



TOWN OF DUCK VEGETATION PLANTING GUIDELINES

Canopy Requirements

Fifteen percent (15%) of residential sites or ten percent (10%) of commercial sites (area that is minus the footprint of the principal dwelling or commercial buildings) must have vegetative canopy cover either by preservation or by installation. If preservation is used, vegetation must have a protective device around the drip-line of the tree which prohibits construction activity, storage or parking in this area except as permitted by the tree and vegetation ordinance. These preservation methods must be indicated and detailed on the vegetation management plan. If the canopy cover is accomplished by installation, the following tree categories can be used.

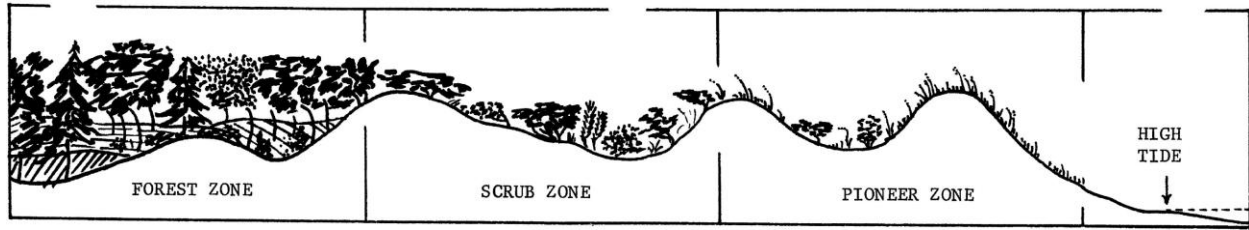
- A) Large trees listed below, installed at 6'-8' in height, provide a 400 square foot canopy credit.
- B) Small trees, listed below, installed at 6'-8' in height, provide a 200 square foot canopy credit.

Undesirable trees cannot be counted to meet the canopy requirements. Palm trees and tropical vegetation (other than the dwarf palmetto listed below) cannot be counted to meet the canopy requirements. Applicants may request substitution of other types of vegetation subject to the review procedures of the vegetation ordinance.

Vegetation in the form of small trees, bushes or shrubs may be substituted for large trees at a conversion rate of two small canopy trees or ten mulched shrubs (18-24 inches minimum height at planting or of a 3 gallon size) for one large canopy tree. Ornamental grasses may be substituted for large trees at a conversion rate of twenty plants (18-24 inches minimum height at planting or of a 3 gallon size) for one large canopy tree. Credit for smaller coastal grasses and forbs, such as American Beach Grass, will be calculated at 100 sprigs or plants for every 100 square feet. Credit will not be provided for retention of existing vegetation in oceanfront areas within the CAMA small structure setback.

The table below provides a list of the acceptable trees and other plant species that may be used when planting to meet the vegetative canopy requirements. The table is organized into categories of large and small trees, shrubs and bushes, ornamental grasses, and other grasses and forbs. Additionally, the table categorizes the plant species into the barrier island vegetative zones (see diagram) for which they are best adapted. This information is provided for reference purposes only. The Town of Duck makes no guarantee as to the heartiness or performance of listed plants in these areas; there are many other factors that will affect their survival.

Barrier Island Cross Section with Generalized Vegetative Zones



Excerpt from Seacoast Plants of the Carolinas – For Conservation and Beautification, UNC Sea Grant Program, February 1973

<p><u>Pine and hardwood or “forest” zone located on the leeward side of the island usually behind a dune ridge which provides protection from salt and wind;</u></p>	<p><u>Middle “scrub” zone usually starts behind the protection of the frontal dunes</u></p>	<p><u>“grass” or “pioneer” zone closest to the ocean with the most direct exposure to salt and wind</u></p>
--	---	---

Not listed in the above diagram is the salt marsh zone which is typically located along the sound shoreline between the high and low tide line.

TOWN OF DUCK VEGETATION PLANTING GUIDELINES		Vegetative Zone			
Plant List		Pioneer	Scrub	Maritime Forest	Salt Marsh
Botanical Name	Common Name				
Large Trees (6-8' AT PLANTING CANOPY COVER = 400 Square Feet)					
Acer rubrum*	Red Maple (All cultivars)				
Betula nigra	River Birch				
Celtis (all species)	Hackberry				
Cercidiphyllum japonicum	Katsura Tree				
Fraxinus pennsylvanica	Green Ash				
Fraxinus pennsylvanica "Marshall's Seedless"	Green Ash "Marshall's Seedless"				
Ginkgo biloba	Ginkgo (male variety – Maidenhair)				
Gordonia lasianthus*	Loblolly Bay				
Juniperus virginia var. silicicola*	Southern Redcedar				
Liriodendron tulipifera	Tulip Poplar				
Magnolia grandiflora	Southern Magnolia				
Metasequoia glyptostroboides	Dawn Redwood				
Nyssa sylvatica*	Black Gum				
Pinus elliottii	Slash Pine				
Pinus taeda	Loblolly Pine				
Platanus acerifolia "bloodgood"	"Bloodgood" London Plane				
Platanus occidentalis	American Sycamore				
Quercus acutissima	Sawtooth Oak				
Quercus alba	White Oak				
Quercus bicolor	Swamp White Oak				
Quercus coccinea	Scarlet Oak				
Quercus darlingtonia	Darlington Oak				
Quercus falcata*	Southern Red Oak				
Quercus hemisphaerica*	Laurel Oak				
Quercus macrocarpa	Bur Oak (favors moist soil)				
Quercus prinus	Chestnut Oak				
Quercus nigra	Water Oak				
Quercus phellos	Willow Oak				
Quercus robur	English Oak				
Quercus robur "Fastigiata"	Pyramidal English Oak				
Quercus velutina	Black Oak				
Quercus virginiana	Live Oak				

TOWN OF DUCK VEGETATION PLANTING GUIDELINES		Vegetative Zone			
Plant List		Pioneer	Scrub	Maritime Forest	Salt Marsh
Botanical Name	Common Name				
Taxodium distichum	Bald Cypress				
Tilia cordata	Little Leaf Linden (all cultivars)				
Zelkova serrata	Japanese Zelkova				
Zelkova serrata "Village Green"	"Village Green Zelkova"				
Small Trees (6-8' AT PLANTING CANOPY COVER = 200 Square Feet)					
Acer buergeranum	Trident Maple				
Acer campestre	Hedge Maple				
Acer griseun	Paperbark Maple				
Amelanchier Canadensis*	Serviceberry				
Betula nigra (dwarf cultivar)	River Birch (dwarf)				
Carpinus betulus	European Hornbeam/Ironwood				
Carpinus caroliniana*	American Hornbeam				
Cercis canadensis	Red Bud				
Chioanthus virginicus	White Fringe Tree				
Cornus florida*	Flowering Dogwood				
Cornus kousa	Kousa Dogwood				
Cornus mas	Cornelian Cherry				
Cornus stricta*	Swamp Dogwood				
Crataegus phaenopyrum	Washington Hawthorn				
Diospyros virginiana*	Persimmon				
Halesia Carolina	Carolina Silverbell				
Ilex opaca	American Holly				
Koelreuteria paniculata	Golden Rain Tree				
Lagerstroemia	Crape Myrtle (all except Dwarf and Semi-Dwarf)				
Magnolia x soulangeana	Saucer Magnolia				
Magnolia stellata	Star Magnolia				
Magnolia virginiana*	Sweet Bay Magnolia				
Malus	Flowering Crabapple (all species and cultivars)				
Osmanthus americanus*	Devilwood				
Ostrya virginiana	American Hophornbean				
Oxydendrum arboretum	Sourwood				
Persea borbonia*	Redbay				
Pinus nigra	Austrian Pine				
Prunus carolinia*	Carolina Laurel Cherry				

TOWN OF DUCK VEGETATION PLANTING GUIDELINES		Vegetative Zone			
Plant List		Pioneer	Scrub	Maritime Forest	Salt Marsh
Botanical Name	Common Name				
Prunus serrulata	All Cultivars				
Prunus subhirtella pendula	Weeping Cherry				
Prunus x yedoensis	All Cultivars				
Pyrus calleryana "Aristocrat"	Approved Callery Pear Cultivars				
Quercus acuta	Japanese Evergreen Oak				
Quercus robur "Fastigiata"	Pyramidal English Oak				
Sophora japonica	Pagoda Tree (all cultivars)				
Stewartia monadelphica	Tall Stewartia				
Styrax japonicus	Japanese Snowbell Tree				
Vaccinium arboretum*	Sparkleberry				
Shrubs					
Amorpha fruticosa*	Indigo-bush				
Aronia arbutifolia*	Red Chokeberry				
Baccharis halimifolia	Eastern Baccharis				
Borrchia frutescens*	Sea Ox-eye				
Callicarpa Americana*	Beautyberry				
Cephalanthus occidentalis*	Buttonbush				
Clethra alnifolia*	Sweet Pepperbush				
Elaeagnus pungens	Thorny Elaeagnus				
Euonymus japonicus	Evergreen Euonymus				
Ilex glabra*	Inkberry				
Ilex vomitoria*	Yaupon Holly				
Itea virginica*	Virginia Willow (Sweetspire)				
Iva frutescens*	Marsh elder				
Leucothoe axillaris*	Coastal Leucothoe				
Lyonia lucida*	Fetterbush				
Myrica cerifera*	Southern Waxmyrtle				
Myrica pensylvanica*	Northern Bayberry				
Nerium Oleander	Oleander				
Pittosporum Tobira	Pittosporum				
Raphiolepis umbellate	Indian Hawthorne				
Rhododendron atlanticum*	Dwarf Azalea				
Rhus copallina*	Shining Sumac				
Ruscus asculeatus	Butchersbroom				
Sabal minor*	Dwarf Palmetto				

TOWN OF DUCK VEGETATION PLANTING GUIDELINES		Vegetative Zone			
Plant List		Pioneer	Scrub	Maritime Forest	Salt Marsh
Botanical Name	Common Name				
Salix caroliniana*	Swamp Willow				
Tamarix gallica	Saltcedar				
Vaccinium corymbosum*	Highbush Blueberry				
Ornamental Grasses					
Andropogon glomeratus	Brushy Bluestem				
Andropogon ternaries	Splitbeard Bluestem				
Cortaderia selloana	Pampas Grass				
Miscanthus sinensis	Maiden Grass				
Muhlenbergia capillaris	Purple Muhly Grass				
Panicum amarum	Sea Beach Panicum				
Panicum virgatum	Switchgrass				
Grasses and Forbs (100 sprigs = 100 square feet)					
Ammophila breviligulata	American Beach Grass				
Uniola paniculata	Seoats				
Panicum amarulum	Panicgrass				
Panicum amarum	Bitter Panicum				
Andropogon littoralis	Seacoast Bluestem				
Iva imbricata	Marsh-elder				
Croton punctatus	Silverleaf croton				
Hydrocotyle bonariensis	Largeleaf Pennywort				
Solidago sempervirens	Seaside goldenrod				
Spartina Patens	Marshhay cordgrass				

*Native Plants to Dare County (existed since before the arrival of the colonists)

UNDESIRABLE TREE SPECIES		
Botanical Name	Common Name	Problem
Acer negundo	Box Elder	Weak wood, short lived, insects
Acer saccharinum	Silver Maple	Weak wood, insects, shallow roots, prolific seeding
Ailanthus altissima	Tree of Heaven	Offensive odor (male), poor landscape qualities
Albizia julibrissin	Mimosa	Mimosa Wilt Disease
Betula papyrifera	Paper Birch	Insects
Catalpa bignonioides	Southern Catalpa	Messy flowers
Cedrus deodora	Deodora Cedar	Heat stress decline
Ginkgo biloba	Ginko (female plant)	Offensive fruit odor
Laburnum anagyroides	Golden Chain Tree	Environmental stress
Magnolia grandiflora*	Southern Magnolia	Shallow roots, seed pods
Melia azedarach Seed	Chinaberry	Weak wood, suckers
Morus species	Mulberries	Objectionable fruit
Paulownia tomentosa	Empress Tree	Seed pods
Pinus sylvestris	Scotch Pine	Environmental stress (heat, poor drainage, insects)
Pinus thunbergi	Japanese Black Pine	Insects
Populus alba	White or Silver Poplar	Weak wood, diseases
Populus deltoids	Eastern Cottonwood	Weak wood, extensive root system, prolific seeding
Populus nigra	Lombardy Poplar	Extensive root system, short lived, diseases
Prunus serotina	Black Cherry	Objectionable fruit
Pyrus calleryana "Bradford"	Bradford Pear	Structural weakness
Salix	Willow	Weak wood, roots
Ulmus Americana	American Elm	Dutch Elm Disease
Ulmus pumila	Siberian Elm	Short lived, insects

Reference List

- 1) Graetz, Karl E. *Seacoast Plants of the Carolinas*. Raleigh, North Carolina: Sea Grant Publication UNC-SG-73-06
- 2) Duncan, Wilbur H. and Marion B. *Seaside Plants of the Gulf and Atlantic Coasts*. Washington, D.C., Smithsonian Institution 1987.
- 3) <http://www.ces.ncsu.edu/depts/hort/consumer/factsheets/index.html>
- 4) <http://edis.ifas.ufl.edu/>