Chapter 17. INFRASTRUCTURE IMPROVEMENT REQUIREMENTS

17.1 Purpose and Intent

It is hereby declared to be the policy of the Town that the subdivision and development of land shall be guided and regulated in such a manner as to meet the following requirements for orderly and harmonious growth:

- Land to be subdivided shall be of such character that it can be used safely without danger to health, or peril from fire, flood, erosion, excessive noise, air and/or water pollution, or other menace, and in accordance with a Town approved phasing plan (*Section 16.5O*);
- Proper provisions shall be made for drainage, water supply, sewerage, and other appropriate utility services;
- The proposed streets shall provide a safe, convenient and functional system for vehicular circulation and shall be properly related to the land use plan of the area;
- Streets shall be of such width, grade, and location as to accommodate prospective traffic, as determined by existing and probable future land uses;
- Streets shall be detailed to compliment neighborhoods and commercial centers and shall be pedestrian in scale;
- Buildings, lots, blocks, and streets shall be so arranged as to afford adequate light, view, and air, and to facilitate fire protection; and
- Land shall be subdivided and developed with due regard to topography so that the natural beauty of the land and vegetation shall be protected and enhanced.

17.2 Required Improvements for all Development Plans

A. Improvement Types

1. Water Supply Distribution System
2. Sanitary Sewer Collection System
3. Stormwater Collection System
4. Public Streets (Paved) and other Public Rights-of-Way
5. Utility Easements
6. Sidewalks and Greenways
7. Curb and Gutter
8. Street Lights
9. Underground Wiring
10. Dedicated Open Space
11. Landscaping
12. Traffic Control Signs & Pavement Markings
13. Street Signs

B. Payments in Lieu of Construction: The Town Council has determined that it is in the best interest of the citizenry for the Town to accept a payment in lieu of constructing the following according to the standards set forth herein. All fee payments made in lieu of constructing the improvements stated herein shall be made at the time of Construction Document approval. Failure to submit the required payment along with Construction Document applications will delay approval of such submissions until payment is rendered.

1. Payment in Lieu of Street Right-of-Way Improvements: A payment in lieu of street right-of-way improvements (*i.e. roadway, curb and gutter, sidewalks*) may be accepted when the Administrator determines that one of the following conditions exists:

a. a new street stub may not practically be extended to the property line due the need for a culvert, bridge or other structure(s) which prevents the roadway from being completed within the bounds of the subject property;

b. a Town infrastructure project for the same improvements has received a commitment of funding through the Town's Capital Improvement Plan or through Federal and/or State grant programs; or

c. a temporary turnaround has been required by the Fire Marshal.

The fee shall be equal to the full present cost estimate for construction of the street right-of-way improvements with said estimate having been found acceptable by the Town Engineer. All fees received for payments in lieu of street right-of-way improvements shall be used exclusively toward the construction of transportation improvements within the Town of Knightdale.

17.3 General Infrastructure Design Guidelines

A. Street Classification & Design

In an effort to protect this investment, the Town views streets as the most important public space and therefore has developed a set of principles which permit this space to be used by automobiles, pedestrians and bicyclists. New development with frontages on existing and new publicly maintained streets shall be required to upgrade all their frontages to meet the standards of this Chapter.

Healthy, traditional streets are categorized by the work they perform for the neighborhood. For simplicity, street types can be broken down into three (3) groups.

- **Category One - Alleys and Local Streets:** Category One connectors, which form the heart of quiet neighborhood streets, function primarily to provide access to neighborhood destinations and make numerous connections within neighborhoods. These connectors – alleys and streets- provide access, utility and walking infrastructure. Traffic speeds of 10-25 mph are appropriate to such functions. Neighborhoods work best with many connections from the edges. Connections to the centers of neighborhoods are appropriate too, but they should not move significant amounts of traffic, nor move that traffic too quickly. People entering neighborhoods should feel rewarded by ease of access to specific locations, but also encouraged to travel by foot or bicycle.

- **Category Two – Avenues and Main Streets:** Category Two roadways connect neighborhoods to commercial centers. Avenues and Main Streets are "transitional" roadways: in addition to providing access, they carry large and more diverse amounts of traffic. Avenues and Main Streets host deliveries and efficient emergency responses. They anchor neighborhood commerce, serve pedestrians and bicyclist, and improve transit operations. Category Two streets must operate at low to moderate speeds, since many people live, work, shop, and play within these street environments. Parking is found on many, but not all avenues and main streets.

- **Category Three – Boulevards and Freeways:** Category Three boulevards and freeways connect town centers to the greater region. On these streets, car traffic, delivery trucks, emergency responders, and transit must operate with high levels

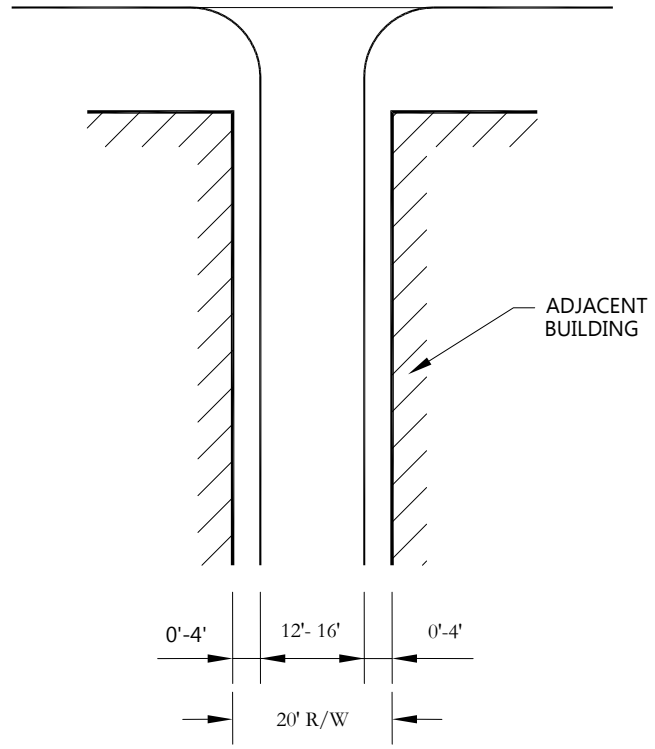
of efficiency. Freeways are generally Interstate or US Highway Routes maintained by NCDOT where the main purpose of the roadway is to provide mobility. Access is generally controlled and speeds are high (45-65 mph). Three roadways are classified as Freeways in the town – Interstate 540, and US Highway 64/264.

General illustrations of each street type (*except freeways*) are shown in sections 17.3A(1) thru 17.3A(7). For internal streets in MI Districts, please refer also to Section 2.12.B.4. Although the general illustrations have been designed with NCDOT planting guidelines in mind; whenever a street is to be maintained by NCDOT, NCDOT's *Guidelines for Planting within Highway Right-of-Way* shall supersede the general illustrations provide herein in the case of a conflict between the two (2) sets of guidelines. Where private streets are allowed, all private streets shall be constructed to the same standards as stated in Chapter 9 and as depicted in the following illustrations.

1. **Alley:** Alleys are low speed (10-mph) service easements running behind and sometimes between rows of houses. Alleys provide public service workers easy access to utilities and sanitation, and resident's easy access to garages, backyards, and accessory units. Alleys also offer second or third approaches for fire response.

ALLEY

FIGURE 17.1



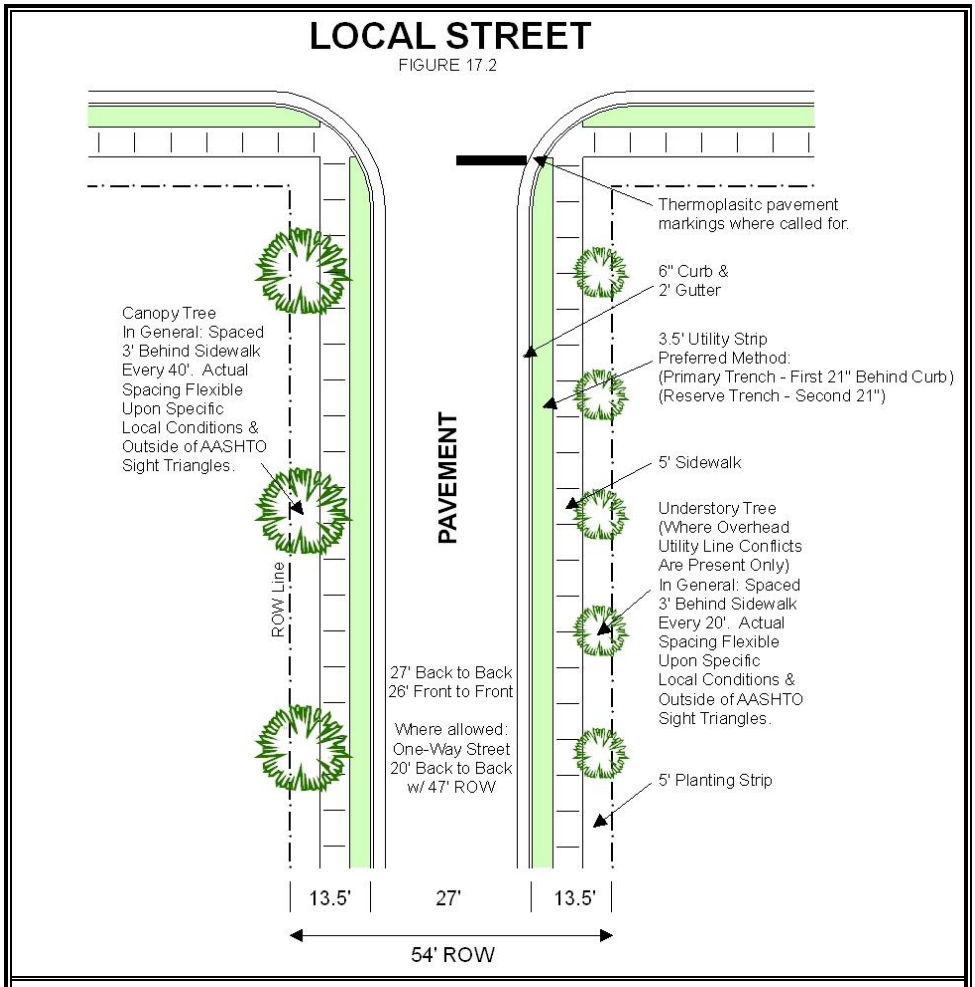
Street Features:

- Street width of 12 ft. minimum, 16 ft. desirable
- Requires 20 ft. of right-of-way
- Utility location underground
- Two to Six blocks long
- Average speed of 10 mph

Buildings & Land Use:

- Residential – primarily single family
- Commercial

2. **Local Street:** Local streets are the most common type of access road in healthy neighborhoods. Streets provide access to single- or multi-family housing and should be low speeds (20-25 mph). Parking is allowed on both sides of the street. Streets are short, terminating in two to six blocks. They can also encircle a square or other public space. On-street parking should be encouraged. If on-street parking is light or non-existent, or limited to one side, streets fail to properly slow traffic. Landscaping and sidewalks should fill the remainder of the public right-of-way. In some special circumstances, streets may be narrowed (typically 20 feet wide) if parking is allowed on one side only, and the street can operate one-way around parks or nature preserves.



Common Street Features *(Section 2.2)*:

- Curb & Gutter and Informal Parking
- Street Tree Planting strips – 5 ft. (*see introduction of Section 17.3A for further notes about NCDOT maintained streets*)
- Sidewalks – 5 ft. on each side

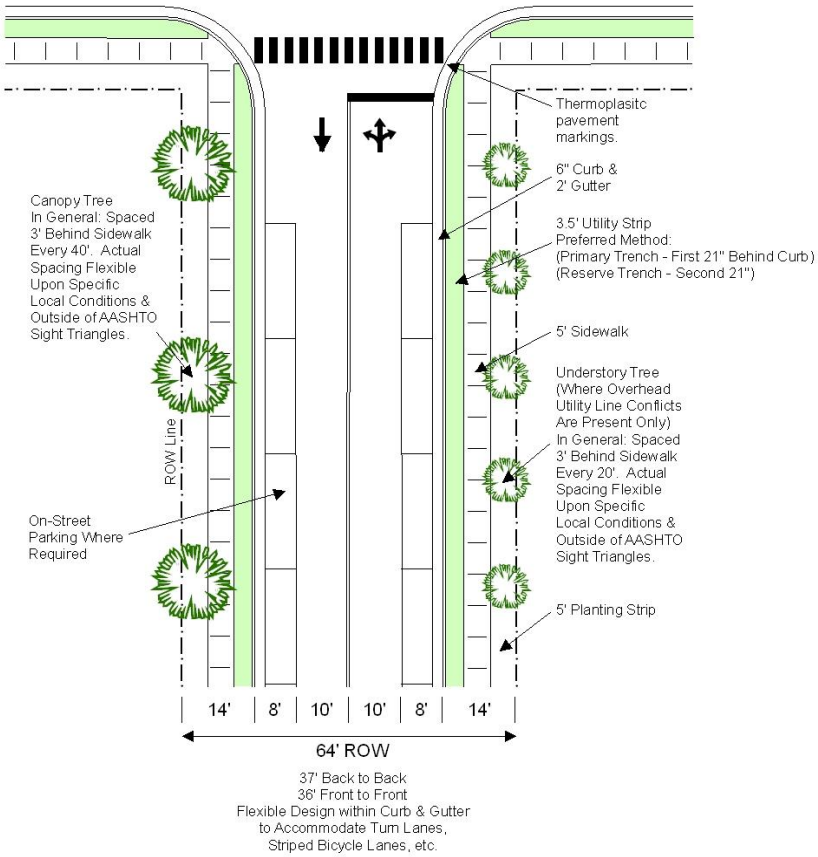
Buildings & Land Use:

- Residential Land Use
- Many residential types brought close to sidewalk with a consistent building line recommended and front porches encouraged.

3. **Main Street:** Main streets are "transitional" roadways that provide access to neighborhoods, as well as, places for neighborhood commercial and mixed-use buildings. On street parking is very desirable, so a low speed environment is preferred (20-25 mph). Main streets usually do not have medians, but medians with low shrubs are acceptable if they do not detract from terminating vista and attractive storefronts. To help pedestrians across the street and calm traffic, "bulbouts" – wider sidewalks that extend into the roadway – should be provided at intersections and, if blocks are long, at mid-block crossings.

MAIN STREET

FIGURE 17.3



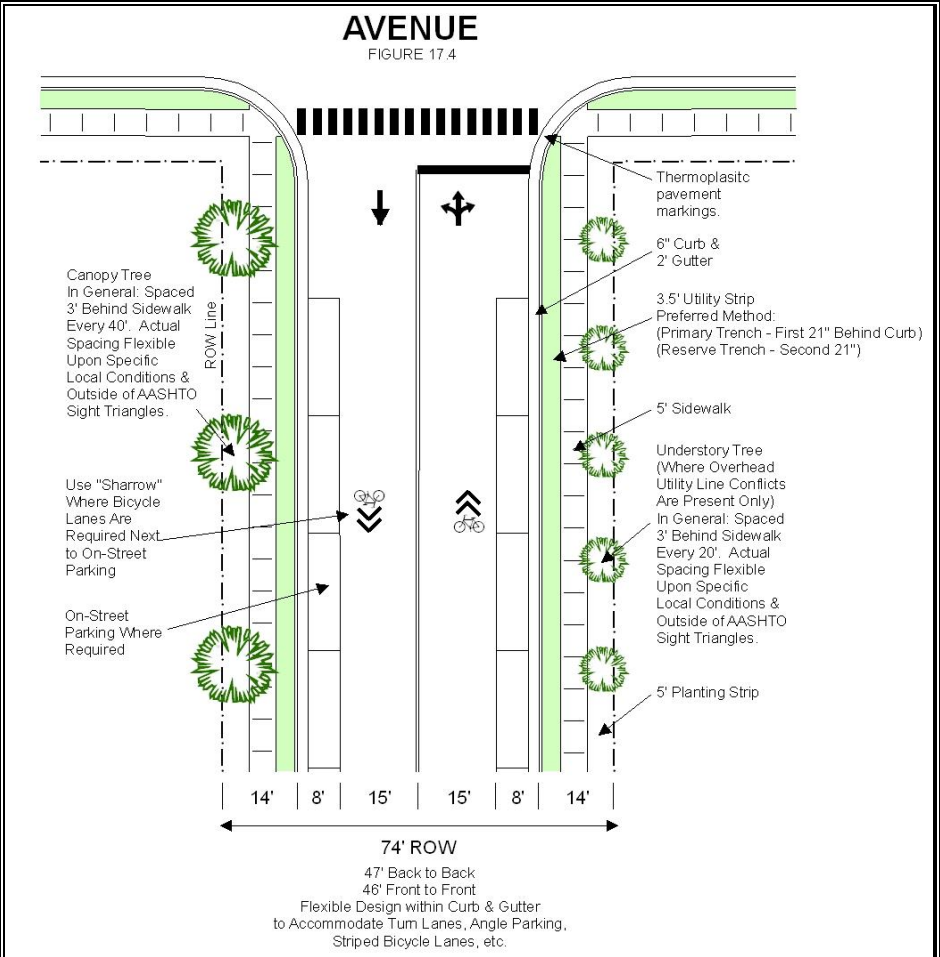
Common Street Features *(Section 2.2)*:

- Curb & gutter with striped parking in mixed use and commercial areas
- Street Tree Planting strips – 5 ft. minimum on each side (*see introduction of Section 17.3A for further notes about NCDOT maintained streets*)
- Sidewalks – 5 to 13.5 ft. on each side (*Where sidewalk, utility and planting strips combined in commercial use areas, approved tree grates must be used and trees planted according to standard specification location.*)
- Bicycle Markings: (*If no on-street parking is required and this section is identified for use with a designated bikeway, a minimum 4-foot striped outside bicycle lane excluding gutter shall be provided – see Appendix C*)

Buildings & Land Use:

- Commercial and mixed use street or a major roadway in neighborhoods
- Consistent building line recommended with buildings next to sidewalk
- Pedestrian awnings and arcades recommended except in MI District

4. **Avenue:** Avenues connect neighborhoods to town centers, and as such can extend up to one mile. Two-lane roadways contain sufficient pavement for bicyclists and motorists. On-street parking is available. Avenues are richly landscaped, since they are civic spaces that serve as gateways to the town center. Avenues should have the tallest tree canopies. Since avenues serve as the transition between the town and the neighborhoods, speeds should be kept low, typically 30-35 mph. Avenues may also serve as major transit routes.



Common Street Features *(Section 2.2)*:

- Bicycle Markings – (*Sharrow pavement markings to be included on designated bikeways where on-street parking is provided – see Appendix C; otherwise if on-street parking is not required, a minimum 4-foot striped outside bike lane on designated bikeways excluding gutter shall be provided*)
- Curb & gutter with striped parking in commercial and mixed use areas
- Street Tree Planting strips – 5 ft. minimum on each side (*see introduction of Section 17.3A for further notes about NCDOT maintained streets*)
- Sidewalks – 5 to 13.5 ft. on each side (*Where sidewalk, utility and planting strips combined in commercial use areas, approved tree grates must be used and trees planted according to standard specification location.*)

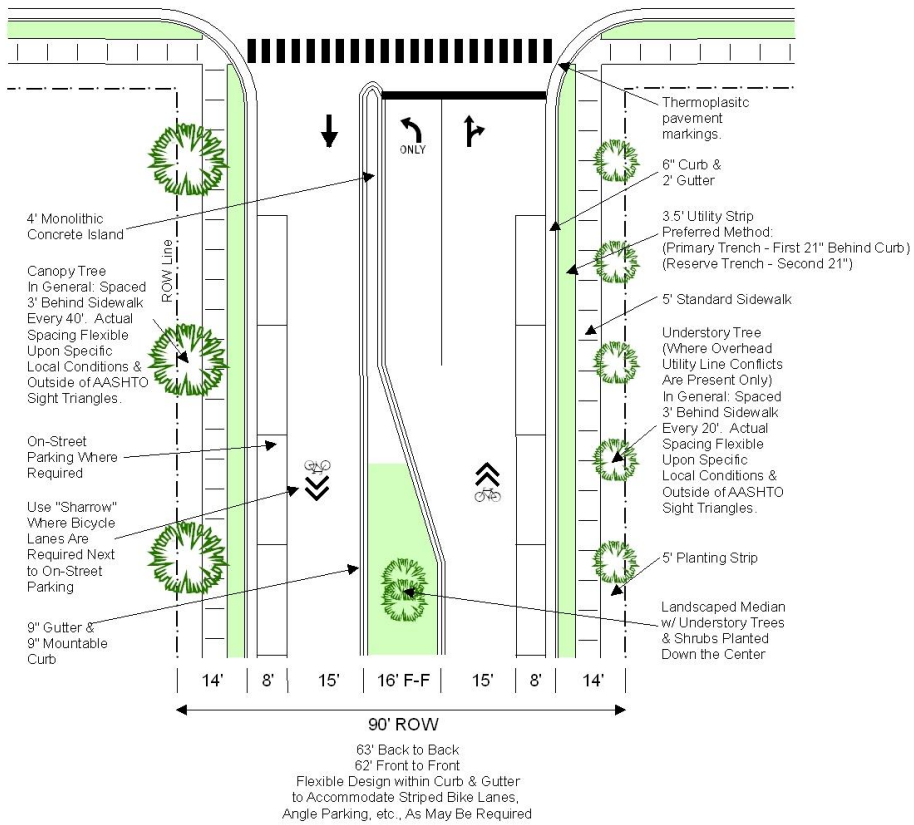
Buildings & Land Use:

- Residential, Industrial, and Commercial areas
- Consistent building line recommended with buildings next to sidewalk
- Place prominent public buildings and plazas at end of vista

5. **Urban Avenue:** Avenues connect neighborhoods to town centers, and as such can extend up to one (1) mile. Two-lane roadways contain sufficient pavement for bicyclists and motorists – with raised medians in the center. On-street parking is available. Canopy landscaping, bike lanes and sidewalks are provided. Avenues are richly landscaped, since they serve as civic spaces and gateways to the town center, and they should have the tallest tree canopies. Since avenues serve as the transition between the town and the neighborhoods, speeds should be kept low, typically 30-35 mph. Avenues may also serve as major transit routes.

URBAN AVENUE

FIGURE 17.5



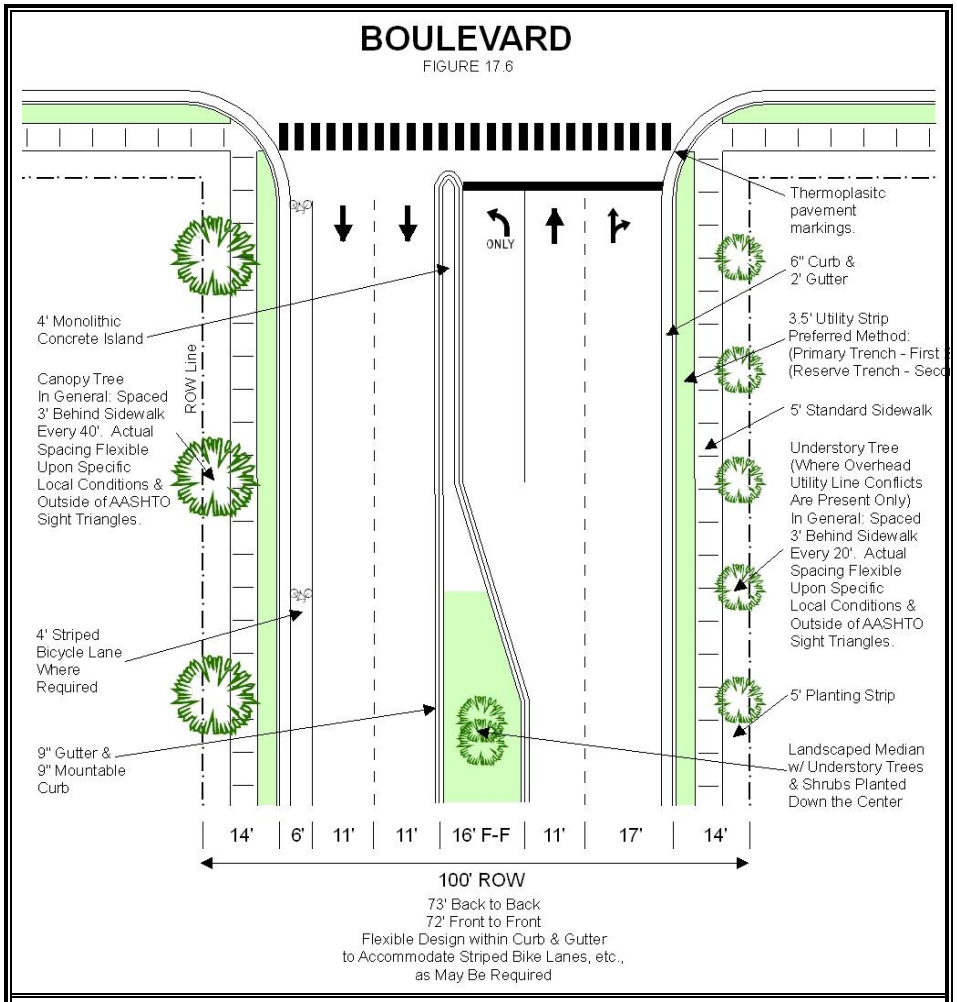
Common Street Features *(Section 2.2)*:

- Travel lanes of 15 ft. to accommodate bicyclists (*Sharrow pavement markings to be included on designated bikeways where on-street parking is provided – see Appendix C; otherwise if on-street parking is not required, a minimum 4-foot striped outside bike lane on designated bikeways excluding gutter shall be provided*)
- Curb & gutter with on-Street parking in commercial use areas
- Landscaped Medians– 16 ft. minimum in width
- Street Tree Planting strips – 5 ft. minimum on each side (*see introduction of Section 17.3A for further notes about NCDOT maintained streets*)
- Sidewalks – 5 to 13.5 ft. on each side (*Where sidewalk, utility and planting strips combined in commercial use areas, approved tree grates must be used and trees planted according to standard specification location.*)

Buildings & Land Use:

- Residential and commercial use areas
- Consistent building line recommended with commercial buildings close to the sidewalk
- Place prominent public buildings and plazas at the end of vistas

6. **Boulevard:** Boulevards also bring people into Town, or they carry traffic through natural areas. They are not designed to accommodate adjoining development. Roadway speeds are usually 45 mph. When boulevards enter the town, they become urban boulevards, and speeds are reduced to 30-35 mph. Bike facilities are found on the edge of boulevards.



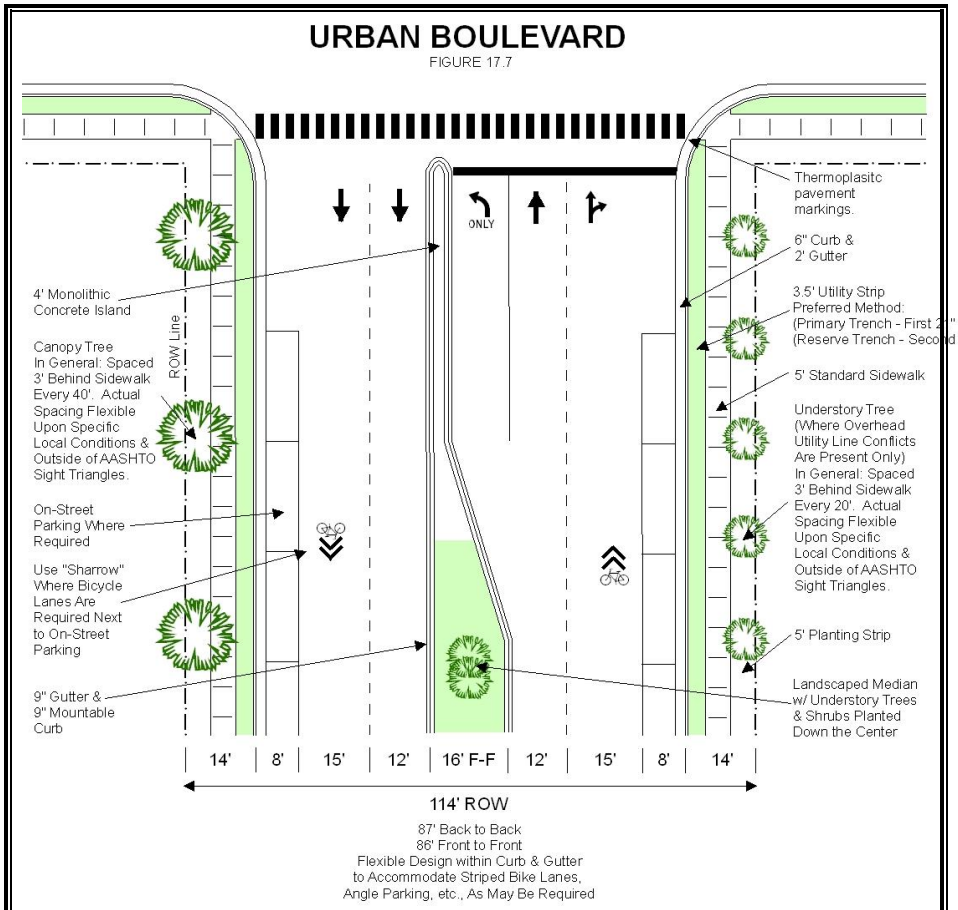
Common Street Features *(Section 2.2)*:

- Wide outside travel lanes of 15 ft. to accommodate bicyclists (*otherwise, on designated bikeways, a minimum 4-foot striped outside bicycle lane excluding gutter shall be provided – see Appendix C*)
- Curb & gutter
- Landscaped Medians– 16 ft. minimum in width
- Street Tree Planting strips – 5 ft. minimum on each side (see introduction of Section 17.4A for further notes about NCDOT maintained streets)
- Sidewalks – 5 ft. on each side

Buildings and Land Use:

- Mixed residential and commercial use areas

7. **Urban Boulevard:** Urban Boulevards can provide multi-lane access to commercial and mixed-use buildings, and they carry regional traffic. For these reasons, speeds on these streets are generally 30-35 mph. In these commercial or mixed-use areas, boulevards have bike lanes, sidewalk, and provide sections of parking to support commerce, parks, schools, and other attractors along their routes.



Common Street Features *(Section 2.2)*:

- Wide outside travel lanes of 15 ft. to accommodate bicyclists (*Sharrow pavement markings to be included on designated bikeways where on-street parking is provided – see Appendix C; otherwise, a minimum 4-foot striped outside bike lane on designated bikeways excluding gutter shall be provided*)
- Curb & gutter with striped parking in mixed use and commercial areas
- Landscaped Medians– 16 ft. minimum in width
- Street Tree Planting strips – 5 ft. minimum on each side (*see introduction of Section 17.3A for further notes about NCDOT maintained streets*)
- Sidewalks – 5 to 13.5 ft. on each side (*Where sidewalk, utility and planting strips combined in commercial use areas, approved tree grates must be used and trees planted according to standard specification location.*)

Buildings & Land Use:

- Mixed residential and commercial uses
- Consistent building line recommended with buildings next to sidewalk
- Place prominent public buildings and plazas at end of vista

B. General Roadway Design Criteria

1. Horizontal Curve Street Design Criteria

Design Criteria for design speed centerline radius, reverse curve tangent distance and maximum rate of superelevation rates for streets are summarized in Table 17.1. Superelevation rates, minimum runoff lengths and methods of distribution should be in accordance with AASHTO guidelines.

The minimum tangent length approach an intersection should be at least 50 feet for alleys and streets. All other streets shall have a tangent section no less than 100 feet approaching an intersection.

Table 17.1

Street Type	Design Speed (mph)	Minimum Centerline Radius (feet)	Maximum Rate of Superelevation for Minimum Centerline Radius (foot per foot)	Minimum Tangent Distance Between Reverse Curves (feet)
Alley	10	50	N/A	0
Street	25	150	N/A	0
Main Street	30	300	N/A	0
Avenue	40	533	0.04	250
Boulevard	50	833	0.06	350
Freeway	Shall Meet NCDOT Roadway Standards & Specifications			

2. Vertical Curve Street Design Criteria

Whenever practical, streets should follow the existing contours of a site so as to avoid excessive grading and removal of vegetation. Street grades shall not be less than 0.75%. Standards for vertical street design are listed in Table 17.2.

At signalized intersections, the maximum grade approaching the intersection should not exceed two percent (2%) and extend a minimum distance of 100 feet in each direction. For intersections not controlled by a traffic signal, the maximum grade approaching the intersection should not exceed five percent (5%) and extend a minimum distance of 50 feet in each direction.

Table 17.2

Street Type	Design Speed (mph)	Maximum Gradient (%)	Minimum Vertical Curve Length, L (feet)	Minimum Rate of Vertical Curvature, K	
				Crest	Sag
Alley	10	12	25	10	10
Street	25	12	50	12	26
Main Street	30	9	50	19	37
Avenue	40	8	125	44	64
Boulevard	50	7	150	84	96
Freeway	Shall Meet NCDOT Roadway Standards & Specifications				

Note: The rate of vertical curvature, K, is the length of curve (feet) per percent algebraic difference in intersecting grades (A). K = L/A

3. Roadway Sight Distance

All sight distance lengths and methods of measuring sight distance along a roadway shall be in accordance with AASHTO guidelines. Sight distance is the length of roadway visible to the driver. The minimum sight distance available on the roadway shall be sufficiently long to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path.

Minimum stopping sight distances shall be provided in both the horizontal and vertical planes for planned roadways as related to assumed driver's eye height and position. Where there are sight obstructions (*such as walls, cut slopes, buildings, and other hazards*) on the inside of curves, changes in roadway alignment may be required to obtain adequate stopping sight distance if the sight obstruction cannot be removed.

C. Intersection Design Criteria

1. Corner Radii

a. Curbs: Curb radii shall be designed to reduce pedestrian crossing times along all streets requiring sidewalks. In general, curb radii should be approximately 20 feet except along NCDOT-maintained roads, where larger radii may be required. In all cases, curb radii shall be sufficiently large to accommodate large commercial or fire trucks.

b. Property Lines: Property lines at street intersections shall be rounded with a minimum radius of 20 feet. At an angle of intersection of less than 90 degrees, a greater radius may be necessary.

2. Angles and Offsets

a. All streets shall intersect at right angles as nearly as possible and no street shall intersect at less than 75 degrees.

b. Offset intersections for Category 1 streets (*Alleys and Local Streets*) should be at least 125 feet apart measured from centerline to centerline. A larger spacing in accordance with AASHTO standards may be required for other street categories.

3. Intersection Sight Distance

a. Measurements: Sight distance lengths and methods of measuring intersection sight distance along a roadway shall be in accordance with AASHTO guidelines. Intersections should be planned and located to provide as much sight distance as possible. A basic requirement for all controlled intersections is that drivers must be able to see the control device well in advance of performing the required action. Stopping sight distance on all approaches is needed as a minimum.

b. Sight Triangles: Obstruction-free sight triangles shall be provided in both the horizontal and vertical planes, as related to assumed driver's eye height and position. Within the area of a defined sight triangle, there shall be no sight obstructing or partly obstructing wall, fence, sign, foliage, berming, or parked vehicles between the heights of twenty-four (24) inches and eight (8) feet above the curb line elevation or the nearest traveled way if no curbing exists. Objects, which may be located in the sight distance triangle,

are items such as: hydrants, utility poles, utility junction boxes, and traffic control devices provided these objects are located to minimize visual obstruction.

D. Other Design Criteria: Design standards not specifically addressed in this ordinance must comply with the minimum design and construction criteria of the NCDOT.

1. **Turning Lanes**: Lanes for right and left turning movements into a driveway or cross-street shall be constructed by the developer as required by the Town of Knightdale, North Carolina Department of Transportation and/or a TIA. Such requirements may be necessary for safety and capacity reasons, where roadway speeds and traffic volumes are high, or where there are any substantial turning volumes.
2. **Traffic Calming Devices:** The use of traffic calming devices such as raised intersections, landscaping bulb-outs, and traffic circles are encouraged as alternatives to conventional traffic control measures.
3. **Street Markers and Traffic Control Signs:** All street markers and traffic control signs posted in accordance with the *Manual of Uniform Traffic Control Devices* shall be installed by the developer prior to the issuance of any certificates of occupancy for any building on that street.

E. Posted Speeds: Unless otherwise established by the Town Council, the posted speeds for Town-maintained streets within the Town of Knightdale shall be as follows:

1. **Alleys:** 10 miles per hour
2. **Local Streets:** 25 miles per hour
3. **Main Streets:** 25 miles per hour
4. **Avenues:** 35 miles per hour
5. **Urban Avenues:** 25 miles per hour
6. **Boulevards:** 45 miles per hour
7. **Urban Boulevards:** 35 miles per hour

F. Street Names: Street names shall be assigned by the developer subject to the approval of the Town of Knightdale and Wake County. Proposed streets which are continuations of existing streets shall be given the same name. In assigning new street names, names shall not duplicate or be phonetically similar to existing street names in Wake County. Upon Final Plat approval, the Town shall cause the developer to erect the street name signs.

G. Lights & Utilities

1. **Street Lights:** The developer shall install street lights on all streets, local and NCDOT, in accordance with the requirements of Chapter 11.
2. **Underground Location:** All utilities, other than lines used only to transmit electricity between generating stations or substations and three-phase electric power distribution lines shall be placed underground, and all ground or surface disruptions required for installation shall be rehabilitated to the original or an improved condition. Underground utilities except water and sewer should be located in alleys preferably. If no alley is provided, then those utilities shall be

located along the roadway in accordance with the street classification drawings in Section 17.3A.

3. **Public Water and Sewer**

a. **Water Allocation:** In order to preserve and enhance property values, manage its limited water supply as a vital natural resource, promote economic development and incentivize smart growth practices, the allocation of Knightdale's potable water capacity shall be granted in accordance with the *Town of Knightdale Municipal Water Allocation Policy* (the "Policy") as amended from time to time. The goals and procedures contained in the policy are reviewed in May of each year and when appropriate readjusted by the Town Council. The Town's overall progress on policy goals are considered and the multipliers and/or point thresholds readjusted accordingly.

b. **Connection to Public System:** Every lot proposed for subdivision within the Knightdale corporate limits or ETJ shall have connection to the public water and sewer systems if the subdivision of which it is a part, or any part thereof, is (*without resorting to crossing a ridge line such that the pumping of wastes would be necessary*) within the distances set out for the size of the entire subdivision as provided below:

Max. # of Dwellings	Distance from System
Up to 5 units	300 feet
6 to 14 units	450 feet
15 to 24 units	600 feet
25 or more units	1000 feet

All non-residential development within the Town's Urban Service Area, as designated by Wake County, shall connect to the public water system whenever it is practicable in terms of distance and in accordance with Town Council policy on water and sewer extensions. In the case of family subdivisions, extensions of water shall be in accordance with the standards in Section 15.4F(4).

c. **Water and Sewer Mains:** All water and sewer main extensions and distribution/collection facilities which connect to the water distribution/sewerage collection systems of the Town shall be designed, constructed and installed in accordance with the *City of Raleigh Public Utilities Handbook*.

i. **Distribution and Collection Plans:** A water distribution plan shall be designed to create a complete circuit without dead-ends. Water mains shall be extended to the termination of the street right-of-way or where the street right-of-way intersects the boundaries of another phase of the same subdivision or another tract for subdivision. A sewerage collection plan shall be designed to extend sewer mains to the termination of the street right-of-way or natural drainage way where the street right-of-way intersects the boundaries of another phase of the same subdivision or another tract for subdivision.

ii. **Sizing:** In determining line sizes, the engineer for the public system and the Project Engineer shall consider the zoning classification of adjacent tracts which could also be served by the mains if extended,

the potential type and density of development which might be served, and the Town's water distribution/sewer collection network plans.

iii. **Avoiding Street Tree Conflicts:** Water and sewer utilities should not be located near required street tree planting areas, and service lines must be laid perpendicular to those planting areas.

d. **Fire Hydrants:** Fire hydrants shall deliver sufficient water to provide adequate fire protection. Hydrants shall be located in accordance with the Town of Knightdale Standard Specifications and Construction Details.

17.4 Acceptance of Public Infrastructure

If the developer submits an application to the Town for Final Plat approval prior to the completion of the required improvements, the developer shall provide security for said improvements in the amount of125% of the cost of construction, engineering, and installation for the improvements of the approved Construction Drawings which have not been completed by the developer nor approved by the Town at the time of Final Plat submission.

A. **Surety Performance Bond(s):** The Administrator shall determine which improvements shall be covered by the security. The developer shall provide the Town Engineer with a list and description including unit cost and total cost for improvements to be covered, and engineering services. The amount of security shall be approved by the Town Engineer.

1. **Cash or Equivalent Security:** The security shall be in a form acceptable to the Town and may include, (a) Surety bond issued by any company authorized to do business in this State, (b) letter of credit issued by any financial institution licensed to do business in this State, (c) other form of guarantee that provides equivalent security to a surety bond or letter of credit.

2. **Guarantee Period:** The performance security guarantee shall remain in effect for a period of one (1) year, and may be renewed only one time for a period up to, but no more than, one (1) year.

3. **Release of Security:** Upon completion of the improvements and other actions guaranteed by the security arrangement, and the acceptance and approval of the same, the Town shall release the security to the developer with written confirmation from the Administrator.

B. **Warranty Period**

1. **Security for Completed Improvements:** Whenever all improvements intended for dedication are completely installed, the developer shall provide security in one of the forms set out in Section 17.4A(1), guaranteeing to the Town, against defects for one (1) year, all utility taps, curbs, gutters, street pavement, sidewalks, drainage facilities, water and sewer lines and other improvements. The amount of security shall be approved by the Town Engineer and shall be not less than 25% of the cost for construction or installation of the improvements based upon unit costs and total costs provided by the Project Engineer. If the developer shall correct and rectify all defects arising within one (1) year, then the security shall be released; otherwise the Administrator shall notify the Town Council, the developer and surety that a default has occurred, and the Administrator shall proceed in accordance with defaults in security arrangements as set forth in subsection 2 below.

2. **Defaults for Incomplete Improvements and Warranty Period:** If any portion of the required improvements for which security was given as set out in the above section shall fail to be completed, repaired, accepted or dedicated in accordance with the Preliminary and Final Plat and the terms and conditions for allowing the improvements to be completed subsequent to Final Plat approval and pursuant to a surety arrangement, then the Town shall notify the developer and the surety of the default and seek a formal explanation of the reason for the default. Except as noted in subsection 3 below, the Administrator shall report to the Town Council that the security is in default, and the Administrator may take such actions as it deems necessary to enforce and collect the security, and shall use the proceeds to finance the completion of the improvements or the rebuilding and repairing of such improvements to proper specifications, and the completion of such other actions as may have been contemplated under said surety arrangements. Unused portions of the proceeds, if any, shall be returned to the surety.

3. **Modification of Terms for Good Cause:** If the Administrator finds that there is good cause for the improvements not being made on time, or that only a small delay in completing the improvements appears likely, then, upon a showing that the existing surety arrangement is still in effect or has been extended, the terms for the completion of the improvements may be modified.

C. Final Acceptance of Improvements

1. **Developer Responsibilities:** The developer shall be responsible for:

   a. Providing all engineering services (including the cost of testing materials and performance of soil compaction tests) and furnishing plans and specifications consistent with those in this chapter and the *Standard Specifications and Construction Details Manual*;

   b. Paying the entire initial cost of all improvements required under this chapter; and

   c. Payment to the Town of all fees and charges required by the Town including, but not limited to, the costs of permits, inspections, utility taps and acreage fees, at such times as payments are specified under the various codes, fee schedules or resolutions of the Town.

2. **Town Responsibilities:** The Town or its designee shall be responsible for the inspection and approval of all construction work.

D. Maintenance of Dedicated Areas until Acceptance

All facilities and improvements with respect to which the developer makes an offer of dedication to public use, shall be maintained by the developer, his successors and assigns, until such offer of dedication is accepted by the Town Council or other appropriate authority.

No street shall be maintained by the Town, no street dedication shall be accepted for ownership and maintenance, no CIP shall be issued, nor shall water, sewer or other Town facilities or services be extended to or connected with any development for which a Final Plat is required to be approved unless and until such Final Plat has been approved by the Town of Knightdale.

17.5 Incomplete Improvements Guarantee

In cases when weather conditions would make it unreasonable for the developer to comply with all of the non-life/safety requirements of the UDO prior to commencing the intended use(s) or occupying any buildings, the developer shall provide security for such improvements in an amount not less than 125% of the cost to construct or install the improvements.

A. Surety Performance Bond(s): The specific improvements requested to be covered and the amount of security shall be approved by the Administrator. The developer shall provide the Administrator with a list and description including unit cost and total cost for improvements to be covered.

B. Cash or Equivalent Security: The security shall be in a form acceptable to the Town and may include:

- a deposit of U.S. currency with the Town; or
- a deposit of a certified check with the Town; or
- a deposit of a money order with the Town.

C. Guarantee Period: The performance security guarantee shall remain in effect for a period determined by the Administrator. The time period may range from a few days up to, but no more than, one (1) year. Such performance security guarantees shall not be renewable under any circumstance.

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