

5. DEVELOPMENT STANDARDS

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ARTICLE 5. DEVELOPMENT STANDARDS

SECTION 5.1. MOBILITY, CIRCULATION, AND CONNECTIVITY STANDARDS

A. PURPOSE AND INTENT

The purpose of this section is to ensure that new development is served by a coordinated multimodal transportation system that permits the safe and efficient movement of pedestrians, bicyclists, motor vehicles, and emergency vehicles within the development and between the development and external transportation systems, neighboring development, and local destination points such as places of employment, schools, parks, and activity centers. Such a multimodal transportation system is intended to:

- (1) Provide transportation options;
- (2) Increase the effectiveness of local service delivery;
- (3) Reduce emergency response times;
- (4) Promote walking and bicycling;
- (5) Facilitate use of public transportation;
- (6) Contribute to the attractiveness of development and the community;
- (7) Connect neighborhoods and increase opportunities for interaction between neighbors;
- (8) Reduce vehicle miles of travel and travel times;
- (9) Minimize congestion and traffic conflicts; and
- (10) Preserve the safety and capacity of the City's transportation systems.

B. APPLICABILITY

(1) GENERAL

Except as otherwise provided in this section, the standards in this section apply to all new development.

(2) TIMING OF REVIEW

Review for compliance with the standards in this section shall occur during review of an application for a conditional zoning (see Section 2.5.A(3)), planned development (see Section 2.5.A(4)), site plan (see Section 2.5.B(1)), minor subdivision (see Section 2.5.B(2)), major subdivision (see Section 2.5.B(3)), or zoning clearance permit (see Section 2.5.C(1)), whichever occurs first.

(3) DEVELOPER RESPONSIBLE FOR ACCESS AND CIRCULATION IMPROVEMENTS

The developer shall provide road, street, bikeway, sidewalk, and other access and circulation improvements in accordance with the LDSM, and Section 5.1.C below, and shall dedicate any required rights-of-way or easements in accordance with Article 6: Subdivision Standards.

C. MOBILITY, CIRCULATION, AND CONNECTIVITY STANDARDS

(1) MULTIMODAL TRANSPORTATION SYSTEM

- a.** New development shall be served by a system of sidewalks, paths, greenways, roadways, accessways, and other facilities designed to provide for multiple travel modes (motor vehicle, transit, bicycle, and pedestrian), based on the development's size and character, zoning district classification, and relationship to development and development patterns in surrounding areas, and existing and planned community transportation systems.
- b.** Motor vehicle, transit, bicycle, and pedestrian access and circulation systems shall be coordinated and integrated to provide the development's occupants and visitors transportation options and to enhance safe and efficient mobility throughout the development and the community.

(2) SIDEWALKS AND OTHER PEDESTRIAN FACILITIES

- a.** Except as otherwise provided by subsection b below, sidewalks are required along the entire frontage of a development located on an existing street, and along both sides of all streets within the development. Sidewalks shall comply with all applicable standards in the LDSM and with any additional sidewalk standards that apply in the zoning district (see Article 3: Zoning Districts).
- b.** Sidewalks, and curbs and gutters, are not required if the street cross-section in the LDSM for the applicable street classification does not require a sidewalk, and curb and gutter. Additionally, the Planning Director, in consultation with the Director of Engineering and the City Engineer, may waive or modify the requirement for sidewalks, and curbs and gutters, in specific locations on determining the sidewalk, and curb and gutter:
 - 1.** Would be duplicative of an existing greenway or other pedestrian way;
 - 2.** Is included in a project for which state funding has been allocated or is already included within the City's Capital Improvement Program (CIP);
 - 3.** Is impractical or infeasible due to the presence of topographic conditions or natural features, such as steep grades that do not allow connections to be made; or
 - 4.** Would not be located within 500 feet of an existing sidewalk on the same side of the street, provided a public easement for the future installation of a sidewalk is granted where there is insufficient right-of-way to accommodate a sidewalk, and provided the proposed development is not a major subdivision.
- c.** Where a development has frontage on an existing street with insufficient right-of-way width to accommodate installation of a required sidewalk along the frontage, the developer shall dedicate additional right-of-way for the installation of the required sidewalk or install the sidewalk on the development site within a dedicated public easement running parallel and adjacent to the public street.
- d.** Sidewalks or other pedestrian ways shall be constructed within any commercial, mixed-use, or multifamily development consisting of multiple buildings to link buildings in the development with other destinations in the development, including parking areas, open space and other on-site amenities, and other common areas serving the development (e.g., mailbox clusters), and with sidewalks and other pedestrian ways on adjoining lands.
- e.** In all districts except the AG, RE, and HI districts, if a cul-de-sac street is proposed, a minimum eight feet wide pedestrian access shall be provided from the cul-de-sac head or a location on the cul-de-sac street within 200 feet of the cul-de-sac head to an adjoining street or sidewalk or other pedestrian way, where practicable.

(3) BICYCLE FACILITIES

- a.** Except as otherwise provided by subsection b below, new development shall include bike lanes, bike paths, or other bicycle facilities to allow safe and efficient bicycle access and circulation within the development, in accordance with the LDSM.
- b.** Unless required elsewhere in this Ordinance or in an adopted plan, bicycle facilities are not required in the following locations:
 - 1.** In the AG and HI districts; and
 - 2.** Where access is provided by alleys, local streets, or alternative access.

(4) PUBLIC STREETS

- a.** Public streets shall be designed and constructed in accordance with the LDSM standards for the applicable street classification type, as determined by the Director of Engineering in accordance with the Street Classification Standards, the Comprehensive Transportation Plan, and all applicable locally adopted plans.
- b.** All streets within a proposed development shall conform in alignment to any publicly adopted transportation plan, including the Comprehensive Transportation Plan and all applicable locally adopted plans.
- c.** Where a proposed subdivision abuts an existing street maintained by the City or NCDOT, the applicant shall dedicate right-of-way necessary to accomplish future road improvements, in accordance with state law. Where the subdivision is designed to utilize the street for frontage and direct access, the subdivider shall make any required improvements to the street so it conforms to the LDSM standards for the applicable street classification type.
- d.** New developments shall provide curb, gutter, sidewalks, and tree grates or a planting area between the street and the sidewalk, from the development to adjacent public streets that provide access to the development, in accordance with the LDSM. All such planting areas and tree grates shall be planted with street trees spaced apart an average of 40 feet or less on center. Road widening, sidewalks, bike lanes, street trees, curb and guttering, utility relocations, and all other related improvements shall be the responsibility of the developer and/or owner. The Planning Director may waive or modify the requirement for sidewalks in specific locations in accordance with Section 5.1.C(2)b above.

(5) PRIVATE STREETS

- a.** Private streets are permitted only in the following developments, in accordance with the standards in this section:
 - 1.** PD districts; and
 - 2.** Within an integrated Commercial, Industrial, Civic/Institutional, mixed-use, or multifamily residential development.
- b.** Private streets shall be designed and constructed in accordance with the standards for public streets set forth in the LDSM and this Ordinance, and shall include established right-of-way for public utilities.
- c.** A legally responsible organization (i.e. homeowners association, special district, etc.) shall be established to maintain private streets. Documents to assure private responsibility of future maintenance and repair by a homeowners association or a special district must be approved as to form by the Planning Director and the City Attorney.

- d. A private street maintenance agreement, satisfactory to the Planning Director and Director of Engineering, shall be recorded by the developer and/or property owner(s) with the Register of Deeds. The agreement shall:
 1. Specify lot owners' responsibilities for maintenance of private streets and drainage systems, and provide for assessments to finance all maintenance activities;
 2. State that if the street is not privately maintained for safe passage of public service and emergency vehicles, the City may provide such maintenance, with charges therefore becoming a lien on the properties served, dividing among them proportionate to their assessed tax valuation; and
 3. For gated or controlled access subdivisions, specify the method by which continuous accessibility to subdivision lots for provision of public service and emergency vehicles will be provided.
- e. All property transfer instruments for lots with access on a private street shall contain reference to the private street maintenance agreement (see subsection d above) and shall state that if the private street does not meet public standards for maintenance, it will not be considered for acceptance by the City or public maintenance unless improved by the legally responsible organization to those standards.
- f. Gated access shall not be allowed.

(6) BLOCKS AND STREET CONNECTIVITY

a. BLOCK LENGTH AND PERIMETER

1. Except as provided in subsection 2 below, the maximum length of any block within a subdivision shall comply with Table 5.1.C(6)a: Block Length Requirements.

Table 5.1.C(6)a: Block Length Requirements

ZONING DISTRICTS	MAXIMUM AVERAGE BLOCK LENGTH (FT.)	MAXIMUM BLOCK LENGTH (FT.)	MAXIMUM BLOCK PERIMETER (FT.)
R4, R6, R7, R8, R18, MU-N, MU-AC, CC, MU-UC, MU-SC, TOD, GC, PD, PD-TND	550	650	2,200
R1, R2, LI, PD-C	800	1,000	2,400
AG, HI	None	None	None

2. The City may approve a block length that does not comply with subsection 1 above in the following situations:
 - (a) If the Committee determines that one or more of the following conditions prevents a through connection and there are no other practical alternatives:
 1. Physical obstacles such as prior platting of property from another landowner;
 2. Construction of existing buildings or other barriers;
 3. Slopes over 15 degrees;
 4. Wetlands and water bodies;
 5. Railroad or utility right-of-way;
 6. Existing limited-access motor vehicle right-of-way;

- (b) To accommodate parks or dedicated open space, civic uses, pedestrian-oriented campuses, conference centers, stadiums or arenas, or other similar pedestrian-oriented, civic, or large-scale assembly uses.
- 3. Where a block exceeds the maximum average block length, a mid-block minimum eight feet wide pedestrian connection through the block shall be provided.

b. STREET CONNECTIVITY

1. Minimum Connectivity Ratio

- (a) Unless exempted by subsection (d) below, the street network for a subdivision shall achieve a connectivity ratio of not less than 1.6.
- (b) For the purposes of this section, the phrase “connectivity ratio” is defined as the number of street links divided by the number of nodes or link ends, including cul-de-sac heads.
 - 1. A “link” means and refers to that portion of a street or alley defined by a node at each end or at one end. Approved stubs to adjacent property shall be considered links.
 - 2. A “node” refers to the terminus of a street or the intersection of two or more streets. For the purposes of this section, any curve or bend of a street that fails to meet the minimum curve radius as established in the LDSM and any location where street names change (as reviewed and approved by the Planning Director) shall be counted as an intersection. For purposes of this section, approved stubs to adjacent property shall not be considered a terminus of a street.
- (c) A proposed subdivision shall be exempt from the minimum connectivity ratio standard in subsection (a) above, if the Planning Director determines the following:
 - 1. There are no options for providing stub streets due to topographical conditions, natural features, or existing street configurations; and
 - 2. Interconnectivity (use of a looped road) within the development cannot be achieved or is unreasonable based on the constraints of the property to be developed.
- 2. Minimum Vehicular Access Points to External Street System**

Unless exempted in accordance with subsection 4, below, all subdivisions shall provide vehicular access to the street system outside the subdivision in accordance North Carolina Fire Code
- (a) Nothing in this section shall limit the total number of streets providing access to the street system outside a subdivision, or exempt a subdivision from applicable vehicular access requirements in City, state, or federal law.
- (b) Street stubs shall be credited as an access points when ingress or egress to a development is available only from a single road on which the subdivision has less than 250 feet of frontage.
- 3. Connection to Adjoining Platted Right-of-way**

The arrangement of streets in a development shall provide for the alignment and continuation of existing or proposed streets into adjoining lands where the adjoining lands are developed and have right-of-way platted for such connections.
- 4. Connection to Adjoining Undeveloped Lands**

The arrangement of streets in a development shall provide for the alignment and continuation of existing or proposed streets into adjoining lands where the adjoining lands are undeveloped and/or deemed appropriate for future development. Streets providing connection into such adjoining lands shall comply with the following:

- (a) The arrangement of streets and blocks on the periphery of the development shall reasonably accommodate future development on the adjoining lands that complies with the standards in Section 5.1.C(6)a, Block Length and Perimeter;
- (b) Dead end streets that are longer than 150 feet shall include a temporary turnaround;
- (c) The platting of partial width rights-of-way is prohibited except where the remainder of the necessary right-of-way has already been platted, dedicated or established by other means;
- (d) The final plat shall identify all such streets (street stubs) and include a notation that all street stubs are intended for connection with future streets on adjoining lands; and
- (e) Signage shall be provided at the street stub identifying the stub as a future connection in accordance with the requirements of the LDSM.

(7) CROSS-ACCESS BETWEEN ADJOINING MULTIFAMILY, NONRESIDENTIAL, AND MIXED-USE DEVELOPMENTS

a. PEDESTRIAN CROSS-ACCESS

1. Each internal pedestrian circulation system (see Section 5.1.C(1), Multimodal Transportation System) in new multifamily, mixed-use, or nonresidential development (excluding development in the Industrial use classification) shall be designed to allow for pedestrian walkway cross-access between the development's buildings and parking areas and those on adjoining lots containing multifamily, mixed-use, or nonresidential development and to vacant lands.
2. Easements allowing cross-access to and from properties served by a pedestrian cross-access, along with agreements defining maintenance responsibilities of landowners, shall be recorded by the landowner with the Register of Deeds.
3. The Planning Director, as appropriate, may waive or modify the requirement for pedestrian cross-access on determining that such cross-access is impractical or infeasible due to the presence of topographic conditions or built or natural features.

b. BICYCLE CROSS-ACCESS

1. Each internal bicycle circulation system (see Section 5.1.C(1), Multimodal Transportation System) in new development other than Industrial uses, shall be designed and constructed to provide bicycle cross-access between it and any internal bicycle circulation system on adjoining parcels containing a multifamily, mixed-use, or nonresidential development.
2. Easements allowing cross-access to and from properties served by a bicycle cross-access, along with agreements defining maintenance responsibilities of landowners, shall be recorded by the landowner with the Register of Deeds.
3. The Planning Director may waive or modify the requirement for bicycle cross-access on determining that such cross-access is impractical or undesirable for typical bicyclists' use due to the presence of topographic conditions, natural features, or safety factors. Undesirable conditions shall be defined as those limiting mobility for bicycles as a form of transportation, such as steep grades, narrow connections bounded on both sides by walls or embankments, or limited visibility when straight-line connections are not achievable.

c. PARKING LOTS CROSS-ACCESS

1. Each internal vehicular circulation system (see Section 5.1.C(1), Multimodal Transportation System) in new [non-residential or mixed-use development, excluding development of Industrial uses, shall be designed and constructed to provide vehicular cross-access between any parking lots within the development and any parking lots on adjoining parcels containing nonresidential or mixed-use development, and to the boundary of adjoining vacant land. The cross-access shall consist

of a driveway or drive aisle that is at least 22 feet wide or two one-way driveways or aisles that are each at least 12 feet wide.

2. Easements allowing cross-access to and from lands served by a vehicular cross-access, along with agreements defining maintenance responsibilities of landowners pertaining to the vehicular cross-access, shall be recorded by the landowner with the Register of Deeds.
3. The Planning Director may waive or modify the requirement for vehicular cross-access on determining that such cross-access is impractical or undesirable due to the presence of topographic conditions, natural features, or vehicular safety factors.

(8) DRIVEWAYS

- a. A driveway permit is required prior to the construction of any new access point to a publicly maintained street. Driveway permits are issued by the City in accordance with the requirements and standards in the LDSM for connections to City-maintained streets, and by NCDOT for connections to NCDOT-maintained roads.
- b. Driveway spacing shall comply with the requirements of the LDSM. The Planning Director may make adjustments to driveway spacing requirements in accordance with Section 2.5.D(3), Administrative Adjustment.
- c. Except as otherwise provided in subsection d below, driveway width where the driveway intersects the public street right-of-way shall comply with the applicable standards in the LDSM. The Planning Director may approve a driveway width that exceeds the maximum width set forth in the LDSM only under the following conditions:
 1. The Director of Engineering determines that a wider turning area is needed in order to avoid a traffic hazard;
 2. The Director of Engineering and the Planning Director jointly determine an appropriate distance from the point of intersection with the public street right-of-way where the driveway shall conform to the width standards in the LDSM; and
 3. The design of the driveway is such that it progressively decreases in width to conform to the width standards in the LDSM.
- d. Access to lots in a proposed subdivision that front on a thoroughfare shall be from another street internal to the subdivision, or by shared driveways spaced at least 400 feet apart. A notation shall be made on the final plat of the lots restricting vehicular access to the internal street or shared driveway, as applicable.

(9) VEHICLE STACKING SPACES AND LANES

- a. Off-street vehicle stacking spaces shall be provided as required in Table 5.1.C(9)a: Vehicle Stacking Spaces Required.

Table 5.1.C(9)a: Vehicle Stacking Spaces Required

ACTIVITY TYPE	MINIMUM NUMBER OF SPACES	SPACES MEASURED FROM
Automated Teller Machine	3	Teller Machine
Bank Teller Lane	3	Teller or Window
Restaurant Drive-Thru	3	Order Box
Restaurant Drive-Thru	3	Order Box to Pick-up Window
Quick Lube	3	Entrance

Table 5.1.C(9)a: Vehicle Stacking Spaces Required

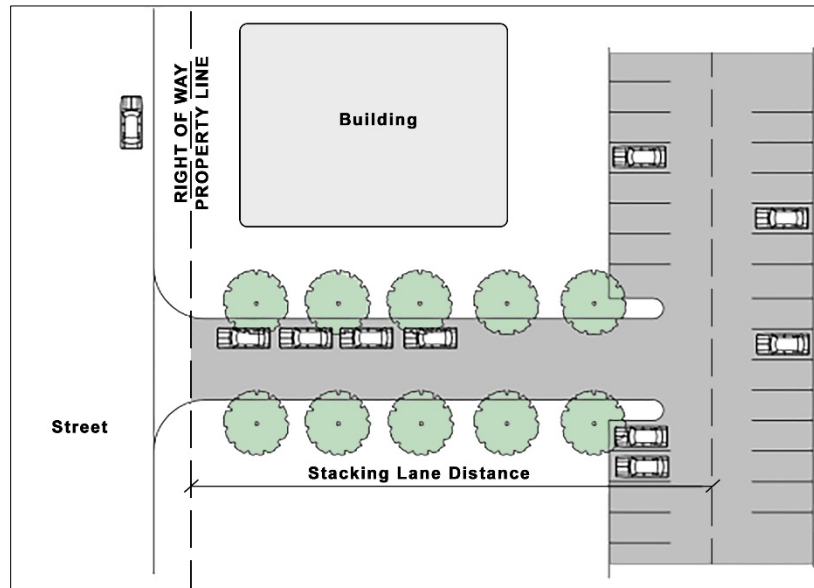
ACTIVITY TYPE	MINIMUM NUMBER OF SPACES	SPACES MEASURED FROM
Daycare Facility	3	Drop-off Entrance
Schools	8	Drop-off Entrance
Hospital	6	Drop-off Entrance
Car Wash Stall (Self-service)	3	Entrance
Car Wash Stall (Automatic)	3	Entrance

- b.** Each off-street vehicle stacking space shall be a minimum of 10 feet wide and 20 feet long.
- c.** Stacking spaces shall not impede on-site or off-site vehicular traffic movements, movements into or out of parking spaces, or intersections of street R.O.W. with parking lot access points.
- d.** Stacking spaces shall not impede on-site or off-site bicycle or pedestrian traffic movements.
- e.** Development having an internal network of roadways or drive aisles shall provide the minimum distance from the edge of NCDOT-maintained right-of-way before any crossing or left turn conflicts in accordance with NCDOT requirements.
- f.** Except as otherwise provided by subsection e above, all non-residential and mixed-use development, excluding development in the Industrial use classification, shall provide stacking lanes between the edge of the street right-of-way and entrances into off-street parking areas in accordance with the stacking lane distance set forth in Table 5.1.C(9)e.1: Minimum Stacking Lane Length for Vehicular Parking Area Entrance Driveway, based on the number of off-street parking spaces in the parking area (see Figure 5.1.C(9)e.2: Illustration of Vehicle Stacking Lane for Vehicular Parking Area Entrance Driveway).

Table 5.1.C(9)e.1: Minimum Stacking Lane Distance for Vehicular Parking Area Entrance Driveway

NUMBER OF OFF-STREET PARKING SPACES IN PARKING AREA	MINIMUM DISTANCE OF STACKING LANE (FT.)
1 - 49	40
50 - 249	60
250 - 499	100
500 or more	100 + 15 feet for every additional 50 spaces above 500
NOTES	
[1] Stacking lane distance is measured from the intersection of the driveway with the street right-of-way, along the center line of the stacking lane, to its intersection with the centerline of the first entrance into a parking area or other intersecting driveway.	

Figure 5.1.C(g)e.2: Illustration of Vehicle Stacking Lane for Vehicular Parking Area Entrance Driveway



(10) EMERGENCY VEHICLE ACCESS

- a. Developments that do not have frontage on a public street shall provide access for fire vehicles and emergency apparatus from a public street as follows:
 1. Except as provided by subsection 2 below, an access lane shall be provided from the street right-of-way to any portion of any structure that:
 - (a) Has a height of 30 feet or less and is located more than 150 feet from the nearest street right-of-way; or
 - (b) Has a height greater than 30 feet and is located more than 50 feet from the nearest street right-of-way.
 2. The Fire Chief may waive the access lane requirement in subsection 1 above, if the Fire Chief, determines that adequate access for fire vehicles and emergency apparatus is provided to the affected portions of the structure from a street right-of-way through either buffer yard area or adjoining property.
- b. The City shall not be liable for damage to underground utilities beneath fire access lanes caused by firefighting equipment.

SECTION 5.2. OFF-STREET PARKING, BICYCLE PARKING, AND LOADING STANDARDS

A. PURPOSE AND INTENT

The purpose of this section is to ensure that off-street vehicular parking, bicycle parking, and loading facilities are provided in proportion to the parking and loading demands of the different zoning districts and different uses allowed by this Ordinance. The standards in this section are intended to provide for adequate off-street vehicular parking, bicycle parking, and loading while supporting walkable urbanism in appropriate locations, and allowing flexibility to accommodate alternative parking solutions. The standards are also intended to achieve City policies of supporting redevelopment of commercial corridors, accommodating appropriate infill development, and avoiding excessive paved surface areas.

B. APPLICABILITY

(1) GENERAL

a. NEW DEVELOPMENT

All new development shall provide off-street vehicular parking, bicycle parking, and loading areas in accordance with the standards of this section.

b. ADDITION OR EXPANSION

1. Except as otherwise provided in subsection 2 below, if an existing structure or use is expanded or enlarged in terms of the number of dwelling units, floor area, number of employees, or seating capacity, whichever the minimum parking standard for the of the structure is based on, any additional off-street vehicular parking bicycle parking, and loading spaces that may be required shall be provided in accordance with the requirements of this section for the expanded or enlarged part of the structure or use.
2. Where the existing parking on the site of a proposed expansion or enlargement of an existing structure is nonconforming with regard to the standards in this section (see Article 7, Nonconformities), the parking shall be brought into compliance with the standards in this section in accordance with Table 5.2.B(1)b: Scaled Compliance of Nonconforming Parking.

Table 5.2.B(1)b: Scaled Compliance of Nonconforming Parking

INCREASE IN GROSS FLOOR AREA PROPOSED [1]	ADDITIONAL COMPLIANCE REQUIRED
Less than 25 percent	None
Between 25 percent and 65 percent	A corresponding percentage of the required minimum parking is required as additional compliance, up to achievement of 100 percent compliance [2]
More than 65 percent	Additional parking to achieve 100 percent compliance
NOTES: [1] Based on the total of all increases in gross floor area in any five-year period. [2] To illustrate this requirement, consider a hypothetical situation where a minimum of 40 parking spaces is required for the proposed use, but only 20 spaces are currently provided. If the building is expanded by 30 percent of its gross floor area, the expansion project must add 12 parking spaces (30 percent x 40 required spaces), increasing compliance from 50 percent (20 of 40 required spaces) to 80 percent (32 of 40 required spaces).	

c. CHANGE OF USE

Any change of use of an existing structure or land shall be accompanied by provision of any additional off-street vehicular parking, bicycle parking, and loading spaces required for the new use by this section, subject to Article 7, Nonconformities.

(2) TIMING OF REVIEW

Review for compliance with the standards in this section shall occur during review of site plan (Section 2.5.B(1)) and zoning clearance permit (Section 2.5.C(1)) applications.

C. PARKING PLAN REQUIRED

Applications for development subject to this section (see subsection B above) shall include a parking plan, which shall accurately designate the number and location of required parking spaces, access aisles, and driveways, and the relation of the vehicular off-street parking facilities and bicycle parking facilities (if

applicable) to the development they are designed to serve, including how the parking facilities coordinate with the vehicular, pedestrian, and bicycle circulation systems for the development. The Planning Director may waive this requirement if the Planning Director determines that a parking plan is not necessary to demonstrate the proposed development's compliance with the standards in this section (Section 5.2) based on the size and configuration of proposed and existing parking and loading areas on the site.

D. GENERAL STANDARDS FOR OFF-STREET VEHICULAR PARKING AND LOADING AREAS

(1) STANDARDS FOR SINGLE-FAMILY, DUPLEX, AND TRIPLEX DWELLINGS

Parking spaces required by Table 5.2.E(1)a for single-family detached, duplex, and triplex dwellings are not subject to the requirements in Section 5.2.D(2).

a. LOCATION

1. Off-street parking shall be provided on the same parcel as the principal structure or use.
2. The number of parking spaces required shall be in accordance with standards in Table 5.2.E(1)a.
3. Parking in front yards is permitted in all districts, subject to the following requirements. The AG district is exempt from these requirements:
 - (a) Vehicles must be parked completely within driveways or parking spaces that comply with the standards in this section;
 - (b) Dimensional standards for driveway and parking standards are located in the LDSM;
 - (c) Driveways and parking spaces shall be designed and installed to avoid creating standing water conditions, diverting runoff onto neighboring properties, or adversely impacting stormwater water quality;
 - (d) Parking for duplexes shall be landscaped in accordance with Section 5.3.

b. SIZE

1. Off-street parking spaces shall have a minimum width of nine feet and a minimum depth of 18 feet.
2. Driveways providing access from the front of the lot shall have a minimum length of 25 feet.

c. SURFACING

Parking spaces and driveways shall be surfaced with asphalt, concrete, brick, stone, or other material approved by the Planning Director as having similar load bearing and wear characteristics, consistent with the requirements of the LDSM. Gravel or crushed stone may be used if the gravel is a minimum of six inches deep and the parking spaces and driveway have a visible and definable edge made of landscape timbers, vegetation such as low shrubs or decorative grasses, or similar techniques to distinguish the parking spaces and driveway from the front or corner side yard area, in compliance with requirements in the LDSM.

d. DRIVEWAYS

Driveways shall comply with the requirements in the LDSM.

(2) STANDARDS FOR ALL OTHER DEVELOPMENT

a. LOCATION AND ARRANGEMENT

1. Off-street parking shall be provided on the same parcel as the principal structure or use, unless an alternative arrangement is approved in accordance with Section 5.2.E(2), Off-street Parking Alternatives.
2. Parking spaces are prohibited in required street yards and buffer yards (see Section 5.3, Landscaping and Buffer Standards).
3. In the CC, MU-UC, and MU-AC districts, all off-street parking areas shall be located outside of the front yard, on the side(s) or rear of the building.
4. Each off-street parking space shall open directly onto an aisle or paved driveway and not onto a public street. Each parking space shall have vehicular access to a public street through a parking area meeting the requirements of this section or through one or more driveways, provided any necessary access easements are obtained. Parking spaces and driveways shall be arranged so that ingress and egress to a public street is by forward motion of the vehicle only.
5. Parking areas shall be designed to provide emergency vehicle access in accordance with applicable City and state regulations.
6. Sight Triangles for intersections of driveways and public streets shall be regulated in accordance with the LDSM.

b. SURFACING

1. Except as provided for in subsections 2 through 4 below, all required parking and vehicular traffic surfaces shall be surfaced with concrete or bituminous asphalt pavement.
2. The Planning Director may approve surfacing with alternative materials if the Planning Director determines the alternative materials exhibit equivalent load bearing and wear characteristics as concrete or bituminous asphalt.
3. The following areas may use turf or an alternative pervious material approved by the Planning Director:
 - (a) Areas where off-street parking in excess of the minimum required by this Ordinance is provided, if it is designed to be used ten or fewer times per year;
 - (b) Temporary parking areas serving special events; and
 - (c) Storage areas generating less than 30 ADT (average daily trips).
4. The Planning Director may approve a gravel or crushed stone surface for parking areas and access ways serving assembly uses (churches, sports facilities, fairgrounds, etc.) if the Planning Director determines the applicant demonstrates that these spaces will not be used regularly on a daily basis (will be used less than five times per week). Such parking areas and access ways shall comply with the following requirements:
 - (a) The gravel or crushed stone must be at least six inches deep throughout the parking areas and access ways, except as permitted in Watershed Protection Overlay Districts (see Section 3.8.I, Watershed Protection Overlay (WPO) District);
 - (b) Applicable accessibility and fire protection standards in the North Carolina State Building Code; and
 - (c) Be constructed with proper drainage.

c. MARKINGS

Each required off-street parking area and space, and each off-street loading area and berth, shall be identified by surface markings that are arranged to provide for orderly and safe loading, unloading, parking, and storage of vehicles. Such markings—including striping, directional arrows, lettering on signs and in handicapped-designated areas, and labeling of the pavement—shall be maintained so as to be readily visible at all times.

d. OVERHANG PROTECTION

Except where a wall is constructed, a minimum six-inch-high vertical concrete curb, bumper guard, or other comparable material shall be installed so that a parked vehicle will not extend beyond the marked boundaries of a parking space.

e. DIMENSIONAL STANDARDS FOR PARKING AREAS

1. Parking areas shall comply with the dimensional standards set forth in the LDSM for stalls, aisles, parking bays, planting islands, and bumper overhang.
2. A maximum of 20 percent of the spaces required by Section 5.2.E(1)a, Minimum Parking Standards, may be designated compact vehicle parking spaces. Such space shall comply with the standards for compact vehicle parking spaces that are set forth in the LDSM and shall be clearly marked or posted for use by compact cars only. The number of compact spaces may be increased by the Planning Director to up to 50 percent based on a compelling presentation of evidence demonstrating that additional spaces will accommodate the parking requirements for proposed use.

f. ACCESSIBLE PARKING FOR PERSONS WITH PHYSICAL DISABILITIES

Parking spaces for persons with physical disabilities shall comply with federal law, the accessibility requirements in the North Carolina State Building Code, and the requirements for such spaces set forth in the LDSM.

g. ELECTRIC VEHICLE (EV) CHARGING STATIONS

1. Electric vehicle (EV) charging spaces shall be provided in accordance with Section 5.2.E(1)c, Required Electric Vehicle (EV) Charging Stations. In addition, up to twenty percent of the off-street parking spaces required by Section 5.2.E(1)a, Minimum Parking Standards, may be used and designated as electric vehicle (EV) charging stations. The Planning Director shall have authority to approve the use and designation of additional required parking spaces as electric vehicle charging stations, provided that such additional spaces shall count as only one-half of a parking space when computing the minimum number of parking spaces required.
2. Parking spaces used as electric vehicle charging stations and provided in addition to required EV charging stations in accordance with subsection 1 above, shall:
 - (a) Be consolidated into group(s) of contiguous spaces located where they can be readily identified by electric vehicle drivers (e.g., through signage); and
 - (b) Not be operated for commercial purposes, other than as an accessory use to a principal commercial use.

h. LARGE PARKING LOTS

Parking areas containing 200 or more spaces, whether developed at one time or in phases, shall comply with the following standards:

1. **Primary Drive Aisle**

Primary drive aisles shall be provided within parking areas in accordance with the following standards:

- (a) Be designed to appear as an extension of the public street network extending from the public right-of-way along the full length of the primary façades of structures being served by the drive aisle (see Figure 5.2.D(2)h.1: Location of Primary Drive Aisle);
- (b) Have a minimum cross-section width between curbs to serve two travel lanes and accommodate parallel parking spaces along both sides of the drive aisle in areas not needed for turning movements;
- (c) Be striped to designate parallel parking spaces, where appropriate;
- (d) Include a sidewalk or curb-delineated pedestrian path along the front façade of a building when the drive aisle is aligned parallel to that building façade; and
- (e) Provide street trees along both sides of the primary drive aisle with a maximum spacing of 40 feet on-center.

Figure 5.2.D(2)h.1: Location of Primary Drive Aisle



2. Pedestrian Pathways

Improved pedestrian pathways shall be provided within the parking area in accordance with the following standards:

1. One minimum five foot wide pathway providing access from the parking area to an entrance to the use served by the parking is required at a minimum, every six parallel parking rows (every three double-row parking bays) or every 200 feet, whichever is the lesser dimension;
2. A landscaping strip shall be provided along one or both sides of each pathway and shall be planted with shade trees spaced at a maximum average distance of 40 feet on center, measured linearly along the pathway from perpendicular lines extending to the center of the tree;
3. For parking areas serving uses in the Retail Sales and Services use classification, pathways shall be at the same grade as the abutting parking surface, or shall provide access points for persons pushing shopping carts spaced a minimum of one every 75 feet along each side of the pathway;
4. Pathways shall be aligned with and perpendicular to the primary entrance into the building served by the parking lot, to the maximum extent practicable; and

5. Pathways shall be paved with asphalt, cement, brick, or other comparable material, and shall be distinguished by contrasting color or materials when crossing drive aisles.

i. USE OF OFF-STREET PARKING AND LOADING AREAS

Off-street vehicular parking areas required by this section shall be used solely for the parking of licensed motorized vehicles in operating condition. Required parking spaces and loading berths may not be used for the display of goods for sale (except that farmers' markets and food trucks permitted under this Ordinance may be permitted to operate within parking areas), or the sale, lease, storage, dismantling, or service of any vehicles, boats, motor homes, campers, mobile homes, building materials, equipment, or supplies.

j. MAINTAINED IN GOOD REPAIR

Off-street parking and loading areas, including access drives, shall be maintained at all times in a safe condition and good repair (free from potholes, structural failures, etc.), as determined by the Director of Engineering, and parking space lines or markings shall be maintained in accordance with subsection c above.

k. STORMWATER MANAGEMENT

Stormwater management in parking areas shall comply with Section 5.10, Stormwater Management Standards.

l. EXTERIOR LIGHTING

Exterior lighting in parking areas shall comply with Section 5.6, Exterior Lighting Standards.

m. LANDSCAPING AND BUFFERING

Landscaping and buffering in parking areas shall comply with Section 5.3, Landscaping and Buffer Standards.

E. OFF-STREET VEHICULAR PARKING SPACE STANDARDS

(1) MINIMUM AND MAXIMUM OFF-STREET VEHICULAR PARKING SPACES

a. MINIMUM PARKING STANDARDS

New development shall provide the minimum number of off-street vehicular parking spaces required by Table 5.2.E(1)a: Minimum Number of Off-street Parking Spaces, based on the proposed use(s), subject to subsection c below, and Section 5.2.E(2), Off-street Parking Alternatives.

Table 5.2.E(1)a: Minimum Number of Off-street Parking Spaces

PRINCIPAL USE CATEGORY/TYPE	MINIMUM NUMBER OF PARKING SPACES [1]	
	TOD, CC, MU-UC, AND MU-AC DISTRICTS	ALL OTHER AREAS IN THE CITY
AGRICULTURAL/RURAL USES		
Agriculture	n/a	No minimum
Community garden	No minimum	No minimum
Equestrian center	n/a	No minimum
Feed lot	n/a	No minimum
Forestry	n/a	No minimum
Livestock auction sales	n/a	No minimum

Table 5.2.E(1)a: Minimum Number of Off-street Parking Spaces

PRINCIPAL USE CATEGORY/TYPE	MINIMUM NUMBER OF PARKING SPACES [1]	
	TOD, CC, MU-UC, AND MU-AC DISTRICTS	ALL OTHER AREAS IN THE CITY
Rural retreat	n/a	1.0 per 4 guest rooms
Swine farm	n/a	No minimum
RESIDENTIAL USES		
Household Living		
Duplex	1.5 per du	2.0 per du
Live-work unit	2.0 per du	2.0 per du
Manufactured home	n/a	2.0 per du
Multifamily dwelling	1.0 per du (studio – 2 BR) 1.5 per du (3+ BR)	1.5 per du (studio – 2 BR) 2.0 per du (3+ BR)
Single-family detached dwelling	n/a	2.0 per du
Townhouse	n/a	1.5 per du (1 – 2 BR) 2.0 per du (3+ BR)
Triplex	1.5 per du	1.5 per du
Group Living		
Boarding house	0.75 per bedroom	1.0 per bedroom
Cooperative house	0.75 per bedroom	1.0 per bedroom
Dormitory	0.4 per bedroom	0.5 per bedroom
Family care home	1.0 per 5 beds	1.0 per 3 beds
Residential care facility	1.0 per 5 beds	1.0 per 3 beds
CIVIC/INSTITUTIONAL USES		
Communication		
Broadcasting studio	1.0 per 400 sf	1.0 per 200 sf
Wireless telecommunications support structure	No minimum	No minimum
Collocation of antenna on existing support structure	No minimum	No minimum
Community Service		
Animal shelter	n/a	2.0 per 1,000 sf
Childcare center	1.0 per 500 sf	2.5 per 1,000 sf
Civic, social, or fraternal organization	1.0 per 350 sf	1.0 per 250 sf
Community recreation center	2.5 per 1,000 sf	3.5 per 1,000 sf
Correctional institution	Alternative Parking Plan required	Alternative Parking Plan required
Cultural facility	1.5 per 1,000 sf	2.5 per 1,000 sf
Government offices	2.25 per 1,000 sf	3.0 per 1,000 sf
Post office	n/a	3.3 per 1,000 sf
Public assembly, Indoor	1.0 per 10 seats	1.0 per 8 seats

Table 5.2.E(1)a: Minimum Number of Off-street Parking Spaces

PRINCIPAL USE CATEGORY/TYPE	MINIMUM NUMBER OF PARKING SPACES [1]	
	TOD, CC, MU-UC, AND MU-AC DISTRICTS	ALL OTHER AREAS IN THE CITY
Education		
College or university	n/a	Alternative Parking Plan required
School, Technical or trade	2.0 per 1,000 sf	2.5 per 1,000 sf
School, Private or Charter	Up to 10 th grade: 1.0 per 10 students design capacity	Up to 10 th grade: 1.0 per 8 students design capacity
	10 th – 12 th grade: 1.0 per 4 students design capacity	10 th – 12 th grade: 1.0 per 2 students design capacity
School, Public	Up to 10 th grade: 1.0 per 10 students design capacity	Up to 10 th grade: 1.0 per 8 students design capacity
	10 th – 12 th grade: 1.0 per 4 students design capacity	10 th – 12 th grade: 1.0 per 2 students design capacity
Funeral and Mortuary Services		
Crematory	n/a	No minimum
Funeral home or mortuary	1.0 per 200 sf assembly area	1.0 per 150 sf assembly area
Health Care		
Hospital	2.0 per 1,000 sf	2.5 per 1,000 sf
Medical or dental laboratory	1.5 per 1,000 sf	2.0 per 1,000 sf
Medical or dental office/clinic	2.5 per 1,000 sf	3.3 per 1,000 sf
Nursing home	1.0 per 5 beds	1.0 per 4 beds
Parks and Open Space		
Arboretum or botanical garden	No minimum	No minimum
Cemetery	No minimum	No minimum
Dog park	No minimum	No minimum
Park or greenway	No minimum	No minimum
Zoo	n/a	Alternative Parking Plan required
Transportation		
Air transportation and support facility	n/a	Alternative Parking Plan required
Commercial parking (as principal use)	No minimum	No minimum
Passenger terminal, Surface transportation	Alternative Parking Plan required	Alternative Parking Plan required
Rail transportation support facility	n/a	Alternative Parking Plan required
Utilities		
Solar energy collection facility, Large scale	n/a	2.0 per 1,000 sf office facilities
Utility facility, Major	n/a	2.0 per 1,000 sf office facilities
Utility facility, Minor	No minimum	2.0 per 1,000 sf office facilities

Table 5.2.E(1)a: Minimum Number of Off-street Parking Spaces

PRINCIPAL USE CATEGORY/TYPE	MINIMUM NUMBER OF PARKING SPACES [1]	
	TOD, CC, MU-UC, AND MU-AC DISTRICTS	ALL OTHER AREAS IN THE CITY
COMMERCIAL USES		
Animal Care		
Kennel	n/a	2.0 per 1,000 sf
Pet care service	3.0 per 1,000 sf	4.0 per 1,000 sf
Veterinary hospital or clinic	2.25 per 1,000 sf	3.0 per 1,000 sf
Business Services		
Business service center	2.25 per 1,000 sf	3.0 per 1,000 sf
Catering establishment	2.25 per 1,000 sf	3.0 per 1,000 sf
Conference or training center	n/a	4.0 per 1,000 sf
Data center	n/a	2.0 per 1,000 sf office facilities
Office, Contractor	n/a	1.5 per 1,000 sf
Office, General business or professional	2.25 per 1,000 sf	3.0 per 1,000 sf
Eating or Drinking Establishments		
Bar	4.0 per 1,000 sf seating area	8.0 per 1,000 sf seating area
Microbrewery	4.0 per 1,000 sf seating area	8.0 per 1,000 sf seating area
Nightclub	4.0 per 1,000 sf seating area	8.0 per 1,000 sf seating area
Restaurant	4.0 per 1,000 sf seating area	8.0 per 1,000 sf seating area
Restaurant, Carryout	4.0 per 1,000 sf seating area	8.0 per 1,000 sf seating area
Personal Services		
Studio/School	1.5 per 1,000 sf	2.0 per 1,000 sf
Dry-cleaning service	1.2 per 1,000 sf	1.5 per 1,000 sf
Fortune telling establishment	n/a	2.0 per 1,000 sf
Laundry, Self-service	1.5 per 1,000 sf	2.0 per 1,000 sf
Personal or household goods repair	1.5 per 1,000 sf	2.0 per 1,000 sf
Personal grooming or well-being service	1.5 per 1,000 sf	2.0 per 1,000 sf
Tattoo or body-piercing establishment	1.5 per 1,000 sf	2.0 per 1,000 sf
Recreation/Entertainment		
Amusement park	n/a	Alternative Parking Plan required
Art gallery	2.0 per 1,000 sf	2.5 per 1,000 sf
Electronic Gaming Operation	n/a	5.0 per 1,000 sf
Event Center	n/a	1.0 per 3 guests at maximum capacity
Golf course, Public or private	n/a	5.0 per hole
Hunting or fishing club	2.5 per 1,000 sf	3.3 per 1,000 sf
Outdoor banquet facility	n/a	1.0 per 3 guests at maximum capacity

Table 5.2.E(1)a: Minimum Number of Off-street Parking Spaces

PRINCIPAL USE CATEGORY/TYPE	MINIMUM NUMBER OF PARKING SPACES [1]	
	TOD, CC, MU-UC, AND MU-AC DISTRICTS	ALL OTHER AREAS IN THE CITY
Performing arts center	1.0 per 5 seats design capacity	1.0 per 4 seats design capacity
Recreation facility, Indoor	3.5 per 1,000 sf	5.0 per 1,000 sf
Recreation facility, Outdoor	n/a	1.0 per 5 seats or 1.0 per 5,000 sf outdoor area
Sexually-Oriented Business	n/a	3.3 per 1,000 sf
Shooting range, Indoor	n/a	3.3 per 1,000 sf
Stadium, arena, or amphitheater	2.5 per 1,000 sf	3.3 per 1,000 sf
Retail Sales and Services		
Bank or financial institution	2.5 per 1,000 sf	3.3 per 1,000 sf
Check cashing, auto title, or payday loan business	n/a	3.3 per 1,000 sf
Consumer goods establishment	2.5 per 1,000 sf	3.3 per 1,000 sf
Farmers' market (as a principal use)	0.75 per 1,000 sf vending area	1.0 per 1,000 sf vending area
Gas and heating oil sales	n/a	3.3 per 1,000 sf
Grocery store	2.5 per 1,000 sf	3.3 per 1,000 sf
Liquor Sales (ABC Store)	n/a	3.3 per 1,000 sf
Pawnshop	2.5 per 1,000 sf	3.3 per 1,000 sf
Prefabricated building sales	n/a	3.3 per 1,000 sf
Self-service storage	n/a	1.0 per 200 rental spaces (minimum 2)
Shopping center	2.5 per 1,000 sf	3.3 per 1,000 sf
Tobacco and vape products store	2.5 per 1,000 sf	3.3 per 1,000 sf
Vehicle Sales and Services		
Car wash	n/a	2.0 per 1,000 sf retail area plus 1.0 per wash bay
Commercial fuel depot	n/a	1.0 per employee
Commercial vehicle sales and rentals	n/a	2.0 per 1,000 sf
Commercial vehicle service and repair	n/a	3.0 per repair bay
Personal vehicle sales and rentals	n/a	3.3 per 1,000 sf
Personal vehicle service and repair	n/a	3.0 per repair bay
Towing service	n/a	2.5 per 1,000 sf office area
Vehicle fueling station	2.5 per 1,000 sf	3.3 per 1,000 sf
Visitor Accommodations		
Bed and breakfast establishment	2.0 plus 1 per guest room	2.0 plus 1 per guest room
Hotel or motel	1.0 per guest room plus 1.0 per 500 sf of auxiliary space	1.0 per guest room plus 1.0 per 500 sf of auxiliary space
Short-term rental (as a principal use)	1.0 plus 0.5 per bedroom	1.0 plus 1 per bedroom

Table 5.2.E(1)a: Minimum Number of Off-street Parking Spaces

PRINCIPAL USE CATEGORY/TYPE	MINIMUM NUMBER OF PARKING SPACES [1]	
	TOD, CC, MU-UC, AND MU-AC DISTRICTS	ALL OTHER AREAS IN THE CITY
INDUSTRIAL USES		
Extraction		
All extraction uses	n/a	1.0 per employee at peak shift and 1.0 per company vehicle at peak shift
Industrial Services		
Contractor's yard	n/a	3.0 per 1,000 sf
Fleet terminal	n/a	1.5 per 1,000 sf of office space
Industrial launderers	n/a	1.5 per 1,000 sf
Industrial services establishment, General	n/a	1.5 per 1,000 sf
Publishing facility	1.0 per 1,000 sf	1.5 per 1,000 sf
Manufacturing, Assembly, or Fabrication		
Artisan production	1.0 per 1,000 sf	1.5 per 1,000 sf
Manufacturing, assembly, or fabrication, Light	1.0 per 1,000 sf	1.5 per 1,000 sf
Manufacturing, assembly, or fabrication, Medium	n/a	1.5 per 1,000 sf
Manufacturing, assembly, or fabrication, Heavy	n/a	1.5 per 1,000 sf
Warehousing, Freight Movement, and Wholesale Sales		
Motor freight facility	n/a	2.5 per 1,000 sf (office/retail space)
Outdoor storage (as a principal use)	n/a	n/a
Warehouse distribution and storage	n/a	1.5 per 1,000 sf
Wholesale, Florist and nursery supply	n/a	1.5 per 1,000 sf
Wholesale, General	n/a	1.5 per 1,000 sf
Wholesale, Heavy or hazardous materials	n/a	1.5 per 1,000 sf
Waste-Related Uses		
Composting facility	n/a	1.5 per 1,000 sf office facilities
Hazardous waste collection and disposal	n/a	1.5 per 1,000 sf office facilities
Junk/Salvage yard	n/a	1.5 per 1,000 sf office facilities
Recycling collection center	n/a	2.0 per 1,000 sf
Recycling plant	n/a	1.5 per 1,000 sf
Sewage treatment facility, Private	n/a	1.5 per 1,000 sf office facilities
Solid waste collection and disposal	n/a	1.5 per 1,000 sf office facilities

Table 5.2.E(1)a: Minimum Number of Off-street Parking Spaces

PRINCIPAL USE CATEGORY/TYPE	MINIMUM NUMBER OF PARKING SPACES [1]	
	TOD, CC, MU-UC, AND MU-AC DISTRICTS	ALL OTHER AREAS IN THE CITY
NOTES: [1] The term "n/a" means there is no minimum number of parking spaces required. The term "sf" is an abbreviation of "square feet of gross floor area", except where specifically provided otherwise. The term "du" is an abbreviation of "dwelling unit". The term "BR" is an abbreviation of "bedroom".		

b. MAXIMUM PARKING STANDARDS

New development shall not provide more than the number of off-street parking spaces calculated by multiplying the number of off-street vehicular parking spaces required by Table 5.2.E(1)a: Minimum Number of Off-street Parking Spaces, based on the proposed uses, by the percentage in Table 5.2.E(1)b: Maximum Number of Off-Street Parking Spaces, based on the zoning district in which the proposed development is located, unless an alternative parking plan is approved for additional parking spaces in accordance with Section 5.2.E(2)a, Alternative Parking Plan.

Table 5.2.E(1)b: Maximum Number of Off-Street Parking Spaces

ZONING DISTRICT	MAXIMUM PARKING
TOD, CC, MU-UC, or MU-AC District	125%
HI District	No maximum
All other zoning districts	175%

c. REQUIRED ELECTRIC VEHICLE (EV) CHARGING STATIONS

- An off-street parking area is required to provide electric vehicle charging stations in accordance with the standards of this subsection c if:
 - The parking area is on lands classified in the GC district;
 - Any part of the lot containing the parking area or the use it serves is within 1,000 feet of the point where an entrance ramp onto or exit ramp from Interstate 85 intersects with a street, measured in a straight line: and
 - The parking area contains at least 50 parking spaces.
- At least two parking spaces in the parking area shall be electric vehicle (EV) charging stations, and at least two percent of all parking spaces in the parking area in excess of 50 spaces (rounded to the nearest whole number) shall also be EV charging stations.
- EV charging stations provided in accordance with this subsection shall comply with the standards in Section 5.2.D(2)g, Electric Vehicle (EV) Charging Stations.

d. RULES FOR CALCULATING MINIMUM AND MAXIMUM SPACES

1. Fractions

When calculation of the minimum number of required parking spaces or maximum allowed parking spaces results in a fractional number, a fraction of less than 0.5 shall be disregarded and a fraction of 0.5 or more shall be rounded to the next highest whole number.

2. Parking Structure Spaces Not Counted Toward Maximum

Parking spaces within an above-ground or an underground parking structure do not count toward the maximum number of parking spaces in Section 5.2.E(1)a, Minimum Parking Standards. For the purposes of parking calculations, the gross area of any parking garage within a building shall not be included within the gross floor area of the building.

3. Determining Number of Seats

When seating consists of benches, pews, or other similar types of seating, each 20 linear inches of seating space shall be counted as one seat. Where parking requirements relate to movable seating in auditoriums and other assembly rooms, each 15 square feet of net floor area shall be considered equal to one seat.

4. Development Having Multiple Uses

(a) Except as otherwise provided in subsection (b) below, where there are multiple uses within a structure or on a parcel, the minimum and maximum standards in Table 5.2.E(1)a, shall be applied to each use based on the extent of the use.

(b) The minimum number of off-street parking spaces for developments having more than one use category or type identified in Table 5.2.E(1)b: Time of Day Demand Factors, shall be calculated using the following methodology:

1. Determine the minimum number of off-street vehicular parking spaces required by Table 5.2.E(1)b for each component principal use in the development.
2. Multiply the number determined for each use under subsection 1 above, by the corresponding percentages set forth for each of the five time periods in Columns A through D of Table 5.2.E(1)b below. The resulting amounts represent the time-specific peak demand levels expected for each principal use.
3. For each time period (in Columns A through D of Table 5.2.E(1)b), sum the numbers calculated under subsection 2 above, for all proposed land uses (rounding down all fractions). These sums represent the total estimated shared demand for each time period throughout a typical day.
4. The highest total (for a time period) calculated under subsection 3 above, is the minimum number of off-street parking spaces required for the development.

Table 5.2.E(1)b: Time of Day Demand Factors

USE CATEGORY OR TYPE	WEEKDAY (MONDAY – FRIDAY)		WEEKEND (SATURDAY – SUNDAY)	
	7:00 A.M. TO 6:00 P.M.	6:00 P.M. TO 2:00 A.M.	7:00 A.M. TO 6:00 P.M.	6:00 P.M. TO 2:00 A.M.
	A	B	C	D
Residential Uses	60%	100%	80%	100%
Business Service	100%	20%	10%	0%
Retail Sales and Services	100%	80%	100%	60%
Personal Services	100%	40%	60%	0%
Hotel	60%	100%	60%	100%
Restaurant or Carryout Restaurant	80%	100%	80%	100%
Recreation/ Entertainment	40%	100%	80%	100%

Table 5.2.E(1)b: Time of Day Demand Factors

USE CATEGORY OR TYPE	WEEKDAY (MONDAY – FRIDAY)		WEEKEND (SATURDAY – SUNDAY)	
	7:00 A.M. TO 6:00 P.M.	6:00 P.M. TO 2:00 A.M.	7:00 A.M. TO 6:00 P.M.	6:00 P.M. TO 2:00 A.M.
	A	B	C	D
Industrial	100%	10%	10%	0%

5. As an example of how this shared parking requirement is computed, consider the following hypothetical mixed-use development proposal, located in the MU-SC District: 15,000 square feet of office; 15,000 square feet of conference/meeting space; 10,000 square feet of general retail; 100 two-bedroom multi-family dwelling units; and 120 hotel rooms.

a. The minimum parking requirements of each of these uses would be as follows:

Use	Minimum Parking Spaces Required
Office	45
Conference/meeting space	60
General retail	33
Multi-family dwelling units	150
Hotel rooms	120
TOTAL	408

b. Applying the time of day demand factors to the minimum parking requirements, the shared parking methodology would yield the need for 317 parking spaces as shown in the table below, 91 fewer parking spaces than would be required if the shared parking methodology is not used for the mixed-use development.

Use Category or Type	Weekday (Monday – Friday)		Weekend (Saturday – Sunday)	
	7:00 a.m. to 6:00 p.m.	6:00 p.m. to 2:00 a.m.	7:00 a.m. to 6:00 p.m.	6:00 p.m. to 2:00 a.m.
	A	B	C	D
Office	45	9	4	0
Conference/meeting space	60	12	6	0
General Retail	33	26	33	19
Multi-family dwelling units	90	150	120	150
Hotel rooms	72	120	72	120
Sum of All Spaces	300	317	235	289

5. Uses with Variable Parking Demand Characteristics or not Identified in Table 5.2.E(1)a

(a) An applicant proposing to develop a use in Table 5.2.E(1)a, or a use not listed in Table 5.2.E(1)a shall propose required minimum and allowed maximum off-street vehicular parking for the use using one of the three methods set forth in subsection (b) below.

(b) On receiving an application for the development of a use that references this section in Table 5.2.E(1)a, or a use not listed in Table 5.2.E(1)a, the Planning Director shall review the applicant's

proposed amount of off-street parking for the use and shall determine the required minimum and allowed maximum off-street vehicular parking for the use using one of the following methods:

1. Apply the standards for minimum required and maximum allowed off-street parking spaces specified in Section 5.2.E(1)a, for the listed use that is deemed most similar to the proposed use;
2. Establish the minimum required and maximum allowed off-street parking spaces by reference to resources published by the Institute for Transportation Engineers (ITE), or other professionally accepted sources, with the maximum allowed number of parking spaces not to exceed 125 percent of the minimum required number of parking spaces; or
3. Require that the applicant conduct a parking demand study to demonstrate the appropriate minimum requirement and maximum allowance for off-street parking spaces. The study shall estimate parking demand based on the recommendations of the ITE, or another acceptable source of parking demand data. This demand study shall include relevant data collected from uses or combinations of uses that are the same or comparable to the proposed use in terms of density, scale, bulk, area, type of activity, and location.

(2) OFF-STREET PARKING ALTERNATIVES

a. ALTERNATIVE PARKING PLAN

1. The Planning Director is authorized to approve an alternative parking plan that proposes any of the following as an alternative to the provision of off-street vehicular parking spaces in accordance with Section 5.2.E(1)a, Minimum Parking Standards:

- (a) Parking spaces that exceed the maximum number of allowed spaces, in accordance with subsection b below;
- (b) One or more off-street parking alternative(s) set forth in subsections c through f below; and
- (c) A reduction in parking demand on the site in accordance with Section 5.2.E(3)c, Other Eligible Alternatives.

2. An alternative parking plan shall be submitted only with a development application for a conditional zoning (see Section 2.5.A(3)), planned development (see Section 2.5.A(4)), site plan (see Section 2.5.B(1)), or zoning clearance permit (see Section 2.5.C(1)), whichever occurs first.

b. PROVISION OF PARKING SPACES OVER MAXIMUM ALLOWED

An alternative parking plan may propose to exceed the maximum number of off-street vehicular parking spaces allowed by Section 5.2.E(1)b, Maximum Parking Standards. The Planning Director shall approve such a plan only after submission of a parking demand study prepared by a professional transportation engineer which demonstrates how the maximum number of parking spaces allowed by Section 5.2.E(1)b is insufficient for the proposed development.

c. SHARED PARKING FOR SINGLE-USE DEVELOPMENT

An applicant for a development having only one principal use may meet a portion of the minimum number of off-street vehicular parking spaces required for that use by Section 5.2.E(1)a, Minimum Parking Standards, through sharing parking with other existing uses. Such use of shared parking may be approved through an alternative parking plan (see Section 5.2.E(2)a, Alternative Parking Plan) in accordance with subsections 1 through 7 below.

1. Adequate Spaces

Shared parking is allowed only where there are adequate parking spaces for current developments relying on the shared parking lot.

2. Maximum Shared Spaces

Up to 60 percent of the number of parking spaces required for the use may be shared with other uses, provided that the time periods having the highest parking demands do not overlap for the uses.

3. Location

(a) Shared parking spaces shall be located adjacent to the development or on the same block and within 800 feet of the primary pedestrian entrances to the uses served by the parking, measured along the pedestrian walkway from the shared parking area to the primary pedestrian entrance, not necessarily along a straight line (see subsection 4 below).

(b) Shared parking spaces shall not be separated from the use they serve by a street.

4. Pedestrian Access

Adequate and safe pedestrian access by a walkway protected by a landscape buffer or a curb separation and elevation from the street grade shall be provided between the shared parking areas and the primary pedestrian entrances to the uses served by the shared parking.

5. Signage Directing Public to Parking Spaces

Signage shall be provided to direct the public to the shared parking spaces.

6. Justification

The alternative parking plan shall include justification of the feasibility of shared parking among all uses proposed to share parking, using methods from ITE, ULI, or another acceptable source. Such justification shall address, at a minimum, the size and type of the uses proposed to share off-street vehicular parking spaces, the composition of their tenants, the types and hours of their operations, the anticipated peak parking and traffic demands they generate, and the anticipated rate of turnover in parking space use.

7. Shared Parking Agreement

An approved shared parking arrangement shall be enforced through written agreement among all the owners or long-term lessees of lands containing the uses proposed to share off-street vehicular parking spaces, in accordance with subsections (a) through (f) below.

(a) The agreement shall provide all parties the right to joint use of the shared parking area for a minimum of ten years, and shall ensure that as long as the off-site parking is needed to comply with this section, land containing either the off-site parking area or the served use will not be transferred, except in conjunction with the right to maintain the off-site parking spaces.

(b) The agreement shall state that no party can cancel the agreement without first sending notice by certified mail to the Planning Director, at least 90 days prior to the termination of the agreement.

(c) The agreement shall be submitted to the Planning Director for review and comment, and then to the City Attorney for review and approval before execution.

(d) An attested copy of an approved and executed agreement shall be recorded in the office of the Register of Deeds before issuance of a zoning clearance permit or Certificate of Compliance for any use to be served by the shared parking area.

(e) The agreement shall be considered a restriction running with the land and shall bind the heirs, successors, and assigns of the landowners. A violation of the agreement shall constitute a violation of this Ordinance, which may be enforced in accordance with Article 8: Enforcement.

(f) No use served by the shared parking agreement may be continued if the shared parking becomes unavailable to the use, unless substitute off-street vehicular parking spaces are provided in accordance with this section (Section 5.2.E, Off-street Vehicular Parking Space Standards).

d. OFF-SITE PARKING

An applicant may propose to meet a portion of the minimum number of off-street vehicular parking spaces required for a use by Section 5.2.E(1)a, Minimum Parking Standards, using off-site parking, i.e. off-street vehicular parking spaces located on a parcel or lot separate from the parcel or lot containing the use. Such use of off-site parking may be approved through an alternative parking plan (see Section 5.2.E(2)a, Alternative Parking Plan) in accordance with subsections 1 through 5 below.

1. Zoning District Classification

The zoning district classification of the land where the off-site vehicular parking is proposed shall be one that allows the use served by off-site parking (and thus off-street parking accessory to such use), or that allows the parking as a principal use.

2. Location

(a) Off-site parking spaces shall be located within 800 feet of the primary pedestrian entrances to the uses served by the parking:

1. For residential uses, including mixed-use dwellings: 400 feet; and
2. For all other uses: 600 feet.

(b) The distances specified in subsection (a) above, shall be measured along the pedestrian walkway from the off-site parking area to the primary pedestrian entrance, not necessarily along a straight line (see subsection 5 below).

3. Space Clearly Marked

Each parking space shall be clearly marked with signage that:

- (a) Indicates that the space is reserved exclusively for the use being served, and that the user may cause violators to be towed;
- (b) Does not exceed two square feet in sign area; and
- (c) Does not include any commercial message.

4. Pedestrian Access

Adequate, safe, and well-lit pedestrian access shall be provided between the off-site vehicular parking area and the primary pedestrian entrances to the use served by the off-site parking.

5. Off-Site Parking Agreement

If land containing the off-site vehicular parking area is not under the same ownership as land containing the principal use served, the off-site parking arrangement shall be established in a written agreement between the owners of land containing the off-site vehicular parking area and land containing the served use. The agreement shall comply with the following requirements:

- (a) The agreement shall provide the owner of the served use the right to use the off-site vehicular parking area for at least 15 years, and shall specify that the parking spaces are for the exclusive use of the served use, including any customers and employees;
- (b) The agreement shall state that no party can cancel the agreement without first sending notice by certified mail to the Planning Director, at least 90 days prior to the termination of the agreement;
- (c) The agreement shall be submitted to the Planning Director, for review and comment, and then to the City Attorney, for review and approval before execution;

- (d) An attested copy of an approved and executed agreement shall be recorded in the office of the Register of Deeds before issuance of a zoning clearance permit or certificate of compliance for any use to be served by the off-site parking area;
- (e) The agreement shall be considered a restriction running with the land and shall bind the heirs, successors, and assigns of the landowner(s);
- (f) A violation of the agreement shall constitute a violation of this Ordinance, which may be enforced in accordance with Article 8: Enforcement; and
- (g) No use served by the off-site vehicular parking may be continued if the off-site parking becomes unavailable, unless substitute off-street parking spaces are provided in accordance with this section (Section 5.2.E, Off-street Vehicular Parking Space Standards).

e. DEFERRED PARKING

An applicant may propose to defer construction of up to 25 percent of the number of off-street vehicular parking spaces required by Section 5.2.E(1)a, Minimum Parking Standards. Such a deferral may be approved through an alternative parking plan (see Section 5.2.E(2)a, Alternative Parking Plan) in accordance with subsections 1 through 5 below.

1. Justification

The alternative parking plan shall include a study demonstrating that because of the location, nature, or mix of uses, there is a reasonable probability the number of vehicular parking spaces actually needed to serve the development is less than the minimum required by Section 5.2.E(1), Minimum and Maximum Off-street Vehicular Parking Spaces.

2. Reserve Parking Plan

The alternative parking plan shall include a reserve parking plan identifying:

- (a) The amount of off-street vehicular parking being deferred; and
- (b) The location of the area to be reserved for future parking, if future parking is needed.

3. Parking Demand Study

- (a) The alternative parking plan shall provide assurance that within two years after the initial certificate of compliance is issued for the proposed development, an off-street parking demand study evaluating the adequacy of the existing parking spaces in meeting the off-street vehicular parking demand generated by the development will be submitted to the Planning Director.
- (b) If the Planning Director determines that the study demonstrates the existing vehicular parking is adequate, then construction of the remaining number of vehicular parking spaces shall not be required, and the land area may be used for other purposes. If the Director determines the study indicates additional parking is needed, such parking shall be provided consistent with the reserve parking plan and the standards of this section (Section 5.2.E, Off-street Vehicular Parking Space Standards).

4. Limitations on Reserve Areas

Areas reserved for future vehicular parking shall not be used for buildings, storage, loading, or other purposes. Such area may be used for temporary overflow parking, provided such use is sufficiently infrequent to ensure maintenance of its ground cover in a healthy condition.

5. Landscaping of Reserve Areas Required

Areas reserved for future off-street vehicular parking shall be landscaped with an appropriate ground cover, and if ultimately developed for off-street parking, shall be landscaped in accordance with Section 5.3, Landscaping and Buffer Standards.

f. VALET AND TANDEM PARKING

An applicant may proposed to use valet or tandem parking to meet a portion of the minimum number of off-street vehicular parking spaces required for commercial uses by Section 5.2.E(1)a, Minimum Parking Standards. Such use of valet or tandem parking may be approved through an alternative parking plan (see Section 5.2.E(2)a, Alternative Parking Plan) in accordance with subsections 1 through 3 below.

1. Number of Valet or Tandem Spaces

The maximum percentage of the total number of off-street vehicular parking spaces provided that may be designated for valet and tandem spaces are set forth in Table 5.2.E(2)f.1: Maximum Percentage of Total Spaces Used for Valet and Tandem Parking.

Table 5.2.E(2)f.1: Maximum Percentage of Total Spaces Used for Valet and Tandem Parking

Use	MAXIMUM PERCENTAGE OF OFF-STREET PARKING SPACES DESIGNATED FOR VALET AND TANDEM SPACES
Hotel or motel	70
Restaurant	60
All other uses in the Commercial use classification	35

2. Drop-Off and Pick-Up Areas

The development shall provide a designated drop-off and pick-up area. The drop-off and pick-up area shall be located adjacent to the building(s) served, but may not be located in a fire lane or where its use would impede vehicular or pedestrian circulation, cause queuing in a public street, or impede an internal drive aisle serving the development. The drop-off area shall not be located on the opposite side of the street where the use is located. The use of sidewalks for the stationing of vehicles is prohibited.

3. Valet or Tandem Parking Agreement

Valet or tandem parking may be established and managed only in accordance with a valet or tandem parking agreement that complies with the following requirements:

- (a) The agreement shall be for a minimum of 10 years and shall include provisions ensuring that a valet parking attendant will be on duty during hours of operation of the uses served by the valet parking.
- (b) The agreement shall be submitted to the Planning Director for review and comment, and then to the City Attorney for review and approval before execution.
- (c) An attested copy of an approved and executed agreement shall be recorded in the office of the Register of Deeds before issuance of a zoning clearance permit or certificate of compliance for any use to be served by the valet or tandem parking.
- (d) The agreement shall be considered a restriction running with the land and shall bind the heirs, successors, and assigns of the landowner(s). A violation of the agreement shall constitute a violation of this Ordinance, which may be enforced in accordance with Article 8: Enforcement.
- (e) No use served by valet or tandem parking may be continued if the valet or tandem service becomes unavailable, unless substitute off-street vehicular parking spaces are provided in accordance with this section (Section 5.2.E, Off-street Vehicular Parking Space Standards).

(3) REDUCED PARKING STANDARDS FOR PARKING DEMAND REDUCTION STRATEGIES

Use of alternative transportation and transportation demand reduction strategies set forth in this section allows development to reduce the amount of vehicular parking provided below the requirements of Section 5.2.E(1)a, Minimum Parking Standards. All reductions shall be taken as cumulative and not exclusive.

a. TRANSPORTATION DEMAND MANAGEMENT

The Planning Director may, through approval of a Transportation Demand Management (TDM) plan, authorize up to a 30 percent reduction in the minimum number of off-street vehicular parking spaces required by Section 5.2.E(1)a, Minimum Parking Standards, for nonresidential or mixed-use developments having a floor area of at least 25,000 square feet, in accordance with the following standards.

1. TDM Plan

The TDM plan shall include facts, projections, an analysis (e.g., type of development, proximity to transit and/or other multi-modal systems, anticipated number of employees and/or patrons, minimum parking requirements) and indicate the types of transportation demand management activities that will be instituted to reduce single-occupant vehicle use and reduce traffic congestion. The plan shall identify the amount by which parking requirements have been reduced from the amounts otherwise required by this section.

2. Transportation Demand Management Activities

The TDM plan shall be required to provide the following transportation demand management activities:

- (a)** A Guaranteed Ride Home program that offers emergency ride services to each employee with an allowance of no fewer than four rides per year, which an applicant may establish to serve the development or in partnership with other developments or uses.
- (b)** Written disclosure of transportation information and educational materials to all employees, that makes transportation and ride-sharing information available to employees. (This may be met by Human Resources Officers or other administrators of an organization.)
- (c)** Formation of transportation demand reduction programs such as carpooling, vanpooling, ridesharing, subsidy of employee bus passes, teleworking, and shuttle service programs.

3. Two Transportation Demand Management Options Required

The TDM plan shall also require a minimum of two of the following transportation demand management strategies.

- (a)** Establishment of a development-specific website that provides multi-modal transportation information such as real-time travel/traffic information, bus schedules and maps, and logging of alternative commutes (e.g., bicycle, pedestrian, carpool, and vanpool). Specific information will vary depending on the specific services and transportation infrastructure available in the vicinity of the development, but in general will allow tenants or customers to compare travel modes available.
- (b)** In-lieu of the website described in subsection (a) above, installation of a real-time visual display screen or other display device of this type that provides multi-modal transportation information.
- (c)** A parking cash-out or transportation stipend, or provision of a cash incentive to employees not to use vehicular parking spaces otherwise available to tenants of a development.
- (d)** Unbundling of vehicular parking spaces from leases, or issuing tenant leases that do not include parking as an integral part of a floor-area space lease and require parking to be leased, purchased, or otherwise accessed through separate payment.

- (e) Creation of a Preferential Parking Management Plan that specifically marks spaces for registered carpool and/or vanpool vehicles that are located near building entrances or in other preferential locations.
 - (f) Institution of off-peak work schedules that allow employees to arrive and depart at times other than the peak morning commute period (defined as 7:00 a.m. to 9:00 a.m.) and peak evening commute period (defined as 5:00 p.m. to 7:00 p.m.).
 - (g) Any other transportation demand management activity as may be approved by the Planning Director as a means of complying with the parking reduction provisions of this subsection.
4. **Recording of TDM Plan**
- A copy of the approved TDM plan shall be recorded in the office of the Register of Deeds before issuance of a zoning clearance permit or certificate of compliance for the development to be served by the plan. The TDM plan shall be recorded against the land, and the applicant and/or successors in interest in the land shall be responsible for implementing the plan in perpetuity.
5. **TDM Program Coordinator**
- (a) The applicant shall appoint a TDM program coordinator to oversee transportation demand management activities.
 - (b) The TDM program coordinator shall be a licensed engineer, certified planner, or a traffic consultant that is also a qualified or trained TDM professional.
 - (c) The TDM program coordinator shall be appointed prior to issuance of a zoning clearance permit or certificate of compliance for the buildings to be served by the transportation demand management program.
6. **TDM Report**
- The TDM program coordinator shall submit to the Planning Director a report on a biennial basis that details implementation of the approved TDM plan and the extent to which it has achieved the target reduction in drive-alone trips that justified the original reduction in parking. The report shall include, but is not limited to, the following:
- (a) A description of transportation demand management activities undertaken;
 - (b) An analysis of vehicular parking demand reductions based on employee and/or resident use of ridership programs or alternative transportation options;
 - (c) Changes to the TDM plan to increase bus ridership, bicycle ridership, and other commuting alternatives, as defined in g below; and
 - (d) The results of an employee transportation survey.
7. **Amendments**
- The Planning Director may approve amendments to an approved TDM plan in accordance with the procedures and standards for its original approval.
8. **Parking Required if TDM Terminated**
- If the applicant or successors in interest in the development subject to a TDM plan stop implementing the plan or fail to submit a TDM report within one year of the regularly scheduled date the biennial report is due, the TDM plan shall be terminated and become null and void. Any such termination of the TDM plan does not negate the parties' obligations to comply with parking requirements of this section (Section 5.2.E, Off-street Vehicular Parking Space Standards) and this Ordinance, and thus shall constitute a violation of this Ordinance. No use served by the TDM plan may be continued unless another TDM plan is approved or all required off-street vehicular parking spaces are provided in accordance with this section (Section 5.2.E, Off-street Vehicular Parking Space Standards), within 120 days of termination of the TDM plan.

b. SPECIAL FACILITIES FOR BICYCLE COMMUTERS

The Planning Director may authorize up to a five percent reduction in the minimum number of off-street vehicular parking spaces required by Section 5.2.E(1)a, Minimum Parking Standards, for developments that comply with the bicycle parking standards in Section 5.2.F, Bicycle Parking Standards, and provide both of the following:

1. Additional enclosed (indoor or locker) and secure bicycle parking spaces equal to at least five percent of the number of vehicle parking spaces provided; and
2. Shower and dressing areas for employees.

c. OTHER ELIGIBLE ALTERNATIVES

The Planning Director may authorize up to a 10 percent reduction in the minimum number of off-street parking spaces required by Section 5.2.E(1)a, Minimum Parking Standards, if an applicant submits an alternative parking plan that demonstrates the applicant will effectively reduce parking demand on the site of the subject development, provided the applicant also demonstrates that the proposed plan of development will provide a comparable level of protection for surrounding neighborhoods, maintain traffic-circulation patterns, and promote quality urban design as would strict compliance with the otherwise applicable off-street vehicular parking standards.

F. BICYCLE PARKING STANDARDS

(1) MINIMUM REQUIRED BICYCLE PARKING

Parking spaces for bicycles, which includes electric-assist bicycles, are required in the MU-N, MU-AC, CC, MU-UC, and MU-SC districts in accordance with Table 5.2.F(1): Minimum Bicycle Parking Standards for MU-N, MU-AC, CC, MU-UC, and MU-SC Districts, for the following development, based on the development's principal use(s):

- a. New development; and
- b. Any individual expansion or alteration of a building existing prior July 1, 2022, if the expansion increases the building's gross floor area by 50 percent or more, or the alteration involves 50 percent or more of the building's gross floor area (including interior alterations).

Table 5.2.F(1): Minimum Bicycle Parking Standards for MU-N, MU-AC, CC, MU-UC, and MU-SC Districts

PRINCIPAL USE	REQUIRED MINIMUM NUMBER OF BICYCLE PARKING SPACES [1] [2]
AGRICULTURAL/RURAL USES	
All Agricultural/Rural uses	None
RESIDENTIAL USES	
Multifamily dwelling	1 for every 20 dwelling units
Dormitory	1 for every 16 units
Boarding house	1 for every 8 required automobile parking spaces
All other Residential uses	None
CIVIC/INSTITUTIONAL USES	
Public assembly, Indoor	1 for every 2,500 sf GFA assembly area
All other Community Service uses	1 for every 5,000 sf GFA
Education uses	1 for every 20 students of planned capacity

Table 5.2.F(1): Minimum Bicycle Parking Standards for MU-N, MU-AC, CC, MU-UC, and MU-SC Districts

PRINCIPAL USE	REQUIRED MINIMUM NUMBER OF BICYCLE PARKING SPACES [1] [2]
Passenger terminal, surface transportation	1 for every 40 projected AM peak period daily riders
All other Civic/Institutional uses	None
COMMERCIAL USES	
Eating or Drinking Establishment uses	1 for every 4,000 sf GFA
Recreation facility, Indoor and Recreation facility, Outdoor	1 for every 4,000 sf of activity area
Performing arts center	1 per 40 seats
Stadium, arena, or amphitheater	1 per 40 seats, or 1 per 4,000 sf GFA if no seats
All other Recreation/Entertainment uses	1 for every 5,000 sf GFA
Bank or financial institution	1 for every 3,000 sf GFA
All other Retail Sales and Services uses	1 for every 4,000 sf GFA
All other Commercial uses	None
INDUSTRIAL USES	
All Industrial uses	None
NOTES:	
[1] GFA = gross floor area. When calculation of the minimum number of required spaces results in a fractional number, that fractional number shall be rounded to the next highest whole number.	
[2] Any short-term or long-term bicycle parking space that complies with subsection (3) below, and with subsection (4) or (5) below, as applicable, shall count toward compliance with the standards in this table.	

(2) REDUCTION BASED ON ALTERNATIVE BICYCLE PARKING PLAN

The Planning Director may authorize up to a 50 percent reduction in the minimum number of bicycle parking spaces required by Section 5.2.F(1), Minimum Required Bicycle Parking, if the applicant submits an alternative bicycle parking plan that:

- a. Demonstrates the demand and need for bicycle parking on the site is less than required by this section because of the site's location, design, proximity to transit, or other factors; or
- b. Offers a strategy that demonstrates other non-auto and non-bicycle travel modes will be used by occupants and users of the development that reduces the demand for bicycle parking spaces.

(3) GENERAL BICYCLE PARKING SPACE STANDARDS

- a. Each bicycle parking space shall be located on a paved or similar hard, all-weather surface, having a slope not greater than three percent.
- b. Lighting shall be provided for bicycle parking spaces that are accessible to the public or bicyclists after dark.
- c. Bicycle parking is encouraged to be visible from the main entrance of the building it serves; however, directional signage shall be provided where a bicycle parking space is not visible from a main entrance to the building for which the bicycle parking space is required.

- d. Not more than 25 percent of required short-term bicycle parking spaces and 25 percent of required long-term bicycle parking spaces may be vertical or wall-mounted parking, unless bicycle parking and retrieval services are offered.
- e. A bicycle parking rack shall:
 - 1. Allow for the securing of the frame and at least one wheel of a bicycle in a bicycle parking space to the rack with an industry-standard U-shaped bike lock;
 - 2. Provide each bicycle parking space with support for a bicycle in a stable position with direct support to the bicycle frame;
 - 3. Be securely anchored to the ground or to a structural element of a building or structure;
 - 4. Be designed and located so it does not block pedestrian circulation systems and pedestrian pathways;
 - 5. Be constructed of materials designed to withstand cutting, severe weather, and permanent exposure to the elements, such as powder-coated steel or stainless steel;
 - 6. If bicycles must be moved onto or off of the rack parallel to their direction of travel, provide an aisle having a minimum width of five feet between all bicycle parking spaces served by the rack and any bicycle spaces served by another bicycle parking rack, vehicular surface areas, or obstructions, including but not limited to fences, walls, doors, posts, columns, or landscaping areas (see Figure 5.2.F(4)a.1: Illustration of Bicycle Parking Space and Parking Rack Dimensional Standards, and Figure 5.2.F(4)a.2: Illustration of Vertical Bicycle Parking Dimensional Standards);
 - 7. Be located at least three feet from any vertical surface, such as another bicycle parking rack, the side of a building, a tree, or a fence or wall (see Figure 5.2.F(4)a.1: Illustration of Bicycle Parking Space and Parking Rack Dimensional Standards); and
 - 8. Be separated from any abutting vehicular surface area by at least three feet and a physical barrier, such as curbing, wheel stops, reflective wands, bollards, or a fence or wall.
- f. Bicycle parking areas shall be maintained free of inoperable bicycles (such as bicycles with flat tires or missing parts) and debris. Bicycle parking racks shall be maintained in good repair, securely anchored, and free of rust.

(4) SHORT-TERM BICYCLE PARKING SPACE STANDARDS

In addition to the standards in subsection (3) above, short-term bicycle parking spaces shall comply with the following standards:

- a. The minimum dimensional requirements for a short-term bicycle parking space are:
 - 1. Six feet long by two feet wide (see Figure 5.2.F(4)a.1: Illustration of Bicycle Parking Space and Parking Rack Dimensional Standards); or
 - 2. If designed for vertical storage, four feet long by two feet wide by eight feet high (see Figure 5.2.F(4)a.2: Illustration of Vertical Bicycle Parking Dimensional Standards).

Figure 5.2.F(4)a.1: Illustration of Bicycle Parking Space and Parking Rack Dimensional Standards

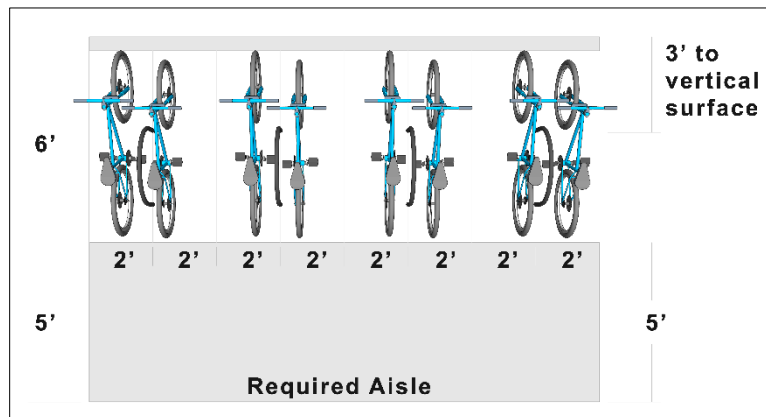
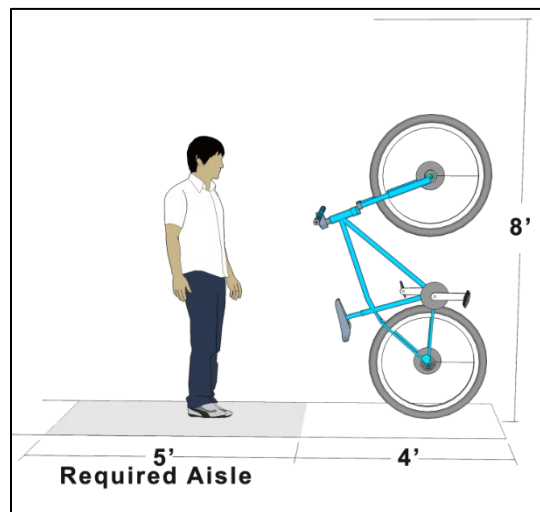


Figure 5.2.F(4)a.2: Illustration of Vertical Bicycle Parking Dimensional Standards



- b. A bicycle parking space shall be accessible without moving another parked bicycle.
- c. Short-term bicycle parking spaces shall:
 - 1. Include independent access to a bicycle parking rack for supporting and securing a bicycle;
 - 2. Be located within 75 feet of a public entrance to the building for which the space is required, measured along the most direct pedestrian access route, provided that a short-term bicycle parking space located in a bicycle parking area serving more than one use shall be located within 150 feet of a public entrance to the building for which the space is required, measured along the most direct pedestrian access route; and
 - 3. Be located to ensure significant visibility by the public and users of the building for which the space is required.

(5) LONG-TERM BICYCLE PARKING SPACE STANDARDS

In addition to the standards in subsection (3) above, long-term bicycle parking spaces shall comply with the following standards:

- a. Include one of the following features:

1. A bicycle locker or similar structure manufactured for the sole purpose of securing and protecting a standard size bicycle from rain, theft, and tampering by fully securing the bicycle in a temporary enclosure; or
 2. A secured and dedicated bicycle parking area provided either inside the principal building on the lot, within a parking structure, or in a building located elsewhere on the lot. The secured and dedicated bicycle parking area shall be designed to protect each bicycle from weather, theft, and vandalism.
- b. Be located within 500 feet of a public entrance to the building for which the space is required, measured along the most direct pedestrian access route, provided, a long-term bicycle parking space located in a bicycle parking area serving more than one use shall be located within 750 feet of a public entrance to the building for which the space is required, measured along the most direct pedestrian access route.

G. OFF-STREET LOADING AREA STANDARDS

(1) MINIMUM REQUIRED OFF-STREET LOADING BERTHS

New development involving routine vehicular delivery or shipping of goods, supplies, or equipment to or from the development shall provide a sufficient number of off-street loading berths to accommodate the delivery and shipping operations of the development's uses in a safe and convenient manner. Table 5.2.G(1): Minimum Number of Off-street Loading Berths, sets forth the minimum number of loading berths for the different principal uses. For proposed uses not listed in Table 5.2.G(1), the requirement for a use most similar to the proposed use shall apply.

Table 5.2.G(1): Minimum Number of Off-street Loading Berths

USE CLASSIFICATION, CATEGORY, OR TYPE	GROSS LEASABLE AREA OR NUMBER OF UNITS	MINIMUM NUMBER OF LOADING BERTHS
RESIDENTIAL USES, CIVIC/INSTITUTIONAL USES, AND COMMERCIAL USES		
Multifamily dwelling or Residential Care facility	Between 100 and 300 units	1
	Each additional 200 units above 300 units, rounded to the nearest 200 units	Add 1
Health Care uses, Business Services uses, or Hotel or Motel	Between 10,000 sf and 100,000 sf	1
	Each additional 100,000 sf above 100,000 sf, rounded to the nearest 100,000 sf	Add 1
Retail Sales and Services	Between 10,000 and 20,000 sf	1
	More than 20,000 sf up to 60,000 sf	2
	Each addition 60,000 sf above 60,000 sf, rounded to the nearest 60,000 sf	Add 1
INDUSTRIAL USES		
Industrial Services uses; Manufacturing, Assembly, or Fabrication uses; Warehousing, Freight Movement, and Wholesale Sales uses	Up to 50,000 sf	1
	More than 50,000 sf up to 120,000 sf	2
	More than 120,000 sf up to 220,000 sf	3
	More than 220,000 sf up to 220,000 sf	4
	More than 350,00 sf up to 550,000 sf	5
	More than 550,000 sf up to 850,000 sf	6

Table 5.2.G(1): Minimum Number of Off-street Loading Berths

USE CLASSIFICATION, CATEGORY, OR TYPE	GROSS LEASABLE AREA OR NUMBER OF UNITS	MINIMUM NUMBER OF LOADING BERTHS
	Each additional 400,000 sf above 850,000 sf, rounded to the nearest 400,000 sf	Add 1
NOTES: [1] sf = square feet.		

(2) DIMENSIONAL STANDARDS FOR LOADING BERTHS

- a. Each loading berth shall be of sufficient size to accommodate the types of vehicles likely to use the loading area. To ensure compliance with this general standard, the Planning Director may require a larger loading berth or allow a smaller loading berth upon determining that the characteristics of the particular development warrants such an increase or reduction.
- b. The minimum size of a loading berth is 12 feet wide and 25 feet long, subject to subsection a above, and the following:
 1. Uses in the Industrial use classification are presumed to require loading berths at least 15 feet wide and 45 feet long; and
 2. Where full-length tractor trailers must be accommodated, loading berths at least 15 feet wide and 55 feet long are required.

(3) LOCATION, SCREENING, AND ARRANGEMENT OF LOADING BERTHS

- a. Off-street loading berths shall be located on the same lot as the use they serve and shall have access directly from the site they serve to public streets.
- b. Off-street loading berths shall be located and arranged to minimize interference with traffic on streets and to ensure pedestrian safety.
- c. Off-street loading berths shall be located and arranged so that vehicles can maneuver for loading and unloading entirely within the property lines of the site, and are not required to back onto or from a public street.
- d. Off-street loading berths shall be located and arranged so that vehicles using the berth do not protrude, when parked for loading or unloading, into any required parking space or access aisle, pedestrian way, or street right-of-way.
- e. Off-street loading berths shall be located and/or screened so they are not visible from any thoroughfare or collector street right-of-way or from adjacent lands that are classified in a residential zoning district or developed with a residential use (see Section 5.3, Landscaping and Buffer Standards).

(4) SURFACING

Off-street loading areas shall be surfaced with concrete, bituminous asphalt, or alternative materials exhibiting equivalent load bearing and wear characteristics as concrete or bituminous asphalt, as determined by the Director of Engineering.

SECTION 5.3. LANDSCAPING AND BUFFER STANDARDS

A. PURPOSE AND INTENT

The purpose and intent of these landscape and buffer standards are to:

- (1) Improve the quality of the built and natural environments through air quality enhancements, energy conservation, reductions in the amount and rate of stormwater runoff and erosion, and increased capacity for groundwater recharge;
- (2) Preserve natural resources, native plants, and trees, including specimen and heritage trees;
- (3) Minimize potential conflicts between incompatible abutting developments;
- (4) Reduce soil erosion and increase infiltration in permeable land areas essential to stormwater management and aquifer recharge;
- (5) Enhance the City's streetscapes by:
 - a. Separating the pedestrian from motor vehicles;
 - b. Abating glare and moderating temperatures of impervious areas;
 - c. Filtering air of fumes and dust;
 - d. Providing shade;
 - e. Attenuating noise; and
 - f. Reducing the visual impact of large expanses of pavement;
- (6) Ensure the design of entryways into the City reflects the City's vision as detailed in adopted plans;
- (7) Promote innovative and cost-conscious approaches to the design, installation, and maintenance of landscaping while encouraging water and energy conservation;
- (8) Screen unsightly equipment or materials from the view of persons on public streets or adjoining properties and buffer them from uncomplimentary land uses;
- (9) Enhance the appearance of buildings and parking lots by requiring site-appropriate landscaping to be incorporated into development that is designed and installed by a qualified landscape professional; and
- (10) Promote resilience and sustainability.

B. APPLICABILITY

(1) GENERAL

a. NEW DEVELOPMENT

Except as otherwise provided in Section 5.3.B(2), Exemptions, all new development shall comply with the standards in this section.

b. ADDITION OR EXPANSION

1. Except as otherwise provided in subsection 2 below, or in Section 5.3.B(2), Exemptions, if an existing structure is expanded or enlarged, landscaping and buffering shall be provided in accordance with the standards in this section.
2. Except as otherwise provided in in Section 5.3.B(2), Exemptions, where the existing landscaping and buffering on the site of a proposed addition to or expansion of an existing structure is

nonconforming with regard to the standards in this section (see Article 7, Nonconformities), the nonconforming landscaping and buffering shall be brought into compliance with the standards in this section in accordance with Table 5.3.B: Scaled Compliance of Nonconforming Landscaping and Buffering.

Table 5.3.B: Scaled Compliance of Nonconforming Landscaping and Buffering

SIZE OF ADDITION OR EXPANSION	MINIMUM REQUIRED COMPLIANCE
Additions or expansions to a structure that increase its gross square footage by 20 percent or less	The nonconforming landscaping and buffering may continue; no additional compliance is required
Additions or expansions to a structure that increase its gross square footage by more than 20 percent but less than 75 percent	The nonconforming landscaping and buffering shall be brought into compliance with the standards of this Ordinance by a corresponding percentage of full compliance, up to achievement of 100 percent compliance [1]
Additions or expansions to a structure that increase its gross square footage by 75 percent or more	The nonconforming landscaping and buffering shall be brought into full compliance with the standards of this Ordinance
NOTES: [1] This percentage applies to nonconforming landscape yard or planting area widths and to numbers of trees and shrubs. It does not apply to any required fence, wall, or berm.	

c. CHANGE OF USE

Except as otherwise provided in in Section 5.3.B(2), Exemptions, a change of use of an existing structure or land shall not occur unless landscaping and buffering is provided in accordance with the requirements of this section.

d. DIMENSIONAL STANDARDS SUPERSEDE

For the purpose of this section, required building setbacks, build-to-lines, and build-to-zones shall supersede planting yard requirements.

(2) EXEMPTIONS

- a.** The following are exempt from all standards in this section:
 - 1.** Development of single-family detached dwelling, duplex, and triplex uses on an individual lot;
 - 2.** Any individual expansion of a building that increases the building's floor area by 20 percent or less of the existing floor area, provided the expansion does not result in a required increase in off-street parking spaces serving the building of more than 20 percent of existing parking spaces or more than 15 parking spaces;
 - 3.** Any change of use or alteration of the interior of a building that does not result in a required increase in the number of off-street parking spaces serving the building of more than 20 percent of existing parking spaces or 15 parking spaces;
 - 4.** Uses in the Agricultural/Rural use classification; and
 - 5.** Sites containing unoccupied public utility equipment that are less than 1,000 square feet in area, if the equipment is completely screened from view from adjoining rights-of-way and lots.
- b.** Development in the CC zoning district is exempt from all standards in this section except Section 5.3.H, Parking Lot Landscaping, and Section 5.3.J, Tree Protection.
- c.** The following are exempt from the standards in Section 5.3.G, Perimeter Buffer Yards:

1. Lots or parcels on which the uses or buildings demonstrate compatible design elements and are linked to adjacent lots or buildings by a common system of sidewalks or other pedestrian walkways across property lines;
2. Lots or parcels separated by a public street right-of-way greater than 30 feet in width; or
3. Lots or parcels separated by a railroad right-of-way.
- d. Development that results in an increase in off-street parking spaces that is not greater than 40 percent of existing spaces and does not exceed 15 spaces is exempt from the standards in Section 5.3.H(5), Interior Planting Areas.
- e. The following are exempt from standards in Section 5.3.J, Tree Protection:
 1. Routine or seasonal pruning in accordance with Section 5.3.F(10), Maintenance of Landscape Areas;
 2. The removal or pruning, after providing documentation to the Planning Director of the condition of the tree(s), of dead or naturally fallen trees; trees damaged during a hurricane, tornado, ice or wind storm, or flood; or trees that are found by the Planning Director to be a threat to the public health, safety, or welfare;
 3. The selective and limited removal or pruning of trees or vegetation necessary to obtain clear visibility at driveways or intersections;
 4. The removal or pruning of trees within a utility easement by a utility company;
 5. The removal of trees when required by the Federal Aviation Administration (FAA); and
 6. The removal or pruning of trees or vegetation on land zoned or lawfully used for commercial cultivation of trees to be sold for transplantation, outside of any right-of-way, transitional buffer yard, street yard, or interior planting area in a vehicular surface area.

(3) ALTERNATIVE LANDSCAPING

- a. If unusual topography, location of existing buildings, or 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 Director may approve, at the request of an applicant, alternative landscaping, on finding all of the following:
 1. The alternative landscaping is consistent with the spirit and intent of this section;
 2. No invasive vegetation is proposed;
 3. Tree planting requirements are not reduced;
 4. The alternative landscaping complies with Section 5.3.J, Tree Protection;
 5. The visual appearance of the property with the alternative landscaping is equal or superior to what it would be with the required landscaping; and
 6. Absorption of greenhouse gases and reduction of heat island by the property with the alternative landscaping is equal or superior to what it would be with the required landscaping.
- b. The applicant requesting approval of alternative landscaping shall submit a plat to the Planning Director showing existing site features that would screen the proposed use and any additional screen materials the developer may propose to install.
- c. 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.

(4) NCDOT PLANTING PERMIT REQUIRED

All proposed landscaping within an NCDOT right-of-way shall require approval of a planting permit from the NCDOT Division Roadside Environmental Engineer and shall comply with NCDOT's Guidelines for Planting Within Highway Right-of-Way.

C. TIMING OF REVIEW

Review for compliance with the standards of this section shall occur during review of a development application for a conditional zoning (Section 2.5.A(3)), planned development (Section 2.5.A(4)), special use permit (Section 2.5.A(5)), site plan (Section 2.5.B(1)), minor subdivision (Section 2.5.B(2)), major subdivision (Section 2.5.B(3)), or tree removal permit (Section 2.5.C(3)), as appropriate.

D. INSTALLATION OR SURETY REQUIRED

No certificate of compliance for development subject to the requirements of this section shall be issued until the applicant has installed landscaping in accordance with the requirements of this section and the LDSM, except a temporary certificate of compliance may be issued if financial surety is provided in accordance with Section 5.3.F(3), Installation of Required Landscaping.

E. LANDSCAPING PLAN

A landscaping plan that complies with the requirements in Appendix A: Supplemental Landscaping Requirements, shall be submitted with an application for any development subject to the requirements of this section. The plan shall depict how the proposed development complies with the standards of this section.

F. GENERAL LANDSCAPING STANDARDS

The installation and maintenance of all plantings and other improvements required by this section shall comply with the following standards.

(1) PLANT SPECIES AND MATERIALS

a. ALLOWED SPECIES

1. All trees, shrubs, and other vegetative material used to meet the standards in this section shall be from the list of acceptable species in Appendix A: Supplemental Landscaping Requirements.
2. The use of species identified as invasive plant species in Appendix A: Supplemental Landscaping Requirements, is prohibited.

b. MINIMUM SPECIES DIVERSITY

To curtail the spread of disease and insect infestation in a plant species, new shrub and tree plantings shall be of different genera in accordance with Table 5.3.F(1). Required Shrub and Tree Genus Diversity. Where different genera of shrubs and trees are required in accordance with Table 5.3.F(1), each required genus shall be planted in roughly equal proportions with the other required genera. Nothing in this subsection shall be construed to prevent the planting of a greater number of different species than specified in Table 5.3.F(1).

TABLE 5.3.F(1): Minimum Required Shrub and Tree Genus Diversity

MINIMUM NUMBER OF SHRUBS OR TREES REQUIRED ON SITE	MINIMUM NUMBER OF GENERA OF SHRUBS OR TREES REQUIRED ON SITE
SHRUBS	
40 or fewer	2
More than 40 but fewer than 70	3
70 or more	4
TREES	
20 or fewer	2
More than 20 but fewer than 40	3
40 or more	4

c. ENHANCED CREDIT FOR USE OF NATIVE SPECIES

The use of native species identified in Appendix A: Supplemental Landscaping Requirements, shall receive enhanced credit toward plantings required by this section as follows:

1. Native trees shall be credited at a rate of seven native trees for every eight required trees; and
2. Native shrubs shall be credited at a rate of five native shrubs for every six required shrubs.

d. ADAPTED TO SITE CONDITIONS

Vegetative material shall be adapted to the site conditions where it will be planted. The use of xeriscaping with native, drought-tolerant vegetation is encouraged to reduce dependency on irrigation. All plant material shall be free of disease and insects and conform to the "American Standard for Nursery Stock" (ASNS) as set forth by the American Horticulture Industry Association.

e. MINIMIZE INTERFERENCE WITH OVERHEAD UTILITY LINES

Trees planted in street yards or utility rights-of-way where there are existing or planned overhead utility lines shall be of slow-growing, pest- and disease-resistant species having a height at maturity that will minimize interference with the lines.

f. VARIATION FROM APPROVED LANDSCAPE PLAN

The Planning Director may approve the installation of comparable substitution plant materials to satisfy the requirements of the approved landscape plan when the approved plants and landscape material are not available at the time of installation or when other unforeseen conditions prevent the use of the exact materials shown on the approved landscape plan. Significant changes that require the substitution or relocation of more than 25 percent of the plant materials shall require a new landscape plan and approval through the plan review process.

(2) MINIMUM PLANT SIZES AT INSTALLATION

Unless otherwise specifically stated in this section or the applicable Appendix, the minimum plant size of required landscaping at the time of installation shall comply with Table 5.3.F(2): Minimum Plant Sizes.

Table 5.3.F(2): Minimum Plant Sizes

PLANT MATERIAL TYPE	MINIMUM SIZE [1]
Shade Tree	2.5 in. caliper and 12 ft. tall

Table 5.3.F(2): Minimum Plant Sizes

PLANT MATERIAL TYPE	MINIMUM SIZE [1]
Evergreen/Coniferous Tree	6 ft. tall
Ornamental/Small Understory Tree	
Single-stem Tree	2 in. caliper
Multi-stem Tree	1.5 in. caliper
Shrub	3-gallon container size and 18 in. tall
TABLE NOTES	
[1] The Planning Director may vary the minimum size by up to 20 percent to account for variation among allowed genera and species.	
[2] The caliper or diameter of trees shall be measured six inches from the ground level up to a four-inch caliper diameter and at 12 inches for four-inch caliper diameter or greater.	

(3) INSTALLATION OF REQUIRED LANDSCAPING

- a. Preparation of plant pits, hedge trenches, and shrub beds shall comply with the installation requirements Appendix A: Supplemental Landscaping Requirements.
- b. All plants shall be installed so as to ensure their best chance of survival and to reduce the potential expense of replacing damaged plant materials. Sufficient soil volume shall be provided for tree roots to allow for the tree's healthy growth and survival to its mature size.
- c. If the season, weather, or water rationing conditions prohibit planting of trees or shrubs, the developer may provide a performance guarantee, an irrevocable letter of credit, or other financial surety in an amount equal to 150 percent of the cost of installing the required trees or shrubs to guarantee the completion of the required planting. A temporary certificate of compliance for the development shall be issued only on approval of the financial surety (see Section 2.5.C(2), Certificate of Compliance). All required improvements must be completed within the time period established in the development approval, or within 18 months of the date the developer provides financial surety, whichever period is shorter. The developer may request and the Planning Director may grant, for good cause shown, one extension, not to exceed one year, of the period for completion.

(4) CREDIT FOR EXISTING VEGETATION

Existing vegetation in good health that meets all applicable standards in this section may be used to satisfy any planting requirements, provided the vegetation is in fair or better condition and is protected before and during development in the same manner required for a protected tree in accordance with Section 5.3.J(9), Tree Protection During Construction.

(5) GROUNDCOVER IN LANDSCAPED AREAS

- a. Except immediately around plantings where organic mulch is used to maintain soil moisture and prevent the growth of weeds, areas where landscaping is required shall be completely covered with vegetative or inorganic ground cover as follows:
 1. Inorganic ground covers consisting of river rock or similar materials may cover up to 20 percent of the required landscape planting area.
 2. Vegetative ground covers shall cover all required landscaping areas that are not covered by inorganic ground covers or organic mulch as set forth in this section, within two years of installation, or, in the case of turf or grass seeding, at the time of installation.

- b. All planted materials are to be mulched with an organic type of mulch such as shredded bark, ground wood chips (not sawdust), or pine straw. Mulch shall be applied as follows:
 - 1. For trees and shrubs, three to four inches deep at the base of shrubs and trees or from the trunk to the dripline for newly-planted trees; and
 - 2. For ground cover and perennials, one to two inches deep sufficient in coverage to conserve moisture and suppress weeds without inhibiting growth of the landscape plants.

(6) IRRIGATION

Where necessary to ensure long-term survival of plantings, an irrigation system shall be planned, installed, and maintained to ensure optimum moisture for healthy growth and survival. Use of water conserving irrigation techniques, such as use of a rain sensor, and re-use of rainwater, is encouraged. The use of wells is also encouraged for irrigation.

(7) BERMS

Berms shall comply with the following design standards:

- a. The slope shall not exceed a two-to-one ratio (horizontal to vertical);
- b. The berm shall have a top width at least one-half the berm height;
- c. The berm shall have a maximum height of six feet above the toe of the berm;
- d. All berms, regardless of size, shall be stabilized with a ground cover or other suitable vegetation, provided, no berm shall consist entirely of turf grass, mulch, or similar material;
- e. The berm shall be free of structures, including fences, unless as part of the landscaping requirements;
- f. No berm may be used for the display of vehicles or other merchandise;
- g. Berms proposed to be placed along street right-of-way shall be designed and constructed to provide adequate sight distances at intersections and along the street; and
- h. Berms shall not damage the roots of existing healthy vegetation designated to be preserved.

(8) FENCES AND WALLS

Fences and walls in landscape areas shall comply with Section 5.5, Fence and Wall Standards.

(9) SIGHT TRIANGLES

Sight triangles shall be maintained free of obstructions, including trees, shrubs, and other vegetation and fences, walls, and berms.

(10) MAINTENANCE OF LANDSCAPE AREAS

a. RESPONSIBLE PARTY

- 1. Required landscaping shall be maintained in perpetuity in accordance with subsections b through g below. The applicant and the landowner(s), if different from the applicant, shall be jointly and severally responsible for maintenance of landscaping during its initial installation. After initial installation, the owner(s) and any tenant of the property upon which the landscaping is installed shall be jointly and severally responsible for maintenance of all required landscaping, subject to subsection 2 below.
- 2. Within residential subdivisions, the maintenance of street trees in planting strips between curbs and sidewalks which are within the street right-of-way shall be the responsibility of the respective

homeowners association, or the abutting property owner, in the absence of a homeowners association.

b. GENERAL MAINTENANCE REQUIREMENTS

1. All required plant material shall be maintained in a healthy, vigorous, growing condition as is appropriate for the season. Plant materials which exhibit evidence of insect pests, disease, deterioration, and/or damage shall be appropriately treated or replaced. Dead plants shall be promptly removed and replaced within the next planting season after removal. If replacement is necessary, all plants and other non-living landscape materials shall be equal in size, density, and appearance as originally required at the time of the approval of the development permit. The Planning Director shall have the authority to review landscaping and require replanting if necessary to maintain the required landscape plants in good health.
2. All required landscaping shall be maintained in a neat and orderly manner at all times, which shall include mowing, edging, pruning, fertilizing, watering, weeding, and other activities common to the maintenance of landscaping. Landscaped areas shall be kept free of trash, litter, weeds, and other materials or plants not a part of the landscaping.

c. MAINTAIN SHAPE

All required trees shall be allowed to reach their mature size and shall be maintained at their mature size. Except for trimming and pruning within a utility easement in accordance with applicable policies of the affected utility, required plants shall not be cut or severely pruned or otherwise damaged so that their natural form is impaired. Any tree that has been severely pruned, sheared, topped, or shaped as a shrub, shall be considered as damaged vegetation in need of replacement in accordance with Section 5.3.F(10)e, Damage Due to Natural Occurrence, and shall be replaced within one growing season with a tree at least four inches in caliper.

d. PROTECTION DURING OPERATIONS

1. The owner or developer shall take actions to protect trees and landscaping from damage during all facility and site operations.
2. Plants shall be maintained in a way that does not obstruct sight distances at roadway and drive intersections, obstruct traffic signs or devices, or interfere with the use of sidewalks or pedestrian trails.
3. If a planting area required by this section is adjacent to parking or vehicular circulation areas, the planting area shall be protected from vehicular intrusion or damage from excessive vehicular lubricants or fuels.

e. DAMAGE DUE TO NATURAL OCCURRENCE

If any vegetation or physical element functioning to meet the standards of this section is severely damaged due to an unusual weather occurrence or natural catastrophe, or other natural occurrence such as damage by wild or domestic animals, the owner or developer shall be required to replant if the landscaping standards are not being met. The Planning Director shall consider the type and location of the landscape buffer or required vegetation area as well as the propensity for natural re-vegetation in making a determination on the extent of replanting requirements. The owner shall have 12 months to replace or replant in accordance with the Planning Director's determination.

f. NATURAL DEATH

The natural death of existing vegetation within any required landscape area does not necessarily constitute a violation and does not require re-vegetation to replace the plant material unless the required landscape area no longer complies with the required standards of this section. In no

instance shall this provision be construed to prevent re-planting if, in the opinion of the Planning Director, the required performance standard of the landscaping is not being met.

g. INSTALLATION OF ADDITIONAL SCREENING OR PLANTING

If after two years following installation of required screening plant materials, the plants have not formed an effective screen, or if an effective screen is not maintained, the Planning Director may require that another type of screen be added or additional plantings be installed.

G. PERIMETER BUFFER YARDS

(1) PURPOSE

The purpose of perimeter buffer yards is to:

- a.** Provide a transitional buffer between uses or buildings to improve their compatibility; and
- b.** Ensure that a natural area of appropriate size and density of plantings is planted or preserved between uses, as appropriate.

(2) GENERAL

a. LOCATION AND MEASUREMENT

- 1.** Perimeter buffers required by this section shall be located along the outer perimeter of the parcel and shall extend to the parcel boundary line.
- 2.** In cases where the parcel boundary line is within a drainage swale, the perimeter buffer shall extend to the edge of the swale instead of the property line.
- 3.** Minimum dimensions shall be measured from the respective property line, except where perimeter buffer yards are permitted to straddle property lines. Where perimeter buffer yards turn at property corners, the length measurements determining plant quantities shall not be required to overlap.

b. BUILDINGS, EQUIPMENT, AND SIGNS IN BUFFER YARD

- 1.** The construction of any building or the placement of any mechanical equipment within the perimeter buffer yard is not permitted except for equipment necessary for the provision of public utilities.
- 2.** Signs may be placed within the buffer yard consistent with the Sign Regulations of this Ordinance.

c. USES ALLOWED IN BUFFER YARD

- 1.** Active recreational uses, such as play fields, swimming pools, racquetball and tennis courts or other active, structured recreational uses, or circulation drives and parking lots, shall not be permitted in the perimeter buffer yard.
- 2.** The following uses are permitted in a perimeter buffer yard if none of the required plant material is eliminated, the intended screening is accomplished, the total width of the buffer yard is maintained, and all other requirements of this section are met:
 - (a)** Passive recreation;
 - (b)** Sculptures, outdoor furniture, or picnic areas;
 - (c)** Pedestrian or bicycle trails;
 - (d)** Stormwater retention basins; or





(e) Parks and open space.

(3) BUFFER TYPES DEFINED

Table 5.3.G(3): Landscape Buffer Options, defines four types of buffers based on their function, width, and minimum screening requirements. Each buffer type includes two options for plantings and other screening.

Table 5.3.G(3): Landscape Buffer Options

ACI = AGGREGATE CALIPER INCHES

BUFFER TYPE	DESCRIPTION	MINIMUM SCREENING REQUIREMENT	
		OPTION 1	OPTION 2
TYPE A: BASIC BUFFER (MINIMUM WIDTH: 6 FT.)			
	This buffer functions as a basic edge demarcating individual properties with slight visual obstructions from the ground to a height of ten feet.	6 ACI of canopy trees + 6 ACI of understory trees per 100 linear feet	2 ACI of canopy trees + 10 ACI of understory trees + 15 shrubs per 100 linear feet
TYPE B: AESTHETIC BUFFER (MINIMUM WIDTH: 6 FT.)			
	This buffer functions as an intermittent visual obstruction from the ground to 20 feet, and creates the impression of spatial separation without eliminating visual contact between uses.	8 ACI of canopy trees + 10 ACI of understory trees + 15 shrubs per 100 linear feet	2 ACI of canopy trees + 14 ACI understory trees + 20 shrubs per 100 linear feet
TYPE C: SEMI-OPAQUE BUFFER (MINIMUM WIDTH: 8 FT.)			
	This buffer functions as semi-opaque screen from the ground to at least a height of six feet.	12 ACI of canopy trees + 14 ACI of understory trees + 20 shrubs per 100 linear feet	One 4-foot-high berm or one 4-foot-high solid fence + 2 ACI of canopy trees + 16 ACI understory trees per 100 linear feet
TYPE D: OPAQUE BUFFER (MINIMUM WIDTH: 16 FT.)			
	This buffer functions as an opaque screen from the ground to a height of at least six feet. This type of buffer prevents visual contact between uses and creates a strong separation.	18 ACI of canopy trees + 20 ACI of understory trees + 35 shrubs per 100 linear feet	One 6-foot-high fence + 12 ACI of canopy trees per 100 linear feet

(4) REQUIRED BUFFER TYPE

Table 5.3.G(4): Required Buffer Type specifies the type of perimeter landscape buffer that new development shall provide between it and adjacent property, based on the proposed use of the development site and the use of the adjacent property, or, if the adjacent land is vacant, the zoning district classification of the adjacent land. The required buffer types in Table 5.3.G(4) are indicated by letters corresponding to the buffer types defined in Table 5.3.G(3): Landscape Buffer Options.

Table 5.3.G(4): Required Buffer type

A = TYPE A BUFFER B = TYPE B BUFFER C = TYPE C BUFFER D = TYPE D BUFFER " - " = NO PERIMETER BUFFER YARD REQUIRED

USE PROPOSED	EXISTING USE OR ZONING OF VACANT LAND ON ADJACENT SITE [1]			
	ADJACENT EXISTING USE SINGLE-FAMILY DETACHED DWELLING OR TOWNHOUSE	ADJACENT EXISTING USE MULTIFAMILY DWELLING	ADJACENT EXISTING USE USE IN THE CIVIC/INSTITUTIONAL OR COMMERCIAL USE CLASSIFICATIONS	ADJACENT EXISTING USE USE IN THE INDUSTRIAL USE CLASSIFICATION
	ADJACENT LAND IS VACANT AND ZONED [R1, R2, R4, R6, R7]	ADJACENT LAND IS VACANT AND ZONED [R8, R18]	ADJACENT LAND IS VACANT AND ZONED [O-I, MU-N, MU-AC, CC, MU-UC, MU-SC, TOD, GC]	ADJACENT LAND IS VACANT AND ZONED [LI, HI]
Single-Family Detached Dwelling or Townhouse	-	B	B	D
Multifamily dwelling	C	A	B	D
Any use in the Civic/Institutional or Commercial use classification	C	B	-	C
Uses in the Industrial use classification	D	D	D	-
NOTES: [1] If the vacant land is classified in a conditional zoning district, the classification of the corresponding base zoning district shall apply for purposes of determining required buffer type. If the vacant land is classified in a planned development district, the use of the adjacent site that is indicated on the PD Master Plan for the district shall apply for purposes of determining required buffer type.				

(5) ALTERNATIVE BUFFER YARD

- a. The Planning Director may approve an alternative buffer yard from what is required by this section in cases where there is unusual topography or elevation, unusual soils or other sub-surface conditions, or existing vegetation, only if the Planning Director finds the applicant demonstrates that existing features and any additional buffer yard materials will buffer the proposed use as effectively as the required buffer yard, and that the proposed alternative buffer yard complies with the spirit and intent of this section.
- b. Approval of an alternative buffer yard in accordance with subsection a above, may occur only at the request of the applicant, who shall submit a plan showing existing site features that would buffer the proposed use and any additional buffer yard materials the property owner will plant or construct to buffer the proposed use.

- c. If, two years following approval of an alternative buffer yard, the Planning Director determines the spirit and intent of this Ordinance is no longer met, the site shall be required to meet the perimeter buffer yard requirements of this section.

H. PARKING LOT LANDSCAPING

(1) PURPOSE

The standards set forth in this subsection for the provision of landscaping in and around parking lots are designed to:

- a. Facilitate the transition from automobile-oriented to pedestrian-oriented built environments;
- b. Enhance lot appearance;
- c. Provide shade to reduce heat and glare reflected by paving;
- d. Reduce the heat island effect;
- e. Reduce stormwater runoff;
- f. Filter particulate and gaseous pollutants from the air; and
- g. Reduce the glare of headlights and noise on surrounding properties.

(2) APPLICABILITY

- a. The following shall comply with the standards in this subsection:
 - 1. Any new parking lot;
 - 2. Any new, additional, or expanded portion of an existing parking lot; and
 - 3. Any existing parking lot that is used to satisfy the off-street parking requirements for a new building or the expansion of an existing building.
- b. Parking lots with fewer than five total parking spaces are exempt from the parking lot landscaping requirements.

(3) VEHICULAR SURFACE AREA SCREENING

a. MINIMUM PERIMETER LANDSCAPING REQUIREMENTS

Screening is required along the perimeter of a parking lot, except in locations where parking area entrances, sight triangles, building yards, or other features require breaks in screening. Such screening shall consist of a continuous row of evergreen shrubs having a maximum separation of 6 feet on center and a minimum 2 foot height at installation with an expected height of 3 to 5 feet at maturity, and/or a masonry wall 3 feet to 5 feet in height. In addition, shade trees shall be planted with a maximum average spacing of 30 feet on center, except in areas lying under overhead power lines, where ornamental trees shall be planted with a maximum average spacing of 20 feet on center.

b. SCREENING FROM ABUTTING RESIDENTIAL ZONE OR USE

Except where a perimeter buffer is required in accordance with Section 5.3.G, Perimeter Buffer Yards, any off-street parking area that directly abuts a residential district or a lot with a current residential use shall be screened from view from the residential district or lot by a continuous wall, berm, fence, or row of planting at least six feet tall. Such screen shall be designed to provide a minimum 75 percent opacity on a year-round basis beginning one year after planting along the full required height and length of the screening.

(4) BUILDING YARDS

a. GENERAL

1. Building yards shall be provided along any portions of a building facing an adjacent off-street parking area in accordance with this section, and landscaped consistent with the requirements of this section.
2. Entrance walkways to buildings may cross building yards.

b. BUILDING YARD TYPES DEFINED

Table 5.3.H(4)b: Building Yard Types, defines building yard types based on their minimum width and required plantings.

Table 5.3.H(4)b: Building Yard Types

BUILDING YARD TYPE	MIN. WIDTH (FT.) [1]	MIN. REQUIRED ORNAMENTAL TREES [2] [3]	MIN. REQUIRED EVERGREEN SHRUBS [2] [3]
1	5	1 per 30 linear ft.	1 per 3 linear ft.
2	8	1 per 30 linear ft.	1 per 3 linear ft.
3	10	1 per 25 linear ft.	1 per 2 linear ft.
4	15	1 per 25 linear ft.	1 per 2 linear ft.

NOTES:

- [1] Widths shall be measured from the respective building front wall.
- [2] Based on the linear feet of building facing the adjacent off-street parking area, excluding loading/unloading areas and the width of any entrance walkways. The width excluded for an entrance walkway shall not exceed the width of the associated entrance to the building.
- [3] Where building yards turn at building corners, the length measurements determining plant quantities shall not be required to overlap.

c. REQUIRED BUILDING YARD TYPE

Table 5.3.H(4)c: Required Building Yard, specifies the type of building yard required, based on size of the building facing the adjacent off-street parking area. The required building yard types in Table 5.3.H(4)c are indicated by numbers corresponding to the building yard types defined in Table 5.3.H(4)b: Building Yard Types.

Table 5.3.H(4)c: Required Building Yard

BUILDING GROSS FLOOR AREA (SQ. FT.)	REQUIRED BUILDING YARD TYPE
Less than 2,500	1
Between 2,500 and 9,999	2
Between 10,000 and 99,999	3
100,000 or more	4

(5) INTERIOR PLANTING AREAS

All parking lots shall include interior planting areas that comply with the standards in this section.

a. GENERAL INTERIOR PARKING LANDSCAPING REQUIREMENTS

1. Minimum Landscape Plantings

- (a) Interior landscaping of parking lots shall be organized such that sections of 35 or fewer parking spaces are enclosed by shade trees spaced not more than 40 feet on center or a building wall.

Required trees shall be planted in planting islands or medians between rows or parking spaces in a manner such that no parking space is located more than 60 feet from a parking lot tree.

- (b) Planting islands shall be distributed so that rows of parking between any two planting islands contain an average of ten or fewer contiguous spaces. Terminal planting islands are required at the ends of rows. (see Figure 5.3.H(5)a.1(b): Interior Parking Area Minimum Plantings).

Figure 5.3.H(5)a.1(b): Interior Parking Area Minimum Plantings



- (c) Each parking lot containing 15 or more parking spaces shall have a minimum of one canopy tree, plus an additional one canopy tree for every ten additional parking spaces or any portion thereof.
- (d) Interior landscaping shall account for a minimum of ten percent of the total area of any parking lot containing 15 or more parking spaces.

2. Planting Area Dimensional Requirements

Planting islands shall be not less than nine feet in width and shall include a minimum of 200 square feet of open planting area, except where planting islands incorporate collection of stormwater runoff through vegetated swales, rain gardens, or similar features, the minimum planting area shall be 170 square feet. Shrubs, or ground covers may be planted within the required open planting area for trees without increasing the area.

b. LARGE PARKING LOTS

In addition to the standards in subsection a above, parking lots having 200 or more parking spaces shall comply with the standards in Section 5.2.D(2)h, Large Parking Lots.

(6) STRUCTURES AND MECHANICAL EQUIPMENT

Dumpsters shall be set on a concrete pad and shall be screened with an opaque fence or wall of sufficient height, as required in Section 5.7.H, to screen the container and any appurtenances. Trash containers shall not be located abutting residential property. All mechanical equipment shall be screened from view with an opaque screen.

I. STREET YARDS

(1) GENERAL

- a. Except in new single-family residential subdivisions, street yard landscaping requirements in this section shall be in addition to, and not replace, street tree planting between the sidewalk and curb required by this Ordinance and the LDSM.

- b. In areas where the parking lot is directly adjacent to the street, minimum perimeter landscaping required by Section 5.3.H(3)a, Minimum Perimeter Landscaping Requirements, shall take the place of required street yards.

(2) STREET YARD LANDSCAPING REQUIREMENTS

Street yards shall be planted with trees in accordance with Table 5.3.I(2): Street Yard Tree Planting Requirements. In addition, at least 60 percent of the street yard area not used for shade or ornamental trees or for vehicular access shall be covered in shrubs.

Table 5.3.I(2): Street Yard Tree Planting Requirements

ZONING DISTRICTS	MIN. WIDTH (FT.) [1]	MIN. REQUIRED SHADE OR ORNAMENTAL TREES
Residential	5	1 per 50 linear ft.
Mixed-Use, Commercial, and Industrial	8	1 per 35 linear ft.
NOTES:		
[1] Widths shall be measured from the respective right-of-way/property line. Where street yards turn at street corners, the length measurements determining plant quantities shall not be required to overlap.		

J. TREE PROTECTION

(1) GENERAL

All development in the City shall be required to protect specimen and heritage trees in accordance with this section.

(2) EXEMPTIONS

The following types of trees, regardless of their size, do not need to be protected and are exempt from the requirements in this section:

- a. Southern Yellow Pine;
- b. Bradford Pear;
- c. Mulberry;
- d. Sweetgum; and
- e. Silver Maple.

(3) SPECIMEN TREES DEFINED

Trees of the types identified in Table 5.3.J(3): Specimen Trees, having a caliper measurement meeting or exceeding the corresponding minimum caliper in Table 5.3.J(3), shall be considered specimen trees under this section.

Table 5.3.J(3): Specimen Trees

COMMON TREE NAME	MINIMUM CALIPER [1]
CANOPY TREES	
Ash	18
Cherry	24

Table 5.3.J(3): Specimen Trees

COMMON TREE NAME	MINIMUM CALIPER [1]
Elm	18
Live Oak	18
Locust	18
Long Leaf Pine	12
All other Pine (except Southern Yellow pine)	30
Red Maple	18
Sassafras	20
Southern Red Oak	32
Sycamore	30
Walnut	18
White Oak	18
Willow Oak	18
UNDERSTORY TREES	
Bald Cypress	10
Cedar	6
Dogwood	10
River Birch	10
Wax Myrtle	6
NOTES:	
[1] Minimum caliper is the circumference of the tree trunk measured 12 inches above the ground for trees between four and ten inches in diameter, and 54 inches above the ground (4.5 feet) for trees larger than 10 inches in diameter.	

(4) TREE PROTECTION ZONE ESTABLISHED

- a. Specimen trees and existing on-site trees preserved for incentives (see subsection (8) below), and the root zone within an area one foot beyond the tree's drip line, shall be designated as a tree protection zone on lots or sites subject to the standards in this section.
- b. The location, species, and size of all specimen trees and existing on-site trees to be preserved for incentives (see subsection (8) below), and their corresponding tree protection zones, shall be depicted on the landscaping plan, which shall be certified by an arborist, landscape architect, or other professional having relevant expertise, and shall be depicted on the corresponding conceptual plan, PD Master Plan, development plan, site plan, subdivision plat, or tree removal permit, or grading permit, as appropriate.

(5) GENERAL REQUIREMENTS

No specimen tree within a tree protection zone may be removed, except in accordance with Section 5.3.J(6), Removal of a Specimen Tree. In addition, all specimen trees in a tree protection zone shall have the following protections, whether located on public or private land:

- a. Specimen trees shall not be cut, removed, pushed over, killed, or otherwise harmed.
- b. The area within the tree protection zone of any specimen tree shall not be subject to paving or soil compaction.

(6) REMOVAL OF A SPECIMEN TREE

A specimen tree may be removed from a tree protection zone if the landowner demonstrates to the Planning Director one of the following conditions:

- a.** The specimen tree is in healthy condition, and all of the following standards are met:
 - 1.** The landowner is otherwise in compliance with this section;
 - 2.** The specimen tree prevents development of a lot platted prior to July 1, 2022, in a way that limits building area to less than otherwise allowed, or hinders compliance with the standards in Article 3: Zoning Districts, Article 5: Development Standards, or Article 6: Subdivision Standards; and
 - 3.** Mitigation is provided in accordance with Section 5.3.J(7), Replacement/Mitigation of Specimen Trees.
- b.** The specimen tree is certified by an arborist or other qualified professional as severely diseased, high risk, or dying. Removal of a severely diseased, high risk, or dying specimen tree shall not require mitigation in accordance with Section 5.3.J(7), Replacement/Mitigation of Specimen Trees.
- c.** The specimen tree prevents all economically beneficial use of the lot.

(7) REPLACEMENT/MITIGATION OF SPECIMEN TREES

- a.** Each healthy specimen tree removed from an established tree protection zone shall be replaced with one or more replacement trees, measuring at least 20 percent of the caliper noted in Table 5.3.J(3): Specimen Trees, with a cumulative caliper equal to the specimen tree(s) removed. The replacement trees shall be planted within 12 months of the removal of the specimen tree.
- b.** Replacement trees shall be either planted on the parcel of land from which the specimen tree was removed, if sufficient space is available, or placed on nearby lands in accordance with Section 5.3.B(3), Alternative Landscaping.
- c.** The installation of replacement trees shall not be considered completed until an establishment period of one year from the date of planting has passed. The applicant shall provide financial surety for the installation of replacement trees in accordance with Section 5.3.D, Installation or Surety Required.

(8) INCENTIVES FOR PRESERVING EXISTING TREES

a. PURPOSE

The provisions in this section are intended to encourage the preservation of as many trees as practical on a development site.

b. ELIGIBILITY FOR INCENTIVES

Existing trees retained on a development site shall be eligible for incentives set forth in subsection c below, except the following trees are ineligible for incentives:

- 1.** Trees required to be retained by this Ordinance;
- 2.** Trees located within an open space set-aside;
- 3.** Trees that do not meet the minimum size requirement for the particular incentive; and
- 4.** Trees of any of the following species:
 - (a)** Southern yellow Pine;
 - (b)** Bradford Pear;
 - (c)** Mulberry;

(d) Sweetgum; or

(e) Silver Maple.

c. ALLOWED INCENTIVES

1. A credit of one-and-one-quarter (1.25) multiplied by the aggregate caliper of existing trees to be retained shall be credited and applied towards the landscaping requirements, when the trees that are saved are at least five inches diameter breast height (DBH) and in healthy condition.
2. Up to a ten percent reduction in the number of required off-street parking spaces shall be allowed if the reduction in the amount of required pavement will preserve the root zones of existing healthy trees with a DBH of eight inches or greater. The amount of reduction can be determined only after taking into consideration any unique site conditions and must be agreed upon by both the applicant and the Planning Director. Alternative paving materials (see Section 5.2.D(2)b, Surfacing) may be required by the Planning Director in cases where required parking areas encroach upon root zones.

(g) TREE PROTECTION DURING CONSTRUCTION

a. OWNER'S RESPONSIBILITY

During development, the owner or developer shall be responsible for the erection of any and all barriers necessary to protect any existing or installed vegetation from damage both during and after construction.

b. TREE PROTECTION FENCING

1. Specimen trees and other existing trees being used for credit towards landscaping requirements in accordance with Section 5.3.J(8), Incentives for Preserving Existing Trees, shall be fenced with a sturdy and visible fence before grading or other development activity begins. Fencing shall be erected no closer than one linear foot to the tree's drip line (the tree protection zone).
2. All tree protection measures are subject to inspection. Failure to have tree protection measures in place prior to the commencement of construction is a violation of this Ordinance and shall be subject to Article 8, Enforcement.
3. No construction, grading, equipment or material storage, or any other activity shall be allowed within the tree protection zone. Fencing shall be maintained until after the final site inspection.

c. ENCROACHMENTS INTO TREE PROTECTION ZONES

Encroachment into a tree protection zone shall occur only when no other alternative exists. If such an encroachment is anticipated, the following preventive measures shall be used:

1. Where compaction might occur due to construction traffic or materials delivery through a tree protection zone, the area must first be mulched with a minimum four-inch layer of wood chips. Equipment or materials storage shall not be allowed within a tree protection zone.
2. No fill shall be placed within a tree protection zone without adequate venting to allow air and water to reach the roots.
3. Trees located within a tree protection zone shall be protected from chemical contamination from liquids or other materials, including but not limited to paint, chemical solvents, gasoline, oil, diesel fuel, hydraulic fluid, concrete spoils, or rinse water from vehicle cleaning, including rinsing of concrete truck tanks and chutes.
4. Except for driveway access points, sidewalks, curb, and gutter, no paving shall occur within five feet of a tree protection zone unless authorized in accordance with Section 5.3.B(3), Alternative Landscaping.

SECTION 5.4. OPEN SPACE SET-ASIDE STANDARDS

A. PURPOSE AND INTENT

Open space set-asides are intended for the use and enjoyment of a development's residents, employees, or users. Open space set-asides serve numerous purposes, including preserving natural resources, ensuring access to open areas and active recreation, reducing the heat island effect of developed areas, providing civic and meeting spaces, enhancing stormwater management, and providing other public health benefits.

B. APPLICABILITY

- (1) Unless exempted in accordance with subsection (2) below, all new development shall comply with the standards in this section. The landowner shall be responsible for completing all required improvements within open space set-asides in accordance with this section.
- (2) The following development is exempt from the standards in this section:
 - a. Development limited to an individual single-family detached or duplex dwelling on a single lot;
 - b. Uses in the Agircultural/Rural or Industrial use classification;
 - c. Utility uses
 - d. Development in the AG District;
 - e. Development consisting of fewer than 40 single-family or duplex dwellings, where all dwellings are located within one quarter (1/4) mile walking distance (measured along sidewalks or other pedestrian ways) of an existing public park having an area equal to or greater than the total open space set-aside area required by Table 5.4.D: Required Open Space Set-Asides, based on the size of the development, and where pedestrian access to the park from all lots in the development is provided by sidewalks or other pedestrian ways; and
 - f. Development that would result in total required minimum open space set-asides, including all phases of development, of 20 square feet or less (see Section 5.4.D, Amount of Open Space Set-Asides Required).

C. TIMING OF REVIEW

Review for compliance with the standards of this section shall occur during review of a development application for a conditional zoning (Section 2.5.A(3)), planned development (Section 2.5.A(4)), special use permit (Section 2.5.A(5)), site plan (Section 2.5.B(1)), minor subdivision (Section 2.5.B(2)), or major subdivision (Section 2.5.B(3)), as appropriate.

D. AMOUNT OF OPEN SPACE SET-ASIDES REQUIRED

Development subject to the standards in this section shall provide the minimum amounts of open space set-asides identified in Table 5.4.D: Required Open Space Set-Asides, based on the proposed use and the zoning district where the development is proposed.

Table 5.4.D: Required Open Space Set Asides

USE CLASSIFICATIONS	MINIMUM OPEN SPACE SET-ASIDE AREA (AS PERCENTAGE OF DEVELOPMENT SITE AREA)		
	RESIDENTIAL ZONING DISTRICTS	MIXED-USE, COMMERCIAL, AND INDUSTRIAL ZONING DISTRICTS	PLANNED DEVELOPMENT ZONING DISTRICTS
Residential	20%	10%	25%

Table 5.4.D: Required Open Space Set Asides

USE CLASSIFICATIONS	MINIMUM OPEN SPACE SET-ASIDE AREA (AS PERCENTAGE OF DEVELOPMENT SITE AREA)		
	RESIDENTIAL ZONING DISTRICTS	MIXED-USE, COMMERCIAL, AND INDUSTRIAL ZONING DISTRICTS	PLANNED DEVELOPMENT ZONING DISTRICTS
Civic/Institutional	10%	7.5%	10%
Commercial	10%	7.5%	10%
Industrial	5%	5%	10%

E. AREAS COUNTED AS OPEN SPACE SET-ASIDES

- (1) The features and areas identified in Table 5.4.E: Open Space Set-Aside Features, shall be credited towards compliance with the minimum open space set-aside standards in subsection D above.


TABLE 5.4.E: Open Space Set-Aside Features

AREA COUNTED AS COMMON OPEN SPACE SET-ASIDES & DESIGN AND MAINTENANCE REQUIREMENTS	
	NATURAL FEATURES Description: Natural features (including lakes, ponds, rivers, streams, bays, shorelines, wetlands, drainageways, and other riparian areas), riparian buffers, flood hazard areas, steep slopes (15 percent or more), wildlife habitat, and woodland conservation areas. Design and Maintenance Requirements: Preservation of any existing natural features shall have highest priority for locating open space set-asides. Maintenance is limited to the minimum removal and avoidance of hazards, nuisances, and unhealthy conditions.
	ACTIVE RECREATIONAL AREAS Description: Land occupied by areas and facilities used for active recreational purposes, such as ballfields, playgrounds, tennis courts, pools, jogging trails, and community buildings and clubhouses, and land dedicated for parks. Design and Maintenance Requirements: No less than 35 percent of the total open space set-aside area within a residential development outside the CC zoning district shall consist of active recreational areas, except squares, forecourts, and plazas shall be counted toward this requirement in the MU-AC, MU-UC, or TOD districts. Active recreational areas shall be compact and contiguous, to the maximum extent practicable, unless used to link or continue existing or public open space lands.
	PASSIVE RECREATIONAL AREAS (INCLUDING PLANTINGS AND GARDENS) Description: Formally planned and regularly maintained open areas that provide passive recreation opportunities, including arranged plantings, gardens (including community gardens), gazebos, and similar structures. Design and Maintenance Requirements: Passive recreation shall have direct access to a public street or right-of-way.

TABLE 5.4.D: Open Space Set-Aside Features

AREA COUNTED AS COMMON OPEN SPACE SET-ASIDES & DESIGN AND MAINTENANCE REQUIREMENTS	
	<p>SQUARES, FORECOURTS, AND PLAZAS</p> <p>Description: Squares, forecourts, plazas, and civic greens that provide active gathering places and opportunities to create special places.</p> <p>Design and Maintenance Requirements: Such features shall be at least 500 square feet in area. Such features shall have direct access to a street or sidewalk or pedestrian way that connects to a street and shall be designed to accommodate people sitting and gathering, incorporating benches, tables, fountains, or other similar amenities. Surrounding buildings shall be oriented toward the square, forecourt, or plaza when possible, and a connection shall be made to surrounding development. No less than 25 percent of the total open space set-aside area within the CC, MU-AC, MU-UC, or TOD districts shall be a square, forecourt, or plaza.</p>
	<p>REQUIRED LANDSCAPE AREAS</p> <p>Description: All areas occupied by required landscaping areas, tree protection areas, perimeter buffers, vegetative screening, and riparian buffers, and agricultural buffers, except landscaped area within vehicular use areas.</p> <p>Design and Maintenance Requirements: See Section 5.3, Landscaping and Buffer Standards.</p>
	<p>STORMWATER MANAGEMENT AREAS TREATED AS SITE AMENITIES</p> <p>Description: Up to 75 percent of the land area occupied by stormwater management facilities (including retention and detention ponds and other bioretention devices), when such features are treated as an open space site amenity; however, stormwater management facilities that are not treated as an open space site amenity may be counted toward up to 25 percent of the required open space set-asides in Agricultural and Residential zoning districts, and in the GC, I-1, and I-2 districts.</p> <p>Design and Maintenance Requirements: Stormwater management facilities treated as an open space site amenity shall support passive recreation uses by providing access, gentle slopes (less than 3:1), vegetative landscaping, and pedestrian elements such as paths and benches. Stormwater management facilities shall be subject to a maintenance agreement approved by the operating authority or agency having regulatory authority over the facility.</p>

TABLE 5.4.D: Open Space Set-Aside Features

AREA COUNTED AS COMMON OPEN SPACE SET-ASIDES & DESIGN AND MAINTENANCE REQUIREMENTS	
	<p>PUBLIC ACCESS EASEMENTS WITH PATHS OR TRAILS</p> <p>Description: Public access easements that combine utility easements with paths or trails that are available for passive recreational activities such as walking, running, and biking</p> <p>Design and Maintenance Requirements: Such public access easements shall include at least one improved access from a public street, sidewalk, or trail that includes signage designating the access point.</p>
	<p>GREEN/VEGETATED ROOFS</p> <p>Description: A roof or portion of a roof designed and used for vegetative growth. Green/vegetated roofs may be credited toward required open space set-asides, sustainable/green building standards, and sustainable/green building incentives.</p> <p>Design and Maintenance Requirements: Green roofs shall be accessible to the occupants and users of the building, as appropriate, during daylight hours.</p>

- (2) Open spaces required by any other section in this Ordinance, shall be credited toward compliance with the open space set-aside standards in Table 5.4.D: Required Open Space Set-Asides, if they are located and designed in accordance with the standards in this section.

F. AREAS NOT COUNTED AS OPEN SPACE SET-ASIDES

The following areas shall not be counted as open space set-asides:

- (1) Private yards not subject to an open space or conservation easement;
- (2) Street rights-of-way or private access easements, including sidewalks located within those rights-of-way or easements;
- (3) Vehicular parking areas or lots (excluding the landscaped areas);
- (4) Driveways for dwellings;
- (5) Land covered by structures not designated for active recreational uses;
- (6) Designated outdoor storage areas; and
- (7) Stormwater management facilities and ponds, except as otherwise provided in Table 5.4.D .

G. DESIGN STANDARDS FOR OPEN SPACE SET-ASIDES

Land used as an open space set-aside shall comply with the following design standards:

(1) LOCATION

Open space shall be located to be readily accessible and useable by occupants and users of the development, as appropriate. In residential subdivisions, open space shall be provided within one quarter mile of all lots. Where possible, a portion of the open space set-aside should provide focal points for the development through prominent placement or easy visual access from streets.

(2) CONFIGURATION

- a. Open space shall conform with all open space and greenway plans.
- b. Open space set-asides shall be compact and contiguous unless a different configuration is needed to continue an existing trail or accommodate preservation of natural or historical resources.
- c. If the development site is adjacent to existing or planned public trails, parks, or other public open space area land, the open space set-aside shall, to the maximum extent practicable, be located to adjoin, extend, connect, and enlarge the trail, park, or other public land.
- d. Pedestrian access to open space set-asides shall be provided from sidewalks or other pedestrian ways within the development.

(3) ORIENTATION OF ADJACENT BUILDINGS

To the maximum extent possible, buildings adjacent to the required open space set-asides shall have at least one entrance facing the open space set-aside.

(4) PRIORITIZATION OF OPEN SPACE SET-ASIDE

To the maximum extent practicable, and in accordance with Section 5.4.E, Areas Counted as Open Space Set-Asides, open space set-asides shall be located and organized to include, protect, and enhance as many of the following open areas and features as possible, in the following general order of priority:

- a. Natural features such as riparian areas, riparian buffers, shorelines, flood hazard areas, floodplains, wetlands, steep slopes, and wildlife habitat and woodland areas;
- b. Water features such as rivers, bays, lakes, creeks, canals, natural ponds, wetlands, and retention and detention ponds;
- c. Protected trees and other mature trees;
- d. Parks and trails (regardless of public or private ownership);
- e. Lands with active agricultural uses and activities;
- f. Gathering places such as squares, forecourts, and plazas; and
- g. Areas that accommodate multiple compatible open space set-aside uses rather than a single use.

(5) DEVELOPMENT IN OPEN SPACE SET-ASIDES

- a. Development within open space set-asides shall be limited to that appropriate to the purposes of the type(s) of open space set-asides. Where appropriate, such development may include, but is not limited to, walking, jogging, and biking paths or trails; benches or other seating areas; meeting areas; tables, shelters, grills, trash receptacles, and other picnic facilities; docks and other facilities for fishing; environmental education guides and exhibits; historic interpretive signage; gazebos and other decorative structures; fountains or other water features; play structures for children; gardens or seasonal planting areas; pools; athletic fields and courts; and associated clubhouses.

- b. Active recreational area improvements shall equal a total minimum financial investment of 200% of the pre-development tax value for the amount of dedicated land from the parcel from which the open space is being dedicated as required. The specified contribution shall be determined by the tax value of the parcel at the time final plat approval is granted. Such tax value shall consider zoning district changes that occur at any time up until final plat approval. Tax deferrals of any kind shall not be used in the calculation of the fees.

H. OWNERSHIP, MANAGEMENT, AND MAINTENANCE OF OPEN SPACE SET-ASIDES

- (1) Open space set-asides required by this Ordinance shall be managed and maintained in compliance with an open space provision and maintenance plan and all applicable provisions of City and state law. To the extent not inconsistent with state law, such open space set-asides shall be managed and maintained as permanent open space through one or more of the following options:
 - a. Conveyance of open space set-aside areas to a property owners' or homeowners' association that holds the land in common ownership and will be responsible for managing and maintaining the land for its intended open space purposes, in perpetuity;
 - b. Establishment of easements on those parts of individually-owned lots including open space set-aside areas that require the areas to be managed consistent with the land's intended open space purposes and prohibit any inconsistent future development, in perpetuity;
 - c. Conveyance of open space set-aside areas to a third party beneficiary such as an environmental, historical, or civic organization, or a government entity, that is organized for, capable of, and willing to accept responsibility for managing and maintaining the land for its intended open space purposes, in perpetuity; or
 - d. If public stormwater management facilities are treated as site amenities, through stormwater management easements.
- (2) All options involving private ownership of open space set-aside areas shall include deed restrictions, covenants, or other legal instruments that ensure continued use of the land for its intended open space set-aside purposes, in perpetuity, and provide for the continued and effective management, operation, and maintenance of the land and facilities.
- (3) Responsibility for managing and maintaining open space set-asides rests with the owner of the land of the open space set-asides. Failure to maintain open space set-asides in accordance with this section and the development approval or permit shall be a violation of this Ordinance.

SECTION 5.5. FENCE AND WALL STANDARDS

A. PURPOSE AND INTENT

The intent of this section is to regulate the location, height, and appearance of fences and walls to:

- (1) Maintain visual harmony within neighborhoods and throughout the City;
- (2) Protect adjacent lands from the indiscriminate placement and unsightliness of fences and walls;
- (3) Ensure the safety, security, and privacy of land; and
- (4) Ensure that fences and walls are subject to timely maintenance, as needed.

B. APPLICABILITY

(1) GENERAL

The standards of this section apply to any construction, reconstruction, or replacement of fences or walls, unless exempted by subsection (2) below.

(2) EXEMPTIONS

- a.** The following fences and walls are exempt from the standards of this section:
 - 1.** Fences and walls required for support of a principal or accessory structure;
 - 2.** Fences and barricades around construction sites;
 - 3.** Fences for tree protection (temporary and permanent);
 - 4.** Landscaping berms installed without fences;
 - 5.** Noise attenuation walls installed by a public entities along a public roadway;
 - 6.** Fences and walls necessary for soil erosion and control;
 - 7.** Fences at parks and schools, where such uses are operated by public entities; and
 - 8.** Specialized fences used for protecting livestock or for other similar agricultural functions if part of a use in the Agricultural/Rural use classification.
- b.** Retaining wall are exempt from all standards in this section except the standards in Section 5.5.K, Retaining Walls.

C. TIMING OF REVIEW

Review for compliance with the standards in this section shall occur during review of applications for a site plan (Section 2.5.B(1)), a zoning clearance permit (Section 2.5.C(1)), and a certificate of compliance (Section 2.5.C(2)).

D. GENERAL STANDARDS

(1) GENERAL

- a.** Fences, including in-ground wired fences, and walls shall be located outside of the public right-of-way.
- b.** Fences and walls are allowed on the property line between two or more parcels of land held in private ownership.
- c.** Fences and walls may be located within any required yard.
- d.** Nothing in this section shall be construed to prevent the installation of temporary fencing to protect existing trees, limit sedimentation, or control erosion.

(2) IN UTILITY EASEMENTS

Fences located within utility easements shall receive written authorization from the easement holder or the City, as appropriate. The City shall not be responsible for damage to, or the repair or replacement of, fences that must be removed to access utility easements or facilities.

(3) BLOCKING NATURAL DRAINAGE FLOW

Where a stormwater management permit is required, fences and walls shall not block natural drainage flow (see Section 5.10, Stormwater Management Standards).

(4) BLOCKING ACCESS TO FIRE HYDRANTS

Fences and walls shall not be located where they would prevent immediate view of, or access to, fire hydrants or other firefighting water supply devices, in accordance with the Fire Code.

(5) BLOCKING ACCESS TO WINDOWS OR DOORS

Fences and walls shall not block required access to a building from a window or door.

(6) WITHIN REQUIRED LANDSCAPING AREAS

Fences and walls in required landscaping areas shall comply with Section 5.3, Landscaping and Buffer Standards.

(7) WITHIN SIGHT TRIANGLES

Fences and walls are subject to requirements for sight triangles in accordance with the LDSM.

(8) MAINTENANCE

Fences and walls and associated landscaping shall be maintained in good repair and in a safe condition. Maintenance of fences and walls shall include, but not be limited to, the replacement of missing, decayed, or broken structural or decorative elements and the repair of deteriorated or damaged fence materials, including, but not limited to, weathered surfaces visible from the public right-of-way, sagging sections, and posts that lean more than ten degrees from vertical.

E. HEIGHT STANDARDS

(1) GENERAL

a. Unless otherwise stated in Section 5.5.B(2) below, fences and walls shall comply with the following:

1. Within a required front yard, build-to-zone, or corner lot side yard, the maximum allowable fence and wall height is four feet.
2. Within a required front yard, build-to-zone, or corner lot side yard where within the line of sight or the site triangle, the maximum allowable fence and wall height is two feet.
3. Within any other required yard or in a corner side yard behind the front plan of the principal building, the maximum allowable fence and wall height is six feet.

b. Fence or wall height may be increased through the security plan exemption in accordance with Section 5.5.L, Security Exemption Plan.

(2) EXCEPTIONS

a. Customary fencing provided as a part of a permitted tennis court, athletic field, or other recreational facility shall be exempt from the height standards in this section.

b. Fences of up to 10 feet in height are allowed in front, side, and rear yards at a majority utility facility, wireless communication support structure, or government office. Heights may be increased further through an approved security exemption plan (see Section 5.5.L, Security Exemption Plan).

- c. Fences and walls up to eight feet in height are allowed for community gardens and urban farming.
- d. Fences and walls up to eight feet in height are allowed to screen service and loading areas, if the fence or wall complies with the setback requirements for the associated building, except as required in conjunction with a conditional rezoning or other approval or permit issued by a City board of commission.

(3) MEASUREMENT OF HEIGHT

Fence or wall height shall be measured as follows:

- a. Fence or wall height shall be measured from the top of the fence or wall, defined as the highest point, not including supporting columns or posts, above grade to grade on the side of the fence or wall where the grade is the lowest, but excluding the height of any retaining wall directly beneath the fence or wall.
- b. Supporting columns or posts may be taller than the maximum allowed height for the fence or wall, if they do not extend more than 18 inches above the top of the fence or wall.

F. MATERIALS

(1) GENERAL

Unless otherwise specified in Section 5.5.F(2) below, fences and walls shall be constructed of any one or more of the following materials:

- a. Masonry, concrete, or stone;
- b. Ornamental iron, except that fencing shall not incorporate spiked tops within a residential zone without approval of a security exemption plan in accordance with Section 5.5.L, Security Exemption Plan;
- c. Painted wood, pressure treated wood, or rot-resistant wood such as cedar, cypress, or teak;
- d. Composite materials designed to appear as wood, metal, or masonry;
- e. Metal (wrought iron, welded steel and/or electro-statically plated black aluminum);
- f. Vinyl;
- g. Walls clad with substrate material intended to support living vegetation; and
- h. Any material demonstrated by the applicant to have a similar or equal appearance and durability as a material listed in this Subsection.

(2) MIXED-USE CENTERS AND CORRIDORS

Fences and walls in the MU-AC, CC, MU-UC, and MU-SC districts that are visible from the public right-of-way shall be constructed only of one or a combination of the following materials:

- a. Native/regional stone or imitation stone of equivalent appearance;
- b. Brick;
- c. Stucco on concrete block or poured concrete (only when a brick or stone coping is provided);
- d. Painted wood;
- e. Metal (wrought iron, welded steel and/or electro-statically plated black aluminum); or

- f. Black vinyl-coated chain link fences, only for schools, recreational facilities, child care centers, and similar outdoor uses.

(3) PROHIBITED MATERIALS

The following fence types or materials are prohibited:

- a. Barbed and/or razor wire, unless approved as part of a security exemption plan in accordance with Section 5.5.L, Security Exemption Plan, or on land with an agricultural use, or on land used for installation and operation of high-voltage equipment at substations for electrical generation, transmission, and distribution in connection with providing public utility service in the City by a regulated public utility;
- b. Fences constructed of chicken wire, corrugated metal, fabric materials, fiberboard, garage door panels, plywood, rolled plastic, sheet metal, debris, junk, or waste materials, unless such materials are recycled and reprocessed for marketing to the general public as building materials designed to resemble new building materials (e.g., picket fencing made from recycled plastic and fiber); and
- c. Above-ground fences that carry electrical current, except as used for the purposes of enclosing livestock in the AG or R1 districts (this shall not prohibit below-ground electrical fences intended for the keeping of pets).

G. PERIMETER FENCES AND WALLS ABUTTING STREET RIGHT-OF-WAY

Except in the HI zoning district, fences or walls on a parcel of land that are visible from and located within 15 feet of a street right-of-way shall:

- (1) Be of a uniform style;
- (2) Be constructed of brick, stone, concrete (when covered with stucco or similar finish), vinyl, or vertical wooden boards; and
- (3) Include breaks, offsets of at least one foot, access points, or other design details in the fence or wall plane at least every 200 feet. (see Figure 5.5.G: Fence and Wall Offsets.)

Figure 5.5.G: Fence and Wall Offsets



H. APPEARANCE

(1) FINISHED SIDE TO OUTSIDE

Unless it is used to enclose livestock, wherever a fence or wall is installed, if one side of the fence or wall appears more "finished" than the other (e.g., one side of a fence has visible support framing, such as vertical posts and horizontal rails, and the other—the more "finished" side—does not; or one side of a wall has a textured surface and the other—the more "finished" side—does not), then the more

"finished" side of the fence shall face the exterior of the lot rather than the interior of the lot. (see Figure 5.5.H: Fence with Finished Side Out.)

Figure 5.5.H: Fence with Finished Side Out



(2) FENCE AND WALL LANDSCAPING

Except in the HI zoning district, all fences and walls exceeding four feet in height, if located within 15 feet of a street right-of-way, shall be supplemented with landscape screening to soften the visual impact of the fence in accordance with subsections a and b below. In single-family residential zones, this requirement applies only to fences located within 15 feet of the right-of-way of a designated collector or higher classification street.

a. SHRUBS REQUIRED

At least one evergreen shrub shall be installed for every five linear feet of fence or wall, on the side of the fence or wall facing the public street right-of-way. Shrubs may be installed in a staggered, clustered, grouped, or linear fashion.

b. SUBSTITUTION OF SHADE TREES

Substitution of shade or ornamental trees for shrubs required by subsection a above, is allowed at the rate of one tree for three shrubs. Such trees shall meet the planting standards in Section 5.3, Landscaping and Buffer Standards.

I. FENCE AND WALL CONSTRUCTION

Fences and walls shall comply with all applicable Building Code requirements.

J. GATES

All gates opening onto a sidewalk or public right-of-way shall be self-closing and self-latching, except where the gate is part of a stormwater best management practice (BMP) for which the use of such gates is impractical.

K. RETAINING WALLS

Retaining walls shall comply with the following standards:

- (1) A retaining wall may be permitted to support steep slopes but should not exceed six feet in height from the finished grade, except:

- a. If part of a structure's foundation wall;

- b. If part of stormwater management facilities;
 - c. Where necessary to support existing road cuts;
 - d. Where necessary to construct a driveway from the street to a garage or parking area; and
 - e. Where otherwise expressly allowed by this Ordinance.
- (2) In all exceptions identified in subsection (1) above, except stormwater management facilities, a retaining wall shall not exceed ten feet in height.
- (3) Retaining walls greater than six feet in height shall comply with the minimum building setbacks in the zoning district where they are located.
- (4) Retaining walls higher than six feet should be separated from any other retaining wall by a minimum of five horizontal feet. Terraces created between retaining walls shall be permanently landscaped or revegetated with native vegetation.
- (5) Retaining walls shall be faced with stone, brick, or earth-colored materials similar to the surrounding natural landscape.
- (6) All retaining walls shall comply with the Building Code, except that when any provision of this section conflicts with any provision in the Building Code, the more restrictive provision applies.

L. SECURITY EXEMPTION PLAN

- (1) A landowner in need of heightened security may submit to the Planning Director a security exemption plan proposing a fence or wall taller than what is permitted by this section or proposing the use of barbed and/or razor wire or electric wire atop a fence or wall for security reasons.
- (2) The Planning Director may approve or approve with conditions, the security exemption plan, upon finding all of the following:
- a. **NEED FOR SAFETY FOR SECURITY REASONS**
The condition, location, or use of the land, or the history of activity in the area, indicates the land or any materials stored or used on it are in significantly greater danger of theft or damage than surrounding land, or represent a significant hazard to public safety without:
 - 1. A taller fence or wall;
 - 2. An electric fence; or
 - 3. Use of barbed and/or razor wire atop a fence or wall.
 - b. **NO ADVERSE EFFECT**
The proposed fence or wall will not have a significant adverse effect on the security, functioning, appearance, or value of adjacent lands or the surrounding area as a whole.
- (3) If the Planning Director finds the applicant fails to demonstrate compliance with subsection (2) above, the security plan shall be disapproved.

SECTION 5.6. EXTERIOR LIGHTING STANDARDS

A. PURPOSE AND INTENT

The purpose and intent of this section is to regulate exterior lighting to:

- (1) Ensure all exterior lighting is designed and installed to maintain adequate lighting levels on site;

- (2) Assure that excessive light spillage and glare are not directed at adjacent property, neighboring areas, and motorists;
- (3) Curtail light pollution, reduce skyglow, and preserve the nighttime environment for the enjoyment of residents and visitors;
- (4) Conserve energy and resources to the greatest extent possible; and
- (5) Provide security for persons and property.

B. APPLICABILITY

(1) GENERAL

Unless exempted by subsection (2) below, the standards of this section apply to:

- a. All new development; and
- b. Any individual expansion or alteration of a building if the expansion increases the building's floor area by 50 percent or more, or the alteration involves 50 percent or more of the building's floor area (including interior alterations).

(2) EXEMPTIONS

The following types of lighting are exempted from the standards of this section:

- a. Lighting exempt under state or federal law;
- b. FAA-mandated lighting associated with a utility tower or airport;
- c. Lighting for public monuments and statuary;
- d. Lighting solely for signage (see Section 5.9, Sign Standards);
- e. Lighting for outdoor recreational uses such as ball diamonds, football fields, soccer fields, other playing fields, tennis courts, and similar uses, provided that:
 - 1. Light poles are not more than 30 feet in height, except at ball diamonds, football fields, and other playing fields, where they can be taller;
 - 2. Maximum illumination from such lighting at the property line is not brighter than 2.0 foot-candles; and
 - 3. Such lighting is extinguished no later than 11:00 p.m., except to complete an activity that is in progress prior to 11:00 p.m.
- f. Temporary lighting for circuses, fairs, carnivals, and theatrical and other performance areas, provided such lighting is discontinued upon completion of the performance;
- g. Temporary lighting of construction sites, provided such lighting is discontinued upon completion of the construction activity;
- h. Temporary lighting for emergency situations, provided such lighting is discontinued upon abatement of the emergency situation;
- i. Security lighting controlled and activated by motion sensor devices for a duration of 15 minutes or less;
- j. Underwater lighting in swimming pools, fountains, and other water features;

- k. Holiday or festive lighting, provided such lighting does not create unsafe glare on street rights-of-way; and
- l. Outdoor lighting fixtures that do not comply with provisions of this section on July 1, 2022, provided they are brought into compliance with this section when they become unrepairable.

(3) TIMING OF REVIEW

Review for compliance with the standards in this section shall occur during review of applications for site plans (Section 2.5.B(1)), zoning clearance permits (Section 2.5.C(1)), and certificates of compliance (Section 2.5.C(2)).

C. GENERAL STANDARDS

(1) HOURS OF ILLUMINATION

Uses in the Civic/Institutional, Commercial, and Industrial use classifications as well as mixed-use development that are adjacent to existing residential development shall extinguish all exterior lighting—except lighting necessary for recreation, security, or emergency purposes—by 11:00 P.M. or within one hour of closing, whichever occurs first. For the purposes of this paragraph, lighting “necessary for security or emergency purposes” shall be construed to mean the minimum amount of exterior lighting necessary to illuminate possible points of entry or exit into a structure, illumination of exterior walkways, or illumination of outdoor storage areas. Lighting activated by motion sensor devices is strongly encouraged.

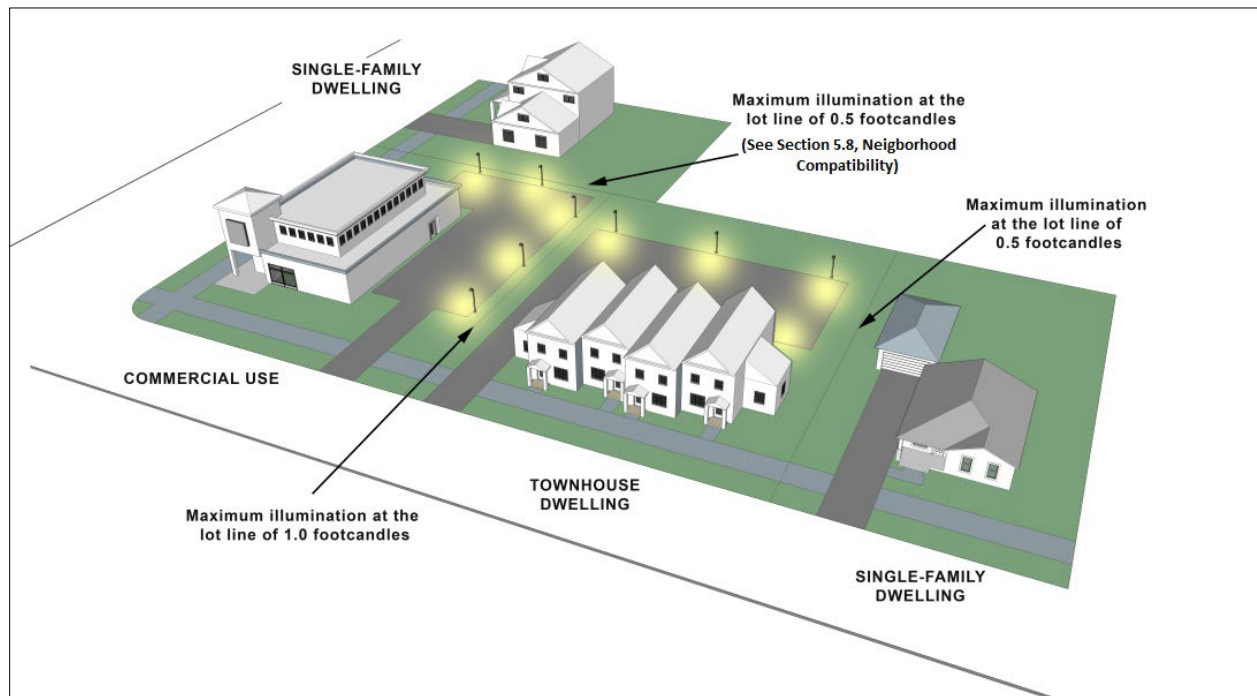
(2) MAXIMUM ILLUMINATION LEVELS

Except for street lighting, all exterior lighting and indoor lighting visible from outside shall be designed and located so that the maximum illumination measured in foot candles at ground level at a lot line (see Figure 5.6.C(2)b: Maximum Illumination Levels) shall not exceed the standards in Table 5.6.C(2)a: Maximum Illumination Levels.

Table 5.6.C(2)a: Maximum Illumination Levels

TYPE OF USE ABUTTING LOT LINE	MAXIMUM ILLUMINATION LEVEL AT LOT LINE (FOOT CANDLES)
Single-family detached dwellings, duplexes, manufactured homes, or vacant land in the R2, R4, R6, or R7 district	0.5
All other uses in the Residential use classification and vacant land in the R8 or R18 district	1.0
Uses in the Commercial or Civic/Institutional use classifications (except Transportation uses and Utilities uses)], and vacant land in a mixed-use district or the O-I, GC, or LI Districts	2.0
Transportation uses, Utilities uses, uses in the Industrial use classification, and vacant land in the HI District	3.0

Figure 5.6.C(2)b: Maximum Illumination Levels



(3) MAXIMUM HEIGHT

Except for athletic field lighting fixtures, which shall not exceed 95 feet in height, and street lighting, the height of exterior light fixtures, whether mounted on poles, walls, or by other means, shall comply with the standards in Table 5.6.C(3): Maximum Height for Exterior Lighting.

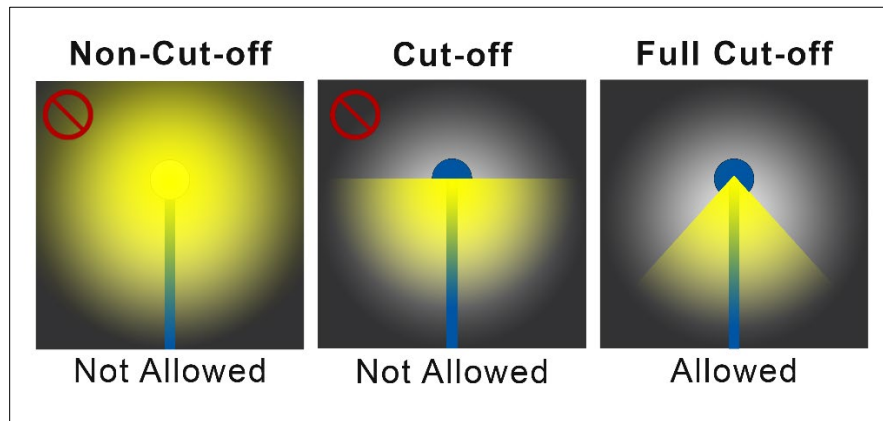
Table 5.6.C(3): Maximum Height for Exterior Lighting

ZONING DISTRICT	MAXIMUM HEIGHT (FEET)
Agricultural and Residential Districts	15
Mixed-Use, Commercial, and Industrial Districts	25
Within 100 feet of a Residential District	15

(4) FULL CUT-OFF FIXTURES REQUIRED

All exterior luminaries, including security lighting, shall be full cut-off fixtures that are directed downward, consistent with Figure 5.6.C(4): Full Cut-off Fixtures. In no case shall lighting be directed above a horizontal plane through the lighting fixture.

Figure 5.6.C(4): Full Cut-off Fixtures



(5) ENERGY EFFICIENT FIXTURES AND ELEMENTS REQUIRED

- a. All outdoor light fixtures and light elements must be energy efficient, as defined in subsection b below. The Planning Director may allow exceptions to this requirement on finding the applicant demonstrates any of the following:
 1. An energy efficient fixture or light element is not reasonably available that meets the necessary functional requirements;
 2. Available energy efficient fixtures or light elements are not cost-effective over the life of the product, taking energy cost savings into account; or
 3. The use of an energy efficient fixture or light element is unreasonable or impractical for other reasons.
- b. For purposes of this subsection, an energy efficient light fixture or light element must meet one of the following criteria:
 1. Is in the upper 25 percent of efficiency for all similar products as designated by the U.S. Department of Energy's Federal Energy Management Program; or
 2. Meets Department of Energy and Environmental Protection Agency criteria for use of the Energy Star trademark label.

D. STANDARDS FOR SPECIFIC USES AND SITE FEATURES

(1) OFF-STREET PARKING AREAS

- a. Maintained average horizontal illuminance values in parking areas during times when the parking area is in use shall not exceed 4.0 foot-candles of illumination.
- b. The ratio of maximum-to-minimum horizontal illuminance within the parking area shall not exceed 10:1.

(2) SPORTS OR PERFORMANCE VENUE

Lighting fixtures for outdoor sports areas, athletic fields, and performance areas shall be equipped with a glare control package (e.g., louvers, shields, or similar devices) and aimed so that their beams are directed and fall within the primary playing or performance area.

(3) PEDESTRIAN AREA LIGHTING

- a. Light fixtures for sidewalks, walkways, trails, and bicycle paths, outside of vehicular surface areas (parking lots), except for pedestrian bollard lamps, shall comply with the following standards:
 - 1. Provide at least 1.2 foot-candles of illumination, but not exceed 2.0 foot-candles;
 - 2. Have a maximum height of 15 feet; and
 - 3. Be placed a maximum of 100 feet apart.
- b. Any pedestrian bollard lamps shall be mounted no higher than four feet above grade and shall not exceed 900 lumens for any single lamp. (See Figure 5.6.D(3)b: Examples of Pedestrian Bollard Lamps).

Figure 5.6.D(3)b: Examples of Pedestrian Bollard Lamps



(4) WALL PACK LIGHTS

Wall packs on the exterior of the building shall be fully shielded (e.g., true cut-off type bulb or light source not visible from off-site) to direct the light vertically downward and shall not exceed 1,600 lumens for any single fixture.

(5) CANOPY

Areas under a canopy shall be designed so as not to create glare off-site. Acceptable methods to address this include one or both of the following:

- a. A recessed fixture incorporating a lens cover that is either recessed or flush with the bottom surface (ceiling) of the canopy that provides a full cutoff or fully-shielded light distribution; or
- b. A surface mounted fixture incorporating a flat glass that provides a full cutoff or fully-shielded light distribution.

(6) DECORATIVE AND LANDSCAPE LIGHTING

Outdoor light fixtures used for decorative effects shall comply with the following standards:

- a. Decorative lighting intended to enhance the appearance of a building and/or landscaping shall cast all light downward (rather than upward) against the building surface or onto a landscape feature.
- b. Decorative lighting fixtures shall not exceed 1,600 lumens for any single fixture.

E. STREET LIGHTS

- (1) Street lights shall comply with the street lighting design requirements in the LDSM and with the standards in this section.
- (2) Except in the CC District, street lights shall be located inside full cut-off fixtures.
- (3) Street lights shall be mounted on non-corrosive poles served by underground wiring.
- (4) The light structure and light color of street lights in an individual subdivision or development shall be consistent throughout the subdivision or development.

F. PROHIBITED LIGHTING

The following exterior lighting is prohibited:

- (1) Light fixtures that imitate an official highway or traffic control light or sign;
- (2) Light fixtures that have a flashing or intermittent pattern of illumination, except signage with an intermittent pattern of illumination allowed in accordance with Section 5.9, Sign Standards;
- (3) Searchlights, except when used by federal, state or local authorities, or where they are used to illuminate alleys, parking garages, and working (maintenance) areas, so long as they are shielded and aimed so that they do not result in lighting on any adjacent lot or public right-of-way exceeding 2.0 foot candles; and
- (4) Light fixtures that direct lighting in an upwards direction, with the purpose or effect of illuminating buildings or monument features.

G. ILLUMINATION MEASUREMENT

- (1) Illumination measurements shall be made at the lot line of the land upon which light to be measured is being generated. If measurement on private property is not possible or practical, light level measurements may be made at the boundary of the public street right-of-way that adjoins the land. Measurements shall be made at finished grade (ground level), with the light-registering portion of the meter held parallel to the ground.
- (2) Illumination measurements shall be taken with a light meter that has been calibrated within two years.

H. EXEMPTIONS FOR SAFETY REASONS

- (1) Government facilities, like property or rights-of-way, parks, public safety, and other development may submit a security plan to the Planning Director proposing exterior lighting that deviates from the standards in this section. The Planning Director shall approve or approve with conditions the security plan and its proposed deviation from the standards, upon finding that:
 - a. The proposed deviation from the standards is necessary for the adequate protection of the subject land, development, or the public;
 - b. The condition, location, or use of the land, or the history of activity in the area, indicates the property or any materials stored or used on it are in significantly greater danger of theft or damage, or members of the public are at greater risk for harm than on surrounding property without the additional lighting; and
 - c. The proposed deviation from the standards is the minimum required, and will not have a significant adverse effect on neighboring lands.

- (2) If the Planning Director finds the applicant fails to demonstrate compliance with subsection (1) above, the security plan shall be denied.

SECTION 5.7. FORM AND DESIGN STANDARDS

A. INTENT

The purpose and intent of these form and design standards are to:

- (1) Establish a minimum level of development quality for multifamily residential, commercial, and industrial buildings;
- (2) Promote greater compatibility between uses;
- (3) Enhance walkability and the pedestrian realm; and
- (4) Provide landowners, developers, architects, builders, business owners, and others with a clear and equitable set of parameters for developing land.

B. APPLICABILITY

The standards of this section shall apply to:

(1) MULTIFAMILY BUILDINGS

a. GENERAL

1. All new multifamily, townhouse, and three-family development, unless expressly stated otherwise in the specific multifamily form and design standards (see Section 5.7.D); and
2. Any expansion of an existing multifamily building (unless expressly stated otherwise in the specific multifamily form and design standards (see Section 5.7.D), if the expansion increases the building's gross floor area by 50 percent or more. The standards in this section shall apply only to the building expansion.

b. EXEMPTIONS

The standards in this section shall not apply to any dwellings located above a nonresidential use.

(2) NONRESIDENTIAL AND MIXED-USE BUILDINGS

- a. All new development of uses in the Commercial use classification or mixed-use development (see Section 5.7.E); and
- b. Any expansion of an existing [building used for a use in the Commercial use classification or mixed-use development, if the expansion increases the building's gross floor area by 50 percent or more (see Section 5.7.E).

(3) LARGE RETAIL ESTABLISHMENT BUILDINGS

- a. All new large retail establishment development (see Section 5.7.F); and
- b. Any expansion of an existing large retail establishment building, if the expansion increases the building's gross floor area by 50 percent or more (see Section 5.7.F). The standards in this section shall apply only to the building expansion.

(4) INDUSTRIAL AND WAREHOUSE BUILDINGS

- a. All new development of uses in the following use categories: Industrial Services; Manufacturing, Assembly, or Fabrication; and Warehousing, Freight Movement, and Wholesale Sales (see Section 5.7.G); and
- b. Any expansion of an existing building housing a use in the Industrial Services; Manufacturing, Assembly, or Fabrication; or Warehousing, Freight Movement, and Wholesale Sales use category, if the expansion increases the building's gross floor area by 50 percent or more. The standards in this section shall apply only to the building expansion.

C. TIMING OF REVIEW

Review for compliance with the standards of this section shall occur during review of a development application for a conditional zoning (Section 2.5.A(3)), planned development (Section 2.5.A(4)), special use permit (Section 2.5.A(5)), site plan (Section 2.5.B(1)), minor subdivision (Section 2.5.B(2)), or major subdivision (Section 2.5.B(3)), as appropriate.

D. MULTIFAMILY DESIGN STANDARDS

Development subject to this section shall comply with the following standards.

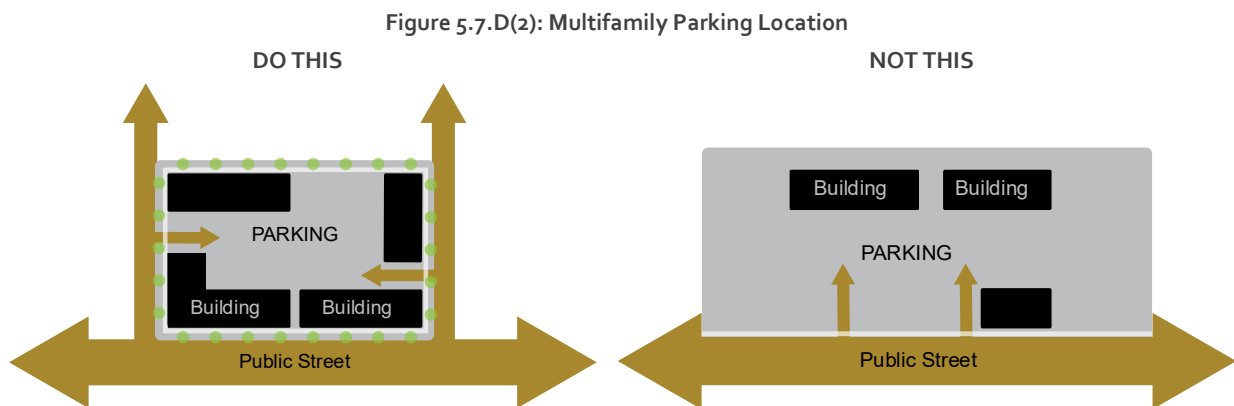
(1) SITE ACCESS

New multifamily, townhouse, or three-family development with 100 or more dwelling units shall have at least one secondary point of vehicular access to or from the site to ensure emergency vehicle access.

(2) LOCATION OF OFF-STREET PARKING

For all multifamily, townhouse, and three-family buildings:

- a. No more than 20 percent of off-street surface parking may be located between a building and the street it faces unless the parking bays are screened from view from the street by another building. Interior structures within a multi-building development served by a central, private street are exempted from this requirement. (see Figure 5.7.D(2): Multifamily Parking Location).



- b. Guest and overflow parking within a development subject to these standards shall be located to the side or rear of the building containing the units, to the maximum extent practicable.

- c. Off-street surface parking located beside a building shall not occupy more than 25 percent of the parcel's street frontage. Associated driving areas shall be included as part of such off-street surface parking.

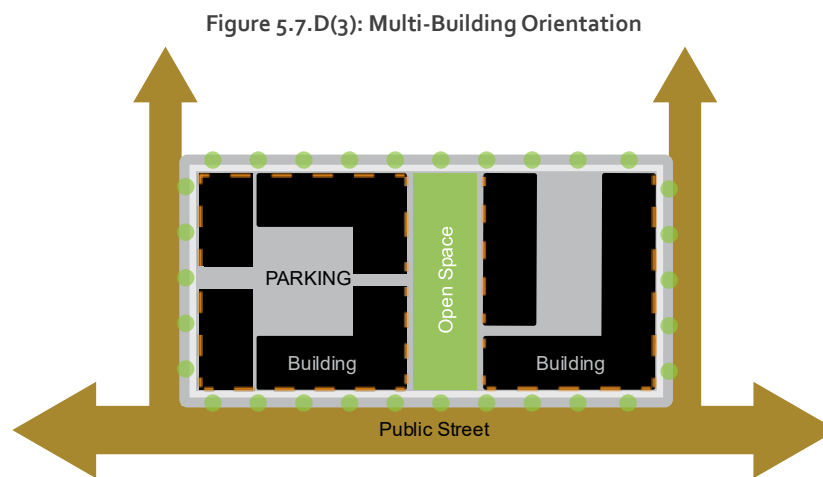
(3) BUILDING ORIENTATION AND CONFIGURATION

a. SINGLE-BUILDING DEVELOPMENT

The primary entrance of a multifamily, townhouse, or three-family single-building development shall face the street.

b. MULTI-BUILDING DEVELOPMENT

Multifamily, townhouse, and three-family developments with more than one building shall be configured so that primary building entrances are oriented towards external streets, internal streets, and open space areas (like courtyards and plazas). Buildings may be oriented towards off-street parking lots only in cases where no other practical alternative exists. (see Figure 5.7.D(3): Multi-Building Orientation)



(4) MAXIMUM BUILDING LENGTH

The maximum length of any multifamily, townhouse, or three-family building shall be in accordance with Table 5.7.D(4): Maximum Building Length for Multifamily, Townhouse, or Three-Family Building, regardless of the number of units.

Table 5.7.D(4): Maximum Building Length for Multifamily, Townhouse, or Three-Family Building

ZONING DISTRICTS	MAXIMUM BUILDING LENGTH (Ft.)
R7, R8, R18, MU-N	150
MU-AC, MU-UC, MU-SC, ROD, GC	250

(5) BUILDING FAÇADES

For all multifamily buildings:

- a. Façades of all buildings subject to these standards that face a street shall incorporate wall offsets, in the form of projections or recesses in the façade plane, spaced no more than 50 feet apart (see Figure 5.7.D(5)a: Changes in Building Façade).

Figure 5.7.D(5)a: Changes in Building Façade



- b. Wall offsets shall have a minimum depth of two foot.
- c. In addition to wall offsets, front façades of multifamily buildings shall provide a minimum of three of the following design features (see Figure 5.7.D(5)c: Examples of Front Façades):
1. One or more dormer windows or cupolas;
 2. A recessed entrance;
 3. A covered porch;
 4. Pillars, posts, or columns next to the doorway;
 5. One or more bay windows projecting at least twelve inches from the façade plane;
 6. Eaves projecting at least six inches from the façade plane;
 7. Raised corniced parapets over the entrance door;
 8. Multiple windows with a minimum four-inch-wide trim;
 9. Integrated planters that incorporate landscaped areas or places for sitting; or
 10. Roof form and line changes consistent with the façade offsets.

Figure 5.7.D(5)c: Examples of Front Façades



(6) ROOFS

For all multifamily buildings:

- a. Sloped roofs on buildings over 100 feet in length shall include two or more different sloping roof planes, each with a minimum pitch between 3:12 and 12:12.
- b. Flat roofs shall be concealed by parapet walls that extend at least three feet above the roof level and have three-dimensional cornice treatments that project at least eight inches outward from the parapet façade plane.
- c. Alternative roof forms or pitches may be allowed for small roof sections over porches, entryways, or similar features.
- d. All roof-based mechanical equipment, as well as vents, pipes, antennas, satellite dishes, and other roof penetrations (except chimneys), shall be located on the rear elevations or otherwise be configured and screened (if necessary) to have a minimal visual impact as seen from the street.

(7) BUILDING FAÇADE FENESTRATION/TRANSPARENCY

At least 20 percent of the street-facing façade area of the ground-level floor of any multifamily, townhouse, or three-family building (as measured from the grade to the underside of the eave, top of the parapet, or the story line denoting the second floor) shall be occupied by windows or doorways.

(8) MATERIALS

For all multifamily, townhouse, and three-family buildings:

- a. Primary façade materials shall not change at outside corners, but extend along any side façade that is visible from a street. In all instances the extension shall be a minimum of 20 feet, except materials may change where side or rear wings meet the main body of the structure.
- b. Material changes shall occur along a horizontal line or where two forms meet. It is acceptable, however, that change of materials occur as accents around windows, doors, cornices, at corners, or as a repetitive pattern.

(9) GARAGE STANDARDS

For all multifamily buildings:

- a. Detached garages or carports shall be located to the side or rear of the building(s) containing the dwellings. A parking structure is exempt from this requirement. (see Figure 5.7.D(9): Garage Placement.)

Figure 5.7.D(9): Garage Placement



1. Detached garage located to the side or rear.
2. Freestanding garage visible from the public street shall be oriented perpendicular to the street

- b. Freestanding garages or carports visible from public streets outside the development shall be oriented perpendicular to the street, or the façade facing the street shall be configured to comply with the required wall offsets and façade design features in Section 5.7.D(5), Building Façades.
- c. The exterior materials, design features, and roof form of a detached garage or carport shall be the same as the building it serves.

(10) UTILITIES AND SERVICES

- a. All utility lines shall be located underground in accordance with the LDSM.
- b. All new multifamily developments or attached single-family developments shall provide a container for the collection of recyclable materials, subject to approval by the Director of Engineering, and screened from view from ground level on adjacent lots and rights-of-way.

E. NONRESIDENTIAL AND MIXED-USE FORM AND DESIGN STANDARDS

Development subject to this section shall comply with the following standards.

(1) BUILDING ORIENTATION

a. FRONT STREETS

The front façade of all buildings, as defined by the primary entrance, shall be oriented on and front onto a street, a courtyard, or plaza. See Figure 5.7.E(1)a: Example of Building Orientation.

Figure 5.7.E(1)a: Example of Building Orientation



b. SINGLE BUILDING DEVELOPMENT

1. To the maximum extent practicable, all single-building developments shall be configured with the long axis of the building parallel to the street it fronts, or be consistent with existing development patterns, rather than being sited at unconventional angles.
2. New large single-use retail buildings shall comply with the standards in Section 5.7.F, Large Retail Establishment Form and Design Standards.

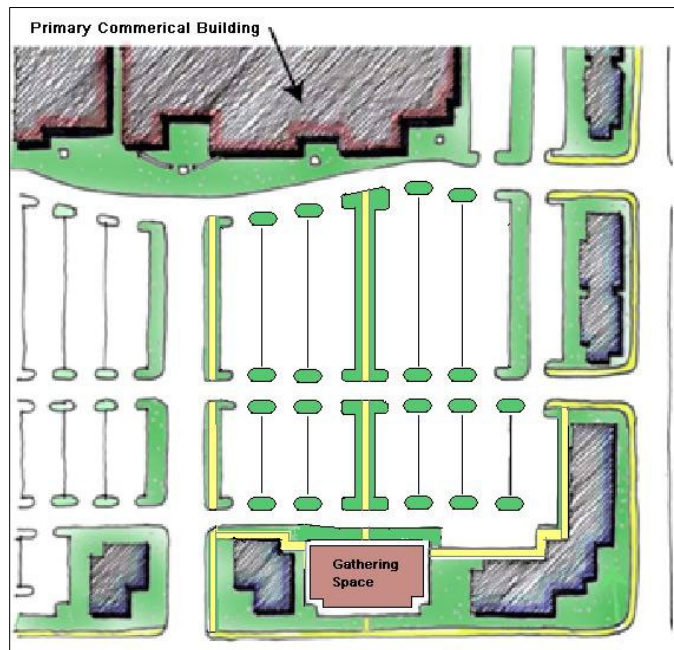
c. MULTI-BUILDING DEVELOPMENT

1. The primary entrances of buildings shall be oriented towards a street along the perimeter of a development, towards streets or driveways interior to the development, and towards any abutting open space areas, courtyards, or plazas.
2. Developments totaling 120,000 or more square feet of floor area that are composed of multiple buildings shall be configured to accomplish any one or combination of the following:
 - (a) Break up the site into a series of smaller blocks defined by on-site streets, vehicle accessways, pedestrian walkways, or other circulation routes, as appropriate;
 - (b) Frame the corner of an abutting street intersection or entry point to the development;
 - (c) Frame and enclose a "Main Street" pedestrian or vehicle access corridor within the development site, if appropriate; and
 - (d) Frame and enclose outdoor dining or gathering spaces for pedestrians between buildings.

(2) OUTPARCEL DEVELOPMENT

- a. To the maximum extent practicable, outparcels and their buildings shall be configured and located to define street edges, development entry points, and spaces for gathering or seating between buildings.
- b. Spaces between buildings on outparcels shall be configured with small scale pedestrian amenities such as plazas, seating areas, pedestrian connections, and gathering spaces. (see Figure 5.7.E(2): Outparcel Development.)

Figure 5.7.E(2): Outparcel Development



(3) FAÇADE ARTICULATION

a. OFFSETS REQUIRED

Street-facing front building façades that are greater than 60 feet wide shall be articulated with wall offsets (e.g., projections or recesses in the façade plane) that are at least two feet deep, at least ten feet wide, and spaced no more than 50 feet apart (see Figure 5.7.E(3)a: Example of Front Façade Offsets).

Figure 5.7.E(3)a: Example of Front Façade Offsets



b. OFFSET ALTERNATIVES

The following techniques may be used (alone or in combination with other techniques and/or wall offsets) as an alternative to the required front facade offsets (see Figure 5.7.E(3)b: Façade Massing):

1. Changes in façade color or material every 50 feet;
2. Columns or pilasters that are at least eight inches deep and at least eight inches wide, and have a height equal to at least 80 percent of the façade's height; or
3. Roofline changes that vertically align with a corresponding wall offset or change in façade color or material, including changes in roof planes and changes in the height of a parapet wall (such as extending the top of pilasters above the top of the parapet wall).

Figure 5.7.E(3)b: Façade Massing

PILASTERS



COLOR/MATERIAL CHANGES



c. SIDE FAÇADES

The street-facing side façades of buildings shall be articulated with the same façade details as provided on the building's front façade.

d. OUTBUILDINGS

Outbuildings located in front of other buildings within the same development shall include a consistent level of façade articulation and architectural detail on all sides of the building, as well as exterior materials and colors that are compatible with the primary building in the development.

(4) FAÇADE MATERIALS

- a.** Predominant exterior building materials shall be high quality materials, including but not limited to brick, wood, stucco, sandstone, or native stone, or tinted, textured, or concrete masonry units.
- b.** The use of aluminum siding, vinyl siding, corrugated metal siding, or other metal cladding is prohibited on any façade visible from a street right-of-way. Nothing shall limit the use of high-quality, decorative metal (e.g., brass, copper, steel) as a building accent material.
- c.** Primary façade materials shall not change at outside corners, but extend along any side façade visible from a street right-of-way. In all instances the extension shall be a minimum of 20 feet, except materials may change where side or rear wings meet the main body of the structure. Where two or more materials are proposed to be combined on a façade, the heavier elements shall be located below the lighter elements (i.e., brick shall be located below stucco or wood). The heavier material may be used as a detail on the corner of a building or along cornices or windows.
- d.** Façade colors shall be low reflectance, subtle, neutral or earth tone colors. The use of high intensity colors, metallic colors, black or fluorescent colors is prohibited.
- e.** Building trim and accent areas may feature brighter colors, including primary colors.
- f.** No more than 50 percent of exterior building materials shall include smooth-faced concrete block, smooth-faced tilt-up concrete panels, or pre-fabricated steel panels.

(5) BUILDING FAÇADE FENESTRATION/TRANSPARENCY

Unless more restrictive requirements are established elsewhere in this Ordinance, at least 40 percent of the street-facing façade area of the ground-level floor of buildings (as measured from the grade to the underside of the eave, top of the parapet, or the story line denoting the second floor) shall be occupied by transparent windows or doorways.

(6) ROOFS

- a.** Sloped roofs on principal buildings over 100 feet in length shall include two or more different sloping roof planes, each with a minimum pitch between 3:12 and 12:12.
- b.** Flat roofs on principal buildings shall be concealed by parapet walls that extend at least three feet above the roof level and have three-dimensional cornice treatments that project at least eight inches outward from the parapet façade plane.
- c.** All roof-based mechanical equipment, as well as vents, pipes, antennas, satellite dishes, and other roof penetrations (except chimneys), shall be located on the rear elevations or otherwise be configured, to the maximum extent practicable, to have a minimal visual impact as seen from the street.

(7) LOCATION OF OFF-STREET PARKING

Development shall be configured to locate all required surface off-street parking to the side or rear of the front façade of the building. Buildings of two or more stories may locate one bay of off-street parking between the primary building entrance and the street the building faces unless prohibited by other provisions in this Ordinance.

(8) LOADING, SERVICE, AND EQUIPMENT AREAS

- a. Loading, service, and equipment areas shall be located in a manner that minimizes their visibility from off-site areas, to the maximum extent practicable.
- b. Outdoor storage areas shall be fully screened from adjacent streets and single-family dwellings.
- c. Loading, service, and equipment areas that are associated with an outparcel building shall be screened through the use of structural elements and similar materials attached to and integrated with the building.

F. LARGE RETAIL ESTABLISHMENT FORM AND DESIGN STANDARDS

(1) GENERAL

In addition to the general nonresidential and mixed-use form and design standards in Section 5.7.E, large retail establishments (see Article 10: Definitions) shall also comply with the following standards. If there is a conflict between these standards and those in Section 5.7.E, these standards control. (see Figure 5.7.F(1): Examples of Large Retail Establishments.)

Figure 5.7.F(1): Examples of Large Retail Establishments



(2) BUILDING ENTRANCES

- a. Buildings shall have clearly defined, highly visible customer entrances featuring no less than four of the following:
 1. Canopies or porticos above the entrance;
 2. Roof overhangs above the entrance;
 3. Entry recesses or projections;
 4. Arcades that are physically integrated with the entrance;

5. Raised corniced parapets above the entrance;
 6. Gabled roof forms or arches above the entrance;
 7. Outdoor patios or plazas next to the entrance;
 8. Display windows that are directly next to the entrance;
 9. Architectural details, such as tile work and moldings, that are integrated into the building structure and design and are above or next to the entrance; or
 10. Integral planters or wing walls that incorporate landscaped areas or seating areas.
- b. All portions of buildings designed to appear as customer entrances shall be functional customer entrances.

(3) FAÇADES AND MASSING

- a. To reduce their perceived mass and scale, buildings shall incorporate two or more of the following design elements on each façade facing a street:
1. Variations in roof form and parapet heights;
 2. Pronounced wall offsets that are at least two feet deep;
 3. Distinct changes in texture and color of wall surfaces;
 4. Ground level arcades and second floor galleries or balconies;
 5. Protected and recessed entries; and
 6. Vertical accents or focal points.
- b. Side building walls that do not face a street and exceed 30 feet in length shall have façade-articulating elements such as columns and/or changes in plane, texture, or masonry pattern. (see Figure 5.7.F(3): Large Retail Building Entrances and Massing.)

Figure 5.7.F(3): Large Retail Building Entrances and Massing



(4) BUILDING FAÇADE FENESTRATION/TRANSPARENCY

Unless more restrictive requirements are established elsewhere in this Ordinance, at least 25 percent of the street-facing façade area of the ground-level floor of buildings (as measured from the grade to the underside of the eave, top of the parapet, or the story line denoting the second floor) shall be occupied by transparent windows or doorways.

(5) OFF-STREET PARKING LOCATION STANDARDS

- a. Unless more restrictive requirements are established elsewhere in this Ordinance, within areas designated as Suburban Activity 1 and Suburban Activity 2 on the Future Land Use and Character Map, up to 60 percent of the total off-street surface parking provided may be located between the front façade of the building and the street it faces. (see Figure 5.7.F(5): Large Retail Parking Lot with Over 200 Spaces.)
- b. Outside of Suburban Activity 1 and Suburban Activity 2 areas, all parking is strongly encouraged to be located to the side or rear of the building; however, up to 15 percent of the total off-street surface parking provided may be located between the front façade of the building and the street it faces unless more restrictive requirements are established elsewhere in this Ordinance.
- c. Off-street surface parking lots with 200 or more spaces shall be organized into a series of parking bays surrounded by buildings, landscaping, or accessways designed to appear as streets. (see Figure 5.7.F(5): Large Retail Parking Lot with Over 200 Spaces.)

Figure 5.7.F(5): Large Retail Parking Lot with Over 200 Spaces



(6) TRANSIT STOPS

Each development shall provide an off-street transit bus stop for customers and employees if the development is located on an established or planned public transit route.

G. INDUSTRIAL AND WAREHOUSE DESIGN STANDARDS

Development subject to this section shall comply with the following standards.

(1) BUILDING ORIENTATION

a. GENERAL

1. Development shall orient the building façade containing its primary patron entrance to face the street from which the building derives its street address.
2. Buildings shall be located and configured to conceal operations and loading areas from off-site views, to the maximum extent practicable.

b. ACCESSORY USES

Accessory uses and structures shall not front a street and shall be located in a manner that minimizes their impacts on adjacent development.

(2) FAÇADE ARTICULATION

Each street-facing building façade shall be horizontally and/or vertically articulated to avoid long, blank wall planes, by meeting at least two of the following standards:

a. WALL PLANE HORIZONTAL ARTICULATION

Each façade greater than 100 feet in width shall be articulated with wall offsets (e.g., projections or recesses in the façade plane), changes in façade color or material, or similar features that visually interrupt the wall plane horizontally such that the width of the uninterrupted façade does not exceed 60 feet (see Figure 5.7.G(2): Example of Façade Articulation for Industrial Building).

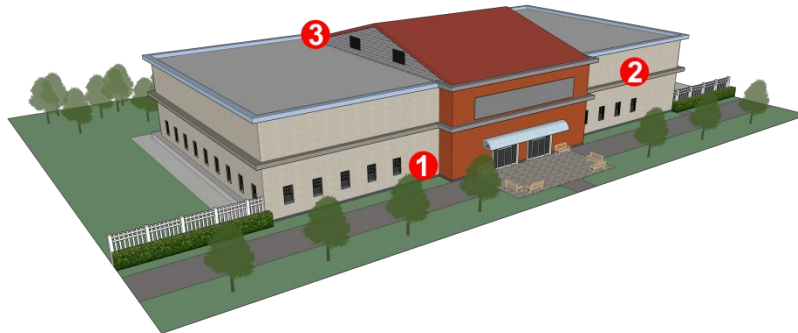
b. VERTICAL ARTICULATION

Each façade greater than 30 feet in height shall incorporate a change in the wall surface plane or in façade color or material that visually interrupts the wall plane vertically such that the height of the uninterrupted façade does not exceed 30 feet.

c. ROOF LINE VARIATION

The façade shall include variations in roof planes and/or in the height of a parapet wall at least every 100 feet of roofline length along the façade.

Figure 5.7.G(2): Example of Façade Articulation for Industrial Building



1. Each façade greater than 100 feet in width shall be articulated with wall offsets (e.g., projections or recesses in the façade plane), changes in façade color or material, or similar features that visually interrupt the wall plane horizontally such that the width of the uninterrupted façade does not exceed 60 feet.
2. Each façade greater than 30 feet in height shall incorporate a change in the wall surface plane or in façade color or material that visually interrupts the wall plane vertically such that the height of the uninterrupted façade does not exceed 30 feet.
3. The façade shall include variations in roof planes and/or in the height of a parapet wall at least every 100 feet of roofline length along the façade.

(3) ENTRANCE

a. Each principal building shall have clearly defined, highly visible, primary entrances for occupants and patrons that incorporate at least two of the following design features to emphasize the importance of the entrance:

1. Canopy or portico;
2. Roof overhang;

3. Horizontal recess or projection;
 4. Arcade or arch;
 5. Peaked roof form;
 6. Outside patio;
 7. Display window;
 8. Architectural tile work or moldings integrated into the design of the building façade;
 9. Integrated planters or wing walls that incorporate landscaped area or seating areas; or
 10. Similar architectural features not found on the remainder of the building façade.
- b. Street-facing façades of the ground level floor shall not include overhead doors, sliding glass doors, removable panels, or similar type of doors.

(4) BUILDING FAÇADE MATERIALS

The use of corrugated metal siding or any other similar metal siding, unfinished or untreated tilt-up concrete panels, or standard single- or double-tee concrete systems as a primary exterior façade material shall be limited to those portions of rear and side building façades that are not visible from the public right-of-way or an adjacent use in the Residential, Civic/Institutional, or Commercial use classifications.

(5) LOCATION OF LOADING AND SERVICE AREAS

Loading and service areas shall be separated from patron parking, pedestrian areas, and main drive aisles, and shall be located a minimum of 100 feet from any abutting residential use.

(6) OFF-STREET PARKING LOCATION

No more than 50 percent of the off-street parking spaces may be located in surface parking lots between the front building façade and the street it faces.

H. MECHANICAL EQUIPMENT AND SOLID WASTE STORAGE AREA STANDARDS

(1) MECHANICAL EQUIPMENT

All mechanical equipment shall be screened from view with an opaque screen.

(2) SOLID WASTE STORAGE AREA

- a. Solid waste dumpsters or other large containers for solid waste storage shall be confined in an enclosed area that is screened on all sides. A solid waste enclosure, large enough to confine solid waste items and dumpster(s), shall be of solid opaque construction, six-foot high with latching gates providing access. The applicant shall indicate on the site plan the choice of materials and color so that the Administrator can determine that they are consistent and compatible with those of the principal building(s) on the site.
- b. Enclosures shall be constructed of durable, weather-proof, permanent materials such as concrete or stone block, metal, vinyl, wood, or similar material. The applicant shall ensure that the choice of materials and color are consistent and compatible with those of the principal building(s) on the site.
- c. Fences of chain link, sheet metal and barbed and razor wire, with or without slats of wood or metal inserted, shall not be considered as sufficient materials to screen outdoor storage areas or operations.

- d. Solid waste dumpsters or other large containers for solid waste storage shall have a lid to minimize the potential contamination of stormwater runoff.

SECTION 5.8. NEIGHBORHOOD COMPATIBILITY

A. INTENT

The purpose of these neighborhood compatibility standards is to provide a proper transition and ensure compatibility between existing single-family detached, single-family attached, and duplex dwellings, as well as vacant lands in the single-family residential zoning districts, and other more intense forms of development. More specifically, it is the intent of these standards to:

- (1) Protect the character of existing neighborhoods consisting of primarily single-family detached, single-family attached, or duplex dwellings from potentially adverse impacts resulting from more intense and incompatible adjacent forms of development;
- (2) Use development form treatments as alternatives to large vegetative buffers; and
- (3) Establish and maintain vibrant pedestrian-oriented areas where multiple uses can operate close to one another.

B. APPLICABILITY

(1) GENERAL

- a. Unless exempted by subsection (2) below, the standards in this section apply to:
 - 1. New multifamily, nonresidential, and mixed-use] development (see subsection c below) when located on land adjacent to, or across a street or alley from a single-family residential lot (see subsection c below).
 - 2. Any expansion or alteration of an existing multifamily, nonresidential, and mixed-use]development located on land abutting or across a local street or alley from a single-family residential lot (see subsection c below), where the expansion increases the development's floor area by 50 percent or more, or the alteration involves 50 percent or more of the development's floor area.
- b. For the purposes of this section:
 - 1. Single-family residential lots include:
 - (a)Lots where an existing single-family detached or duplex dwelling is located; and
 - (b)Undeveloped lots in a single-family residential zoning district;
 - 2. Single-family residential zoning districts are the R1, R2, R4, R6, and R7 districts;
 - 3. Multifamily development includes the following:
 - (a)Duplexes;
 - (b)Live-work units;
 - (c)Multifamily dwellings;
 - (d)Townhouses; and
 - (e)Triplexes.
 - 4. Nonresidential development includes all uses that are not in the Residential use category; and

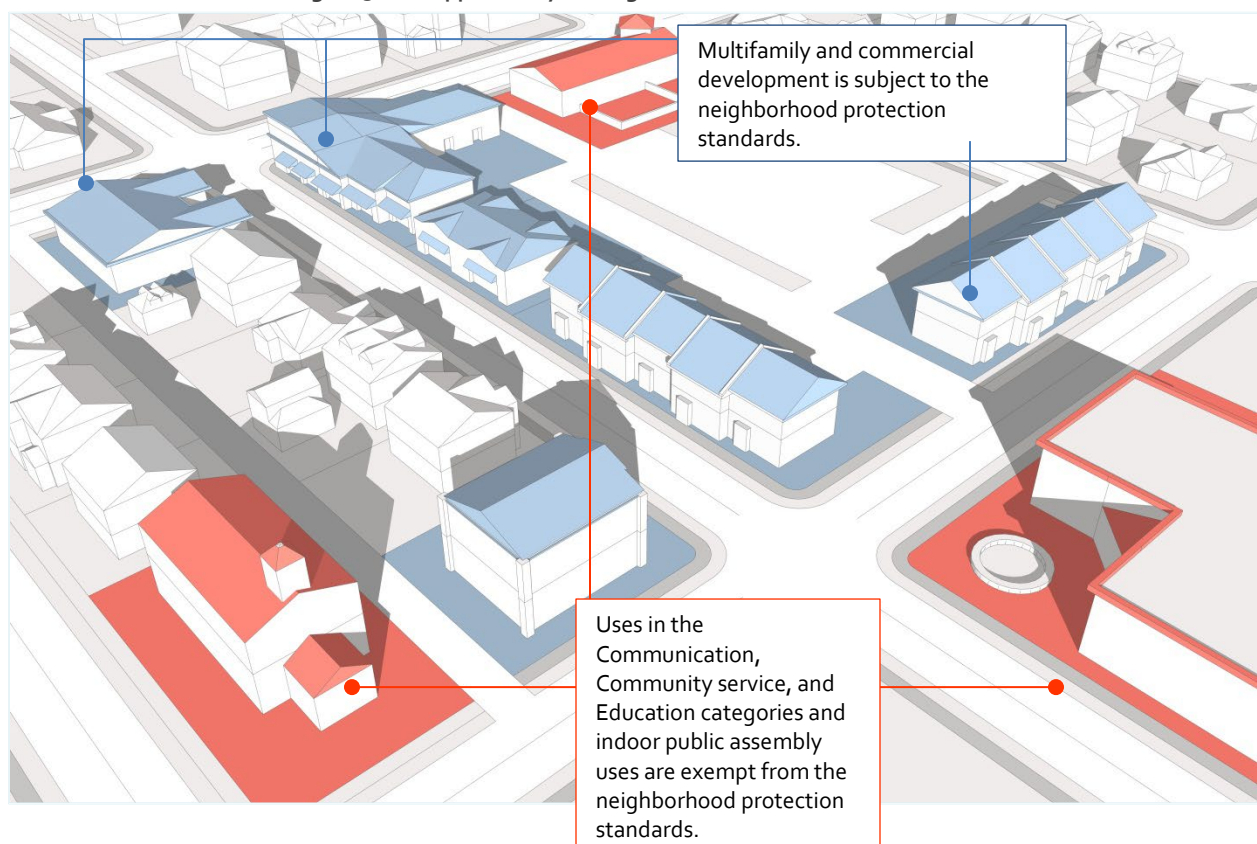
5. Mixed-use development includes buildings containing both dwellings as principal uses and nonresidential principal uses.

(2) EXEMPTIONS

The following are exempt from these standards:

- a. Multifamily, nonresidential, and mixed-use development adjacent to a single-family detached or duplex dwelling located on a lot within the Downtown, Commercial, and Mixed Use zoning district;
- b. Multifamily, nonresidential, and mixed-use development located on lots separated from single-family residential lots by a street having four or more lanes of travel; and
- c. Uses in the Communication, Community Service, and Education categories and the indoor public assembly use.

Figure 5.8.B: Applicability of Neighborhood Protection Standards



(3) TIMING OF REVIEW

Review for compliance with the standards of this section shall occur during review of a development application for a conditional zoning (Section 2.5.A(3)), planned development (Section 2.5.A(4)), special use permit (Section 2.5.A(5)), site plan (Section 2.5.B(1)), minor subdivision (Section 2.5.B(2)), or major subdivision (Section 2.5.B(3)), as appropriate.

(4) CONFLICT

In the case of conflict between these neighborhood compatibility standards and other standards in this Ordinance, these neighborhood compatibility standards shall control.

C. NEIGHBORHOOD COMPATIBILITY STANDARDS

Development subject to this section shall comply with the following standards:

(1) BUILDING HEIGHT AND SETBACKS

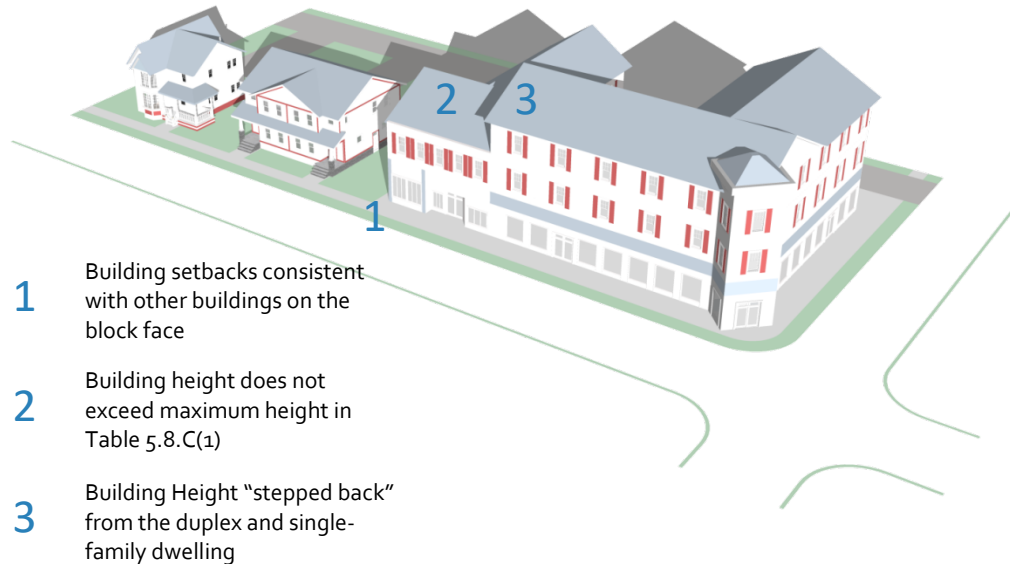
- a. Building setbacks shall be consistent with other buildings on the block face and across the street to maintain a consistent plane or edge of buildings along public frontages. Building setbacks shall vary no more than 15 percent of the average of the buildings setbacks on the same block face.
- b. Building height shall not exceed the maximum height established in Table 5.8.C(1): Maximum Height in Neighborhood Compatibility Areas.

Table 5.8.C(1): Maximum Height in Neighborhood Compatibility Areas

DISTANCE FROM SINGLE-FAMILY HOME	MAXIMUM HEIGHT
Less than 100 feet	3 Stories
100-150 feet	4 Stories

- c. Buildings over three stories in height shall be broken up into modules or wings with the smaller and shorter portions of the structure located adjacent to single-family residential lots. See Figure 5.8.C(1): Building Height Modulation.

Figure 5.8.C(1): Building Height Modulation



(2) BUILDING ORIENTATION

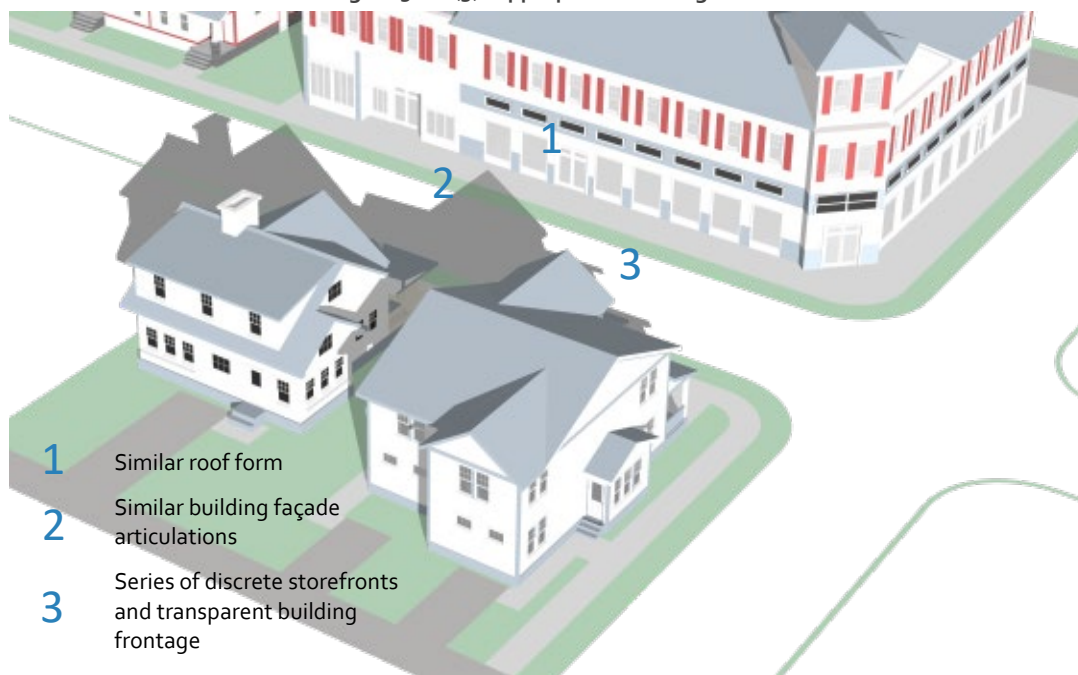
Buildings shall be oriented towards the street from which they derive their street address.

(3) BUILDING FORM

- a. Buildings shall:

1. Use a similar roof type to adjacent single-family detached or duplex dwellings in terms of slope and arrangement to prevent abrupt changes in roof form;
 2. If within 100 feet of a single-family residential lot, maintain a pitched roof;
 3. Configure all roof-mounted equipment to avoid or minimize its view from adjacent streets and single-family residential lots;
 4. Use similarly sized and patterned wall offsets and other building articulations found on adjacent single-family detached and duplex dwellings; and
 5. Orient porches, balconies, and outdoor activity areas away from adjacent single-family residential lots.
- b. Retail commercial building façades that face single-family residential lots shall be designed to appear as a series of discrete storefronts, with no single storefront occupying more than 50 percent of the total façade width of the building. See Figure 5.8.C(3): Appropriate Building Form.

Figure 5.8.C(3): Appropriate Building Form



(4) FAÇADES

Façades facing single-family residential lots shall comply with the following façade standards:

a. MATERIALS

1. Materials and material configurations shall be consistent with those commonly used on adjacent single-family detached, single-family attached, or duplex dwellings.
2. Plywood, concrete block, and corrugated metal are prohibited as exterior materials.
3. Split-face masonry unit and vinyl siding shall not exceed 25 percent of a building façade.

b. TRANSPARENCY

The façade shall comply with the standards in Table 5.8.C(4)b: Transparency Standards.

Table 5.8.C(4)b: Transparency Standards

BUILDING STORY	MINIMUM FAÇADE AREA PERCENTAGE TO BE TRANSPARENT (PERCENT) [1] [2] [3]
First Floor	40
Second Floor	15
Third Floor or Higher	10
NOTES: [1] The façade area shall be measured from the grade to the underside of the eaves, or from story line to story line on upper building stories. [2] Façades abutting sidewalks, plazas, gathering areas, or other pedestrian areas shall incorporate transparent features. [3] The first two feet of façade area closest to the grade are not required to be transparent and shall be excluded from the façade area calculation.	

(5) MULTI-BUILDING PLACEMENT

For a multi-building development that includes varying use and/or development intensities in different buildings, the development shall locate buildings with the least intense use and/or development nearest to abutting single-family residential lots.

(6) OFF-STREET PARKING

- a.** The total amount of off-street parking shall not exceed 1.1 times the required minimum specified in Section 5.2.E(1), Minimum and Maximum Off-street Vehicular Parking Spaces, and may be reduced through an alternative parking plan (see Section 5.2.E(2)a, Alternative Parking Plan) that demonstrates such reduction will not have an adverse impact on the adjacent single-family residential lots.
- b.** When required, off-street parking shall be established in one or more of the following locations, listed in priority order:
 1. Adjacent to off-street parking lots serving nonresidential development on abutting lots;
 2. Adjacent to lot lines abutting nonresidential development;
 3. Adjacent to lot lines abutting mixed-use development;
 4. Behind the building;
 5. Within a lot's corner side yard;
 6. In front of the building; or
 7. Adjacent to lot lines abutting single-family residential lots.
- c.** Off-street parking areas shall be located at least 12 feet from single-family residential lots.
- d.** Any off-street surface parking areas located adjacent to a single-family residential lot shall be screened by an eight foot perimeter buffer in accordance with Section 5.3.H, Parking Lot Landscaping.
- e.** The façade of any parking structure facing an adjacent single-family residential lot shall be configured to appear as an articulated or landscaped building wall, to soften its visual impact.

(7) OTHER SITE FEATURES

a. LOADING, SERVICE, AND REFUSE COLLECTION AREAS

Loading, service, and refuse collection areas shall be:

1. Located behind or to the sides of buildings away from adjacent single-family residential lots, screened with walls and/or landscaping, and provided with access that is integrated with parking areas and the vehicular circulation network;
2. Screened from view of single-family residential lots, to the maximum extent practicable; or
3. Incorporated into the overall site so that the impacts of these functions are fully contained within an enclosure or are otherwise out of view from adjacent single-family residential lots.

b. DRIVE-THROUGH FACILITIES AND OUTDOOR DINING

1. In no instance shall a drive-through, pick-up window, or outdoor dining facility be located on a building façade that faces a single-family residential lot.
2. In no instance shall a drive-through or pick-up window be located within 100 feet of a single-family residential lot.
3. Order boxes associated with a drive-through or pick-up window shall be at least 200 feet from single-family residential lots.

c. EXTERIOR LIGHTING

Exterior lighting shall have a maximum height of 14 feet and illumination that does not exceed 0.5 foot candles at the lot line, if within 100 feet of a single-family residential lot. Exterior lighting shall have a maximum height of 18 feet if within between 100 and 150 feet of such lot or lands (and illumination that does not exceed 0.5 foot candles at the lot line).

d. SIGNAGE STANDARDS

1. To the maximum extent practicable, signage shall be located a minimum of 100 feet from lot lines shared with a single-family residential lot.
2. Within 100 feet of lot lines shared with a single-family residential lot, the maximum sign copy area for signs shall be reduced by 25 percent.
3. Signage within 20 feet of a lot line shared with a single-family residential lot shall be limited to directional or incidental signage.

e. OPEN SPACE SET-ASIDES

1. Required open space set-asides shall be located between a proposed development and adjacent single-family residential lots, to the maximum extent practicable.
2. Outdoor recreation features such as swimming pools, tennis courts, playgrounds, and similar features shall be at least 75 feet from any lot line shared with a single-family residential lot.

f. NATURAL FEATURES

Natural features such as existing vegetation, streams, wetlands, and other such features shall be used as transitions, where possible. Where such natural features are used as transitions, pedestrian connections to adjoining uses are strongly encouraged.

g. UTILITIES

All utilities serving individual buildings or developments shall be located underground.

(8) OPERATIONAL STANDARDS

Development subject to these standards shall:

- a. Limit the hours of outdoor dining or other outdoor activities, where permitted, within 150 feet of single-family residential lots to only between the hours of 7:00 a.m. and 8:00 p.m.;
- b. Limit trash collection or other service functions to only between the hours of 7:00 a.m. and 7:00 p.m.; and
- c. Extinguish amplified music, singing, or other forms of noise audible at lot lines shared with single-family residential lots after 10:00 p.m. Sunday through Thursday nights, and after 12:00 a.m. Friday and Saturday nights.

SECTION 5.9. SIGN STANDARDS

A. PURPOSE AND INTENT

The purpose and intent of these sign regulations are to:

- (1) Encourage the effective use of signs as a means of communication in the City while preserving the rights of free speech under the First Amendment to the United States Constitution;
- (2) Maintain and enhance the aesthetic environment and the City's ability to attract sources of economic development and growth;
- (3) Improve pedestrian and traffic safety;
- (4) Minimize the possible adverse effect of signs on nearby public and private property; and
- (5) Enable the fair and consistent enforcement of these sign regulations.

B. APPLICABILITY

(1) GENERALLY

Unless exempted by subsection (2) below, a sign may be constructed, erected, placed, established, painted, created, or maintained in the City only in conformance with the standards and requirements of this section.

(2) EXEMPT SIGNS

The following are exempt from the standards and requirements of this section:

- a. Signs erected by a local, state, or federal government body or agency;
- b. Signs required by local, state, or federal law;
- c. Signs within a structure that are not legible from the ground level of the exterior of the structure; and
- d. Fence wraps displaying signage when affixed to perimeter fencing at a construction site in accordance with N.C.G.S. § 160D-908.

C. GENERAL STANDARDS

(1) SIGNAGE PLAN REQUIRED

- a. An applicant proposing to erect one or more signs requiring a sign permit on a lot shall submit a Signage Plan with the sign permit application that contains the following:

1. An accurate plot plan of the lot or parcel at a scale that reasonably shows all relevant information, as determined by the Planning Director;
 2. Location of buildings, parking lots, driveways, and landscaped areas on the lot where signage is proposed to be erected;
 3. Proposed maximum total sign area and maximum area for individual signs, proposed sign heights, and a calculation of the number of freestanding signs allowed on the lot(s) included in the plan under this Ordinance; and
 4. The proposed location of each present and future sign, regardless of whether it requires a sign permit. Sign locations shown on site plans will not be considered or approved in lieu of review and approval of sign locations identified on a Signage Plan in accordance with this section.
- b. An application for a planned development, special use permit, or site plan for a combined development or other multi-tenant nonresidential or mixed-use development shall include a master signage plan that shows the allocation of the various signage allowed on the site among the tenants and the proposed general location and size of signage on the site.
 - c. Permanent signs proposed as part of a planned development or special use shall be shown on the PD Master Plan or development plan submitted with the application for the planned development or special use permit, respectively. Sign locations shown on a PD Master Plan or development plan shall be in accordance with an approved Signage Plan in accordance with subsection a above.

(2) RULES FOR MEASUREMENT AND COMPUTATION

Sign height shall be measured in accordance with Section 9.3.A(11)b, Sign Height, and sign area shall be computed in accordance with Section 9.3.A(11)a, Sign Area.

(3) CONSTRUCTION AND MAINTENANCE

- a. All signs shall be constructed and maintained to retain sound structural condition, and shall comply with all applicable provisions of the Building Code, all applicable electrical codes, and this Ordinance.
- b. Except for banners, flags, temporary signs, and window signs, all signs shall be constructed of permanent materials and shall be permanently attached to the ground, a building, or another structure by direct attachment to a rigid wall, frame, or structure.
- c. Repainting of a sign or replacement of sign face (i.e., with business ownership change) shall be considered maintenance or repair and shall not require a permit.

(4) PROHIBITED SIGNS

The following signs are prohibited:

- a. Signs that approximate official highway signs, warning signs, or regulatory devices;
- b. Signs displaying blinking, flashing or intermittent lights, animation, and moving parts, except as where changeable copy is allowed by a provision of this section (Section 5.9);
- c. Portable signs;
- d. Feather signs;
- e. "Wrap-around" signs or other continuous wall signs that extend around building corners or radii;
- f. Off-premise signs, except as specifically permitted in this section;

- g. New outdoor advertising signs;
- h. Facsimile signs;
- i. Signs placed within a required sight triangle, public or private easement, or required stream buffer;
- j. Signs attached to utility poles, telephone poles, trees, parking meters, bridges and overpasses, rocks, other signs, benches, or refuse containers;
- k. Fence wraps displaying signage, except at a construction site in accordance with N.C.G.S. § 160A-381(j);
- l. Roof signs;
- m. Pavement markings for purposes other than traffic control;
- n. Signs placed within or extending into the right-of-way of City or state maintained streets and roads, except as specifically permitted in this section (Section 5.9) or by state law;
- o. Signs that contain language or pictures obscene to the general public in accordance with N.C.G.S. § 14-190.1;
- p. Signs that advertise an activity or business no longer conducted on the property on which the sign is located;
- q. Indirect illumination, such as floodlights, erected in such a manner as to cause glare that impairs driver vision on streets or roadways or that causes a nuisance to adjoining property;
- r. Signs that obstruct fire escapes, windows, doors, or other openings used as means of egress or as required legal ventilation; and
- s. Signs containing or consisting of pennants, ribbons, streamers, festoon lighting, balloons or inflatable components, or spinners.

D. SIGNS THAT DO NOT REQUIRE A SIGN PERMIT

No sign permit is required to construct, erect place, establish, paint, create, or maintain the signs in subsections (1) through (15) below, provided the sign complies with the standards set forth for the sign below. Signs identified in subsections (1) through (15) below, are not counted toward the total sign area limitations in Section 5.9.E(1), Number, Area, and height Standards, as long as they comply with the standards set forth for the sign below, and with all other applicable standards in this section (Section 5.9).

- (1) A sign cut or etched into masonry, bronze, or similar material integral to the exterior of a building.
- (2) A pedestrian oriented sign that has a maximum sign area of six square feet and is attached to a building at a height of eight feet or less within ten feet of a building entrance containing only the business name or address. No more than one such sign is allowed per building entrance.
- (3) A pedestrian oriented sign that has a maximum sign area of two square feet and is attached to a building at a height of eight feet or less within ten feet of a building entrance, and that contains only the business name or address. No more than three such signs are allowed per building entrance.
- (4) A temporary sign that has a maximum sign area of 30 square feet placed on the premises of a use in the Public, Civic, and Institutional use classification. Such signs shall not be illuminated, shall be limited to one such sign per street frontage, and may remain in place for no more than 14 days in any 60-day period.
- (5) A temporary sign having a maximum sign area of 32 square feet placed on a lot where construction activities are being performed. Such signs shall not be illuminated, shall be limited to one such sign per street frontage, and must be removed with seven days after the completion of construction activities.

- (6) Any flag having a maximum area of 60 square feet that does not display a commercial message, attached to a pole having a maximum height of 40 feet.
- (7) Flags, regardless of whether they display a commercial message, having a maximum area of 24 square feet each. Such flags shall be limited to two per lot.
- (8) An incidental sign that has a maximum sign area of four square feet and that delineates parking areas, vehicular entrances and exits, one-way traffic flows, or similar features of a traffic circulation system on a site. Such a sign shall not exceed three feet in height, shall not obstruct any sight triangle, shall not be located farther than 15 feet from the feature which it delineates, and shall not display any commercial message. Such signs may be illuminated.
- (9) Non-illuminated signs affixed to structures, mailboxes, decorative light posts, driveway entrances, etc., which serve to identify the address of the structure or occupant. All such signs are required to be placed in such a manner as to be visible from the street.
- (10) Temporary signs that do not display commercial content and are displayed during the period beginning on the 30th day before the beginning date of "one-stop" early voting under N.C.G.S. Section 163-227.2 and ending on the tenth day after the primary or election day. Such signs shall not be located within a public street right-of-way or located closer than 10 feet to the edge of street pavement or within a required sight triangle, except as otherwise permitted by state law. Such signs shall be attached directly to the ground, shall have a maximum height of four feet and a maximum sign area of six square feet each, and shall not be illuminated.
- (11) A temporary sign that has a maximum sign area of six square feet that is placed on a residential lot for maximum period of 62 hours in any seven-day period.
- (12) A temporary sign placed on a lot or building that is actively being marketed for sale or for rent. Such signs shall be limited to one per street frontage, and shall have a maximum sign area of six square feet each if located on a single-family residential lot, or 32 square feet each if located on any other lot.
- (13) Temporary banner signs that comply with the following standards:
 - a. On lots having 300 or more feet of street frontage on a major thoroughfare, one such sign is allowed for every 300 feet of street frontage on a major thoroughfare, with a maximum three such signs per lot, subject to subsection 3 below.
 - b. On all lots having less than 300 feet of street frontage on major thoroughfare, or any frontage on a minor thoroughfare or collector street, one such sign is allowed, subject to subsection 3 below.
 - c. Combined developments are permitted to have one such sign per establishment/tenant if the signs are attached flush against the building wall of the advertised business.
 - d. No such sign shall exceed 24 square feet in area;
 - e. Such signs shall be displayed for a period of sixty days or less in any calendar year.
 - f. Such signs shall be attached to the frontage wall of a principal structure and shall not be attached to any roof or other sign.
 - g. Such signs shall not be portable signs or off-premise signs.
 - h. Such signs shall not be illuminated.
 - i. Such signs shall be maintained in good condition and shall be removed or replaced upon becoming worn, faded, or torn.
- (14) A temporary banner sign that has a maximum sign area of 24 square feet and is displayed in conjunction with and on the site of a temporary commercial use.

- (15) A-frame sign that complies with the following standards:
- a. The maximum sign display area is limited to six (6) square feet per sign face.
 - b. The maximum height of the sign is limited to four (4') feet above the grade of the surface upon which it is displayed when placed in its display position.
 - c. One sign may be displayed per customer entrance, provided that no more than two (2) a-frame signs may be displayed along the same building frontage.
 - d. The display areas (sign faces) shall be composed of rigid material.
 - e. Signs may be placed upon a public sidewalk or other pedestrian walkway, provided that a minimum of five (5) feet of unobstructed clearance is maintained along the directional path of the walkway.
 - f. In no case shall a sign be placed in a manner that obstructs vehicular access and movement.
 - g. A sign may only be displayed during the period beginning thirty (30) minutes prior to the daily opening and ending thirty (30) minutes following the daily closing of the business displaying the sign.

E. SIGNS THAT REQUIRE A SIGN PERMIT

(1) NUMBER, AREA, AND HEIGHT STANDARDS

a. STANDARDS FOR GC DISTRICT

Permanent ground, wall, canopy/awning, and projecting/suspended signs in the GC District shall comply with the standards for number, area, and height in Table 5.9.E(1)a: Standards for Sign Number, Area, and Height in the GC District.

Table 5.9.E(1)a: Standards for Sign Number, Area, and Height in the GC District

SIGN TYPE	DEVELOPMENT TYPE	NUMBER OF SIGNS ALLOWED	SIGN AREA, MAX. (SQ. FT.)	HEIGHT, MAX. (FT.)
GROUND SIGNS [1]	Individual Business	1 per frontage [2]	Pole or Monument Sign: 64 Arm Sign: 9	Pole or Monument Sign: 15 Arm Sign: 6
	Combined Development	1 per frontage [2]	Pole or Monument Sign: 64 plus 10 per additional tenant, not to exceed 100 sq. ft. Arm Sign: 9	Pole or Monument Sign: 20 Arm Sign: 6
	Commercial Subdivision (Entrance Sign)	1 per frontage, plus 1 per entrance road	Pole or Monument Sign: 64 Arm Sign: 32	Pole or Monument Sign: 20 Arm Sign: 6
	Civic/ Institutional Uses	1 per frontage [2]	Pole or Monument Sign: 64 Arm Sign: 9	Pole or Monument Sign: 15 Arm Sign: 6
WALL SIGNS	Individual Business and Combined Developments	1 per frontage [3]	1 sq. ft. per linear foot of width of the building to which wall sign is attached, not to exceed 120 sq. ft. or 10 percent of the area of the façade to which wall sign is attached	Not to extend above the vertical wall
CANOPY/AWNING SIGNS	Individual Business and Combined Developments	May be substituted for allowed wall sign	12	n/a
PROJECTING/SUSPENDED SIGNS	Individual Business and Combined Developments	May be substituted for allowed wall sign	Projecting Sign: 6 Suspended Sign: 4	n/a
NOTES: [1] Ground signs may include pole signs, monument signs, or arm signs. [2] Subject to Section 5.9.E(3)a, Ground Signs. [3] Subject to Section 5.9.E(3)b, Wall Signs.				

b. STANDARDS FOR O-I, LI, AND HI DISTRICTS

Permanent ground, wall, canopy/awning, and projecting/suspended signs in the O-I, LI, and HI districts shall comply with the standards for number, area, and height in Table 5.9.E(1)b: Standards for Sign Number, Area, and Height in the O-I, LI, and HI Districts.

Table 5.9.E(1)b: Standards for Sign Number, Area, and Height in the O-I, LI, and HI Districts

SIGN TYPE	DEVELOPMENT TYPE	NUMBER OF SIGNS ALLOWED	SIGN AREA, MAX. (SQ. FT.)	HEIGHT, MAX. (FT.)
GROUND SIGNS [1]	Individual Business	1 per frontage [2]	<i>Principal structures totaling less than 25,000 GFA:</i> Monument Sign: 32 Arm Sign: 9 <i>Principal structures totaling 25,000 GFA or more:</i> Monument Sign: 64 Arm Sign: 9	<i>Principal structures totaling less than 25,000 GFA:</i> Monument Sign: 4 Arm Sign: 6 <i>Principal structures totaling 25,000 GFA or more:</i> Monument or Arm Sign: 6
	Combined Development	1 per frontage [2]	Monument Sign: 32 plus 8 for each additional tenant, up to a maximum of 64 sq. ft. Arm Sign: 9	Monument or Arm Sign: 6
	Subdivision (Entrance Sign)	1 per entrance road	Monument Sign: 32 Arm Sign: 9	Monument or Arm Sign: 6
	Civic/Institutional Uses	1 per frontage [2]	Monument Sign: 64 Arm Sign: 9	Monument Sign: 8 Arm Sign: 6
WALL SIGNS	Individual Business and Combined Developments	1 per frontage [3]	1 sq. ft. per linear foot of the building to which wall sign is attached, up to 64 sq. ft. in O-I District and 120 sq. ft. in LI and HI districts	Shall not extend above the vertical wall
CANOPY/AWNING SIGNS	Individual and/or Combined Developments	May be substituted for allowed wall signs	12	n/a
PROJECTED/SUSPENDED SIGNS	Individual and/or Combined Developments	May be substituted for allowed wall sign	Projecting Sign: 6 Suspended Sign: 4	n/a
NOTES: [1] Ground signs may be monument signs or arm signs only. Pole signs are prohibited. [2] Subject to Section 5.9.E(3)a, Ground Signs. [3] Subject to Section 5.9.E(3)b, Wall Signs.				

c. STANDARDS FOR MU-N, MU-AC, CC, MU-UC, MU-SC, AND PD-C DISTRICTS

Permanent ground, wall, canopy/awning, and projecting/suspended signs in the MU-N, MU-AC, CC, MU-UC, MU-SC, and PD-C districts shall comply with the standards for number, area, and height in Table 5.9.E(1)c: Standards for Sign Number, Area, and Height in the MU-N, MU-AC, CC, MU-UC, MU-SC, and PD-C Districts.

Table 5.9.E(1)c: Standards for Sign Number, Area, and Height in the MU-N, MU-AC, CC, MU-UC, MU-SC, and PD-C Districts

Sign Type	Development Type	Number of Signs Allowed	Sign Area, Max. (sq. ft.)	Height, Max (ft.)
GROUND SIGNS [1]	Individual Business	1 per frontage [2]	Principal structures totaling 10,000 GFA or more: Monument Sign: 32 Arm Sign: 9 Principal structures totaling less than 10,000 GFA: Monument Sign: 16 Arm Sign: 9	Monument Sign: 4 Arm Sign: 6
	Combined Development	1 per frontage [2]	Monument Sign: 32 plus 8 for each additional tenant, up to a maximum of 64 sq. ft. Arm Sign: 9	Monument Sign: 4 Arm Sign: 6
	Subdivision (Entrance Sign)	2 per entrance road along major thoroughfares	Monument Sign (on major thoroughfare): 32 Monument Sign (not on major thoroughfare): 16 Arm Sign: 9	Monument Sign (on major thoroughfare): 8 Monument Sign (not on major thoroughfare): 6 Arm Sign: 6
	Civic/Institutional Uses	1 per frontage [2]	Monument Sign: 64 Arm Sign: 9	Monument Sign: 8 Arm Sign: 6
WALL SIGNS	Individual Business and Combined Developments	1 per frontage [3]	1 sq. ft. per linear foot of the building to which wall sign is attached, not to exceed 32 sq. ft. or 10 percent of the area of the façade to which wall sign is attached in CC District, or 64 sq. ft. in MU-N, MU-AC, MU-UC, MU-SC, AND PD-C districts [4]	Shall not extend above the vertical wall
CANOPY/AWNING SIGNS	Individual Business and Combined Developments	May be substituted for allowed wall signs	12	n/a
PROJECTED/SUSPENDED SIGNS	Individual Business and Combined Developments	1 per frontage [3]	Projecting Sign: 6 Suspended Sign: 4	n/a
NOTES: [1] Ground signs may be monument signs or arm signs only. Pole signs are prohibited. [2] Subject to Section 5.9.E(3)a, Ground Signs. [3] Subject to Section 5.9.E(3)b, Wall Signs. [4] For businesses located in the CC District with frontage on a major thoroughfare, except properties located along Main Street between 1st Street and Dale Earnhardt Boulevard, and Institutional and Civic Uses, total signage may be increased up to 120 sq. ft.				

d. STANDARDS FOR AG, R1, R2, R4, R6, R7, R8, R18, TOD, PD, AND PD-TND DISTRICTS

Permanent ground, wall, canopy/awning, and projecting/suspended signs in the AG, R1, R2, R4, R6, R7, R8, R18, TOD, PD, and PD-TND districts shall comply with the standards for number, area, and height in Table 5.9.E(1)d: Standards for Sign Number, Area, and Height in the AG, R1, R2, R4, R6, R7, R8, R18, TOD, PD, and PD-TND Districts.

Table 5.9.E(1)d: Standards for Sign Number, Area, and Height in the AG, R1, R2, R4, R6, R7, R8, R18, TOD, PD, and PD-TND Districts

SIGN TYPE	DEVELOPMENT TYPE	NUMBER OF SIGNS ALLOWED	SIGN AREA, MAX. (SQ. FT.)	HEIGHT, MAX. (FT.)
GROUND SIGNS [1]	Multifamily dwellings, residential subdivision, and manufactured home parks (Entrance Sign)]	2 per entrance road along major thoroughfares	Monument Sign (on major thoroughfare): 32 Monument Sign (not on major thoroughfare): 16 Arm Sign: 9	Monument Sign (not on major thoroughfare): 6 Monument Sign (on major thoroughfare): 8 Arm Sign: 6
	Home Occupation	not permitted	n/a	n/a
	Boarding house, family care home, residential care facility, bed and breakfast establishment, and similar uses	1 per premises	Monument Sign: 16 Arm Sign: 9	Monument Sign: 4 Arm Sign: 6
	Civic/Institutional Uses	1 monument sign per premises Arm signs not permitted	Monument Sign: Less than 1 acre site: 16 Between 1 and 2 acre site: 24 Between 2 and 5 acre site: 32 Greater than 5 acre site: 48	Monument Sign: 8
	Other Uses	1 per premises	Monument Sign: 16 Arm Sign: 9	Monument Sign: 4 Arm Sign: 6
WALL SIGNS	Multifamily dwellings, residential subdivisions, and manufactured home parks	not permitted	n/a	n/a
	Home Occupation	1 per premises	Rural home occupation: 8 All other home occupations: 4	n/a
	Boarding house, family care home, residential care facility, bed and breakfast establishment, and similar uses	1 per premises as a substitute for a ground sign	5	n/a

Table 5.9.E(1)d: Standards for Sign Number, Area, and Height in the AG, R1, R2, R4, R6, R7, R8, R18, TOD, PD, and PD-TND Districts

SIGN TYPE	DEVELOPMENT TYPE	NUMBER OF SIGNS ALLOWED	SIGN AREA, MAX. (SQ. FT.)	HEIGHT, MAX. (FT.)
	Civic/Institutional Uses	1 per frontage [2]	Principal structures totaling 10,000 GFA or more: 32 Principal structures totaling less than 10,000 GFA: 16	n/a
	Other Uses	1 per premises	16	n/a
NOTES: [1] Ground signs may be monument signs or arm signs only. Pole signs are prohibited. [2] Subject to Section 5.9.E(3)b, Wall Signs.				

(2) PERMITTED SIGN CHARACTERISTICS

The use of animation, changeable copy, and illumination in a sign shall comply with Table 5.9.E(2): Permitted Sign Characteristics, based on the zoning district where the sign is proposed to be located.

Table 5.9.E(2): Permitted Sign Characteristics

P = Permitted P* = Permitted for Nonresidential Uses Only

SIGN CHARACTERISTIC	ZONING DISTRICT		
	AG, R1, R2, R4, R6, R7, R8, R18, TOD, PD, PD-TND	MU-N, MU-AC, CC, MU-UC, MU-SC, PD-C	O-I, GC, LI, HI
Animated	–	–	–
Changeable Copy	P*	P	P
Electronic Message Board	P*	P	P
Illumination, Internal	P*	P	P
Illumination, Indirect	–	P	P
Illumination, Indirect, Exposed Bulbs or neon	–	P	–
Illumination, External Low Voltage (Residential Uses)	P	P	–

(3) ADDITIONAL STANDARDS FOR PERMANENT SIGNS

In addition to the standards in Section 5.9.E(1), Number, Area, and height Standards, and Section 5.9.E(2), Permitted Sign Characteristics, the standards in subsections a through d below, apply to signs permanently installed on a site for which a sign permit is required in accordance with Section 2.5.C(6), Sign Permit.

a. GROUND SIGNS

Ground signs shall comply with the following additional standards:

1. Minimum Spacing from Existing Ground Signs

No proposed ground-mounted sign shall be placed within 50 feet of an existing ground-mounted sign.

2. Lots with More Than One Street Frontage

Lots with more than one street frontage that is at least 100 feet in width at the street right-of-way shall be allowed one ground sign per frontage. No two ground signs shall be placed on the same street frontage.

3. Combined Developments

All uses within a combined development (including a combined development having more than one establishment or business on a common parcel) shall share ground-mounted signs permitted in accordance with Section 5.9.E(1), Number, Area, and height Standards. These regulations shall not apply to outparcels of the development.

4. Base Landscaping

All ground-mounted signs located within parking areas and not in yard areas, shall be located in a bed of landscaping at least 30 square feet in area. This area shall contain low growing materials such as ground covers, perennials, and shrubs, and shall be bordered by acceptable curbing materials as specified in Section 5.2, Off-Street Parking, Bicycle Parking, and Loading Standards.

5. Changeable Copy

Changeable copy or "reader board" area and electronic message board area are permitted as on-premise ground signs provided that the changeable copy or electronic message board area does not exceed 70 percent of the total area of the sign. Electronic message board displays shall not exceed five thousand (5,000) NITs during daylight hours and five hundred (500) NITs after dusk. The transition time between changes in the sign face or message shall be less than one second. The sign shall not display any message that moves, appears to move, scrolls, or changes in intensity during the fixed display period.

6. Drive-Through Menu Signs

Drive-through menu signs shall be limited to a maximum size of 32 square feet.

7. Curbside Pickup Sign

A curbside pickup sign shall be limited to a maximum size of three (3) square feet. The sign shall not be internally or externally illuminated. Each curbside pickup space is permitted one (1) curbside pickup sign.

b. WALL SIGNS

Wall signs shall comply with the following additional standards:

1. Building Walls Which Do Not Face Public Streets

The permitted wall sign may be placed on a wall that does not face a public street. The maximum allowable size shall be calculated as if the wall faces a public street. The maximum allowable size for a sign on one wall is not transferable to a wall with less frontage.

2. Corner or Double Frontage Lots

Lots with more than one street frontage shall be allowed to erect one additional wall or canopy sign on the secondary street frontage, if the secondary frontage is at least 100 feet wide at the street right-of-way. The secondary wall sign shall not be placed on the same building wall as the primary sign.

3. Wall Facing Side or Rear Parking Lot

Lots with parking to the side or rear of a building shall be allowed to erect one additional wall or canopy sign facing the parking lot, provided that at least 50 percent of the required parking for the establishment is located to the side or rear of the building and an entrance to the establishment faces the parking lot. The secondary wall sign may not be placed on the same building wall as the primary sign.

4. Extension From or Above Wall

No wall sign may extend more than one foot from the exterior of the wall and no portion of a sign shall extend above the wall on which it is mounted.

5. Historic Buildings

Wall signs on historic buildings shall be placed within the sign frieze, or distinct place within which a wall sign was intended to be located, if the building was designed for such. No wall sign shall extend beyond such space. If there is no sign frieze, the wall sign shall be placed below the typical second floor window area. The design and coloration of such signs shall be compatible with the character of the building.

6. Combined Developments

All establishments within combined developments shall use as individual identification signs, exclusively, canopy/awning or wall signs. No mixing of sign types within a combined development shall be permitted, except that canopies/awnings containing no advertising copy, may be used in combination with wall mounted signs.

7. Changeable Copy

Changeable copy or "reader board" area and electronic message board area are permitted as wall signs if the changeable copy or electronic message board area does not exceed 70 percent of the total area of the sign. Electronic message board displays shall not exceed five thousand (5,000) NITs during daylight hours and five hundred (500) NITs after dusk. The transition time between changes in the sign face or message shall be less than one second. The sign shall not display any message that moves, appears to move, scrolls, or changes in intensity during the fixed display period.

c. CANOPY/AWNING SIGNS

Canopy/awning signs shall comply with the following additional standards:

1. Valance and Copy Size

The valance, or apron, for any canopy shall in no case exceed 12 inches in height. Individual letters or symbols on these valances shall not exceed nine inches in height. This provision shall apply only to valances to which sign copy is affixed.

2. Illumination

Canopy/awning signs that may be illuminated shall have no bare bulbs present on or around the sign face.

3. Clearance Requirements

All canopy/awning signs attached to the underside of a canopy/awning shall maintain the minimum clearance above the ground level of any sidewalk or vehicular access area as specified in the Building Code.

4. Historic Buildings

No canopy/awning sign shall be permitted on a historic building unless documentation indicates that such a sign was used on the building when originally constructed and occupied. The design and coloration of such signs shall be compatible with the character of the building.

5. Combined Developments

All establishments within combined developments shall use as individual identification signs, exclusively, canopy/awning or wall signs. No mixing of sign types within a combined development shall be permitted, except that canopies/awnings containing no advertising copy, may be used in combination with wall mounted signs.

d. PROJECTING OR SUSPENDED SIGNS

Projecting signs and suspended signs shall comply with the following standards:

1. No portion of a projecting or suspended sign shall extend more than five feet from the building wall to which it is attached.
2. A projecting or suspended sign shall not extend more than five feet into the public right-of-way. A projecting or suspended sign shall not encroach over a motorized vehicle travel way, such as a public or private street, alley, or driveway. If such a sign is suspended or projects above a public right-of-way, the issuance and continuation of a sign permit shall be conditioned on the sign owner obtaining, and maintaining in force, liability insurance in an amount of not less than \$500,000 per occurrence per sign.

F. COMPREHENSIVE SIGN PACKAGES

(1) PURPOSE

The purpose of the Comprehensive Sign Package is to encourage innovative, creative, and effective signage by providing an alternative to the general permanent signage criteria in this section.

(2) APPLICABILITY

- a. As an option to the permanent signage standards set forth in this section, freestanding structures in excess of 25,000 square feet and/or master planned developments in excess of 10 acres shall be allowed to submit an application for a Comprehensive Sign Package. All Comprehensive Sign Packages shall be reviewed as a special use permit in accordance with the procedures set forth in Section 2.5.A(5), Special Use Permit.
- b. Any signage not specifically identified in the Comprehensive Sign Package shall conform to the standards in this section.

(3) ARCHITECTURAL THEME

All signs must be architecturally integrated into/with the design of the building and/or site using similar and coordinated design features, materials, colors, etc.

(4) MASTER SIGNAGE PLAN

The Comprehensive Sign Package shall include a master signage plan that includes the following:

- a. A site plan meeting the requirements of the Land Development Standards Manual, that identifies the locations of freestanding, multi-tenant, and directional signs;
- b. A list of each type of sign to be permitted in the development with accompanying allowances. At a minimum, the following information shall be provided:
 1. Freestanding sign regulations to include dimensions of support structures, dimensions of sign face, permitted sign copy area (maximum individual and aggregate sign area per establishment), and maximum height of sign;

2. Wall sign allowances to include permitted sign copy area (maximum individual and aggregate sign area per establishment), heights (in relation to storefront height) and area (in relation to storefront area);
 3. Directional sign allowances to include height and sign area;
 4. Illumination guidelines describing the type(s) allowed, placement, intensity, and hours of illumination;
 5. Changeable copy guidelines ;
 6. Temporary signage guidelines; and
 7. Theme and/or color guidelines providing graphic depictions of sign designs, color palettes, font style and letter size, illumination, materials, and sample sign copy areas; and
- c. A demonstration that all freestanding signage meets the site triangle requirements in the LDSM.

SECTION 5.10. STORMWATER MANAGEMENT STANDARDS

A. FINDINGS

(1) The Kannapolis City Council makes the following findings:

- a. Development and redevelopment have the following impacts:
 1. Alteration of the hydrologic response of local watersheds;
 2. Increase in stormwater runoff rates and volumes, flooding, soil erosion, stream channel erosion, nonpoint and point source pollution, and sediment transport and deposition; and
 3. Reduction of groundwater recharge;
- b. These changes in stormwater runoff contribute to increased quantities of water-borne pollutants and alterations in hydrology which are harmful to public health and safety as well as to the natural environment;
- c. These effects can be managed and minimized by applying proper design and well-planned controls to manage stormwater runoff from development sites; and
- d. The Federal Water Pollution Control Act of 1972 ("Clean Water Act") and federal Phase II Stormwater Rules promulgated under it, as well as rules of the North Carolina Environmental Management Commission promulgated in response to federal Phase II requirements, require the City to adopt the minimum stormwater controls in this section.

(2) Therefore, the Kannapolis City Council hereby adopts the water quality and quantity regulations set forth in this section to meet the requirements of state and federal law regarding control of stormwater runoff and discharge.

B. PURPOSE AND INTENT

The purpose of this section is to protect, maintain, and enhance the public health, safety, environment, and general welfare by establishing minimum standards to control the adverse effects of increased post-development stormwater runoff and nonpoint and point source pollution, and to control illicit discharges into municipal stormwater systems. The standards in this section are intended to ensure proper management of construction-related and post- development stormwater runoff in order to minimize damage to public and private property and infrastructure, protect water and aquatic resources, and

safeguard the public health, safety, and general welfare. The provisions in this section are intended to achieve the purpose of this section specifically by:

- (1) Establishing decision-making processes for development that protects the integrity of watersheds and preserves the health of water resources;
- (2) Requiring that new development and redevelopment maintain the pre-development hydrologic response in their post-development state, as nearly as practicable for the applicable design storm in order to reduce flooding, streambank erosion, nonpoint and point source pollution, and increases in stream temperature, and to maintain the integrity of stream channels and aquatic habitats;
- (3) Establishing minimum post-development stormwater management standards and design criteria for the regulation and control of stormwater runoff quantity and quality;
- (4) Establishing design and review criteria for the construction, function, and use of structural Stormwater Control Measures ("SCMs") that may be used to meet the minimum post-development stormwater management standards;
- (5) Encouraging the use of better management and site design practices, such as the use of vegetated conveyances for stormwater and the preservation of greenspace and other conservation areas, to the maximum extent practicable;
- (6) Establishing provisions for the long-term responsibility for and maintenance of structural and nonstructural stormwater SCMs to ensure that they continue to function as designed, are maintained appropriately, and pose no threat to public safety;
- (7) Establishing administrative procedures for the inspection of approved projects and for assuring their long-term maintenance;
- (8) Coordinating site design plans that include open space and natural areas as referenced within this Ordinance;
- (9) Controlling illicit discharges into the municipal separate stormwater system;
- (10) Controlling erosion and sedimentation from construction activities; and
- (11) Assigning responsibility and processes for approving the creation and maintenance of adequate drainage and flood damage prevention.

C. APPLICABILITY

- (1) Except as otherwise provided in subsection (2) below, the provisions in this section apply to activities that require approval of a stormwater management permit in accordance with Section 2.5.C(10), Stormwater Management Permit.
- (2) The requirements in subsections (1), (6), and (7) of Section 5.10.E, Standards, below, apply to all development within the City, regardless of whether a stormwater management permit is required.

D. DETERMINATION OF COMPLIANCE

(1) GENERAL

- a. The Director of Engineering shall evaluate all Stormwater Control Measures (SCMs) and stormwater treatment practices required under this section and shall determine whether they meet the requirements of this section. The Director of Engineering's evaluation and determination shall be based on the policies, criteria, and information (including technical specifications and standards and the specific design criteria for each stormwater practice) in the most recent edition of the North Carolina Department of Environmental Quality ("NCDEQ") Stormwater Design Manual ("Design

Manual”). Stormwater treatment practices that are designed, and constructed, and maintained in accordance with the criteria and specifications in the Design Manual will be presumed to meet the minimum water quality and quantity performance standards of this section. The Director of Engineering may authorize exceptions to the Design Manual in accordance with subsection b below.

- b.** If an applicant proposes to utilize a practice or practices not designed and constructed in accordance with the criteria and specifications in the Design Manual, the applicant shall have the burden of demonstrating that the practice(s) will satisfy the minimum water quality and quantity performance standards of this section. The Director of Engineering may require the applicant to provide documentation, calculations, and examples necessary for the Director to determine whether such an affirmative showing is made.
- c.** Where the specifications or guidelines of the Design Manual conflict with other laws or regulations, the provisions that are more restrictive or apply a higher standard shall control.
- d.** If provisions in the Design Manual are amended subsequent to the submittal of a development application under this Ordinance but prior to its approval or denial, the amended provisions shall control and shall be utilized in reviewing the application.

(2) USE OF CHARLOTTE MECKLENBURG STORM WATER DESIGN MANUAL

- a.** The City Council hereby finds that hydrologic conditions in Cabarrus and Rowan Counties are similar to those in Mecklenburg County and that it is in the public interest to maintain a uniform regional procedure for computing the stormwater impacts of new development. Accordingly, the computation of peak flows, runoff volumes, and discharge capacities for storm events and stormwater management facilities shall use the methodology in the Charlotte Mecklenburg Storm Water Design Manual (available on the the City of Charlotte-Mecklenburg County website, www.charmeck.org). U.S. Geological Survey and National Oceanic and Atmospheric Administration (NOAA) rainfall data for Cabarrus and Rowan County shall be used in the analysis of stormwater facilities.
- b.** Where the Charlotte Mecklenburg Storm Water Design Manual and the NCDEQ Stormwater Design Manual have conflicting design standards, the Charlotte Mecklenburg standards shall control when evaluating stormwater detention and flow rate calculations and the NCDEQ standards shall control in all other cases.
- c.** The following sections of the Charlotte Mecklenburg Storm Water Design Manual shall not apply to this Ordinance: Approximate Flood Limits, Storm Drain Location, Inlet Types and Spacing, Cross Slope, Curb and Gutter, and Detention Facilities Used for Credits, including any references to the Charlotte-Mecklenburg Land Development Standards Manual or to storm water fees.

E. STANDARDS

All development and redevelopment to which this section applies (see Section 5.10.C, Applicability) shall comply with the standards in subsections (1) through (8) below.

(1) LOT GRADING AND LANDSCAPING STANDARDS

All interim and permanent drainage facilities shall be designed and constructed in accordance with the standards in this section.

a. POSITIVE DRAINAGE REQUIRED

Developments shall be designed and constructed with a positive drainage flow away from buildings towards approved stormwater management facilities.

b. ALL IMPERVIOUS SURFACES TO BE CONSIDERED

All impervious surfaces in the proposed development (including off street parking) shall be considered in the design of site grading plans.

c. PROTECTION FROM SEDIMENTATION

Site grading and drainage facilities shall protect sinkholes, wetlands, ponds, and lakes from increased sediment loading.

d. INCREASED RUNOFF PROHIBITED

Site grading shall not increase the volume or velocity of runoff onto downstream properties for the one year and ten year storm events, unless specifically approved as part of a project's drainage plan. Exceptions to this will be at the discretion of the Director of Engineering.

e. LANDSCAPING.

All disturbed areas within the dedicated right-of-way and easements of any subdivision street shall be restored with vegetation. Street trees shall be planted or, where permitted trees already exist, consistent with the Section 5.3, Landscaping and Buffer Standards, shall be maintained and protected between the paved areas and sidewalks. Where no sidewalks are required, street trees shall be planted or existing trees shall be maintained or protected between the paved areas and the edge of the right-of-way.

f. DESIGNATION AS OPEN SPACE.

Stormwater facilities to be located in designated open space areas shall be regulated in accordance with Section 5.4, Open Space Set-Aside Standards.

g. PERMEABLE PAVEMENT.

Certain provisions of this Ordinance (See Section 5.2, Off-Street Parking, Bicycle Parking, and Loading Standards; Section 5.11, Sustainable/Green Building Standards; and Section 5.12, Sustainable/Green Building Incentives) permit permeable pavement in some situations. Where permeable pavement is used separately from those provisions, it shall conform to requirements in the Design Manual.

(2) LOW-DENSITY PROJECT STANDARDS

Low-density projects shall comply with the following standards.

- a.** On lands in the WPO district, the maximum built-upon area shall be in accordance with Table 3.8.I(8): Maximum Development Intensity. On lands outside the WPO district, low-density projects shall consist of those projects having 24 percent or less built-upon area. The development shall comply with all applicable state regulations, including 15A NCAC 2H .1003.
- b.** Stormwater runoff from the development shall be transported from the development by vegetated conveyances, to the maximum extent practicable.
- c.** The development shall comply with applicable standards in Section 3.8.H, River/Stream Overlay (RSO) District.
- d.** An enforceable restriction on property usage that runs with the land, such as a recorded deed restriction or protective covenants, shall be provided to ensure that future development and redevelopment maintains the site consistent with the approved development plans.
- e.** The development shall meet all applicable stormwater detention requirements in the LDSM.

(3) HIGH-DENSITY PROJECT STANDARDS

High-density projects shall comply with the following standards.

- a. On lands in the WPO district, the maximum built-upon area shall be in accordance with Table 3.8.I(8): Maximum Development Intensity. On lands outside the WPO district, high-density projects shall consist of those projects having greater than 24 percent built-upon area.
- b. SCMs shall comply with applicable state regulations, including 15A NCAC 2H .1003, and 15A NCAC 2H .1050, *et seq.*
- c. BMPs shall be designed to meet the current NCDEQ Minimum Design Standards for stormwater BMPs and the receiving stream requirements along with the requirements of 15A NCAC 02H.
- d. The development shall comply with applicable standards in Section 3.8.H, River/Stream Overlay (RSO) District.
- e. An enforceable restriction on property usage that runs with the land, such as a recorded deed restriction or protective covenants, shall be provided to ensure that future development and redevelopment maintains the site consistent with the approved development plans.
- f. The development shall meet all applicable stormwater detention requirements in the LDSM.

(4) CAPACITY OF STORMWATER MANAGEMENT FACILITIES

- a. Development that requires sediment and erosion control plan approval or that will exceed 20,000 square feet of impervious coverage shall be required to construct a complete drainage system sufficient to mitigate the impacts of the design rainfall event.
- b. Post development runoff shall not exceed pre-development runoff unless a maximum discharge rate has been adopted for the applicable drainage basin and the discharge does not exceed that rate.
- c. If a maximum discharge rate has not been adopted for the applicable drainage basin, post development discharge may not exceed predevelopment discharge. Stormwater volumes resulting from the proposed development shall be detained within the development and released at a rate no greater than existed prior to the development.
- d. Detention facilities shall be designed to maintain the predeveloped runoff rate from the 1-year and 10-year, 24 hour design storm events.
- e. Emergency spillway facilities shall be designed to accommodate the 50-year, 24 hour frequency storms. Cross-drainage storm sewers shall be designed for a 25-year, 24 hour frequency storm, unless located within a FEMA flood hazard area, in which case the storm sewer shall be designed for the 100-year, 24 hour storm event. All other storm sewers shall be designed for a 10-year, 24 hour frequency storm.
- f. All subdivision site plans for uses in the Residential, Commercial, and Industrial use categories shall include an analysis of off-site downstream features to determine the stormwater impacts on the receiving private and public properties. The analysis shall extend a minimum of one-fourth of a mile downstream from the project and include measures to mitigate these impacts.

(5) EASEMENTS

- a. Easements, rights-of-way, or other legal access shall be provided to all stormwater management facilities for inspection, periodic maintenance, and infrequent repairs. The easement shall be recorded and its terms shall specify who may make use of the easement and for what purposes. Property owners and their successors in interest are responsible for the maintenance and upkeep of the easement area in accordance with the Operations and Maintenance Agreement (see Section 5.10.F(2), Operation and Maintenance Agreement).

- b. If a property owner fails to comply with the Operations and Maintenance Agreement, the property shall grant the City easements for access, inspection, and emergency maintenance by the City. Emergency maintenance performed or directed by the City shall be completed at the cost of the owner of the detention facility. No permanent structures or other impediments to access shall be constructed within the area of easement.
- c. The Director of Engineering may require any water course or stormwater management facility to be located within a dedicated drainage easement officially recorded by the Cabarrus or Rowan County Register of Deeds as a "permanent detention easement" that provides sufficient width for maintenance.

(6) OBSTRUCTION OF DRAINAGE CHANNELS PROHIBITED

No fences or structures shall be constructed across an open or closed drainage channel that will reduce or restrict the flow of water or adversely affect the public infrastructure.

(7) ONSITE WASTEWATER

- a. New and replaced onsite above ground systems for domestic wastewater installed after the effective date of this Ordinance shall be subject to the same requirements for operation and maintenance as are structural SCMs for stormwater, including, at a minimum, annual inspection reports and a recorded operation and maintenance agreement, in accordance with Section 5.10.F, Operation and Maintenance. Below ground systems shall be maintained in proper working order.
- b. Onsite systems for domestic wastewater, which are privately owned by a property owner and covered by this Ordinance, shall be operated and maintained so as to avoid adverse effects on surface water and groundwater, including eutrophication of surface water and microbial or nitrate contamination of groundwater. Septic tank residuals shall be pumped whenever necessary to assure the proper operation of the system to meet these standards, and the septage shall be reused or disposed of in a manner that does not present significant risks to human health, surface water or groundwater.

(8) NUTRIENT SENSITIVE WATERS

In addition to the standards for stormwater handling set out in the Design Manual, development and redevelopment that drains in whole or part to class NSW waters shall design and implement the best stormwater practices that reduce nutrient loading, while still meeting the other requirements of this section.

F. OPERATION AND MAINTENANCE

(1) GENERAL MAINTENANCE REQUIREMENTS

a. FUNCTION OF SCMS AS INTENDED

The landowner or person in possession or control of the land upon which each structural SCM is installed in accordance with this section shall maintain and operate it so as to preserve and continue its function in controlling stormwater quality and quantity at the degree or amount of function for which the structural SCM was designed.

b. ANNUAL MAINTENANCE INSPECTION AND REPORT

- 1. The individual responsible for maintenance of a structural SCM installed in accordance with this section shall submit to the Director of Engineering an inspection report annually, from a qualified registered North Carolina professional engineer, surveyor, or landscape architect performing services only in their area of competence. The inspection report shall contain all of the following:

- (a) The name and address of the landowner;
 - (b) The recorded book and page number of the lot of each structural SCM;
 - (c) A statement that an inspection was made of all structural SCMs;
 - (d) The date the inspection was made;
 - (e) A statement that all inspected structural SCMs are performing properly and are in compliance with the terms and conditions of the approved maintenance agreement required by this section; and
 - (f) The original signature and seal of the engineer, surveyor, or landscape architect.
2. All inspection reports submitted in accordance with subsection 1 above, shall be on forms supplied by the Director of Engineering. An inspection report shall be submitted to the Director of Engineering beginning one year from the date of as-built certification for the structural SCM, and continuing each year thereafter on or before the date of the as-built certification.
- c. PREVENTION OF NUISANCE**
- The owner of each stormwater SCM, whether structural or non-structural SCM, shall maintain it so as not to create or result in a nuisance condition.

(2) OPERATION AND MAINTENANCE AGREEMENT

a. GENERAL REQUIREMENTS

- Prior to the conveyance or transfer of any lot or building site to be served by a structural SCM in accordance with this section, and prior to issuance of any permit for construction, development, or redevelopment requiring a structural SCM under this section, the applicant or owner of the site must execute an operation and maintenance agreement that shall run with the land and be binding on all subsequent owners of the site, portions of the site, and lots or parcels served by the structural SCM. Until the transference of all property, sites, or lots served by the structural SCM, the original owner or applicant shall have primary responsibility for carrying out the provisions of the maintenance agreement.
1. The operation and maintenance agreement shall require the owner or owners or successors in interest to maintain, repair, and, if necessary, reconstruct the structural SCM, and shall state the terms, conditions, and schedule of maintenance for the structural SCM. In addition, it shall grant to the City of Kannapolis a right of entry in the event that the Director of Engineering has reason to believe it has become necessary to inspect, monitor, maintain, repair, or reconstruct the structural SCM. In no case shall the right of entry, of itself, confer an obligation on the City of Kannapolis to assume responsibility for the structural SCM.
2. Each operation and maintenance agreement shall contain, without limitation, the following provisions:
- (a) A description of the property on which the SCM is located and all easements from the site to the facility;
 - (b) Size and configuration of the SCM;
 - (c) A statement that properties which will be served by the SCM facility are granted rights to construct, use, inspect, replace, reconstruct, repair, maintain, and access the device and to transport, store, and discharge stormwater to and from the device;
 - (d) A statement that the SCM shall be maintained in accordance with the attached stormwater operations and maintenance manual and budget (see subsection 4 below), shall perform as designed, and at all times shall comply with all applicable laws, ordinances, regulations, rules and directives of governmental authorities;

- (e) The provisions in Section 5.10.F(2)b, Special Requirements for Homeowners' and Other Associations, if the SCM is, or is to be owned and maintained by a homeowners' association, property owners' association, or similar entity;
 - (f) A statement that no land-disturbing activity, placement of impervious surface, removal of vegetation, encroachment, construction or erection of any structure shall occur within permanently protected undisturbed open space areas, except in accordance with a permit first being issued by the City of Kannapolis;
 - (g) A statement that the stormwater control measures are required to comply with Kannapolis City Code of Ordinances and that failure to maintain a SCM is a violation of the City Code potentially subjecting each lot owner subject to the agreement to significant daily civil penalties and other enforcement actions; and
 - (h) A statement that each lot served by the SCM is jointly or severally responsible for repairs and maintenance of the device and any unpaid ad valorem taxes, public assessments for improvements, and unsafe building and public nuisance abatement liens charged against the facility, including all interest charges together with attorneys' fees, cost and expenses of collection. A requirement of contribution in favor of each owner shall be included in the operation and maintenance agreement. That failure to maintain SCM is a violation of the City Code potentially subjecting each lot owner subject to this legal document to significant daily civil penalties and other enforcement actions.
3. An operation and maintenance plan or manual, together with a budget, shall be provided by the initial developer. The plan or manual shall indicate what operation and maintenance actions are needed, and what specific quantitative criteria will be used to determine when those actions are to be undertaken. The plan or manual must indicate the steps that will be taken to restore a stormwater system to design specifications if a failure occurs. The budget shall include the following:
- (a) Annual costs such as routine maintenance, periodic sediment removal and replenishment of rip-rap, insurance premiums, taxes, mowing and reseeding, and required inspections (common costs include (i) maintenance of the SCM, (ii) premiums for liability insurance in an amount of not less than \$1,000,000.00 covering all occurrences commonly insured against for death, bodily injury and property damage arising out of or in connection with the use, ownership, or maintenance of common areas, including the SCM, and (iii) premiums of hazard insurance on the common area(s) insuring against all risk of loss commonly insured against, including fire and extended coverage of peril); and
 - (b) The operation and maintenance agreement shall include the establishment of an escrow account created by the Owner or Developer.
 - (c) If structural SCMs are not performing adequately or as intended, or are not properly maintained, the City, in its sole discretion, may remedy the situation and in such instances the City shall be fully reimbursed from the escrow account.
 - (d) The Owner or Developer shall fund the escrow account as follows:
 - 1. Prior to plat recordation or issuance of construction permits, whichever first occurs, the Owner or Developer shall establish and maintain a separate escrow account to establish, collect or retain funds for maintenance, repair, replacement and reconstruction costs for the

stormwater control project's original cost of construction and shall be managed by the Owner or Developer.

2. The amount of the escrow account shall not exceed ten percent (10%) of the original cost to construct the SCM as estimated by the sealed engineers.
3. The Owner or Developer shall deposit into the escrow account no less than two percent (2%) of the engineer's estimated costs.
4. The Owner or Developer shall have a period of five (5) years from the acceptance of the SCM to fully deposit the required escrow account.
5. The Owner or Developer shall annually by January 30 of each year verify to the City Engineer the amount held in the escrow account.
4. Each SCM shall be maintained by the landowner, homeowners' association, property owners' association, or commercial lot owner(s) designated in the approved stormwater operations and maintenance manual and budget. An association may be delegated responsibilities in subsection 2 above only if:
 - (a) Membership into the association is mandatory for each parcel served by the device and any successive owner;
 - (b) The association has the power to levy assessments for obligations imposed by the agreement; and
 - (c) All unpaid assessments levied by the association become a lien on the individual parcel.
5. The operation and maintenance agreement must be approved by the Director of Engineering prior to plan approval. The approved agreement shall be referenced on the final plat, and shall be recorded with the county Register of Deeds upon final plat approval. A copy of the recorded maintenance agreement shall be submitted to the Director of Engineering within 14 days of its recordation. If no subdivision plat is recorded for the site, then the operations and maintenance agreement shall be recorded with the county Register of Deeds so as to appear in the chain of title of all subsequent purchasers under generally accepted searching principles.

b. SPECIAL REQUIREMENTS FOR HOMEOWNERS' AND OTHER ASSOCIATIONS

For all structural SCMs required by this section that are, or are to be owned and maintained by a homeowners' association, property owners' association, or similar entity, ("Association") the operation and maintenance agreement ("Agreement") required by subsection a above, shall comply with the following requirements, in addition to those in subsection a above.

1. **Continuous Operation and Maintenance**

The Agreement shall include acknowledgment that the Association shall continuously operate and maintain the stormwater control and management facilities.
2. **Escrow Account**
 - (a) The Agreement shall include the establishment of an escrow account created and maintained by the Developer and Associate and then maintained by the Association.
 - (b) If structural SCMs are not performing adequately or as intended, or are not properly maintained, the City, in its sole discretion, may remedy the situation, and in such instances the City shall be fully reimbursed from the escrow account.
 - (c) Both Developer and Association shall fund the escrow account, as follows:
 1. Prior to plat recordation or issuance of construction permits, whichever first occurs, the Developer or the Association shall establish and maintain a separate escrow account to

establish, collect or retain funds for maintenance, repair, replacement and reconstruction costs for the stormwater control project's original cost of construction and shall be managed by the Association.

2. The amount of the escrow account shall not exceed ten percent (10%) of the original cost to construct the SCM as estimated by the sealed. Engineers.

3. The Developer shall deposit into the escrow account no less than two percent (2%) of the engineer's estimated costs.

4. The Association shall have a period of five (5) years from acceptance of the SCM to fully deposit the required escrow amount.

5. The Association shall annually by January 30 of each year verify to the City Engineer the amount held in the escrow account.

3. City's Right of Entry

The Agreement shall grant the City a right of entry to inspect, monitor, maintain, repair, and reconstruct structural SCMs.

4. Owner Covenants

The Agreement shall specify that each landowner, by acceptance of a deed or other instrument conveying title to a lot or building site, whether or not it shall be so expressed therein, is deemed to covenant and agree to the following:

(a) The payment to the Association (or to any person who may be designated by the Association to collect such monies) of a stormwater assessment, established and collected as hereinafter provided.

(b) The annual budget for the Association shall include the stormwater assessments as a line item, and the amount budgeted shall be sufficient to satisfy the total annual inspection, management, and maintenance budget for the SCM and any replacement account. The Association shall honor its obligations under the Agreement, and the Association shall assess the stormwater assessment. Each landowner shall be obligated to pay the stormwater assessment, whether or not the annual budget contains the required line item for the stormwater assessment, and whether or not the annual budget is ratified by the members of the Association. No vote of the landowners is required to levy, collect, or foreclose a stormwater assessment. Stormwater assessments shall be paid to the Association at the same time annual assessments are due.

(c) Stormwater assessments shall be used as follows:

1. Payment of the actual and estimated expenses incurred or anticipated to be incurred by the Association, including any reasonable reserve funds, under any stormwater operation and maintenance agreement, including maintenance of any SCM so that it performs as designed at all times and complies with the stormwater operations and maintenance agreement, the City Code, and all applicable regulations and rules and directives of the City;

2. Payment of legal, engineering, and other professional fees incurred by the Association in carrying out its duties as set forth in this section, or in the stormwater operations and maintenance agreement for the SCM; and

3. Payments to the City pursuant to the operations and maintenance agreement.

(d) If the stormwater assessment is not paid within 45 days after the payment due date, a lien upon the lot or building site may be established in accordance with N.C.G.S. § 47F-3-116(g). The amount of the lien shall be the amount of the stormwater assessment against the lot or building site, together with interest at a rate not to exceed the highest rate allowed by North Carolina law, computed from the date the delinquency first occurs, any late charges, and any costs of collection incurred, including reasonable attorney's fees. The claim of lien shall be filed in the manner

provided in N.C.G.S. § 47F-3-116(g), in the office of Clerk of Superior Court in the county in which the lot or building site is located. A lien so established shall be a continuing lien upon the lot or building site against which the stormwater assessment is made until paid in full.

- (e) A lien established in accordance with subsection (d) above, may be foreclosed in accordance with North Carolina law, or in any other manner permitted by law. Neither the holder of a first mortgage or first deed of trust of record, nor a purchaser of a lot or building site who obtains title to the lot or building site as a result of a foreclosure of a first mortgage or first deed of trust, nor the heirs, successors, and assigns of such purchaser, shall be liable for stormwater assessments against the lot or building site which became due prior to the purchaser's acquisition of title to the lot or building site. Any such unpaid stormwater assessments shall be deemed a debt collectible from all landowners, including the purchaser.
- (f) Each stormwater assessment, together with late charges, interest, and the costs of collection thereof, including attorney's fees, shall also be the personal obligation or corporate obligation of each individual or entity who was the owner of a lot or building site at the time when the stormwater assessment first became due and payable. If more than one individual or entity held an ownership interest in the lot or building site at the time the stormwater assessment first became due, then each individual or entity shall be both jointly and severally liable. A landowner's personal obligation for payment of stormwater assessments shall not become the personal obligation of a subsequent owner the lot of building site unless expressly assumed by the subsequent owner, although the lien shall continue against the lot or building site until the amount due is paid.
- (g) The creation of the stormwater assessments is for the benefit of the City, and the stormwater assessments may be collected and enforced by the City as provided herein and in other provisions of the City Code.
- (h) Additional real property annexed to the Association shall be subjected to any existing operation and maintenance agreement upon the recording of the document annexing the additional property, either in the form of a new agreement and/or an amendment to an existing agreement (as determined by the City) which shall be entered into between the City and the Association to address the SCMs of the additional property.
- (i) There shall be dedicated for the benefit of each lot or building site, the common area, and each landowner:
 - 1. A perpetual, irrevocable and nonexclusive easement, right, and privilege to discharge and store surface water drainage from such lot or building site or common area into the SCM situated in private drainage easements that serve the property within the development, regardless of whether the SCM is located within the development; and
 - 2. A perpetual, irrevocable, and non-exclusive easement, right, and privilege to use and maintain SCMs, including the right of access to and from the private drainage easements and other portions of the development that is reasonably necessary to maintain the SCMs.
- (j) Each Owner of any portion of the property served by the SCM is jointly and severally responsible for maintenance of the SCM, including payment of any unpaid ad valorem taxes, public assessments for improvements, and unsafe building and public nuisance abatement liens charged against the SCM, and including all interest charges thereon, together with the costs and expenses of collection incurred by the City or other collecting entity, including court costs and reasonable attorney's fees actually incurred. Each owner of property served by the SCM has a right of contribution against all other owners of property served by the same SCM to the extent that the owner having such right of contribution pays more than such owner's pro rata share thereof.
- (k) The Agreement shall include:

1. A statement that Agreement shall not obligate the City to maintain or repair any structural SCMs, and the City shall not be liable to any person for the condition or operation of structural SCMs;
2. A statement that the Agreement shall not in any way diminish, limit, or restrict the right of the City to enforce any of its ordinances as authorized by law; and
3. A provision indemnifying and holding harmless the City, its agents, contractors, and employees for any costs and injuries arising from or related to the structural SCM, unless the City has agreed in writing to assume the maintenance responsibility for the SCM and has accepted dedication of any and all rights necessary to carry out that maintenance.

(3) INSPECTIONS

- a. The City may conduct inspections and establish inspection programs on any reasonable basis, including but not limited to routine inspections, random inspections, inspections based upon complaints or other notice of possible violations, and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in SCMs; and evaluating the condition of SCMs.
- b. If the owner or occupant of any property refuses to permit an inspection pursuant to subsection a above, the Director of Engineering shall proceed to obtain an administrative search warrant pursuant to N.C.G.S. § 15-27.2. No person shall obstruct, hamper, or interfere with the Director of Engineering's carrying out of the Director's official duties.

(4) SIGNAGE

Where appropriate to ensure compliance with this section, the Director of Engineering may require that structural SCMs be posted with a conspicuous sign stating who is responsible for required maintenance and annual inspection. The sign shall be maintained to be visible and legible.

(5) RECORDS OF INSTALLATION AND MAINTENANCE ACTIVITIES

The owner of each structural SCM shall keep records of inspections, maintenance, and repairs for at least five years from the date of creation of the record and shall submit the same upon reasonable request to the Director of Engineering.

G. PERFORMANCE SECURITY FOR INSTALLATION AND MAINTENANCE

(1) GENERAL

The City of Kannapolis requires the submittal of a maintenance performance security or bond with surety, cash escrow, letter of credit, or other acceptable legal arrangement, prior to issuance of a permit in order to ensure that structural SCMs are:

- a. Installed by the permit holder as required by the approved stormwater management plan; and/or
- b. Maintained by the owner as required by the operation and maintenance agreement.

(2) AMOUNT

- a. The amount of an installation performance security shall be the total estimated construction cost of the SCMs approved under the permit, plus 25 percent.

- b. The amount of a maintenance performance security shall be the present value of an annuity of perpetual duration based on a reasonable estimate of the annual cost of inspection, operation, and maintenance of the SCMs approved under the permit, at a discount rate that reflects the City's cost of borrowing minus a reasonable estimate of long term inflation.

(3) DEFAULT

- a. If the owner fails to construct, maintain, repair, or, if necessary, reconstruct any structural SCM in accordance with the applicable permit or operation and maintenance agreement, after submitting a request to the owner to comply with the permit or maintenance agreement, the Director of Engineering shall obtain and use all or any portion of the security to make necessary improvements based on an engineering estimate. In the event of a default triggering the use of installation performance security, the City shall not return any of the unused deposited cash funds or other security, which shall be retained for maintenance.
- b. In the event of default, the City may recover from the applicant, owner, or successor the costs for enforcement actions including but not limited to court costs and attorney fees.

(4) REFUND OR TERMINATION OF SECURITY

Within 60 days of the final approval, the installation performance security shall be refunded to the applicant or terminated, with the exception of any amount attributable to the cost (plus 25 percent) of landscaping installation and ongoing maintenance associated with the SCMs covered by the security. Any such landscaping shall be inspected one year after installation with replacement for compliance with the approved plans and specifications and, if in compliance, the portion of the financial security attributable to landscaping shall be released.

H. SEDIMENTATION AND EROSION CONTROL

This section is reserved for future inclusion of local sedimentation and erosion control administration and enforcement. Until such time, the NC Department of Environmental Quality (DEQ) shall have jurisdiction in Kannapolis. State standards, requirements, and procedures shall apply to all projects in the City of Kannapolis.

SECTION 5.11. SUSTAINABLE/GREEN BUILDING STANDARDS

A. PURPOSE AND INTENT

The purpose of this section is to ensure development in the City includes a minimum degree of sustainable/green building features as a means of protecting and conserving resources, reducing greenhouse gas emissions, and supporting a healthy lifestyle and a high quality of life for City residents. Specifically, this section is intended to ensure development practices:

- (1) Conserve energy;
- (2) Promote the use of alternative energy;
- (3) Conserve water resources;
- (4) Protect water quality;
- (5) Support walkable urbanism;
- (6) Support a variety of mobility options;
- (7) Promote a healthy landscape;

- (8) Support urban agriculture;
- (9) Encourage innovative, environmentally friendly building practices;
- (10) Reduce landfill waste; and
- (11) Promote healthy and active lifestyles.

B. APPLICABILITY

- (1) Unless exempted in accordance with Section 5.11.B(2) below, the standards of this section shall apply to all new development.
- (2) The following are exempt from the standards of this section:
 - a. Residential development that contains less than 10 dwelling units;
 - b. Nonresidential development with a gross floor area of less than 8,000 square feet;
 - c. Buildings that have achieved requirements necessary to receive certification from the U.S. Green Building Council at the LEED® gold level or above or an equivalent level of sustainable development performance under an alternative rating system such as the National Green Building Standard™/NGBS Green or the International Code Council's *International Green Construction Code*, as determined by the Planning Director; and
 - d. Remodels, alterations, or expansions of an existing building.

C. TIMING OF REVIEW

Review for compliance with the standards of this section shall occur during review of a development application for a conditional zoning (see Section 2.5.A(3)), planned development (see Section 2.5.A(4)), special use permit (see Section 2.5.A(5)), site plan (see Section 2.5.B(1)), minor subdivision (see Section 2.5.B(2)), major subdivision (see Section 2.5.B(3)), or zoning clearance permit (see Section 2.5.C(1)), as appropriate.

D. SUSTAINABLE/GREEN BUILDING STANDARDS

(1) MINIMUM AMOUNT OF POINTS REQUIRED

Development subject to the standards of this section shall achieve the following minimum number of points from the menu of options shown in Table 5.11.D(2): Sustainable/Green Building Point System.

1. Minimum Requirements for Residential Development

- (a) 10 to 29 units: 3 points.
- (b) 30 or more units: 4 points.

2. Minimum Requirements for Nonresidential Development

- (a) 8,000 to 25,000 square feet: 3 points.
- (b) More than 25,000 square feet: 4 points.

(2) SUSTAINABLE/GREEN BUILDING POINT SYSTEM

Development subject to the standards of this section shall use Table 5.11.D(2): Green Building Point System, to determine compliance with this section.

Table 5.11.D(2): Sustainable/Green Building Point System

	POINTS EARNED
LOCATION OF DEVELOPMENT AND REDEVELOPMENT/ADAPTIVE REUSE	
Development in the CC, MU-UC, or MU-AC districts	0.75
Development on previously used or developed land that is contaminated with waste or pollution (brownfield site)	1.00
Development as a PD-TND District	1.00
Redevelopment of an existing parcel within the MU-AC District or TOD District	0.75
Adaptive reuse of a designated historic building	1.00
Preservation of an historic or archeological site	1.00
ENERGY CONSERVATION	
Meet ASHRAE standards for lighting	0.75
Meet Energy Star standards for low-rise residential or exceed ASHRAE efficiency standards by 15 percent	1.00
Home energy rating system (HERS) index greater than 90 and less than or equal to 95	0.50
HERS index greater than 85 and less than or equal to 90	0.75
HERS index greater than 75 and less than or equal to 85	1.00
HERS index less than or equal to 75	1.50
Stated water heater efficiency between 0.675 to 0.82	0.75
Stated water heater efficiency of 0.82 or more	1.25
Air conditioner with stated efficiency greater than 14 SEER is included as standard	0.75
Air conditioner with stated efficiency greater than 16 SEER is included as standard	1.25
Install a "cool roof" on a minimum of 50 percent of the rooftops in the development or subdivision. The "cool roof" shall cover the entire roof of the dwelling.	1.50
Provide skylights in an amount necessary to ensure natural lighting is provided to at least 15 percent of the habitable rooms in the structure	0.50
Use central air conditioners that are Energy Star qualified	0.50
Use only solar or tank-less water heating systems throughout the structure	0.50
Install automatic light shutoff systems in buildings three stories or taller.	0.25
ALTERNATIVE ENERGY	
Generate or acquire a minimum of 50 percent of the electricity needed by the development from alternative energy sources (e.g., solar, wind, geothermal)	2.00
Generate or acquire a minimum of 25 percent of the electricity needed by the development from alternative energy sources (e.g., solar, wind, geothermal)	1.00
Pre-wire a minimum of 75 percent of residential dwelling units in the development for solar panels	1.00
Pre-wire a minimum of 50 percent of residential dwelling units in the development for solar panels	0.50
Pre-wire a minimum of 25 percent of residential dwelling units for solar panels	0.25
Install solar panels on a minimum of 25 percent of dwelling units contained in single-family, duplex, or townhouse dwellings	0.50
Install solar panels on primary structure, or at least 50 percent of buildings in a multi-building complex	0.75

Table 5.11.D(2): Sustainable/Green Building Point System

	POINTS EARNED
LEED CERTIFICATION OR EQUIVALENT	
Construct the principal building(s) to meet or exceed LEED® Bronze certification or equivalent standards of the National Green Building Standard™/NGBS Green or the International Code Council's <i>International Green Construction Code</i> , or	1.00
Construct the principal building(s) to meet or exceed LEED® Silver certification or equivalent standards of the National Green Building Standard™/NGBS Green or the International Code Council's <i>International Green Construction Code</i>	1.25
PASSIVE SOLAR	
Orient a minimum of 50 percent of the single-family detached dwellings or lots in the development within 20 percent of the east-west axis for maximum passive solar exposure	1.50
Orient a minimum of 25 percent of the single-family detached dwellings or lots in the development within 20 percent of east-west for maximum passive solar exposure	0.75
Orient at least 25 percent of the nonresidential buildings with an axis oriented east-west for maximum solar exposure	1.00
WATER CONSERVATION AND WATER QUALITY	
Design all areas required to be landscaped in accordance with this Ordinance as an integrated system to meet on-site stormwater quality requirements for the lot through incorporation of low impact development design principles and use of best management practices for on-site stormwater management. These areas shall use vegetated pervious surfaces or other measures such as permeable pavements to infiltrate the capture of water volume on-site. Piped connections from roofs and downspouts and other impervious areas to storm drains are prohibited. Piped conveyances on lots must discharge to pervious areas.	2.00
The use of low impact development techniques, including but not limited to grass buffers and swales, bioretention (rain garden or porous landscape detention, sand filters, and permeable pavement systems), to meet stormwater managements requirements of this Ordinance.	1.00
Install a green/vegetated roof on the primary structure, or on at least 50 percent of primary buildings in a multi-building complex. Green/vegetated roofs shall include vegetation on at least 50 percent of the roof area (25 percent for renovated buildings) and shall use only plant materials permitted by Section 5.3, Landscaping and Buffer Standards.	2.00
All showerheads and handheld showers achieve 2.0 GPM or less	0.50
All lavatory faucets flow rate is 1.5 GPM or less at 60 PSI	0.50
All toilets are 1.28 GPF or less	0.50
All toilets have dual activated flushing	1.00
Include rainwater capture and re-use devices such as cisterns, rain filters, and underground storage basins for residential development with a minimum storage capacity of 500 gallons for every two residential units	0.50
Provide rain gardens or other appropriate stormwater infiltration system(s) that accommodate a minimum of 25 percent of the runoff	1.00
VEGETATION	
Retain at least 20 percent of existing tree canopy of trees above 8" DBH	0.75
Remove all lawn or turf in favor of ground cover consisting of plant material or mulch	0.75
Limit turf grass to 40 percent of the landscaped area.	0.25

Table 5.11.D(2): Sustainable/Green Building Point System

	POINTS EARNED
URBAN AGRICULTURE	
Provide a fenced, centrally located community garden space (which may be located as a rooftop garden) for residents and for urban gardening purposes at a ratio of 50 square feet per dwelling unit	1.00
Provide a minimum of one on-site composting station for every 25 units	0.25
BUILDING MATERIALS	
Source a minimum of 20 percent, by cost, of construction materials from recycled products or products manufactured, extracted, harvested, or recovered within 250 miles of the site	1.50
On 75 percent of all glazing on each building façade, use materials with a Threat Factor of 30 or less according to the American Bird Conservancy Threat Factor Rating System, or comparable materials	0.75
UNIVERSAL DESIGN	
<p>Provide the following universal design features in 33 percent of the residential units in the development:</p> <ul style="list-style-type: none"> • A no-step entry on an accessible route to the unit; • First floor kitchen, bathroom and a bedroom; • The following elements to allow maneuvering space: <ul style="list-style-type: none"> • A 32" clear opening at doorways; • A 36" clear passage; • 42" wide hallways; and • 30 X 48 clear space next to bathroom sink, tub/shower and toilet; • Blocking in bathroom walls to accommodate grab bars, and grab bars in first floor bathroom; and • Reachable outlets and switches. • Grab bars in first floor bathroom(s) by commode and in shower(s); • Handicap accessible shower in first floor bathroom(s); and • Raised toilet seats in first floor bathroom(s). 	1.00
<p>Provide the following universal design features in 66 percent of the residential units in the development:</p> <ul style="list-style-type: none"> • A no-step entry on an accessible route to the unit; • First floor kitchen, bathroom and a bedroom; • The following elements to allow maneuvering space: <ul style="list-style-type: none"> • A 32" clear opening at doorways; • A 36" clear passage; • 42" wide hallways; and • 30 X 48 clear space next to bathroom sink, tub/shower and toilet; • Blocking in bathroom walls to accommodate grab bars, and grab bars in first floor bathroom; and • Reachable outlets and switches. • Grab bars in first floor bathroom(s) by commode and in shower(s); • Handicap accessible shower in first floor bathroom(s); and • Raised toilet seats in first floor bathroom(s). 	1.75
TRANSPORTATION	
Provide a minimum of five percent of required automobile parking spaces that are signed and reserved for hybrid/electric/low energy vehicles in preferred locations near the primary building entrance	0.25
Provide an electric vehicle (EV) level 2 charging station that is made available to those using the building	0.75
Provide an electric vehicle (EV) level 3 charging station that is made available to those using the building	1.00
Include showering and dressing facilities in nonresidential developments for employees using alternative forms of transportation	0.50
<p>NOTES:</p> <p>[1] Standard for the Design of High-Performance Green Buildings, American Society of Heating, Refrigerating, and Air-Condition Engineers, 2014, as amended, or other appropriate ASHRAE standards, as amended.</p>	

Table 5.11.D(2): Sustainable/Green Building Point System

	POINTS EARNED
[2] Energy Standard for Buildings Except Low-Rise Residential, American Society of Heating, Refrigerating, and Air-Condition Engineers, 2016, as amended, or other appropriate ASHRAE standards, as amended.	

(3) DOCUMENTATION REQUIRED

Applicants shall provide documentation of techniques that will be used to satisfy the sustainable/green building standards of this section at the time of submittal of a development application.

Documentation for items that may not be visually verified as part of an inspection may be provided in the form of invoices, receipts, or delivery confirmation for the items in question.

E. FAILURE TO INSTALL OR MAINTAIN SUSTAINABLE/GREEN BUILDING ELEMENTS FOR COMPLIANCE

Failure to install or maintain approved sustainable/green building elements that are to be provided to comply with this section is a violation of this Ordinance, and may result in revocation of the development approval or permit, and revocation of the authorization for use of green building incentives in accordance with Section 5.12, Sustainable/Green Building Incentives.

SECTION 5.12. SUSTAINABLE/GREEN BUILDING INCENTIVES

A. PURPOSE AND INTENT

The purpose of this section is to add further support to sustainable/green building practices in the City by providing incentives for developments that incorporate specific types of sustainable/green building features above the minimum required by Section 5.11, Sustainable/Green Building Standards. Specifically, this section is intended to provide incentives for developments that incorporate sustainable/green building features that support:

- (1) Energy conservation;
- (2) Alternative energy use;
- (3) Water conservation;
- (4) Water quality;
- (5) Healthy landscaping;
- (6) Alternate forms of transportation; and
- (7) Urban agriculture.

B. APPLICABILITY

The incentives in this section are available to:

- (1) New development in the following zoning districts:
 - a. Mixed-Use Activity Center District;
 - b. Center City District;

- c. Mixed-Use Urban Corridor District;
 - d. Mixed-Use Suburban Corridor District;
 - e. Transit Oriented Development District;
 - f. Planned Development District;
 - g. Planned Development – Traditional Neighborhood Development District; and
 - h. Planned Development – Campus District.
- (2) Any expansion of an existing development in the following zoning districts, where the expansion increases the development's gross floor area by 50 percent or more:
- a. Mixed-Use Activity Center District;
 - b. Center City District;
 - c. Mixed-Use Urban Corridor District;
 - d. Mixed-Use Suburban Corridor District;
 - e. Transit Oriented Development District;
 - f. Planned Development District;
 - g. Planned Development – Traditional Neighborhood Development District; and
 - h. Planned Development – Campus District.

C. CONFLICT WITH NEIGHBORHOOD COMPATIBILITY STANDARDS

In cases where the incentives in this section conflict with the neighborhood compatibility standards in Section 5.8.C, the neighborhood compatibility standards shall control.

D. TIMING OF REVIEW

Review for compliance with the standards of this section shall occur during review of a development application for a conditional zoning (Section 2.5.A(3)), planned development (Section 2.5.A(4)), special use permit (Section 2.5.A(5)), site plan (Section 2.5.B(1)), minor subdivision (Section 2.5.B(2)), or major subdivision (Section 2.5.B(3)), as appropriate.

E. INCENTIVES

- (1) Development integrating sustainable/green building features in accordance with this section shall be eligible for the following incentives. They shall be integrated into a development in addition to those included in accordance with Section 5.11, Sustainable/Green Building Standards:
- a. A density bonus of up to one additional dwelling unit per acre beyond the maximum allowed in the base zone;
 - b. An increase in the maximum allowable height by up to one story or 14 feet beyond the maximum allowed in the base zone; and
 - c. An increase in the maximum allowable lot coverage by 10 percent beyond the maximum allowed in the base zone.
- (2) Development may include a sufficient number of sustainable/green building features to take advantage of more than one type of incentive, but in no instance shall the amount of an incentive be increased or decreased (as appropriate) beyond the maximum listed in this section.

F. PROCEDURE

- (1) Applicants seeking to use sustainable/green building incentives shall include a written request with the development application that demonstrates how compliance with the standards in this section will be achieved.
- (2) Review for compliance and granting of requests for incentives in accordance with section shall occur during the review of a development application for a conditional zoning (Section 2.5.A(3)), planned development (Section 2.5.A(4)), special use permit (Section 2.5.A(5)), site plan (Section 2.5.B(1)), minor subdivision (Section 2.5.B(2)), or major subdivision (Section 2.5.B(3)), as appropriate.
- (3) The decision-making body or person responsible for review of the development application shall also be responsible for the review of the sustainable/green building incentive request.
- (4) The incentive(s) shall be based on the number of sustainable/green building features provided, in accordance with Table 5.12.F: Sustainable/Green Building Incentives, and Section 5.12.G, Menu of Sustainable/Green Building Features. To obtain the right to a particular incentive identified in the left column of Table 5.12.F: Sustainable/Green Building Incentives (for example, a density bonus of up to one additional dwelling unit per acre beyond the maximum allowed in the base zoning district), the development proposed is required to provide the minimum number of sustainable/green building features associated with the sustainable/green building features from both schedule A and schedule B in Table 5.12.F: Sustainable/Green Building Incentives (for example, for a density bonus of up to one additional dwelling unit per acre beyond the maximum allowed in the base zone, the proposed development is required to include two sustainable/green building features from Schedule A and four sustainable/green building features from Schedule B) in Table 5.12.G: Sustainable/Green Building Features.
- (5) The sustainable/green building features used to obtain the individual type of incentive shall only be counted for that incentive. If an applicant wants to achieve a second type of incentive (for example, both the density bonus incentive and the lot coverage incentive), the proposed development shall include the minimum number of sustainable/green building features in Schedule A and Schedule B required for both incentives (two from Schedule A and four from Schedule B for the density bonus incentive, and, two from Schedule A and three from Schedule B for the lot coverage incentive, from Table 5.12.G: Sustainable/Green Building Features).

TABLE 5.12.F: Sustainable/Green Building Incentives

TYPE OF INCENTIVES	MINIMUM NUMBER OF GREEN BUILDING PRACTICES PROVIDED	
	FROM SCHEDULE A	FROM SCHEDULE B
A density bonus of up to one additional dwelling unit per acre beyond the maximum allowed in the base zone	2	4
An increase in the maximum allowable height by up to one story or 14 feet beyond the maximum allowed in the base zoning district	2	3
An increase in the maximum allowable lot coverage by 10 percent beyond the maximum allowed in the base zoning district	2	3

G. MENU OF SUSTAINABLE/GREEN BUILDING FEATURES

One or more of the sustainable/green building features in Table 5.12.G: Sustainable/Green Building Features, may be offered by an applicant for proposed development in accordance with Table 5.12.F: Sustainable/Green Building

Incentives. The entry in the left-most column of Table 5.12.G: Sustainable/Green Building Features, indicates the number of Schedule A or Schedule B sustainable/green building practices that can be counted toward an incentive in Table 5.12.F: Sustainable/Green Building Incentives. (For example, an entry of “BBB” means that the sustainable/green building feature is credited as three sustainable/green building practices toward the minimum number of Schedule B practices in the right-most column of Table 5.12.F: Sustainable/Green Building Incentives).

Table 5.12.G: Sustainable/Green Building Features

SCHEDULE	TYPE OF GREEN BUILDING FEATURES
ENERGY CONSERVATION	
A	Meet ASHRAE standard for lighting [2]
A	Meet Energy Star standards for low-rise residential, or exceed ASHRAE efficiency standards by 15 percent [3]
BB	Home energy rating system (HERS) index greater than 90 and less than or equal to 95
BBB	HERS index greater than 85 and less than or equal to 90
A	HERS index greater than 75 and less than or equal to 85
AA	HERS index less than or equal to 75
BB	Stated water heater efficiency between 0.675 to 0.82
BBB	Stated water heater efficiency of 0.82 or more
BB	Air conditioner with stated efficiency greater than 14 SEER is included as standard
A	Air conditioner with stated efficiency greater than 16 SEER is included as standard
AA	Install a "cool roof" on a minimum of 50 percent of the single-family dwellings in the development or subdivision. The "cool roof" shall cover the entire roof of the dwelling.
AA	Install a "cool roof" on a minimum of 50 percent of all other types of residential dwellings in a development or any Group Living use. The "cool roof" shall cover the entire roof of an individual building
AA	Install a "cool roof" on 50 percent of a mixed-use or nonresidential development. The "cool roof" shall cover the entire roof
AA	Install a "cool roof" on 100 percent of a mixed-use or nonresidential development. The "cool roof" shall cover the entire roof
A	Use central air conditioners that are Energy Star qualified
A	Use only solar or tank-less water heating systems throughout the structure
B	Install automatic light shutoff systems in buildings three stories or taller.
B	Provide skylights in an amount necessary to ensure natural lighting is provided to at least 15 percent of the habitable rooms in the structure
B	Construct roof eaves or overhangs of three feet or more on southern or western elevations
B	Use a structure design that can accommodate the installation and operation of solar photovoltaic panels or solar thermal heating devices (including appropriate wiring and water transport systems)
ALTERNATIVE ENERGY	
AA	Generate 50 percent or more of energy on-site by alternative energy (e.g., solar wind, geothermal)
A	Pre-wire a minimum of 75 percent of residential dwelling units in the development for solar panels
A	Install small-scale wind energy conversion systems to provide electricity for 25 percent of single-family, duplex, or townhouse dwelling(s)
LEED® CERTIFICATION OR EQUIVALENT	
AAA	Construct the principal building(s) to meet or exceed LEED® Platinum certification or equivalent standards of the National Green Building Standard™/NGBS Green or the International Code Council's <i>International Green Construction Code</i>

Table 5.12.G: Sustainable/Green Building Features

SCHEDULE	TYPE OF GREEN BUILDING FEATURES
A	Construct the principal building(s) to meet or exceed LEED ® Silver certification or equivalent standards of the National Green Building Standard™/NGBS Green or the International Code Council's <i>International Green Construction Code</i>
BB	Construct the principal building(s) to meet or exceed LEED ® Bronze certification or equivalent standards of the National Green Building Standard™/NGBS Green or the International Code Council's <i>International Green Construction Code</i>
PASSIVE SOLAR	
A	Orient a minimum of 50 percent of the single-family detached dwellings or lots in the development within 20 percent of the east-west axis for maximum passive solar exposure
B	Orient a minimum of 25 percent of the single-family detached dwellings or lots in the development within 20 percent of the east-west axis for maximum passive solar exposure
B	Orient at least 25 percent of the nonresidential buildings with an axis oriented east-west for maximum solar exposure
WATER CONSERVATION AND QUALITY PROTECTION	
AAA	Design all areas required to be landscaped in accordance with this Ordinance and the Landscape Manual as an integrated system to meet on-site stormwater quality requirements for the lot through incorporation of low impact development design principles and use of best management practices for on-site stormwater management. These areas shall use vegetated pervious surfaces or other measures such as permeable pavements to infiltrate the capture of water volume on-site. Piped connections from roofs and downspouts and other impervious areas to storm drains are prohibited. Piped conveyances on lots must discharge to pervious areas.
AA	The use of low impact development techniques including but not limited to grass buffers and swales, bioretention, (rain garden or porous landscape detention, sand filters, and permeable pavement systems, to meet stormwater managements requirements of the County Code or Ordinances
BB	All showerheads and handheld showers are 2.0 GPM or less
BB	All lavatory faucets flow rate is 1.5 GPM or less at 60 PSI
BB	All toilets are 1.28 GPF or less
BB	All toilets have dual activated flushing
AAA	Install a green/vegetated roof on the primary building(s), or at least 50 percent of primary buildings in a multi-building complex – green/vegetated roofs shall include vegetation on at least 50 percent of the roof area (25 percent for renovated buildings) and shall use only plant materials permitted by the Landscape Manual
A	Include rain water capture and re-use devices such as cisterns, rain filters, and underground storage basins with a minimum storage capacity of 500 gallons for every two residential units
A	Provide rain gardens or other appropriate stormwater infiltration system(s) that accommodate a minimum of 25 percent of the runoff
VEGETATION	
A	Retain at least 20 percent of existing pre-development natural vegetation
A	Remove all lawn or turf in favor of ground cover consisting of plant material or mulch
URBAN AGRICULTURE	
A	Provide a fenced, centrally located community garden space (which may be located as a rooftop garden) for residents and for urban gardening purposes at a ratio of 50 square feet per dwelling unit

Table 5.12.G: Sustainable/Green Building Features

SCHEDULE	TYPE OF GREEN BUILDING FEATURES
B	Provide a fenced, community garden space for employees at an office, for gardening purposes at a ratio of 15 square feet per employee
UNIVERSAL DESIGN	
BBB	<p>Provide the following universal design features in 33 percent of the residential units in the development:</p> <ul style="list-style-type: none"> • A no-step entry on an accessible route to the unit; • First floor kitchen, bathroom and a bedroom; • The following elements to allow maneuvering space: <ul style="list-style-type: none"> A 32" clear opening at doorways; A 36" clear passage; 42" wide hallways; and 30 X 48 clear space next to bathroom sink, tub/shower and toilet; • Blocking in bathroom walls to accommodate grab bars, and grab bars in first floor bathroom; and • Reachable outlets and switches. • Grab bars in first floor bathroom(s) by commode and in shower(s); • Handicap accessible shower in first floor bathroom(s); and • Raised toilet seats in first floor bathroom(s).
A	<p>Provide the following universal design features in 66 percent of the residential units in the development:</p> <ul style="list-style-type: none"> • A no-step entry on an accessible route to the unit; • First floor kitchen, bathroom and a bedroom; • The following elements to allow maneuvering space: <ul style="list-style-type: none"> A 32" clear opening at doorways; A 36" clear passage; 42" wide hallways; and 30 X 48 clear space next to bathroom sink, tub/shower and toilet; • Blocking in bathroom walls to accommodate grab bars, and grab bars in first floor bathroom; and • Reachable outlets and switches. • Grab bars in first floor bathroom(s) by commode and in shower(s); • Handicap accessible shower in first floor bathroom(s); and • Raised toilet seats in first floor bathroom(s).
TRANSPORTATION	
A	Provide an electric vehicle (EV) level 3 charging station that is made available to those using the building
B	Provide an electric vehicle (EV) level 1 or 2 charging station that is made available to those using the building
B	Provide a minimum of five percent of required automobile parking spaces that are signed and reserved for hybrid/electric/low energy vehicles in preferred locations near the primary building entrance
B	Include showering and dressing facilities in nonresidential developments for employees using alternative forms of transportation
<p>NOTES:</p> <p>[1] "AA" means credited as provision of two schedule "A" features. "AAA" means credited as provision of three schedule "A" features. "BB" means credited as provision of two schedule "B" features. "BBB" means credited as provision of three schedule "B" features.</p>	

Table 5.12.G: Sustainable/Green Building Features

SCHEDULE	TYPE OF GREEN BUILDING FEATURES
[2]	Standard for the Design of High-Performance Green Buildings, American Society of Heating, Refrigerating, and Air-Condition Engineers, 2014, as amended, or other appropriate ASHRAE standards, as amended.
[3]	Energy Standard for Buildings Except Low-Rise Residential, American Society of Heating, Refrigerating, and Air-Condition Engineers, 2016, as amended, or other appropriate ASHRAE standards, as amended.

H. FAILURE TO INSTALL OR MAINTAIN SUSTAINABLE/GREEN BUILDING PRACTICES

Failure to install or maintain approved sustainable/green building features that are to be provided to comply with this section is a violation of this Ordinance, and may result in revocation of the development approval or permit.

SECTION 5.13. TRAFFIC IMPACT ANALYSIS (TIA)

A. PURPOSE

The purpose of the traffic impact analysis (TIA) is to identify impacts on the City's roads from proposed development, and ensure those impacts are mitigated before or at the time the development occurs. The TIA will identify access improvements, near-site improvements, and on-site and off-site improvements that are needed to accommodate the proposed development and maintain the established level of service standards (LOS) on the roads in the City.

B. APPLICABILITY

- (1) Unless exempted in Section 5.13.C, Exemptions, any new development, redevelopment, or change of use which is estimated to generate 100 or more external peak hour vehicle trips or 1,000 or more external daily vehicle trips shall submit a TIA with an application for a conditional rezoning, planned development, special use permit, site plan, major subdivision, or zoning clearance permit, whichever occurs first, in accordance with the requirements of this section.
- (2) For redevelopment projects or changes of use, trip generation thresholds shall be defined as the number of net new trips anticipated to be generated by the proposed development over and above the number of trips generated by the current use of the site.
- (3) Where a development is expected to generate less than 100 peak hour trips, but it is anticipated to adversely impact road segments or intersections within the City, the City Engineer may require a TIA.
- (4) The TIA shall be prepared by a qualified transportation planner or professional engineer approved by the City Engineer. The expense of preparing the TIA is the responsibility of the applicant. The TIA shall be reviewed for accuracy and content by the City Engineer prior to its review by the City.
- (5) Proposed development shall not be phased or subdivided in piecemeal fashion to avoid application of this TIA requirement. Two or more developments represented to be separate developments shall be aggregated and treated as a single development if the City Engineer determines they are part of a unified plan of development and physically proximate to one another, based on the following factors:
 - a. There is unified ownership, indicated by the fact that:
 1. The same person has retained or shared control of the developments;
 2. The same person has ownership or a significant legal or equitable interest in the developments;
or

3. There is common management of the developments controlling the form of physical development or disposition of parcels of the development.
 - b. There is a reasonable closeness in time between the completion of 80 percent of one development and the submission to the City of a development proposal for a subsequent development that is indicative of a common development effort.
 - c. The voluntary sharing of infrastructure that is indicative of a common development effort or that is designated specifically to accommodate the developments.
 - d. There is a common advertising scheme or promotional plan in effect for the developments.
 - e. Any information provided by the applicant that the project is not being phased or subdivided to avoid the requirements of this section.
- (6) The requirement for, or absence of requirement for TIA submittal under this section shall not limit the City's ability to impose conditions of approval if authorized by this Ordinance for the particular type of development approval or permit.
- (7) Development for which a TIA is required by NCDOT shall provide mitigation of traffic impacts in accordance with the requirements of this section or NCDOT requirements, whichever results in more mitigation.

C. EXEMPTIONS

Any development for which the North Carolina Department of Transportation (NCDOT) requires a TIA to be prepared shall be exempted from submitting a TIA in accordance with this section. Instead, the City shall use the TIA required to be submitted by NCDOT in evaluating the traffic impacts of the proposed development on the roads in the City in accordance with the requirements of Section 5.13.F, TIA Standards, and Section 5.13.G, Mitigation.

D. IMPACT AREA FOR TIA

The impact area for analysis for a TIA required by the City shall be established at a scoping meeting in accordance with Section 5.13.E(1). The Impact Area for the TIA shall be based on the methodology used by NCDOT for determining the Impact Area for any TIA NCDOT requires, except the City Engineer may adjust the Impact Area if it is determined special geographical, road, land use, or related conditions potentially impact the traffic impact of the proposed development on roads in the City.

E. PROCEDURE

- (1) Prior to submission of a TIA, the applicant (or the applicant's representative) shall schedule a scoping meeting with the City Engineer, at which the applicant and the City Engineer shall discuss a proposed Impact Area for the TIA based on the requirements of Section 5.13.D, Impact Area for TIA. The City Engineer may waive the scoping meeting requirement if the City Engineer determines other means of communication with the applicant are more appropriate. After the scoping meeting, as applicable, the applicant shall submit a proposed Impact Area for the TIA to the City Engineer. The City Engineer shall review the proposed Impact Area upon its receipt. The proposed impact Area shall be approved if it complies with the requirements of Section 5.13.D, Impact Area for TIA. The applicant shall not begin preparation of the TIA until the Impact Area is approved by the City Engineer.
- (2) The TIA shall be submitted in conjunction with the application for which it is being prepared. The contents of the TIA shall generally follow the guidelines set forth by the Institute of Traffic Engineer's (ITE's) publication entitled Transportation Impact Analysis for Site Development.
 - a. The TIA shall include but not be limited to the following:

1. Site location map and site layout;
 2. Existing and proposed land uses;
 3. Timing and phasing of the proposed development, by month and/or year, as applicable;
 4. A narrative describing the project, including any special transportation-related impacts or considerations;
 5. Traffic analysis information related to trip generation, peak hour impacts, and other factors evaluated to determine compliance with Section 5.13.F, TIA Standards; and
 6. Any other information determined by the City Engineer to be necessary in order to evaluate whether the proposed development complies with the requirements of this section.
- b.** The TIA shall take into account the following demand factors:
1. Existing vehicular trips on the roads;
 2. The vehicular trips projected to be generated from background traffic during the projected build-out of the proposed development, along with the traffic volumes from other approved but unbuilt development; and
 3. The vehicular trips generated from the proposed development.
- c.** In addition, the TIA shall take into account the following other demand factors:
1. Pass-by trips, internal trip capture for integrated mixed-use projects (e.g., road and/or pedestrian connectivity); and
 2. Any proposed transportation demand management system where adequate guarantees are provided by the applicant to the City, which ensure the proposed transportation demand management system will function as proposed for the life of the project. In addition, if the proposed development is designed and integrated with an adjacent mixed-use project, a credit for trips may be permitted.
- d.** The TIA shall also take into account the following existing or anticipated capacity measures:
1. Existing road segments and intersections;
 2. Road and intersection improvements planned by the City, NCDOT (in the State Transportation Improvement Plan), or other parties, scheduled to be completed and available within three years of the approval of the proposed development and which either have or are reasonably certain to have all necessary governmental approvals and clearly have funding so that the three year timeframes will be met.
- e.** Finally, the TIA shall describe what, if any, road or other transportation facility improvements within the Impact Area are needed in order for the proposed development to comply with Section 5.13.F, TIA Standards, and Section 5.13.G, Mitigation. A TIA that does not identify the road and other transportation facility improvements within the Impact Area to comply with Section 5.13.F and Section 5.13.G shall be returned to the applicant as incomplete
- (3)** The City Engineer shall review the TIA upon its submission by the applicant and approve, approve with conditions, or deny the TIA based on the standards in Section 5.13.F, TIA Standards, and Section 5.13.G, Mitigation.

F. TIA STANDARDS

- (1)** The TIA shall be approved only upon a finding that the roads within the Impact Area will operate at or above the level of service standard (LOS) established in Table 5.13.F: Road Level of Service Standards,

for the specific roads in the Impact Area, no later than the time at which a certificate of occupancy is approved for the proposed development, and each phase of the proposed development.

TABLE 5.13.F: ROAD LEVEL OF SERVICE STANDARDS (LOS) [1]

ROAD TYPE	LEVEL OF SERVICE STANDARD (LOS) – PEAK HOUR [1]		
	RURAL [2]	SUBURBAN [3]	URBAN [4]
Freeway/Expressway (excluding I-85)	C	D	Not Applicable
Major Thoroughfare	C	D	Not Applicable
Minor Thoroughfare	C	D	E
Minor Arterial	C	D	E
Major Collector	C	D	E
Minor Collector	B	D	E
Local Road	B	C	E
Local Street	B	C	E
NOTES:			
[1] LOS shall be based upon the volume-to-capacity ratios as established by the NCDOT. The traffic analysis shall be consistent with the assumptions and guidelines of the NCDOT, and the most recent version of the ITE Trip Generation Manual. For uses generating less than ten trips per day, the directional split of traffic leaving the site shall be deemed to be 50 percent in either direction. For all other applications, the directional split shall be based upon the TIA.			
[2] Rural areas include lands in the following districts: AG and R1.			
[3] Suburban areas include lands in the following zoning districts: R2, R4, R6, R7, R8, R18, O-I, GC, LI, HI, PD, and PD-C.			
[4] Urban areas include lands in the following zoning districts: MU-N, MU-AC, CC, MU-SC, and PD-TND.			

- (2) In determining whether the LOS on the roads in the Impact Area (see subsection D above) are met or exceeded, the following vehicular trips shall be accounted for:
- Existing vehicular trips on the roads;
 - The vehicular trips projected to be generated from background traffic during the projected build-out of the proposed development, along with the traffic volumes from other approved but unbuilt development; and
 - The vehicular trips generated from the proposed development.

G. MITIGATION

- If the TIA demonstrates any road with the Impact Area (see subsection D above) will fall below the established LOS for that road, the application with which the TIA is being considered shall only be approved if mitigation measures are provided that fully mitigate the impacts of the proposed development on the road(s) within the Impact Area.
- Mitigation, when required, shall fully result in the road(s) operating at the established LOS.
- Proposed mitigation measures that are required may be modified, if approved by the City Council in order to substantially achieve the intent of this section. A modification achieves the intent of this section where proposed mitigation provides measurable and beneficial surplus capacity (above and beyond that required to meet the minimum requirements) such that the surplus capacity may be counted toward credit in the mitigation of other impacted roads. The method of measurement considered in

determining the acceptability of such modifications will be the net effect on the roads within the Impact Area.

- (4) Mitigation may also include applicant funding of road improvements on planned or funded City or NCDOT projects previously adopted, such that the transportation improvements can be advanced to mitigate the impacts of the proposed development. This funding mitigation may be accepted by the City Council only where it is demonstrated that it is a reasonable substitute for actual construction. Proposed mitigation shall be included as a condition of approval.
- (5) Road improvements provided through mitigation in accordance with this section shall be completed and available within three years of the approval of the proposed development, unless expressly provided otherwise by the City Council. Any improvements not completed prior to the issuance of a certificate of occupancy, shall be bonded at 115 percent of the cost of the remaining required improvement(s), as reviewed and approved by the City Council. All necessary right-of-way for the required transportation improvements shall be acquired prior to the issuance of a certificate of occupancy.
- (6) As an alternative to mitigation, the applicant may elect to phase the proposed development, reduce its density or intensity, or delay the project until the LOS standards are met as a result of constructed road or other transportation facility improvements by the City, NCDOT, or other party.

H. INTERGOVERNMENTAL COORDINATION

While the City coordinates with NCDOT and other appropriate governmental agencies on development proposals, it is the responsibility of the applicant to contact NCDOT to discuss access and traffic impact issues on state roads.