

CHAPTER 8: LANDSCAPING & BUFFERING

Section	Page
8.1 Purpose and Applicability.....	8-2
8.2 Landscaping Types.....	8-2
8.3 Landscaping Installation and Maintenance.....	8-5
8.4 Fence, Wall and Berm Standards.....	8-11

CHAPTER 8: LANDSCAPING & BUFFERING

Section 8.1 Purpose and Applicability

The purpose of this Chapter is to regulate the protection, installation, and long-term management of trees and shrubs and to minimize potential nuisances, such as visual impacts, noise, dust, odor, litter, and glare of lights, from adjacent properties. The appropriate use of existing and supplemental landscaping enhances the appearance of built environment and blends new development with the natural landscape. Existing vegetation should be retained where possible to ensure a natural established landscape.

All new developments (except for infill single-family detached residential uses) shall be designed in accordance with the requirements of this Chapter. A change of use or expansion of an existing building or parking area also requires compliance with the requirements of this Chapter. Generally, the responsibility for screening is that of the more intense land use. However, new developments with a less intense use being constructed next to an existing more intense use shall provide the required landscaping on the new development's property. Where necessary to accommodate creativity in site design, or where conformance with the strict requirements of this Chapter are not feasible, the Town Board of Aldermen, Planning Board, or Technical Review Committee, whichever is responsible for approving the plan, may modify these requirements, provided that the type and amount of landscaping or other features are equivalent in effectiveness.

Fence guidelines for residential use is located in 8.3.4

Section 8.2 Landscaping Types

8.2.1 Type A Landscaping (Opaque Buffer)

8.2.1.1 Location and Width Required

Buffers shall be located entirely on the property of the new development. If the adjacent existing development expands by more than 20 percent, then the existing development shall also install a buffer meeting the requirements of this Section.

The following table shows the minimum buffer width for a new or expanding development adjacent to residentially zoned property (RR, RS, RMF, RMX):

New or Expanding Development	Minimum Buffer Width
Civic	10 feet
Commercial	15 feet
Industrial	30 feet
Mixed Use	10 feet
Multi-family Residential	10 feet

8.2.1.2 Composition

Type A landscaping functions as an opaque screen with a minimum height of six (6) feet. Composition of the Type A buffer area may include a wall, solid fence, landscaped berm,

planted vegetation, existing vegetation, or any appropriate combination of these elements. Intermittent planting of deciduous and evergreen trees shall obtain a height at maturity of no less than 20 feet and have no unobstructed openings wider than ten (10) feet between tree canopies upon maturity. Shrub plantings shall have a minimum height of three (3) feet at installation and have no unobstructed openings wider than four (4) feet. At least 50 percent of the required trees, and at least 75 percent of the required shrubs, shall be evergreen species locally adapted to the area. The use of existing vegetation to satisfy this requirement is encouraged. Supplemental planting may be required in addition to native materials.

8.2.2 Type B Landscaping (Parking Lot Perimeter)

8.2.2.1 Location and Width Required

Type B landscaping is required around the perimeter of all parking lots. The minimum buffer width is five (5) feet. The CB district is exempt from this requirement.

8.2.2.2 Composition

Type B landscaping functions as a semi-opaque screen with a minimum height of three (3) feet for screening of cars and glare from adjacent properties. The minimum height for a Type B buffer area adjacent to street right-of-way is two (2) feet. Composition of the Type B landscaping may include a wall, fence, planted vegetation, existing vegetation, or any appropriate combination of the elements. Shrub plantings shall have no unobstructed openings wider than four (4) feet. At least 75 percent of the required shrubs shall be evergreen species locally adapted to the area.

8.2.3 Type C Landscaping (Parking Lot Canopy)

8.2.3.1 Location and Number Required

Type C landscaping is required within all parking lots. A minimum of one (1) canopy tree shall be located within 100 feet of every parking space. The measurement shall be taken from the base of the tree.

8.2.3.2 Composition

Large maturing canopy trees shall be planted in a manner that provides shade for parking area at maturity. Ornamental trees shall be used in lieu of canopy trees under overhead utility lines. The use of differing species around the parking area is encouraged to promote diversity in the overall tree canopy. The use of existing vegetation to satisfy this requirement is encouraged. Each planting area shall be a minimum of 49 square feet, with a minimum dimension of seven (7) feet.

8.2.4 TYPE D Landscaping (Residential Yard Trees)

8.2.4.1 Location and Number Required

Yard trees are required for every residential Major Subdivision (5 lots or greater), except in the RR District. Trees shall be planted behind the sidewalk outside of the public right-of-way. Maintenance of the trees shall be the responsibility of the individual property owner. Yard trees may be placed anywhere on the property except that at least one (1) tree is placed

CHAPTER 8: LANDSCAPING & BUFFERING

in the front yard. Each lot shall provide canopy trees in accordance with the following schedule:

Lot Size	Yard Trees
Less than 10,000 square feet	1
10,000-20,000 square feet	2
More than 20,000 square feet	3

8.2.4.2 Composition

The use of existing vegetation to satisfy this requirement is encouraged. Existing canopy trees over six (6) inches in caliper may be counted towards fulfilling this requirement. All trees required under this section shall be planted within the private lot and not within the street right-of-way.

8.2.5 Other Screening & Landscaping

8.2.5.1 Screening Requirements for Non-residential Outdoor Storage and Unenclosed Structures

A minimum five (5) foot Type A buffer shall be provided to screen any outdoor storage or unenclosed structure, consisting of a roof but no walls used for storage of materials, products, wastes or equipment associated with commercial or industrial uses that is visible from a street right-of-way in any zoning district.

8.2.5.2 Screening Requirements for All Zoning Districts

The following uses must be screened from abutting property and from a public street by an opaque screen consisting of a fence, wall, landscaping, or appropriate combination of these:

- Dumpsters or trash handling areas
- Utility structures
- Loading docks or spaces

CHAPTER 8: LANDSCAPING & BUFFERING

Section 8.3 Landscaping & Screening Installation and Maintenance

8.3.1 Approved Plant List

Large Maturing Trees	Growth Rate	Max. Height	Shape	Screen	Fall Color	Flowers	Bark	Poor Drainage	Diseases	Insects	Litter	Comments
<i>Deciduous</i>												
Ash, Green	F	50'-80'	G					X	X	X		Do not plant in heavy clay soil; use named varieties
Ash, White	M	50'-80'	G		X				X	X		Do not plant in heavy clay soil.
Bald-Cypress	M	50'-80'	NP				X	X		X		Produces small leaves that do not need raking.
Birch, River	F	40'-70'	S				X	X				Subject to drought problems; may be multi-stem; good variety 'Heritage'
Elm, Lacebark	M	40'-50'	G				X					Resistant to Dutch Elm disease
Ginkco	S	50'-80'	NP		X			X				Plant grafted male only; pest free; tolerates pollution
Maple, Red	F	40'-60'	BP		X			X				Can clog sewer lines; some shallow roots; use named varieties.
Maple, Sugar	M	50-75'	BP		X							Best fall colors; good soils preferred; some shallow roots.
Oak, Laurel	M-F	60'-80'	BP									Semi-evergreen leaves; use variety 'Darlington'
Oak, Northern Red	M-F	60'-80'	BP		X			X				
Oak, Sawtooth	M-F	35'-70'	G								X	Holds leaves in winter; drops lots of nuts; toughest of the oaks.
Oak, Shumard	M-F	40'-80'	BP		X			X				Good dark red fall color.
Oak, Southern Red	M-F	70'-80'	BP		X			X				
Oak, White	S	70'-80'	BP		X		X					May hold leaves; very long lived.
Oak, Willow	F	70'-80'	BP									Majestic tree; most common tree in Charlotte.
Pagoda Tree, Japanese	F	40'-75'	G			X						May develop cankers which can girdle limbs.
Planetree, London	F	60'-100'	BP					X			X	Withstands harsh city conditions.
Poplar-Tulip	F	60'-90'	M		X	X						Flowers best observed close up; needs lots of space; good soils preferred.
Zelkova, Japanese	F	60'-80'	V		X		X					Resistant to Dutch Elm disease.

CHAPTER 8: LANDSCAPING & BUFFERING

<i>Evergreen</i>												
Cedar, Deodar	M-F	40'-70'	BP	X								Subject to winter injury up to 15 years.
Cypress, Leyland	F	60'-70'	C	X						X		Maintains good shape.
Hemlock, Canadian	M	40'-70'	BP	X								Plant in partial shade and good soils.
Magnolia, Southern	M-F	50'-80'	BP	X							X	Drops large leaves in the spring and summer.
Oak, Live	S	40'-80'	G	X							X	
Pine, Austrian	M	50'-60'	BP	X								Tolerates city conditions.
Pine, Loblolly	F	40'-60'	NP	X						X		Susceptible to pine beetles if not kept healthy.
Pine, Virginia	M	15'-40'	BP	X						X		Susceptible to pine beetles if not kept healthy.
Spruce, Norway	M-F	40'-60'	NP									

Small Maturing Trees	Growth Rate	Max. Height	Shape	Screen	Fall Color	Flowers	Bark	Foot	Drainage	Diseases	Insects	Litter	Comments
<i>Flowering</i>													
Cherry, Kwanzan	S	20'-25'	V							X			Good soils preferred.
Cherry, Yoshino	M	20'-25'	S							X			Good soils preferred.
Crepemyrtle	M	15'-45'	S			X	X	X	X				Must be maintained in tree form; Best variety 'Natchez'
Dogwood, Flowering	M-F	20'-25'	S			X	X			X	X		Needs partial shade; good soils preferred.
Dogwood, Kousa	S-M	15'-30'	S			X	X						More hardy thn flowering dogwood.
Hawthorne	S-M	25'-30'	G					X	X	X			Attractive fruit.
Hawthorne, Washington	S-M	25'-30'						X	X	X			Attractive fruit.
Magnolia, Saucer	M	20'-30'	G										
Pear, Aristocrat	F	30'-40'	G			X							Very tolerant; best limb structure.
Pear, Capital	F	30'-40'	C			X							Very tolerant; most columnar.
Pear, Redspire	F	30'-40'	NP			X							Very tolerant; more narrow than 'Bradford'
Plum, Purpleleaf	M-F	15'-30'				X					X	X	Remains purple; produces fruit.
Redbud, Eastern	M	20'-30'	S			X				X	X		Does well in full sun.

CHAPTER 8: LANDSCAPING & BUFFERING

<i>Non-Flowering</i>												
Cherry-Laurel, Carolina	M	20'-30'	G	X	X							Good soils preferred.
Holly, Foster #2	M-F	15'-25'	C	X	X							Multiple uses.
Holly, Savannah	F	20'-30'	NP	X								Multiple uses.
Hornbeam, American	S	20'-30'	S			X	X	X				Pest free; tolerates city conditions.
Hornbeam, European	S	40'-60'	C		X		X	X				Pest free; tolerates city conditions.
Maple, Hedge	S	15'-35'	G			X						
Maple, Japanese	S	15'-25'	S		X	X						
Myrtle, wax	S-M	10'-15'	S	X	X			X				
Photinia, Frazier's	F	10'-15'	G	X	X							

Shrubs	
Nelly R. Stevens Holly	Any other variety of shrub may be approved by the Zoning Administrator as long as it has the capacity to provide an equivalent of growth and opacity.
Burford Holly	
Wax Myrtle	
East Palatka Holly	
Savannah Holly	
Tea Olives	
Eleagnus	
Ligustrum	
Japanese Black Pine	
Juniper	

8.3.2 General Installation Provisions

- A. To the extent that existing natural vegetation located on the same parcel of land as the proposed development can meet the required screening levels of this Section, the use of such materials is encouraged. In such case, the owner shall designate the land on which such materials are rooted, which shall contain at least the minimum width required.
- B. No structure other than a wall, fence, sidewalk, mailbox, sign or driveway shall be permitted within a required landscaping area. No off-street parking may take place in any required landscaping area. Where plant materials are required, the required amount of plant materials shall be installed on the side of any wall or fence opposite the new development.

CHAPTER 8: LANDSCAPING & BUFFERING

8.3.3 Plant Standards and Plant Installation Standards

The following standards shall apply to all new plant material installed as part of a screen required under these regulations:

- A. Trees to be planted shall be selected from the approved species listed in tables of Section 8.3.1. The Zoning Administrator may approve alternative large or small maturing trees excluding sweet gum, catalpa, wild cherry, wild elm, princess, hackberry, and tree-of-heaven.
- B. Minimum tree caliper measured six (6) inches above ground on all trees shall be 2-1/2 inches and the minimum height shall be eight (8) feet. No trees identified as large maturing trees shall be planted within 20 feet of an electrical distribution line. This does not include low-voltage insulated or covered lines of 240 volts or less or telephone or cablevision lines.
- C. Large shrubs used in any screening or landscaping must be at least two (2) feet tall when planted and shall be selected from the approved species listed in the table in Section 8.3.1. They must be of a variety and adequately maintained so that an average height of five (5) to six (6) feet could be expected as normal growth within three (3) years of planting.
- D. All plant material installed shall be free from disease.
- E. Plant materials shall be planted in accordance with generally accepted and recommended planting and growing practices.
- F. All plant material shall be installed in a fashion that ensures the availability of sufficient soil and water to sustain health growth.
- G. All plant material shall be planted in a manner which is not intrusive to utilities or pavement.

8.3.4 Landscaping Maintenance

The plantings, fences, walls, or berms that constitute a required landscaping shall be properly maintained in order for the landscaping to fulfill the purpose for which it is established. The owner of the property and any tenant on the property where landscaping is required shall be jointly and severally responsible for the maintenance of all landscaping materials. Such maintenance shall include all actions necessary to keep the landscaped area free of litter and debris; to keep plantings healthy; to keep plant growth from interfering with safe vehicular and pedestrian travel, or use of parking areas, or from creating nuisances to adjoining properties; and to keep walls, fences, and berms in good repair and neat appearance. Any vegetation that constitutes part of a required landscaping area shall be replaced in the event that it dies. All landscaping materials shall be protected from damage by erosion, motor vehicles, or pedestrians which could reduce the effectiveness of the required landscaping.

8.3.5 Relief from Landscaping Requirements

- A. In the event that the unusual topography or elevation of a development site or the location or size of the parcel to be developed would make strict adherence to the requirements of this section serve no meaningful purpose or would make it physically impossible to install and

maintain the required landscaping, the Planning Board may alter the requirements of this section provided the spirit and intent of the section are maintained. Such an alteration may occur only at the request of the developer, who shall submit a plan to the Zoning Administrator showing existing site features that would screen the proposed use and any additional screen materials the developer may propose to have installed. The Planning Board shall have no authority to alter the screening and buffer requirements unless the developer demonstrates that existing site features and any additional screening materials will screen the proposed use as effectively as the required screen.

- B. The vacancy or non-use of an adjoining parcel shall not constitute grounds for providing relief to the landscaping requirements contained in this Ordinance. Neither shall the desire of an owner to make a more intensive use or greater economic use of the property be grounds for reducing the landscaping requirements. Where the effect of the landscaping requirements of this section is to deny the owner reasonable use of the entire tract (or tracts) of property, a Variance may be requested from the Board of Adjustment in accordance with Chapter 15.

8.3.6 Existing Landscaped Areas

In cases where an existing, landscaped or vegetated area is located on the same property as the proposed development, further plantings and or improvements shall not be required so long as said screened area is of sufficient width and depth and contains adequate and sufficient materials to meet the requirements of this Ordinance. If the landscaped or vegetated area is deficient, the developer shall make needed improvements and/or additions to satisfy the landscaping requirements and intent of this Ordinance.

8.3.7 Visibility at Intersections

Except as herein provided, on a corner lot in any district, no hedge, shrubbery, tree, natural growth, sign, fence, wall, or other obstruction shall be placed or maintained within the sight triangle. In instances where NCDOT sight triangle provisions are applicable, such regulations shall prevail.

8.3.8 Installation of Landscaping Required Prior to Occupancy

Fences, walls, berms, and landscaping materials required in this Chapter shall be installed prior to occupancy.

- A. **Improvement Guarantees:** It is recognized that vegetation used in landscaping or screening should be planted at certain times of the year to ensure the best chance of survival. In order to ensure compliance with this section and to reduce the potential expense of replacing landscaping or screening materials which were installed in an untimely or improper fashion, in lieu of requiring the completion and installation of these improvements prior to occupancy, the Town of Granite Quarry may enter into an agreement with the developer whereby the developer shall agree to complete all required landscaping and screening. To secure this agreement, the developer shall provide to the Town of Granite Quarry one of the following guarantees. The amount of such guarantee shall be equal to 1.25 times the cost of purchasing, installing, and completing landscaping and screening materials required under this Ordinance. All such guarantees shall be subject to the approval of the Town Board of Aldermen and shall be made payable to the Town of Granite Quarry. The developer shall provide either one or a combination of the following guarantees:

CHAPTER 8: LANDSCAPING & BUFFERING

1. **Surety Performance Bond(s):** The developer shall obtain a performance bond(s) from a surety company authorized to do business in North Carolina. The duration of the bond(s) shall be until such time as the improvements are accepted by the Town Board of Aldermen.
 2. **Cash or Equivalent Security:** The developer shall deposit cash, an irrevocable letter of credit or other instrument readily convertible into cash at face value, either with the Town or in escrow with a financial institution designated as an official depository of the Town of Granite Quarry. If cash or other instrument is deposited in escrow with a financial institution as herein provided, the developer shall then file with the Town of Granite Quarry an agreement between the financial institution and himself guaranteeing the following:
 - a. That said escrow account shall be held in trust until released by the Town Board of Aldermen and may not be used or pledged by the developer in any matter during the term of the escrow; and
 - b. That in the case of a failure on the part of the developer to complete said improvement, the financial institution shall, upon notification by the Town of Granite Quarry and submission by the Town of Granite Quarry to the financial institution of a landscape architect's estimate of the amount needed to complete the improvements, immediately either pay to the Town the funds estimated to complete the improvements, up to the full balance of the escrow account, or deliver to the Town any other instruments fully endorsed or otherwise made payable in full to the Town.
- B. Default:** Upon default, meaning failure on the part of the developer to complete the required improvements in a timely manner as spelled out in the performance bond or escrow agreement, then the surety, or the financial institution holding the escrow account, shall, if requested by the Town Board of Aldermen, pay all or any portion of the bond or escrow fund to the Town of Granite Quarry up to the amount needed to complete the improvements based on a landscape architect's or contractor's estimate. Upon payment, the Town Board of Aldermen, in its discretion, may expend such portion of said funds as it deems necessary to complete all or any portion of the required improvements. The Town shall return to the bonding firm any funds not spent in completing the improvements. Should the amount of funds needed to complete the installation of all required improvements exceed the amount in the bond or escrow account, the developer shall nonetheless be responsible for providing the funds to cover such costs. The developer shall at all times bear the financial burden for the installation of all required improvements. A lien shall be attached to the property if the developer fails to provide the full financial responsibility under this Section.
- C. Release of Guarantee Security:** The Zoning Administrator may authorize the release of a portion of any security posted as the improvements are completed and approved. Such funds shall then be released within 10 days after the corresponding improvements have been so approved.

CHAPTER 8: LANDSCAPING & BUFFERING

Section 8.4 Fence, Wall and Berm standards

8.4.1 Non-residential standards- Landscaping alternatives

Whenever a landscaping alternative specified is selected which includes a wall, fence, or berm, such wall, fence, or berm shall meet the following requirements:

- A. Any wall shall be constructed in a durable fashion of brick, stone, or other masonry materials with no greater than 25 percent of the wall surface left open. All walls, except those constructed of stone, shall be of a consistent pattern. Gates constructed to the standards for fence materials below, may be included in the wall to allow passage.
- B. Any fence shall be constructed in a durable fashion of wood (or similar material) posts and/or planks with a minimum diameter or width of three (3) inches and with no greater than 25 percent of the fence surface left open between posts and/or planks. Wooden gates meeting such standards of opacity may also be included.
- C. No wall or fence used as part of a screen shall be less than six (6) feet nor more than eight (8) feet in height above grade.
- D. Berms used for residential developments shall be located within common open space maintained by a Home Owner's Association or other responsible party and shall not be located within a subdivision lot of record.
- E. All berms shall be grassed and/or planted with other plant materials sufficient to prevent soil erosion. If grassed alone, any berm installed to meet the requirements of this Section shall be no less than four (4) feet nor greater than eight (8) feet in height. No slope of a berm shall exceed a slope greater than one (1) foot of rise for every three (3) feet in plane. No part of the berm shall be left as bare soil. Any required plant materials accompanying a berm may be planted on the berm and/or along either side of the berm. It is recommended that, where feasible, at least 75 percent of any required shrubs be planted on the slope of the berm opposite the new development.
- F. Where a fence or wall is used as part of a required screen area, any required plantings accompanying the fence or wall shall be located on the side of such fence or wall opposite the new development.

8.4.2 Residential Fence Standards (REV. 2-3-2014)

Installation of fences:

A permit is not required; however the following guidelines shall apply to fences.

Fence height restrictions:

Front yard fence max. height	Side yard fence max. height	Rear yard fence max. height
3'	6'	6'

Requests may be made to the zoning Administrator for fences of more than the maximum height limit due to site constraints such as topography for a determination if the fence meets the intent of the ordinance.

CHAPTER 8: LANDSCAPING & BUFFERING

- Fence installation must meet building setbacks when property is adjacent to a public street.
- Fences must be installed with the finished side out, facing the perimeter of the lot.
- Corner lot installations must not obstruct vision as stated in guidelines of Chapter 3 section 3.4, D.

Prohibited fences:

- **FRONT YARD- CHAIN LINK AND/OR METAL-SLAT**
Fences and walls constructed of chain link or metal slats shall be prohibited within the front yard in all residential zoning districts.
- **BARBED WIRE AND ABOVE GROUND ELECTRIFIED FENCES**
Except as needed for Agriculture uses, major utilities, government facilities, and other public safety uses, barbed wire fences and above ground electrified fences are prohibited in all zoning districts. Underground electric fences designed for control of domestic animals are permitted.
- **DEBRIS, JUNK, ROLLED PLASTIC, SHEET METAL, PLYWOOD OR OTHER WASTE MATERIALS**
Fences or walls made of debris, junk, rolled plastic, sheet metal, plywood or waste materials are prohibited in all zoning districts, unless such materials have been recycled and reprocessed into building materials marketed to the general public and resemble new building materials.
**In no instance shall fencing around storm water retention or detention facilities as required by this Ordinance be prevented by this section.*

Maintenance of fences:

- **MAINTENANCE REQUIRED**
All fences and walls shall be maintained in good repair and in a safe and attractive condition, including but not limited to replacement of missing, decayed or broken structural and decorative elements. All fences and walls shall receive regular structural maintenance to prevent and address sagging and weathering of surfaces visible from the public right-of-way. Any deteriorated, damaged or decayed fence materials shall be promptly repaired, and any fence or wall post or section that leans more than 20 degrees from vertical shall be promptly repaired to correct that condition.

Penalties:

Violation of the terms of this Ordinance shall subject the violator to penalties and remedies either criminal or civil or both as referred to in chapter 15, Section 15.4 of the Granite Quarry Unified Development Ordinance.