



Forsyth County Department of Engineering

State Waters, Rivers, & Tributary Riparian Buffer-Revegetation Checklist

Site Name: _____ Date Submitted: _____

Description:

Restored riparian buffer are constructed low-maintenance ecosystems adjacent to state waters, where trees, shrubs, grasses, and herbaceous plants function as a filter to remove pollutants from overland and groundwater flows.

General Characteristics:

Riparian buffers are naturally vegetated areas along a stream bank that improve the habitat by:

- Providing food and cover for wildlife and aquatic organisms,
- Stabilizing stream banks,
- Filtering pollutants from Stormwater,
- Attenuating the rate of runoff into streams, and
- Increasing infiltration and recharge to ground and surface water bodies.

Site Assessment:

The riparian area to be restored should be evaluated with respect to the following factors.

- Soil moisture, PH, and texture.
- Flooding potential
- Aspect, topography, and microtopographic relief.

Checklist

- Include 5 copies of the restoration plan for approval on minimum size of 11x17.
- Depiction of the area that has been disturbed with a total square foot calculation.
- Show the center line and top of bank of any stream or creek with the appropriate undisturbed buffer.
- Plans stamped and signed by a Registered Engineer, Land Surveyor, or Landscape Architect. All licensed with the state of Georgia.
- Provide the name of the owner/builder with their mailing address and telephone number.
- Provide a scale of 1" = 40' maximum.
- Provide a physical address and description of the property where the encroachment has occurred.
- Provide a plant schedule of the buffer revegetation.
- Provide a bond for 150% of the cost of materials and labor. A quote from a reputable company must be attached, detailing the materials and labor costs. The bond will be in place for an 18-month period after the completion of the planting to guarantee the survival of the plants.
- Add Note: All work inside the undisturbed 50, 35, or 25 foot state waters buffer must be done by hand without prior approval from all applicable governmental agencies.
- Add Note (In Bold Capitol Letters): **NOTIFY THE FORSYTH COUNTY DEPARTMENT OF ENGINEERING UPON COMPLETION OF THE BUFFER REVEGETATION @ 770-781-2165**

Total Square Feet Disturbed: _____

Large Trees Required _____

Small Trees Required _____

Shrubs Required _____

Ground Cover Required _____

Appendix A – Woody Plants for Soil Bioengineering and Associated Systems in Georgia

Scientific Name	Common Name	Plant Type	Region *	Establishment Speed
<i>Acer negundo</i>	boxelder	small to medium tree		fast
<i>Acer rubrum</i>	red maple	medium tree	M, P, C	fast
<i>Alnus serrulata</i>	smooth alder	large shrub	M, P, C	medium
<i>Amorpha fruticosa</i>	false indigo	shrub	M, P, C	fast
<i>Aronia arbutifolia</i>	red chokeberry	shrub	M, P, C	fast
<i>Asimina triloba</i>	pawpaw	small tree	M, P, C	
<i>Betula nigra</i>	river birch	medium to large tree	M, P, C	fast
<i>Carpinus caroliniana</i>	american hornbeam	small tree	M, P, C	slow
<i>Carya cordiformis</i>	bitternut hickory	tree	P, C	
<i>Catalpa bignonioides</i>	southern catalpa	tree	P, C	fair
<i>Celtis laevigata</i>	sugarberry	medium tree	P, C	slow
<i>Celtis occidentalis</i>	hackberry	medium tree	P, C	slow
<i>Cephalanthus occidentalis</i>	buttonbush	large shrub	M, P, C	medium
<i>Chionanthus virginicus</i>	fringe tree	small tree	P, C	
<i>Clethra alnifolia</i>	sweet pepperbush	shrub	P, C	
<i>Cornus amomum</i>	silky dogwood	small shrub	M, P	medium
<i>Cornus florida</i>	flowering dogwood	small tree	M, P, C	fair
<i>Cyrilla racemiflora</i>	titi	small tree	C	
<i>Diospyros virginiana</i>	persimmon	medium tree	M, P, C	fair
<i>Fraxinus caroliniana</i>	carolina ash	large tree	C	fast
<i>Fraxinus pennsylvanica</i>	green ash	medium tree	M, P, C	fast
<i>Gleditsia triacanthos</i>	honeylocust	medium tree	P, C	fast
<i>Hibiscus aculeatus</i>	hibiscus	shrub	C	
<i>Ilex coriacea</i>	sweet gallberry	small to large shrub	C	
<i>Ilex decidua</i>	possumhaw	large shrub to small tree	P, C	
<i>Ilex glabra</i>	bitter gallberry	small shrub	C	
<i>Ilex opaca</i>	american holly	small tree	M, P, C	medium
<i>Ilex verticillata</i>	winterberry	small to large shrub	M, P	
<i>Ilex vomitoria</i>	yaupon	large shrub	C	
<i>Juglans nigra</i>	black walnut	medium tree	M, P	fair
<i>Juniperus virginiana</i>	eastern redcedar	large tree	M, P, C	medium
<i>Leucothoe axillaris</i>	leucothoe	small to large shrub	C	
<i>Lindera benzoin</i>	spicebush	shrub	M	
<i>Liquidambar styraciflua</i>	sweetgum	large tree	M, P, C	
<i>Liriodendron tulipifera</i>	tulip poplar	large tree	M, P	fast
<i>Lyonia lucida</i>	fetterbush	small to large shrub	C	

Scientific Name	Common Name	Plant Type	Region *	Establishment Speed
<i>Magnolia virginiana</i>	sweetbay	small tree	P, C	
<i>Myrica cerifera</i>	southern waxmyrtle	small shrub	C	slow
<i>Nyssa aquatica</i>	swamp tupelo	large tree	C	slow
<i>Nyssa ogeeche</i>	ogeeche lime	large shrub to small tree	C	medium
<i>Nyssa sylvatica</i>	blackgum	tall tree	M, P, C	slow
<i>Ostrya virginiana</i>	hophornbean	small tree	M, P, C	slow
<i>Persea borbonia</i>	redbay	small to large tree	C	slow
<i>Platanus occidentalis</i>	sycamore	large tree	M, P, C	fast
<i>Populus deltoides</i>	eastern cottonwood	tall tree	M, P, C	fast
<i>Quercus alba</i>	white oak	large tree	M, P, C	slow
<i>Quercus laurifolia</i>	swamp laurel oak	tree	C	fast
<i>Quercus lyrata</i>	overcup oak	medium tree	P, C	slow
<i>Quercus michauxii</i>	swamp chestnut oak	medium tree	M, P, C	fair
<i>Quercus nigra</i>	water oak	medium tree	M, P, C	slow
<i>Quercus palustris</i>	pin oak	large tree	M	fast
<i>Quercus phellos</i>	willow oak	medium to large tree	M, P, C	medium
<i>Quercus shumardii</i>	shumard oak	large tree	P, C	slow
<i>Rhododendron atlanticum</i>	coast azalea	small shrub	P, C	
<i>Rhododendron viscosum</i>	swamp azalea	shrub	P, C	
<i>Salix nigra</i>	black willow	small to large tree	M, P, C	fast
<i>Taxodium distichum</i>	baldcypress	medium tree	C	fast
<i>Tsuga canadensis</i>	eastern hemlock	large tree	M	slow
<i>Viburnum nudum</i>	swamp haw	large shrub	M, P, C	

*M=Mountain, P=Piedmont, C=Coastal

NOTE: EPD recommends that trees be planted at a density of 10 feet on center (ft o.c.) or 436 trees per acre. If planted alone, shrubs should be planted at an average density of 6 ft o.c. (1210 shrubs per acre) and groundcovers (4" containers) at an average density of 1.5 ft o.c. (19,360 containers per acre). When combined with planting trees, shrubs and/or groundcover may be planted at a density of 774 shrubs per acre and 18,150 containers per acre. Live stakes are typically planted at 2 ft o.c. Please reference <http://www.southernnativeplants.com/calculator.htm> for further planting density information.

Appendix B – Plants Suitable for Rooting as Cuttings (Live Stakes) in Georgia

Scientific Name	Common Name	Plant Type	Rooting Ability*	Region
<i>Acer negundo</i>	boxelder			M, P, C
<i>Asimina triloba</i>	pawpaw	small tree	poor to fair	M, P, C
<i>Baccharis halimifolia</i>	groundsel bush	medium shrub	good	P, C
<i>Cephalanthus occidentalis</i>	buttonbush	large shrub	fair to good	M, P, C
<i>Cornus amomum</i>	silky dogwood	small shrub	fair	M, P
<i>Cornus sericia</i>	red osier dogwood			M, P
<i>Gleditsia triacanthos</i>	honeylocust	medium tree	poor to fair	P, C
<i>Populus deltoides</i>	eastern cottonwood	tall tree	very good	M, P, C
<i>Robinia sp.</i>	black locust			P, M
<i>Salix discolor</i>	pussy willow	large shrub	very good	
<i>Salix nigra</i>	black willow	small to large tree	good to excel	M, P, C
<i>Salix purpurea</i>	purpleosier willow	medium tree	excel	M, P, C
<i>Sambucus canadensis</i>	american elder	medium shrub	good	M, P
<i>Viburnum dentatum</i>	arrowwood	medium to tall shrub	good	M, P, C
<i>Viburnum lentago</i>	nannyberry	large shrub	fair to good	M, P, C

*Rooting ability from cutting

Appendix C – Grasses and Forbs Useful in Conjunction with Soil Bioengineering and Associated Systems in the Southeast

Scientific Name	Common Name	Soil Preference	Drought Tolerance	Shade Tolerance	Flood Tolerance
<i>Ammophila brevifoligulata</i>	american beachgrass	sands	fair	poor	
<i>Andropogon gerardii</i>	big bluestem	loams	good	poor	fair
<i>Arundo donax</i>	giant reed	sandy	good	poor	poor
<i>Herarthria altissima</i>	limpogress	sandy	poor	poor	good
<i>Panicum amarulum</i>	coastal panicgrass	sands to loams	good	poor	good
<i>Panicum virgatum</i>	switchgrass	loams to sands	good	poor	good
<i>Paspalum vaginatum</i>	seashore paspalum	sandy		poor	good
<i>Pennisetum purpureum</i>	elephant grass			poor	
<i>Spartina pectinata</i>	prarie cordgrass	sands to loams	good	fair	fair
<i>Zizaniopsis miliacea</i>	giant cutgrass	loam	poor	poor	good