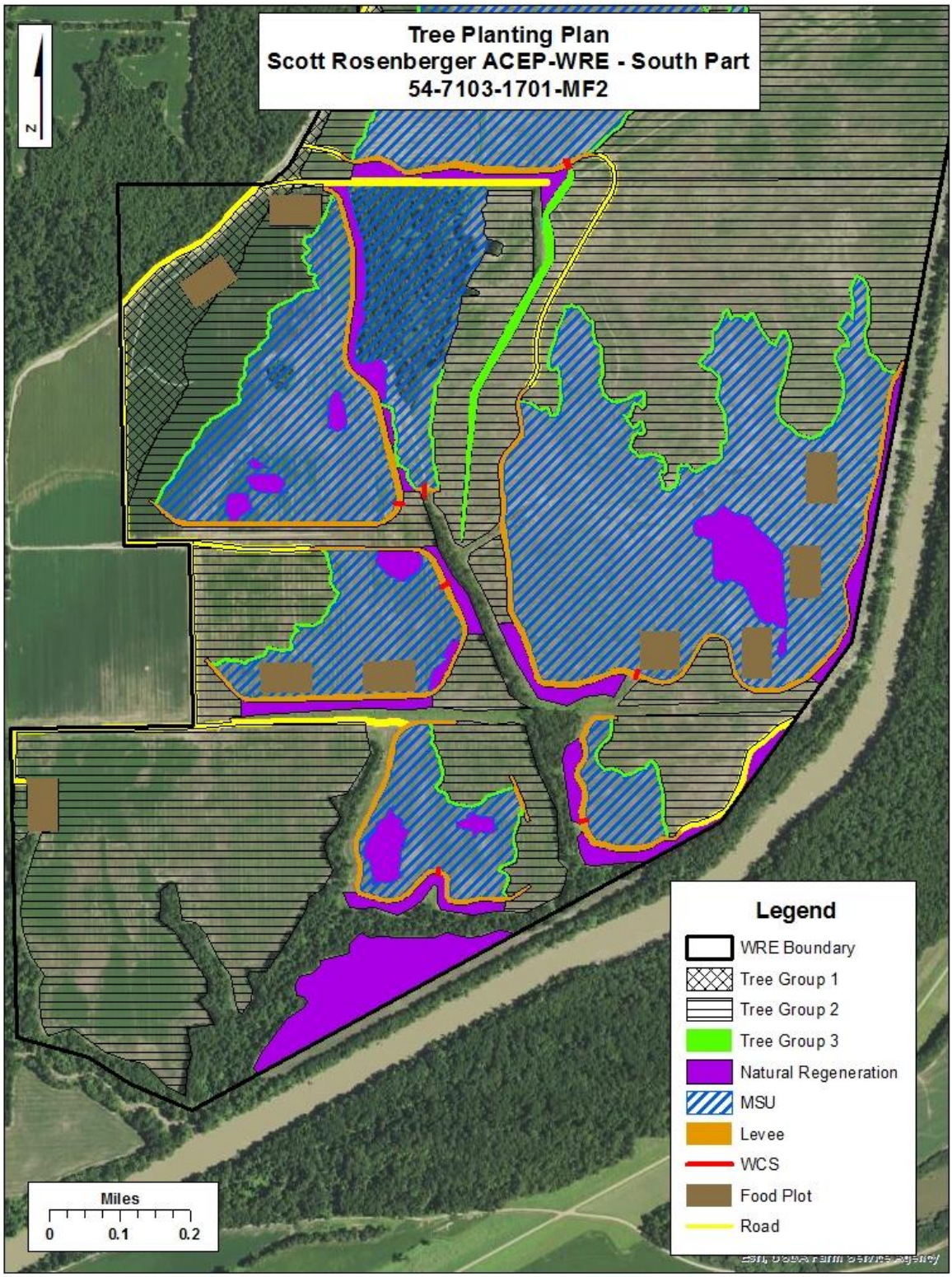

ACEP-WRE TREE PLANTING SPECIFICATIONS

1. Planting rates will be as specified in the tree planting plan for each restoration site. Actual planted numbers of trees will not drop more than 5% below the specified rate.

2. Seedlings planted will be healthy, viable trees which meet the following size specifications:
    a. A minimum root collar diameter of ¼ inch above the swell is required for all oak species and desired for all other hardwood species. Non-oak species may be smaller so long as all other specifications are met.
    b. A minimum tap root length of 6 inches below the root collar.
    c. Ratio of the length of the shoot to the length of the tap root should be 1.5 to 2.5 unless top pruned at the seedling nursery. Seedlings top pruned at the seedling nursery are acceptable. No top pruning should be done at the planting site. Tops should be proportional to the tap root length (9 to 15 inches above the root collar for 6 inch root).
    d. Healthy first order laterals and fibrous roots must be present.
    e. Roots must be moist, not moldy, with NO overabundance of lenticels, and not discolored (inside or out). The outside of the roots should not be black, the cambium cannot be discolored, and the internal part should be white or creamy in color.
    f. Root pruning at the planting site is strongly discouraged. The tap and lateral roots will not be pruned unless the length of the roots prohibits the proper planting of the seedling. It is better to leave the tips of lateral roots exposed after planting than to prune. Tap roots will not be pruned to less than the minimum required root length. Laterals will not be pruned less than 5 inches.

3. Seedling bags will be checked prior to distribution to the planting crew to ensure seedling sizes meet specifications. Approval for planting trees that do not meet these criteria must be obtained from the NRCS State Forester.

4. A minimum of 85% of the trees planted must meet the following planting specifications:
    a. Seedlings must be planted so as the swelling at the root collar is below ground the ground line. Seedlings must NOT be planted with root collar above the ground line. The root collar of the trees will be planted 1-2 inches below the ground surface.
    b. Planting bars must be at least 10 inches long to prevent shallow planting depths.

c. Planting holes will be closed tightly around the roots with no air pockets.
d. Roots must be planted straight down and not twisted, balled, L-shaped or U-shaped. Tap root will not exceed 30 degrees from perpendicular. Minimal lateral roots may be exposed after planting. No part of the taproot will be exposed.
e. Seedlings will meet the size requirements stated in Item 2 above.

5. Trees will be stored/handled before and during planting to achieve maximum survival:
   a. Keep all planting stock in a cool environment (preferably < 50 degrees F) out of direct sunlight and wind. Internal bag or box temperatures will not exceed 60 degrees F.
   b. Seedlings should be stored in a working cold storage facility until they are delivered to the planting site. Ideally, only a one day supply of seedlings should be removed from the cold storage facility at a time. Seedlings should be stored between 34 and 40 degrees Seedlings must not be stored above 50 degrees for more than a day.
   c. Seedlings "hot planted" will not be stored in cold storage longer than 48 hours prior to planting.
   d. Protect planting stock from desiccation and freezing during temporary storage and delivery to the planting site. Seedlings will be kept moist during the planting process. Opened bundles of trees will be re-closed while on the planting site.
   e. Planting bags or similar devices are required for all planters.
   f. Seedlings will be kept moist during the planting process. Seedlings with dry roots are unacceptable and must not be planted.
   g. Planters will not carry more than one tree in their hand at a time.
   h. No planting will be done when air or soil temperatures fall below 32 degrees F or rise above 70 degrees F. Exception will be made when air temperatures drop to as low as 28 degrees but will rise to 32 degrees within 2 hours. No exception will be made when air temperatures drop below 28 degrees.
   i. Only baldcypress, tupelo gum, overcup oak, bitter pecan or green ash seedlings may be planted in standing water. These species will only be planted in water less than 6 inches in depth. No other species will be planted in temporarily ponded water greater than 2 inches in depth.

6. No species substitutions will be made without prior written authorization from the Designated Conservationist. Species from the alternate list for each contract will not require further authorization.

ACEP-WRE SUBSOILING (RIPPING) SPECIFICATIONS

1. Subsoiling will be performed only when and where specified in the planting plan. This decision will be based on penetrometer readings and soil moisture conditions.

2. Subsoiling will be done in August-October prior to the tree planting season when the soil is dry.

3. Subsoiling depth will be at least 12-15 inches (deeper rips are allowed).

4. Subsoiling will be done on 10-foot centers for 10-ft. x 10-ft. spacings, on 12-foot centers for 12-ft. x 12-ft., 12-ft. x 10 ft., or 12 ft. x 8-ft. spacings, and on 15-foot centers for 15-ft. x 15-ft. spacings.

5. Subsoiling will not be performed during periods of excessive soil moisture. Soil must be fractured and NOT sliced.

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The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.