

3.4 Buffers

Purpose and Function: To provide minimum separation and screening of different land uses. To minimize the adverse effects of commercial and industrial land uses on surrounding property; to act as a filtration zone for stormwater; to make the environment more visually attractive; and to preserve the tree canopy in the county.

It is the intent of this ordinance that buffers be maintained and controlled so that the effects of the screening are not diminished.

3.4.1 Buffer Design Standards:

- A. Plant Material: Existing plant materials including understory vegetation in buffers shall be maintained whenever possible. All trees over 6 inches diameter at breast height (dbh) shall be retained. Additional planting may be required when existing plant material is inappropriate for screening. Additional landscaping may be added at the property owner’s discretion.
- B. Structural Elements: Structural elements such as fences, walls, and berms may be placed in buffers. When privacy fences or walls are located in a buffer, a minimum of two feet from the exterior property line will be maintained to allow for plant material to soften the affects of the structural element.
- C. Encroachment: Buffer areas should remain natural. There shall be no encroachment of structures, including eaves or paving, in buffer areas.

Proposed Use	Adjacent Use					
	R-districts or single family subdivision exterior boundary *	AR-1 or AR-2	Multifamily	Commercial, Institutional**	Light Industrial **	Heavy Industrial **
R-districts or single family subdivision exterior boundary*	15 feet	15 feet	20 feet	30 feet	300 feet	300 feet
AR-1 or AR-2	15 feet	15 feet	20 feet	30 feet	150 feet	300 feet
Multifamily	20 feet	20 feet	15feet	20 feet	150 feet	300 feet

Commercial, Institutional**	30 feet	30 feet	20 feet	15 feet	50 feet	150 feet
Light Industrial**	300 feet	150 feet	300 feet	50feet	25 feet	25 feet
Heavy Industrial**	300 feet	300 feet	300 feet	150 feet	25 feet	25 feet

This chart shows minimum buffer sizes from adjacent property line and in no way prevents the Board of Commissioners from requiring other buffer features as they deem necessary.

*Subdivisions of less than 5 lots are exempt from buffer requirements when neighboring property is under the same ownership.

**Adjacent Commercial, Institutional, and Industrial developments which are designed as a single development or share parking may reduce the buffer width by up to 50% between these parcels. At no time may buffers be reduced between Commercial, Institutional, or Industrial and Residential uses.

3.4.2 Adjacent Public Street Buffers: All development shall maintain a 10 foot wide landscaped buffer between any parking or loading area and an adjacent accessed public right of way (ROW). In single family subdivisions a 10 foot landscaped buffer must be maintained between any lot or internal street and any public collector or arterial ROW accessed from the subdivision. Where parcels abut a street without access to that street the buffer on that side of the parcel shall equal the required buffer for the use on the other side of the street in the above chart.

PDs may have different buffer requirements. Please refer to PD ordinance.

3.4.3 Permitted Activity in required Buffers as shown in chart 3.4.1:

- A. Drainage ditches, utility and service lines provided that they are approximately perpendicular to the property line.
- B. Street and rail access, and driveways provided that they are approximately perpendicular to the property line.
- C. Sidewalks and pathways that connect multiple parcels.
- D. Lighting fixtures
- E. Signs
- F. Flagpoles

3.4.4 Specific Buffer Requirements:

- A. Buffers for Adjacent Vacant Property. When determining buffers for adjacent property, the property shall be classified based on the use allowed by right in the existing zoning district that would require the greatest buffer.

- B. Buffers at Property Line Easement. When a shared easement is located on a property line the required buffer shall be located on each side of the shared easement.

3.4.5 Required Plant Material:

- A. Where trees do not already exist they must be planted at a rate of one tree, at least two inches dbh, every 30 linear feet of buffer. The following list specifies recommended trees for this area. For buffers greater than 30 feet in depth required tree planting must come from the large tree list.
- B. Buffers in industrial zones must include understory plantings at a rate of one 3 gal. plant every five linear feet if sufficient understory foliage does not exist.

Large Trees >50' Suitable for areas with more than 400 square feet of total planting area; in a planting strip at least 16' x 25' or 20' x 20'						
<u>Common/Scientific Name</u>	<u>Height & Width</u>	<u>Sun/ Shade</u>	<u>Insect & Disease Resistance</u>	<u>Growth Rate</u>	<u>Deciduous Evergreen</u>	<u>Remarks</u>
Beech, American <i>Fagus grandifolia</i>	50-75' h 40-80' w	PS/FS	L	S	D	Native. Needs ample room above and below ground. Acid soil. Fruit attracts wildlife, no litter. Zones 4-9
Blackgum <i>Nyssa sylvatica</i>	65-75' h 25-35' w	PS/FS	H	S	D	Native. Soil pH below 6 best, texture tolerant, drought tolerant, wet soil tolerant. Fruit attracts wildlife, some litter. Zones 4-9
Cypress, bald <i>Taxodium distichum</i>	60-80' h 25-35' w	FS/PS	M	F	D	Native. Drought & wet tolerant. 'Knees' form in wet areas. Tolerates compaction. Zones 4-11
Cypress, pond <i>Taxodium ascendens</i>	50-60' h 50-60' w	PS/FS	H	F	D	Native. Soil adaptable below 7.5. Knobby 'knees' form in moist areas. Attracts wildlife. No litter. Zones 5-9
Hickory, pignut <i>Carya glabra</i>	50-65' h 30-40' w	PS/FS	M	M	D	Native. Soil texture adaptable. Drought tolerant. Nuts attract wildlife. Zones 4-9
Hickory, shagbark <i>Carya ovata</i>	60-80' h 25-35' w	PS/FS	H	S	D	Native. Soil texture adaptable. Abundant nuts attract wildlife. Shaggy bark attractive. Zones 4-8
Magnolia, Southern <i>Magnolia grandiflora</i>	60-80' h 30-40' w	PS/FS	M	M	E	Native. Soil adaptable. Bark is thin, protect from mechanical injury. White showy blooms in spring & summer. Good cultivars. Zones 7-9

Maple, Red <i>Acer rubrum</i>	60-75' h 25-35' w	PS/FS	H	F	D	Native. Prefers acidic soil, texture tolerant, wet tolerant. Bark is thin. Fruit attracts wildlife. Many cultivars. Zones 4-9
Oak, laurel/darlington <i>Quercus laurifolia</i>	60-70' h 50' w	PS/FS	H	F	SE	Native. Soil adaptable. Roots will heave sidewalks. Acorns attract wildlife, creates some litter. Zones 6-10
Oak, live <i>Quercus virginiana</i>	60-80' h 60-120' w	PS/FS	H	M	E	Native. Soil adaptable. Roots will eventually heave sidewalks. Good wind resistance. Some litter. Zones 8-10
Oak, shumard <i>Quercus shumardii</i>	60-80' h 40-50' w	FS	M	F	D	Native. Soil texture adaptable, acidic. Urban tolerant. Acorns attract wildlife. Some litter. Zones 5-9
Oak, southern red <i>Quercus falcata</i>	60-80' h 60-70' w	FS	M	M	D	Native. Acidic soil, all textures, urban tolerant. Fruit attracts wildlife, no significant litter. Zones 7-9
Oak, scarlet <i>Quercus coccinea</i>	60-75' h 45-60' w	FS	M	M	D	Native. Acidic soil, all textures. Needs ample root space. Nuts attract wildlife. Some litter. Zones 5-8
Oak, swamp chestnut <i>Quercus michauxii</i>	60-70' h 30-50' w	PS/FS	M	M	D	Native. Acidic soil, all textures, occasional wet. Leaf litter persistent, acorns for wildlife. Zones 6-9
Oak, white <i>Quercus alba</i>	60-100' h 60-80' w	PS/FS	H	M	D	Native. Acidic soil, all textures. Protect roots from disturbances. Nuts attract wildlife. Some litter. Zones 3-9
Oak, willow <i>Quercus phellos</i>	60-75' h 40-60' w	FS	M	F	D	Native. Acidic soil, all textures, occasional wet, drought, urban tolerant. Nuts attract wildlife. Some litter. Zones 5-9
Pine, loblolly <i>Pinus taeda</i>	50-80' h 30' w	FS	M	F	E	Native. Soil texture adaptable, acidic. Thick bark- resistant to fire. Needle drop prolific. Zones 6-9
Pine, longleaf <i>Pinus palustris</i>	60-80' h 30-40' w	FS	M	F	E	Native. Soil texture adaptable. Beautiful bark. Needle and cone drop prolific. Drought tolerant

						once established. Zones 7-10
Redcedar, eastern <i>Juniperus virginiana</i>	40-50' h 8-25' w	FS	H	F	E	Native. Soil pH and texture tolerant. Blue fruit attracts wildlife. Good wind break, urban tolerant. Zones 3-9
Sweetgum <i>Liquidambar styraciflua</i>	75' h 50' w	PS/FS	H	M	D	Native. Soil pH of 7.5 or less. Surface roots. Fruit attract wildlife, significant litter. Cultivar 'Rotundifolia' fruitless. Zones 5-9
Sycamore, American <i>Platanus occidentalis</i>	75-90' h 60-70' w	FS	L	F	D	Native. Soil pH and texture adaptable. Prefers moist soil. Roots may heave sidewalks. Showy bark. Zones 4-9
Tulip poplar <i>Liriodendron tulipifera</i>	80-120' h 25-40' w	FS	H	F	D	Native. Acidic soil, occasional wet. Avoid drought & salt. Showy greenish-yellow blooms in spring. Some leaf drop in high heat. Zones 4-9

KEY

Sun/shade exposure:	Growth rate:	Pest resistance:	Type:
FS = Full sun	S = Slow (less than 1' per year)	H = High	D = Deciduous
PS = Part sun	M = Medium (1-2' per year)	M = Medium	E = Evergreen
S = Shade	F = Fast (more than 2' per year)	L = Low	SE = Semi Evergreen

Medium Canopy Trees: (Count for 550 sq. ft. of area for planting – minimum 2" caliber)

Medium Trees 30' - 50' Suitable for spaces with 100 to 200 sqft of total planting space; in a planting strip at least 4-7 feet wide; or place at least 4' from pavement or wall.

<u>Common Name/Scientific Name</u>	<u>Height & Width</u>	<u>Sun/ Shade</u>	<u>Insect & Disease Resistance</u>	<u>Growth Rate</u>	<u>Deciduous Evergreen</u>	<u>Remarks</u>
Birch, river <i>Betula nigra</i> 'Heritage	40-50' h 40-50' w	PS/FS	M	F	D	Native. Acidic soil. Drought sensitive in confined spaces. Roots need room. Cultivars available. Zones 3B-9
Cypress, Leyland	20-30'	FS	M	M	E	
Holly, East Palatka <i>Ilex x attenuata</i>	30-45' h 10-15' w	FS	M	M	E	Florida natural hybrid. Urban & drought tolerant once established. Red berries attract wildlife.

						Zones 7-9
Holly, American <i>Ilex opaca</i>	40-50' h 15-25' w	FS	M	S	E	Native. Salt and drought tolerant once established. Red berries attract birds, no litter. Zones 5-9
Holly, Nellie R. Stevens <i>Ilex x</i>	20-30' h 10-15' w	FS	H	M	E	Hybrid. Soil texture tolerant. Needs male and female plants for berries. Drought tolerant. Showy red berries & deep green leaves. Zones 6-9
Holly, Savannah <i>Ilex x attenuata</i>	30-45' h 6-10' w	FS	M	M	E	Hybrid. Acidic soil, urban tolerant. Red berries attract birds, no litter. Zones 6-9
Magnolia, sweetbay <i>Magnolia virginiana</i>	40-50' h 15-25' w	PS	M	M	D	Native. Acidic soil. Tolerates wetlands. Flood & drought tolerant. Showy, white, fragrant flowers. Zones 5-9
Magnolia, Southern <i>Magnolia grandiflora</i>	30-50'h 15-30'w	FS	H	M	E	Native. Soil adaptable. White showy blooms in summer & early fall. Smaller leaves than species. Zones 6-9
Oak, overcup <i>Quercus lyrata</i>	35-50' h 35-50' w	FS	H	M	D	Native. Soil adaptable, wet & drought tolerant once established. Urban tolerant. Acorns attract wildlife, significant litter. Zones 5-9
Pear, Bradford	20-30'	FS			D	
Palm, cabbage <i>Sabal palmetto</i>	40-50'h 10-12' w	PS/FS	H	S	E	Native. Soil tolerant, frond and fruit litter messy. Needs irrigation until established as all cut roots die back. Southern region only. Zones 8B-11
Redbud, eastern <i>Cercis Canadensis</i> 'Forest Pansy'	20-30' h 15-30' w	PS	M	F	D	Native. Light, rich, moist soil, texture adaptable. Showy purple blooms in spring. Cultivar 'Texas White' good. Short lived. Zones 4-9

Silver bell, <i>Carolina</i> <i>Haleiwa Carolina</i>	20-40' h 15-30' w	PS/FS	H	M	D	Native. Acidic soil. Drought sensitive in full sun, roots need room. Showy white blooms in spring. Zones 5-8
Yellowwood, American <i>Cladastris</i> <i>kentukea</i>	30-50' h 40-50' w	PS/FS	H	M	D	Native. Needs pruning while young. White fragrant blooms. Tolerates urban conditions. Zones 4-8

KEY

<u>Sun/shade exposure:</u>	<u>Growth rate:</u>	<u>Pest resistance:</u>	<u>Type:</u>
FS = Full sun	S = Slow (less than 1' per year)	H = High	D = Deciduous
PS = Part sun	M = Medium (1-2' per year)	M = Medium	E = Evergreen
S = Shade	F = Fast (more than 2' per year)	L = Low	SE = Semi Evergreen

Small Trees < 25' Useful under utility lines; areas with < 100 sf of total planting area; a planting strip with a width of at least 4'.

<u>Common Name/Scientific Name</u>	<u>Height & Width</u>	<u>Sun/ Shade</u>	<u>Insect & Disease Resistance</u>	<u>Growth Rate</u>	<u>Deciduous Evergreen</u>	<u>Remarks</u>
Cherry, Okame <i>Prunus x incamp</i> 'Okame'	15-25' h 20' w	PS/FS	M	M	D	Hybrid. Soil texture and pH adaptable. Roots need room. Pink showy blooms. Fruit attracts birds. Zones 7-9
Crape myrtle, Japanese <i>Lagerstroemia</i> <i>fauriei</i>	35-50' h 25-35' w	FS	H	M	D	Japan. Soil adaptable. Urban tolerant. White showy flowers. Beautiful bark. May be resistant to powdery mildew. Zones 6-9
Dogwood, flowering <i>Cornus florida</i>	20-30' h 20' w	PS	M	M	D	Native. Part shade. Drought sensitive, low salt tolerance, needs good drainage. White showy flowers. Horizontal branching pattern.

						Zones 5-9
Fringetree <i>Chionanthus virginicus</i>	12-15' h 10-15' w	PS/FS	M	S	D	Native. Acidic soil. Thin bark easily damaged. Urban tolerant. Showy white blooms in spring. Fruit attracts birds. Zones 4-9
Holly, yaupon <i>Ilex vomitoria 'Pendula'</i>	15-20' h 15-20' w	S/FS	M	M	E	Native. Soil & pH greatly adaptable. Urban tolerant. Thin bark. Red berries attract wildlife. Zones 7-10
Magnolia, Southern <i>Magnolia grandiflora 'Little Gem'</i>	20-25' h 10-15' w	PS/FS	M	M	E	Native. Soil adaptable. Bark is thin, protect from mechanical injury. White showy blooms in summer and early fall. Zones 7-9
Redbud, Oklahoma <i>Cercis reniformis 'Oklahoma'</i>	20-30' H 15-30' w	PS/FS	M	F	D	Native. Soil & pH adaptable, salt sensitive, showy thick leaves. Zones 5-9
Waxmyrtle <i>Myrica cerifera</i>	15-20' h 20-25' w	PS/FS	M	F	E	Native. Soil & pH adaptable, urban tolerant. Blue berries attract wildlife. Zones 8-11

KEY

Sun/shade exposure:	Growth rate:	Pest resistance:	Type:
FS = Full sun	S = Slow (less than 1' per year)	H = High	D = Deciduous
PS = Part sun	M = Medium (1-2' per year)	M = Medium	E = Evergreen
S = Shade	F = Fast (more than 2' per year)	L = Low	SE = Semi Evergreen