Click a Chapter Section to jump to that page.

Chapter 5. Use Specific Standards

5.1. Purpose, Intent, and Applicability of Use Specific Standards 1
5.2. Residential Use Standards 2
5.3. Lodging Use Standards 4
5.4. Office / Service Use Standards 6
5.5. Retail / Restaurant Use Standards. 9
5.6. Entertainment / Recreation Use Standards. 12
5.7. Manufacturing / Wholesale / Storage Use Standards. 14
5.8. Civic / Institutional Use Standards. 16
5.9. Infrastructure Use Standards. 17
5.10. Accessory Use Standards. 21

5.1. Purpose, Intent, and Applicability of Use Specific Standards

A. **Purpose**. The conditions set forth in this Chapter ensure compatibility among building and use types so that different uses may be located in proximity to one another without adverse effects to either. Special regulation of these establishments is necessary to ensure that these adverse effects will not contribute to a downgrading or blighting of surrounding residential districts or neighborhoods unless otherwise determined by this Section.

B. **Intent**. The intent of this Chapter is to allow for the construction, continuation, and/or expansion of certain uses provided that they meet certain mitigating conditions specific to their design and/or operation. Each use shall be permitted upon compliance with all conditions listed for the use in this Chapter. Certain uses are classified in Section 3.1 (C) as Special Uses and require a Special Use (SU) Permit and Town Council approval in accordance with Section 12.2 (F)(4). Certain uses are classified in Section 3.1 (C) as requiring Conditional District (CD) rezoning and Town Council approval in accordance with Section 12.2 (G)(3)(f).

C. **Applicability**. This Chapter specifies those requirements that must be met by uses in the Use Matrix Section 3.1 (C) where Use-Specific Standards are referenced in the Additional Regulations column.

5.2. Residential Use Standards

A. **Dwelling – Multifamily, 4 unit/bldg. or less & Dwelling – Multifamily, more than 4 units/bldg**.

1. Must be located in a growth activity center or priority investment area around activity centers as designated in the *Knightdale Next V.2 2035 Comprehensive Plan*.

2. Developments must contain a mixture of uses, including but not limited to restaurants, retail, or services on the ground level and residences above. One hundred (100) square feet of nonresidential space shall be provided per every multifamily unit.

3. The roof or roof structures are flat or have a combination of roof types that give a predominantly flat appearance.

B. **Family Care Home**.

1. No portion of the lot for a family care home shall be located within a one-half (0.5) mile radius of the property line of another family care home.

2. If State licensure is required, the applicant shall provide proof that such licensure has been approved to the Land Use Administrator within ninety (90) days of receipt of a Zoning Compliance Permit, or else the Zoning Compliance Permit will be revoked. With good cause, the Land Use Administrator may extend this term for an agreed-upon amount of time.

C. **Housing Service for the Elderly**.

1. **Housing Services Required**. Housing services, such as but not limited to the provision of meals, monitoring of medication, personal care including bathing and dressing, housekeeping, laundry, medical services, social and recreation activities, shall be required.

2. **Service Areas**. All service areas shall be located in the rear yard and shall be screened from any residence or off-site view from a public street by a Type-B buffer yard (Section 7.4 (I)(3)).

3. **Access**. Any development shall front on a collector or arterial street, and the point of primary ingress and egress shall be provided directly onto the fronting collector or arterial.

4. **Sufficient Design**. Housing Service for the Elderly should create an easily recognizable visual anchor for the community.

5. **Accessory Structures**. Such structures shall be set back a minimum of twenty (20) feet from the primary facade of the principal structure; and if more than one (1) accessory structure, shall be arranged to create secondary gathering spaces within the lot.

6. **Building Walls**. Housing Service for the Elderly walls shall be clad in clapboard, stone, stucco, cementitious fiber board, brick, or marble. Decorative concrete masonry units (CMU), and/or exterior insulation finishing systems (EIFS) may be used as a secondary element (less than fifty (50) percent of the façade area), or on facades not facing public rights-of-way.

7. **Roofs**. Flat roofs are allowed, but principal buildings adjacent to other residential uses are encouraged to have similar roofs and other architectural features to ensure compatibility.

D. **Live-Work Units**. Live-Work units are unique in that they provide both residential and non-residential space which must each be constructed to different building code standards including, but not limited to, matters of ingress and egress, accessibility by the disabled, and fire-rated separation. In addition, the following standards shall be met:

1. **Access**. Vehicular access to Live-Work Unit shall be from a rear land or alley only.
2. The maximum total area of a Live-Work unit shall be three-thousand (3,000) square feet.
3. The maximum height of a Live-Work unit shall be three (3) stories.
4. The work area shall occupy less than fifty (50) percent of the total unit.
5. The same tenant must occupy the work area and living area.
6. There shall be a maximum of five (5) non-resident workers/employees allowed in the Live-Work unit at any single time.

E. **Manufactured Housing.**

1. In the RT and RR districts, the minimum lot size for manufactured homes shall be one (1) acre.
2. In the RR district, the minimum lot width for manufactured homes shall be one hundred (100) feet.
3. The front, side, and rear yard setback requirements shall match those of the underlying zoning district.
4. Individual homes shall be placed upon separately platted lots.
5. The manufactured home shall have the tow assembly and wheels removed and be mounted on and anchored to a permanent, continuous masonry (brick) foundation, unless exempt under N.C.G.S. §160D-910.
6. Unless located in a mobile home park (Section 4.3 (C)), the minimum width (the width being the narrower of the two [2] overall dimensions) of the main body of the manufactured home shall be at least twenty-two (22) feet for a distance extending along the length (the length being the longer of the two [2] overall dimensions) of at least forty (40) feet. In general terms, this only permits double-wide or multi-section manufactured housing.

5.3. Lodging Use Standards

A. **Bed and Breakfast**.

1. **Specific Requirements**.

a. **Useable Porches and Stoops.** Porches and stoops should be used as a primary architectural element of the design of Bed and Breakfast Inns and be located on the primary façade or other elevation fronting a public right-of-way. Useable porches and stoops are at least six (6) feet deep and extend more than fifty (50) percent of the facade.

b. **Garages.**

i. Bed and Breakfast Inns located on lots less than eighty (80) feet wide may not have garage doors located on the primary façade.

ii. Where allowed (i.e. lots equal to or greater than eighty (80) feet wide), garages with loading bays on the primary facade or side loading bays that front a street shall form a building volume secondary to the House and shall:

a) Not exceed forty-five (45) percent of the corresponding façade's total width;

b) Not utilize any single garage door(s) greater than twelve (12) feet in width;

c) Be set back a minimum of twenty-five (25) feet from the street right-of-way;

d) Utilize garage doors containing window inserts; and

e) Be recessed from the primary front façade of the house (not including porches, bay windows or other minor projections) a minimum of one (1) foot or be recessed from an adjacent useable front porch a minimum of eight (8) feet. Alternatively, the requirement of subsection "e" may be satisfied by meeting all of the following substitute requirements:

(i) Utilize a carriage style or similarly stylistic garage door that is architecturally compatible with the housing style (paneled garage doors are not permitted);

(ii) Incorporate a trellis, eyebrow roof, columned projection, or other architectural elements as may be approved by the Land Use Administrator above the garage door(s) that is compatible with the housing style; and

(iii) The front wall of the garage shall project no more than twelve (12) feet in front of the remainder of the primary façade.

c. **Foundations.** The crawlspace of buildings shall be enclosed with brick, stone, or stucco. Slabs shall be covered on all sides with brick or stone no less than the height equivalent of three (3) courses of brick (eight (8) inches) visible above grade. Areas under porches may be enclosed with lattice.

d. **Wall Materials.** Bed and Breakfast Inn Building walls shall be clad in wood clapboard, cementious fiber board, wood shingle, wood drop siding, primed board, wood board and batten, brick, stone, or stucco.

e. **Roofs**.

i. **Materials.** Bed and Breakfast Inn roofs shall be clad in standing seam metal or wood, terne, slate, copper, or asphalt shingles.

ii. **Pitch.** Main roofs on Bed and Breakfast Inn buildings shall be symmetrical gables or hips with a pitch between 6:12 and 12:12. Monopitch (shed) roofs are allowed only if they are attached to the wall of the main building. No monopitch roof shall be less than 3:12.

2. In addition to meeting the requirements of Chapter 8, signs shall be limited to one (1) wall sign with a maximum sign area of four (4) square feet and one (1) non-illuminated monument sign with a maximum sign area of two (2) square feet.

5.4. Office / Service Use Standards

A. **Animal Services, Boarding**.

1. Except where a requirement of Section 7.4 (I) is more restrictive, an opaque wall or fence, six (6) feet in height and no closer than ten (10) feet to a property line shall otherwise be required for the outdoor exercise area.
2. Outdoor exercise areas shall not be located within three-hundred (300) feet of a residentially zoned property.
3. Hours of operation for the outdoor exercise area shall be permitted only from 7:00 am until 9:00 pm.
4. All litter and waste must be contained and controlled on site by having appropriate flushing drains and other physical elements to properly dispose of cleaning waste from the boarding area.
5. The boarding area must be air-conditioned and heated so that any windows, doors, or other openings can be closed at all times, with the exception of ingress and egress into the area.

B. **Animal Services, Nonboarding**.

1. Except where a requirement of Section 7.4 (I) is more restrictive, an opaque wall or fence, six (6) feet in height and no closer than ten (10) feet to a property line shall otherwise be required for the outdoor exercise area.
2. Hours of operation for the outdoor exercise area shall be permitted only from 7:00 am until 9:00 pm.
3. No more than thirty (30) percent of the gross floor area of the principal structure is permitted for use of boarding animals.

C. **Banks, Credit Unions, Financial Services**.

1. Banks, credit unions, and financial services uses shall be located in the Mixed-Use Building Type as detailed in Section 6.8.
2. In the NMX and TC zoning districts only indoor transactions shall be permitted with no night drop boxes permitted.

D. **Business Support Services**.

1. Only indoor transactions shall be permitted with no night drop boxes permitted.

E. **Child / Adult Day Care Home.**

1. The home shall comply with all applicable State of North Carolina regulations, including maximum capacity restrictions, and obtain appropriate State licensing prior to operation.
2. The principal person operating the day care home shall be a full-time resident of the dwelling and shall employ no more than one (1) person who is not a resident of the dwelling.
3. Rear yards shall be fenced or walled. In addition to meeting the requirements of Section 7.6, the minimum height for such walls or fences shall be six (6) feet.

4. All equipment shall be stored in the rear yard. Front yards shall not be used as playground areas.

5. Hours of operation shall be permitted only from 6:00 am until 9:00 pm.

F. **Child / Adult Day Care Center**.

1. In addition to meeting the requirements of Section 7.6, fencing enclosing any required recreation space shall be a minimum of four (4) feet in height and constructed with gates in such a manner that maximum safety to the person is ensured.

2. Day care centers shall be located on lots that provide ample outdoor play area. A fenced recreation area of a minimum of two-thousand two-hundred fifty (2,250) square feet shall be provided in the rear or side yard. Required buffer yards may not be counted towards this requirement.

3. Hours of operation shall be permitted only from 6:00 am until 9:00 pm.

G. **Contractor Office.**

1. Outdoor storage of goods, materials, or equipment is not permitted in the NMX or HB zoning districts.

2. Outdoor storage of goods, materials, or equipment is permitted in the MI zoning district if the outdoor storage area is located in the rear yard and is enclosed by an opaque fence or wall that meets the requirements of Section 7.6.

H. **Corporate Campus**.

1. Buildings shall be arranged, and site circulation shall be designed to frame and define open spaces, street frontages, and amenities.

2. Buildings and other site improvements shall be clustered to maximize stormwater absorption.

3. Building orientation shall reinforce site circulation patterns, open space patterns, and connections to other buildings on site.

4. Parking shall be integrated into the overall site design to minimize the visual impact, reduce the loss of trees, and to be visually concealed from rights-of-way.

5. Curb cuts and site vehicular access shall be minimized in frequency and width and shall not dominate the site plan or the property and street frontage.

6. Service areas, dumpsters, utilities, and the required screening thereof shall not be visible from a right-of-way.

7. Pedestrian access shall be provided to the building entries and parking areas connecting to the sidewalk at the street frontage.

8. Exterior building materials shall be time- and weather-tested materials and techniques such as but not limited to masonry, stone veneer systems, stucco, precast panels with inlaid or stamped brick texture.

9. Buildings, parking lots, drive aisles, and other site improvements shall be sited to preserve natural site features and to integrate outdoor amenities and gathering places.

I. **Equipment Rental.**

1. Equipment rental uses shall be located in the Mixed-Use Building Type as detailed in Section 6.8.

J. **Outdoor Animal Boarding / Equestrian Facilities**.

1. All open exercise, boarding, training, and similar areas shall be enclosed by a perimeter fence or wall no less than four (4) feet in height and screened from any pre-existing adjacent residential dwelling (other than the owner's) by a Type-A buffer yard (Section 7.4 (I)(2)).

2. No outdoor kennel and/or run shall be located within a five hundred (500) foot radius of the footprint of any adjacent residential dwelling (other than the owner's).

3. All accessory structures other than outdoor kennels and/or runs related to the care of animals shall not be located within a two hundred (200) foot radius of the footprint of any pre-existing adjacent residential dwelling (other than the owner's).

K. **Personal Services**.

1. Hours of operation shall be permitted only from 6:00 am until 11:00 pm.

L. **Tattoo Shop**.

1. Hours of operation shall be permitted only from 6:00 am until 11:00 pm.

2. A tattoo shop's exterior customer entrance(s) shall not be situated within a one thousand (1,000) foot radius of another tattoo shop's exterior customer entrance(s).

M. **Vehicle Services – Maintenance / Repair / Body Work**.

1. Vehicle services - maintenance, repair, and/or body work uses shall be located in the Mixed-Use Building Type as detailed in Section 6.8.

2. All vehicles, materials, or equipment shall be stored within an enclosed building, or within an outdoor storage area enclosed by an opaque fence or wall that meets the requirements of Section 7.6 and shall be restricted to the rear yard.

3. Any operation which results in the creation of noxious vibrations, odors, dust, glare, or sound is prohibited.

4. No vehicle may be kept or used for parts for other vehicles.

5. No vehicle may be stored in an unrepaired state for more than thirty (30) calendar days.

5.5. Retail / Restaurant Use Standards.

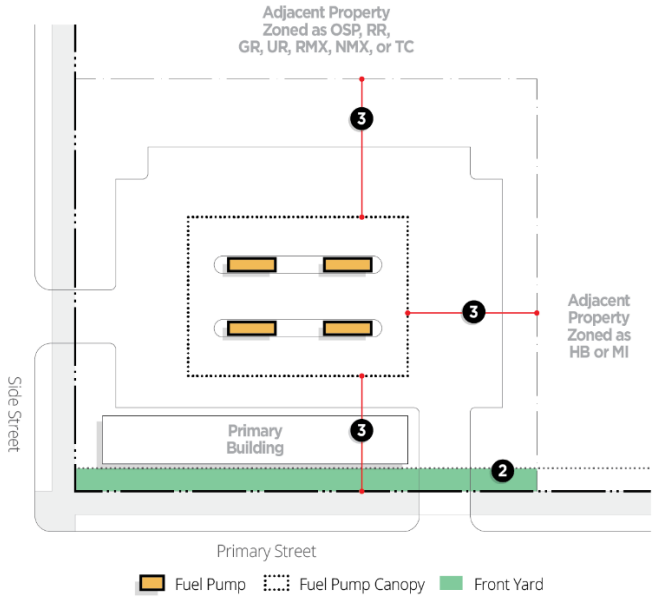
A. **Auto Parts Sales**.

1. Auto parts sales uses shall be located in the Mixed-Use Building Type as detailed in Section 6.8.

B. **Gas Station with Convenience Store**.

1. Convenience store uses shall be located in the Mixed-Use Building Type as detailed in Section 6.8.
2. Pumps, canopies, and associated service areas are prohibited in any front yard.
3. All canopies shall be set back a minimum of ten (10) feet from any adjoining public right-of-way or HB or MI zoned property and twenty (20) feet from any adjoining OSP, RR, GR, UR, RMX, NMX or TC zoned property.
4. All canopies shall:
    a. Maintain a uniform and consistent roof line with the convenience store building;
    b. Have columns, solid walls, or semi-solid walls placed so that they are similar in their relation to the roof as that of the exterior walls of the convenience store building; and
    c. Be finished with materials consistent with the primary convenience store building façade.
5. All vehicle storage areas shall be considered parking lots and must comply with the provisions of Chapter 7. These areas shall also be enclosed by an opaque fence or wall that meets the requirements of Section 7.6 and restricted to the rear yard. No overnight vehicle storage shall be permitted in the NMX or TC Districts.
6. The outdoor service area of a car wash shall be restricted to the rear yard and screened from off-site view from a public right-of-way by a Type-A buffer yard (Section 7.4 (I)(2)).
7. No outdoor public address system shall be permitted which can be heard beyond the boundaries of the property.

Figure 5.1: Gas Station with Convenience Store Standards



C. **Medical Cannabis Center.**

1. The selling of cannabis or cannabis-infused products shall not take place between 7:00 pm and 7:00 am.

2. No portion of the lot for a medical cannabis center shall be located within a one thousand (1,000) foot radius of the property line of another medical cannabis center, religious institution, public or private school or university, or childcare facility.

D. **Sweepstakes Center**.

1. Hours of operation shall be permitted only from 6:00 am until 11:00 pm.

2. A maximum of twenty (20) machines/terminals/computers for sweepstakes operations are permitted per licensed location.

3. No portion of the lot for a sweepstakes center shall be located within a five hundred (500) foot radius of the property line of another sweepstakes center, existing residential dwelling unit, group care facility, day care center, religious institution, or school.

E. **Vape, Tobacco, & CBD Store.**

1. No portion of the lot for a vape, tobacco, & CBD store shall be located within a one thousand (1,000) foot radius of the property line of another vape, tobacco, & CBD store, public or private school, or park.

F. **Vehicle / Heavy Equipment Sales**.

1. Vehicle/heavy equipment sales uses shall be located in the Mixed-Use Building Type as detailed in Section 6.8.

2. No equipment for sale or rent may be displayed in any front yard, nor shall such displays be permitted to encroach on any required landscaping areas or buffer yards.

3. Vehicle display areas shall conform to the dimensional, design, and landscaping standards set forth for parking areas in Chapter 7.

4. All vehicles shall be operable, suitable for driving, and ready for sale. Any vehicle not meeting this criterion shall be removed within seven (7) calendar days. Any visibly damaged vehicle or vehicle with missing parts must be removed within three (3) calendar days.

5. No outdoor public address system shall be permitted which can be heard beyond the boundaries of the property.

5.6. Entertainment / Recreation Use Standards.

A. **Adult Establishments**. Because of their very nature, adult establishments are recognized as having serious objectionable operational characteristics, particularly when they are located near a residential zoning district or certain existing land uses. The purpose of these additional standards shall be to permit the location of adult establishments within the industrial district of the Town provided the proposed business adheres to the guidelines established herein.

1. **Location Standards.** No portion of a lot for an adult establishment may be located within a one-thousand (1,000) foot radius (determined by a straight line and not street distance) of the property line of any religious institution, elementary or secondary school, vocational or technical school, college or university, day care home or center, indoor or outdoor recreation center, cultural or community facility, group care facility, hospital, residential dwelling, family care home, live-work unit, manufactured home, housing service for the elderly, any establishment with an on-premise ABC license, or any zoning district in which residential uses are permitted. Furthermore, no portion of the lot on which the adult establishment is located shall be situated within a two thousand (2,000) foot radius of the property line of another adult establishment.

2. **General Standards.**

   a. The owner/operator and employees must disclose any criminal record and consent to a criminal records check. Persons with a record of sex offenses will be denied a business license or employment.

   b. There shall be no more than one (1) adult establishment business in the same building, structure, or portion thereof. No other principal or accessory use may occupy the same building, structure, property, or portion thereof with any adult establishment business.

   c. Hours of operation shall be permitted only from 12:00 noon until 2:00 am Monday through Saturday.

   d. If dancers are employed as a feature of the adult establishment, the performing areas for such dancers shall be separated from patrons.

   e. If viewing booths are provided, such booths are to be designed so that the viewing occupant is completely visible from a location on the premises that is open and available to the public.

   f. No printed material, video, photograph, written text, live show, or other visual presentation format shall be visible to the public from outside the walls of the establishment, nor shall any live or recorded voices, music, or sounds be heard from outside the walls of the establishment.

B. **Amusement, Outdoor**.

1. All buildings associated with Outdoor Amusement Uses shall comply with all standards set forth in Section 6.8.

2. No outdoor public address system shall be permitted which can be heard beyond the boundaries of the property.

3. Hours of operation shall be permitted only from 9:00 am until 11:00 pm.

C. **Recreation Facilities, Indoor**.

1. Indoor Recreation Facilities Buildings shall comply with all standards set forth in Section 6.8.

2. Indoor recreation facilities shall not be located within a two-hundred-fifty (250) foot radius of the property line of any school or church.

5.7. Manufacturing / Wholesale / Storage Use Standards.

A. **Agribusiness, Outdoor**. Agribusiness uses not meeting exemption requirements for certain farmland as outlined in Section 1.5 (B) must conform to the following additional standards:

1. Accessory buildings permitted under Section 5.10 (A) and areas used for sales, storage, the keeping of materials, or the care of animals shall not be located within a two hundred (200) foot radius of the footprint of any pre-existing adjacent residential dwelling (other than the owner's).

2. Accessory buildings permitted under Section 5.10 (A) and areas used for storage or keeping of materials and/or animals shall have adequate means of ventilation and shall not create objectionable fumes, odor, or dust to the surrounding area.

B. **Manufacturing, Light**.

1. All materials or equipment shall be stored within an enclosed building or stored within an outdoor storage area that complies with all regulations set forth in Section 5.10 and is restricted to the rear yard.

2. Any operation which results in the creation of noxious vibrations, odors, dust, glare, or sound is prohibited.

C. **Manufacturing, Neighborhood**.

1. All materials or equipment shall be stored within an enclosed building.

2. Any operation which results in the creation of noxious vibrations, odors, dust, glare, or sound is prohibited.

D. **Mini-Warehouse**.

1. All areas shall be screened from any adjacent residence or off-site view from a public street by a Type-A buffer yard (Section 7.4 (I)(2)).

2. Metal siding is prohibited. All exterior walls shall be brick, stone, or decorative masonry.

3. No outdoor storage of goods or materials shall be permitted.

E. **Research and Development**.

1. All materials or equipment shall be stored within an enclosed building or stored within an outdoor storage area that complies with all regulations set forth in Section 5.10 and is restricted to the rear yard.

2. Any operation which results in the creation of noxious vibrations, odors, dust, glare or sound is prohibited.

F. **Storage – Outdoor Storage Yard as a Principal Use**.

1. Outdoor storage areas shall be enclosed by an opaque fence or wall, restricted to the rear yard, and screened from off-site view from a public right-of-way with a Type-B buffer yard (Section 7.4 (I)(3).

G. **Storage – Warehouse, Indoor Storage**.

1. Outdoor storage is not permitted.

H. **Wholesaling and Distribution**.

1. All vehicle storage areas shall be enclosed by an opaque fence or wall, restricted to the rear yard, and screened from off-site view of a public right-of-way by a Type-A buffer yard (Section 7.4 (I)(2)).

2. No outdoor public address system shall be permitted which can be heard beyond the boundaries of the property.

I. Quarrying and Stone Cutting. Quarrying and Stone Cutting within the MQ District is exempt from the provisions of Chapters 6 through 11, but must conform to the following additional standards:

1. Buffer Yard: Apart from adjacent parcels and tracts of land used for mine or quarry administrative services, a buffer yard meeting the following specifications shall be maintained around the perimeter of the MQ District to screen mines and quarries against public rights-of-way and private property in surrounding districts:

   a. Minimum Yard Width: 100 feet

   b. Performance Standard: A planted buffer which is 50 feet in width and contains screening materials which at maturity provides opacity from the ground to a height of 30 feet. Vegetative screening materials within opaque areas shall contain no horizontal openings upon the plants' maturity.

2. Permitted Buffer Yard Encroachments:

   a. Access Drives: Access drives are permitted so long as any break in the buffer for said drives does not exceed 60 feet in width.

   b. Lighting: Lighting associated with access drives and meeting the standards of Section 7.7 is permitted within the buffer yard.

   c. Signs: Subject to the standards of Chapter 8, signs are permitted to be located within the buffer yard.

5.8. Civic / Institutional Use Standards.

A. **Cemeteries**.

1. Private family cemeteries or cemeteries in the yards of religious institutions are considered accessory uses and exempt from these additional standards.

2. Cremation facilities (principal or accessory use) are not permitted except where permitted by right (Section 3.1 (D)(3)).

3. In addition to meeting the requirements of Section 7.6, decorative walls shall be limited to four (4) feet in height and shall be brick or stone.

4. In addition to meeting the requirements of Section 7.6, fences shall be limited to six (6) feet in height and shall be wood, wrought iron, or cast aluminum.

5. All decorative walls and grave plots shall be set back from all street rights-of-way and adjacent properties a minimum of ten (10) feet.

6. Any internal road system shall be circuitous and at a minimum meet the design standards for alleys as specified in Section 10.1 (D)(1)(a)(i).

7. A Type-A buffer (Section 7.4 (I)(2)) shall be provided along any side or rear property line adjoining a residential district.

B. **Group Care Facility (more than 6 residents)**. Group care facilities are classified as institutional buildings and should reflect the character and appearance of surrounding building types. In addition to meeting the design requirements of Section 6.13, the following additional standards apply:

1. The facility shall be screened from any residential use (Section 3.1 (A)) by a Type-B buffer yard (Section 7.4 (I)(3)).

2. The total indoor common area heated square footage must equal or exceed twenty-five (25) square feet per permitted resident excluding bathrooms, hallways, and other similar areas unsuitable as leisure space.

3. Outdoor recreation space must be at least five hundred (500) square feet per person, one-hundred (100) square feet of which shall be in a well-drained lawn area (as opposed to woodlands) and shall be located in rear or side yards and enclosed with a fence or wall that meets the standards of Section 7.6.

4. The total lot area shall exceed seven-hundred fifty (750) square feet per resident permitted.

5. No portion of the lot for a group care facility shall be located within a one-half (0.5) mile radius of the property line of another group care facility.

5.9. Infrastructure Use Standards.

A. **Airport**.

1. Hangars or open storage areas shall be screened from off-site view by a Type-C buffer yard (Section 7.4 (I)(4)).

2. No outdoor public address system shall be permitted which can be heard beyond the boundaries of the property.

3. Hours of operation shall be permitted only from 6:00 am until 11:00 pm.

B. **Transit, Road, and Ground Passenger Services**.

1. Outdoor storage areas shall be enclosed by an opaque fence or wall, restricted to the rear yard, and screened from off-site view from a public right-of-way with a Type-B buffer yard (Section 7.4 (I)(3)). No outdoor storage is allowed in the TC District.

2. Temporary fleet vehicle storage areas shall conform to the dimensional, design, and landscaping standards set forth for parking areas in Chapter 7.

3. Maintenance of fleet vehicles, related materials, and equipment is restricted to the rear yard and shall be within an enclosed building or outdoor storage area enclosed by an opaque fence or wall.

4. All vehicles shall be operable and suitable for driving. Any vehicle not meeting this criterion shall be removed within seven (7) calendar days. Any visibly damaged vehicle or vehicle with missing parts must be removed within three (3) calendar days.

5. Any operation which results in the creation of noxious vibrations, odors, dust, glare, or sound is prohibited.

C. **Wireless Telecommunication Facility – Stealth/Camouflage**.

1. All antennas and related mechanical equipment placed on structures other than towers (a stealth/camouflage facility) shall be concealed. Antennas located on top of buildings or other structures shall not exceed thirty (30) percent of the building height. In no event shall an antenna extend beyond the structure in any direction greater than twenty-five (25) feet.

2. Stealth facilities, including antenna and supporting electrical and mechanical equipment, shall be designed to blend in with the existing structure or buildings with similar colors or other techniques as appropriate so as to make the antenna and related equipment as visually unobtrusive as possible.

3. Applications for co-locations on existing towers shall be classified as "stealth" so long as they do not constitute a substantial modification as defined by N.C.G.S. §160D-931 (19).

D. **Wireless Telecommunications Facility – Towers**. In recognition of the Telecommunications Act of 1996, it is the intent of the Town of Knightdale to allow Wireless Telecommunication providers the opportunity to locate towers and related facilities within its jurisdiction in order to provide an adequate level of service to its customers while protecting the health, safety, and welfare of the residents of Knightdale. Wireless Telecommunication Facilities may be considered undesirable with other types of uses, most notably residential, and therefore, special regulations are necessary to ensure that any adverse effects to existing and future development are mitigated.

1. Radio, television, or similar reception for adjoining properties shall not be disturbed or diminished.
2. No telecommunication tower shall exceed two hundred (200) feet in height.
3. Towers shall be sited to contain all on-site icefall or debris from tower failure. The minimum distance from the tower's base to the property line shall be equal to the tower's fall radius.
4. Towers must be set back from any residential district a minimum of two hundred (200) feet.
5. Towers shall be monopole construction.
6. Tower lighting shall not exceed the minimum standards established by the FAA in Advisory Circular No. 70/7460-1J dated November 29, 1995, and as may be amended from time to time. All towers that require lighting by the FAA shall utilize a dual system consisting of red lights for nighttime hours and high or medium intensity flashing white lights for daytime and twilight hours.
7. A property identification sign shall be displayed in a visible location near the tower. The purpose of the sign is for use by law enforcement departments to contact the company operating the equipment in the event of an emergency. The sign shall contain a number to be assigned to the company and a telephone number for twenty-four (24) hour emergency contact. No other signs shall be permitted on the facility.
8. The base of the tower along with any individual guy wires shall be enclosed by a commercial-grade fence of a minimum of eight (8) feet in height.
9. A vegetative screen consisting of two (2) staggered rows of evergreen trees shall surround the perimeter of the property containing the base of the tower and related equipment. Evergreen vegetation shall be of sufficient density to serve the purpose of an opaque screen to keep the tower area itself from being visible from any public right-of-way or adjacent property.
10. If the tower equals or exceeds one hundred (100) feet in height but is less than one-hundred-fifty (150) feet in height, the tower shall be engineered and constructed to accommodate a minimum of two (2) telecommunication users. If the tower equals or exceeds one-hundred fifty (150) feet in height but is less than one-hundred eighty (180) feet in height, the tower shall be engineered and constructed to accommodate a minimum of three (3) telecommunication users. If the tower equals or exceeds one-hundred eighty (180) feet in height but is less than two hundred (200) feet in height, the tower shall be engineered and constructed to accommodate a minimum of four (4) telecommunication users. For each potential user, there shall be a minimum of six hundred (600) square feet reserved on the approved plans for associated buildings and equipment unless the applicant provides evidence that less space is necessary.
11. If the new tower is approved, the owner shall provide written authorization to the Land Use Administrator that the tower and its accessories may be shared by other telecommunication antenna(s). The owner shall record in the register of deeds' office a letter of intent prior to the issuance of the building permit. This letter shall bind all subsequent owners of the approved tower.
12. If the town determines that the proposed tower will be situated in a location that will enhance the town's telecommunication system, the permit applicant shall agree to allow the town to co-locate its telecommunication equipment at fair market value prior to the issuance of the building permit.

13. The output power from the tower shall not exceed federally approved levels for exposure to electronic magnetic force (EMF).

14. Towers shall either maintain a galvanized steel finish or, subject to any applicable standards of the FAA, be painted a neutral color to reduce visual obtrusiveness. The design of the tower and related structures shall to the extent possible use materials, colors, textures, screening, and landscaping that will blend the tower facilities to the natural setting and built environment.

15. The antenna and supporting electrical and mechanical equipment must be of a neutral color that is identical to, or closely compatible with, the color of the supporting structure to make the antenna and related equipment as visually unobtrusive as possible.

16. No antenna shall extend above the highest point of the tower.

17. Evidence must be presented to the Land Use Administrator that the proposal complies with all applicable FAA and FCC regulations.

18. The Applicant and the owner of record of any proposed Wireless Telecommunications Facilities property site shall, at its cost and expense, be jointly required to execute and file with the Town a bond, or other form of security acceptable to the Town as a type of security and the form and manner of execution, in an amount of at least $75,000.00 for a tower and with such sureties as are deemed sufficient by the Town to assure the faithful performance of the terms and requirements of the UDO and conditions of any Special Use Permit issued pursuant to this UDO. The full amount of the bond or security shall remain in full force and effect throughout the term of the Special Use Permit and/or until any necessary site restoration is completed to restore the site to a condition comparable to that, which existed prior to the issuance of the original Special Use Permit.

19. Each calendar year, the antenna owner shall provide the town with a copy of any FCC and FAA license issued.

20. Any wireless telecommunications tower that ceases to be used for a period of at least three-hundred sixty-five (365) consecutive days shall be removed at the expense of the property owner or Special Use Permit holder within thirty (30) days of notification by the Land Use Administrator. Failure to remove the tower within the specified thirty (30) day period shall constitute a violation of this ordinance, subject to the provisions of Chapter 14.

E. **Wireless Telecommunications Facility – Small Wireless Facilities inside of Right-of-Way**. In recognition of N.C.G.S. Chapter 160D, and particularly N.C.G.S. §160D 9-35 "Collocation of small wireless facilities", the following regulations are created to minimize the impacts of new small wireless facilities, encourage the co-location on existing structures to minimize new visual, aesthetic, and public safety impacts, and to reduce the need for additional antenna supporting structures. Further, the Town recognizes the need for small wireless facilities and encourages the practical location of co-located facilities, while minimizing the need for additional antenna supporting structures.

1. The placement of new poles is prohibited by the Town's undergrounding requirements in Section 11.3.

2. Co-location on existing utility poles or light poles is permitted with the issuance of a Zoning Compliance Permit.

3. All antenna and accessory equipment must be shrouded or otherwise concealed.

4. Any cost for pole modification shall be the responsibility of the applicant.

5. Any pole modification or replacement shall not exceed fifty (50) feet above ground level in non-residential areas and forty (40) feet above ground level in residential areas.

6. Co-location on existing poles is preferred over modification or replacement and the applicant is required to prove that co-location is not reasonably feasible prior to the issuance of a permit for replacement or modification.

7. The applicant is required to provide plans that include any siting, electrical, elevations, and other pertinent information including proving that access by other utilities is not impeded by the installation or co-location of small wireless facilities.

F. **Wireless Telecommunications Facility – Small Wireless Facilities outside of Right-of-Way**. In recognition of N.C.G.S. Chapter 160A, Part 3E and particularly N.C.G.S. §160D-9-35 "Collocation of small wireless facilities", the following regulations are created to minimize the impacts of small wireless facilities, encourage the co-location on existing structures to minimize new visual, aesthetic, and public safety impacts, and to reduce the need for additional antenna supporting structures. Further, the Town recognizes the need for small wireless facilities and encourages the practical location of co-located facilities, while minimizing the need for additional antenna supporting structures.

1. The placement of new poles is prohibited by the Town's undergrounding requirements in UDO Section 11.3.

2. Any new small wireless facility shall be co-located on an existing utility pole or wireless support structures.

3. A new small wireless facility shall not extend more than ten (10) feet above the utility pole or wireless support structure on which it is co-located

4. All antenna and accessory equipment must be shrouded or otherwise concealed.

5.10. Accessory Use Standards.

A. **Accessory Building / Structure**.

1. **Principal Building Required**. The construction of an accessory building or structure is not permitted unless a principal building is located on the lot. Accessory buildings or structures and principal buildings may be constructed concurrently.

2. **General Requirements**.

a. **Maximum Allowance**.

i. **Districts Permitting Residential Uses**: Accessory buildings or structures on a single lot in a district permitting a residential use (Section 3.1 (C)) shall not:

a) Collectively:

(i) exceed more than three (3) accessory buildings,

(ii) cover more than twenty (20) percent of the total combined area of the lot's rear and side yards; nor

b) Individually:

(i) exceed one thousand (1,000) square feet in area,

(ii) exceed the height of the principal building (Section 3.3 (B)).

ii. **Districts Not Permitting Residential Uses**: Accessory buildings or structures on a single lot in a district not permitting a residential use (Section 3.1 (D)) shall not:

a) collectively cover more than thirty (30) percent or the total combined area of the lot's rear and side yards; nor

b) individually exceed the height of the principal building (Section 3.3 (B)).

iii. **Exceptions.** The following are not subject to the maximum allowance restrictions stated herein:

a) Property located in the OSP (Open Space Preservation), RR-1 (Rural Residential), or RT (Rural Transition) districts along with certain farmland meeting the exemption requirements of Section 1.5 (B).

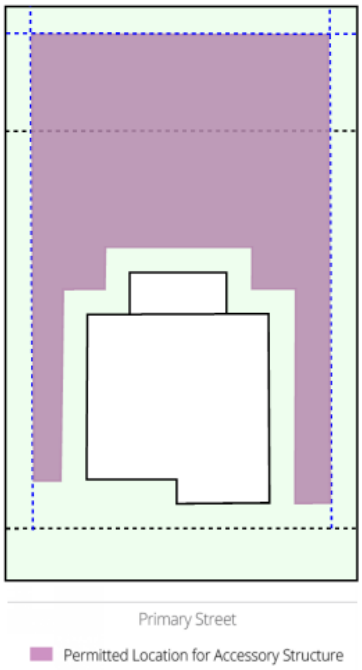
b) CBU Shelters.

b. **Location.** Unless otherwise specified, accessory buildings or structures are restricted to the side or rear yards and shall be located:

i. A minimum of five (5) feet from side and rear property lines

ii. As permitted in Section 3.6 Permitted Bulk and Dimensional Standards Exceptions and Encroachments.

Figure 5.2: Accessory Building/Structure Allowed Location



c. **Separation**. To ensure proper maintenance of building exteriors, accessory buildings shall be located, if otherwise permitted, a minimum of five (5) feet from any principal building or other accessory building.

3. **Specific Requirements for Certain Animal Shelters.**

a. **Dog House**. All dog houses shall be located in the rear yard.

b. **Chicken Coop**. The keeping of chickens (hens only) is permitted as an accessory use in conjunction with single-family dwellings in the GR3, GR8, UR12, RMX, NMX, and TC Districts subject to the regulations stated herein.

c. **Permit Required**. An application for a Livestock, Chicken and Other Domestic Fowl Permit must be filed and approved by the Administrator prior to the keeping of chickens in any area authorized by this subsection. Said permit application shall require the submission of a plot plan showing coop (hen house and pen) location, dimensions and distances from property lines.

d. **Number and Type of Chickens**. Up to five (5) female domesticated chickens (no roosters, peafowl, guineafowl or other domestic fowl are permitted) are allowed per lot.

e. **Coop Design**. Each single-family lot permitted and engaged in the keeping of domestic chickens shall:

i. Provide an enclosed chicken coop of sufficient size to allow for adequate exercise (minimum ten [10] square feet per chicken) and room for nesting (minimum four [4] square feet per chicken) and all covered by a roof;

ii. Construct a coop from permitted materials (see Section 6.4 (F)), including hardware cloth (chicken wire not permitted) with adequate ventilation; and

iii. Construct a coop designed to prevent the entry of rodents and predators including an elevated hen house or hen house placed on a hard surface such as concrete slab or patio block.

f. **Location**. Coops shall be located in the rear yard only and setback at least five (5) feet from the rear property line. The minimum side setback for coops shall be fifteen (15) feet or the existing setback of the principal building on the lot, whichever is less. However, under no circumstance shall any coop be located closer than five (5) feet to any side property line.

g. **Maximum Size**. Coops shall not exceed one hundred (100) square feet in area or twelve (12) feet in any dimension.

h. **Rear Yard Fence Required**. The rear yard in which a coop is located shall be enclosed by an opaque wall or fence. In addition to meeting the requirements of Section 5.10 (A), the wall or fence shall be a minimum of six (6) feet tall.

i. **Chickens Secured**. Chickens shall be secured within the coop at all times and within the hen house from dusk until dawn.

j. **Commercial Sale Prohibited**. All products resulting from the keeping of domestic chickens (chicks, eggs, manure, compost, etc.) are for personal use only.

k. **Maintenance**. All areas within the coop shall be kept in a neat and sanitary condition at all times so as to preclude offensive odor and other nuisance violations.

4. **Swimming Pools**. A swimming pool is a leisure activity space that includes all structures, as well as cement, stone or wood walks and patio areas, at or above grade, built for, and used in conjunction with the pool.

a. **Location**. Swimming pools, as defined above, whether above-ground or in-ground, are restricted to the rear yard and shall meet the district-specific setback requirements as specified in Section 3.4, or as required per building type in Chapter 6. Any at-grade patio component meeting the opaque fence or wall requirement of Section 3.6 (D)(2), has no setback requirements from rear and side lot lines.

b. **Barrier**. Swimming pools, as defined above, shall be enclosed by a barrier meeting the requirements of the North Carolina Building Code.

B. **Cluster Mail Box Unit (CBU)**. A shelter for any United States Postal Service (USPS)-required CBUs in districts permitting residential units is required and shall meet the following additional requirements:

1. **Type and Size.** Be a principal or accessory building (open-air or enclosed) that extends shelter to a minimum of five (5) feet beyond the CBU's collective footprint.

2. **Location.** Be located on a lot deeded to a homeowners' association and be no more than fifty (50) feet from an off-street motorized vehicle parking lot as measured from curb to open-air building footprint or enclosed building entrance.

3. **Parking.** The following maximum off-street short-term (marked and signed for 10-minute maximum) motorized vehicle parking space requirements apply to CBUs. Parking for the disabled shall be provided in accordance with the North Carolina State Accessibility Code.

Number of Mailboxes	Maximum Short-Term Parking Spaces
48 or fewer	3
49 - 304	3 plus 1 for each additional 32 mailboxes or portion thereof above 48 mailboxes
305 or more	11 plus 1 for each additional 48 mailboxes or portion thereof above 304 mailboxes

C. **Drive-Thru Service & Drive-Thru Retail / Restaurant**.

1. No drive-thru facility, defined as the footprint of associated vehicle accommodation lanes and canopies, shall be located within a 200-foot radius of the property line of any residential use (Section 2.3 (C)(1)).

2. Drive-thru service windows, doors, and similar building openings may be located and accessed only in the side or rear yards.

3. Drive-thru service windows, doors, and similar building openings located and accessed in the side yard shall be limited to one (1) lane in the NMX district and shall be screened from off-site view from a public right-of-way by a Type-A buffer (Section 7.3 (I)(2)). In the HB and MI districts, drive-thru service windows, doors and similar building openings located and accessed in the side yard may be multi-lane but shall be screened from off-site view from a public right-of-way by a Type-B buffer (Section 7.3 (I)(3)).

4. In addition to meeting the requirements of Section 7.1, vehicle accommodation lanes for drive-thru uses shall be located outside of and physically separated from the right-of-way of any street. These lanes shall not interfere with the efficient internal circulation of the site, adjacent property, or adjacent street right-of-way.

5. In the HB & NMX zoning district Drive-Thru Retail/Restaurants & Drive-Thru Services shall be located in structures that meet the Mixed-Use building type as detailed in Section 6.8.

6. Clearly marked pedestrian crosswalks shall be provided for each walk-in customer access to the facility adjacent to the drive-thru lane(s).

7. The setback of any overhead canopy or similar structure shall be a minimum of ten (10) feet from all street rights-of-way lines, a minimum of twenty (20) feet from all residentially zoned property lines and shall be a minimum of five (5) feet from all other property lines.

8. The total height of any overhead canopy or similar structure shall not exceed twenty (20) feet as measured from the base of the structure to the highest part of the structure.

9. Any overhead canopy or similar structure shall maintain a uniform and consistent roof-line with the building to which the drive-thru facility is a part.

10. Any overhead canopy or similar structure shall have columns, solid walls, or semi-solid walls placed so that they are similar in their relation to the roof as that of the exterior walls of the building to which the drive-thru facility is a part.

11. Any overhead canopy or similar structure shall be finished with materials consistent with the primary building façade.

12. All vehicular areas of the facility shall provide a surface paved with concrete or bituminous material which is designed to meet the requirements of a minimum four (4) ton axle load.

13. Interior curbs shall be used to separate driving areas from exterior fixtures such as fuel pumps, vacuums, menu boards, canopy supports, and landscaped islands. Said curbs shall be a minimum of six (6) inches high and be of a non-mountable design. No curb protecting an exterior fixture shall be located closer than twenty-five (25) feet to all property lines.

14. Drive-thru facilities shall be permitted a maximum of two (2) menu boards with a combined maximum area of eighty (80) square feet. Each menu board shall not exceed sixty (60) square feet in area and ten (10) feet in height. Menu boards may utilize electronic message boards for one hundred (100) percent of the permitted menu board area.

15. Stacking lanes shall have a minimum depth of twenty (20) feet per stacking space and the following minimum lane widths:

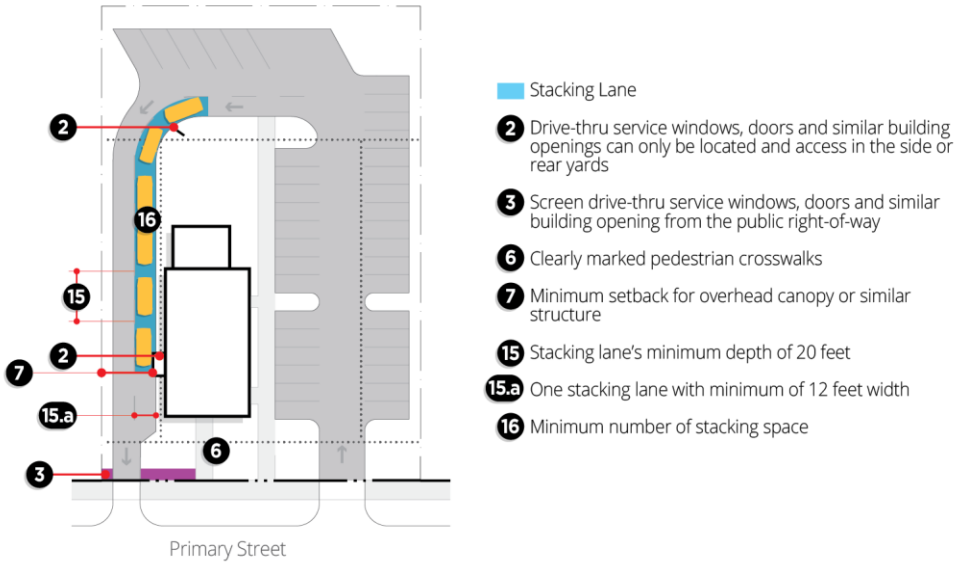
    a. One (1) lane: twelve (12) feet,

    b. Two (2) or more lanes: ten (10) feet per lane.

16. Drive-thru facilities shall be required to provide a minimum number of stacking spaces as detailed in the table below.

Use	Minimum Stack	Measure From
Bank Teller Lane	2 per lane	teller or window
Restaurant	6 per order box	order box[1]
Carwash Stall, Automatic	5 per stall	stall entrance
Carwash Stall, Manual	2 per stall	stall entrance
Oil Change Shop	2 per service bay	service bay entrance
Pharmacy	4 per lane	machine or window
Other	at the discretion of the Land Use Administrator	
1. 4 of the required stacking spaces are to be located between the order-box and pick-up window, including the stacking space at the order box.		

Figure 5.3: Drive-Thru Facility Standards



D. **Accessory Dwelling Unit. –** Accessory dwelling units within single-family houses or on single-family lots shall be encouraged and designed to meet housing needs and shall comply with the following additional standards:

1. An accessory dwelling unit may only be an accessory use located on a lot with a single-family dwelling.

2. Not more than one (1) secondary dwelling unit may be permitted per lot.

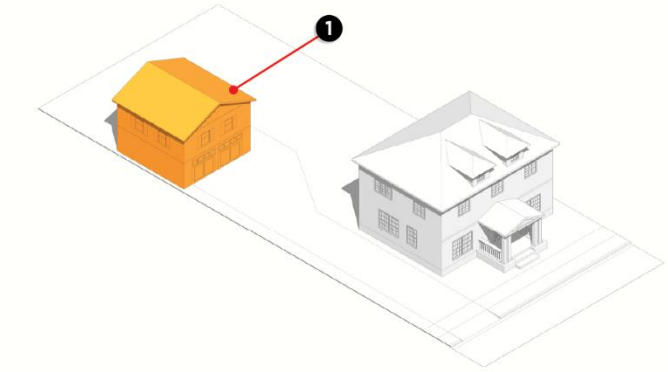
3. A secondary dwelling shall be subordinate to the primary dwelling unit. It may not exceed one thousand (1,000) square feet or the square footage of the primary dwelling unit, whichever is less.

4. An accessory building housing a secondary dwelling unit shall meet the accessory building maximum number, location and separation requirements of Section 5.10.

5. An accessory building housing a secondary dwelling unit shall not exceed two (2) stories in height or the height of the principal building, whichever is less (see Section 3.6).

6. A secondary dwelling unit shall have an architectural style substantially similar to and compatible with that of the primary dwelling.

Figure 5.4: Secondary Dwelling Standards



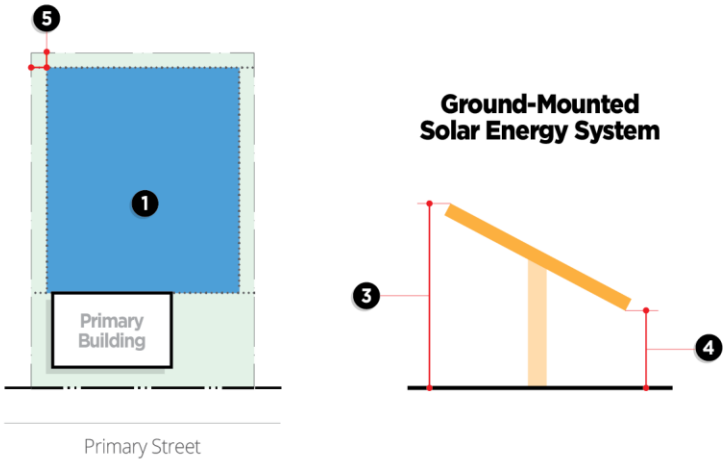
E. **Home-Based Business**. A home-based business is allowed as accessory to any dwelling unit in accordance with the following requirements:

1. The home occupation must be clearly incidental to the residential use of the dwelling, may be conducted in a permitted accessory building, and must not change the essential residential character of the dwelling, lot, or surrounding residential use.
2. The total number of on-site employees and clients shall not exceed four (4).
3. Hours of operation shall be permitted only from 7:00 am until 9:00 pm.
4. There shall be no visible outside display of stock in trade that is sold on the premises.
5. There shall be no outdoor storage or visible evidence of merchandise, equipment, products, supplies, or materials used in the home occupation.
6. Operation of the home occupation shall not be visible from the street.
7. Only non-commercial vehicles will be permitted on the subject site in connection with the conduct of the home occupation.
8. Does not generate on-street parking or a substantial increase in traffic through the residential area.
9. The home occupation shall not utilize mechanical, electrical, or other equipment which produces noise, electrical or magnetic interference, vibration, heat, glare, or other nuisances outside the dwelling or accessory structure.
10. Maintain all required licenses and permits for the activities conducted on site.
11. Permitted home occupations may include, but are not limited to: professional services, workshops, sewing, music instruction, or similar uses which do not draw clients to the dwelling on a regular basis.
12. Prohibited home occupations include, but are not limited to: vehicle repair, service or sales, animal services, theaters, massage, storage, manufacturing, or fabrication.
13. In addition to meeting the requirements of Chapter 8, signs shall be limited to one (1) wall sign with a maximum sign area of two (2) square feet.

F. **Solar Energy Collection, Ground-Mounted**.

1. Ground-mounted solar energy collection systems shall be permitted in the rear yard only.
2. Ground-mounted solar energy collection systems shall not be located within the area set off by a line running across the façade of the structure extending to the property boundaries on either side of the façade, and those areas of common or public access faced by the structure.
3. The maximum height of ground-mounted solar energy collection systems shall be eight (8) feet in height, measured from the grade at the base of the pole to the highest edge of the system.
4. The minimum clearance between the lowest point of the system and the surface on which the system is mounted is twelve (12) inches.
5. All parts of the freestanding system shall be set back ten (10) feet from the side and rear lot lines and shall not be located in a public utility easement.

Figure 5.5: Solar Energy Collection, Ground Mounted Standards



G. **Solar Energy Collection, Roof/Building-Mounted**.

1. Roof-mounted solar energy collection systems may be located on any roof face of principal or accessory buildings.

2. Building-mounted solar energy collection systems may be located on any façade with the exception of a façade that faces areas open to common or public access.

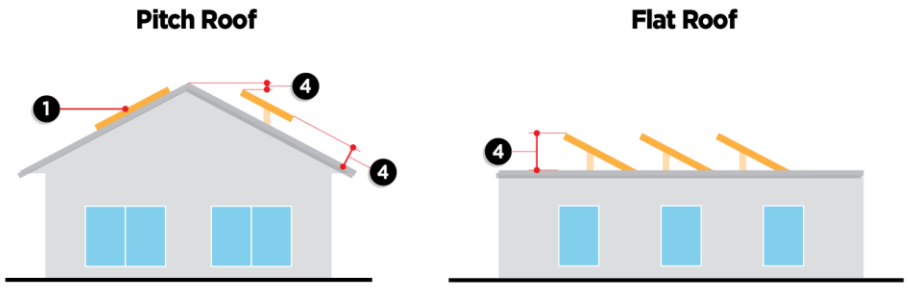
3. Systems should be flush mounted when possible.

4. Systems on residential structures shall not extend beyond twelve (12) inches parallel to the roof surface of a pitched roof or flat roof. Systems on nonresidential structures shall not extend beyond thirty-six (36) inches parallel to the roof surface of a pitched roof or flat roof. Systems on all structures shall not extend above the highest peak of a pitched roof.

   a. Height is measured from the roof surface on which the system is mounted to the highest edge of the system.

5. All materials used for racking, mounts, mounting clamps, and flashings shall be of a color consistent with the color of the roof surface to minimize visibility.

Figure 5.6: Solar Energy Collection, Roof/Building Mounted Standards



H. **Grid-Scale Battery Storage Facilities.**

1. No grid-scale battery storage facility shall be located within a one hundred (100) foot radius of the footprint of any pre-existing adjacent residential dwelling.

2. Grid-scale battery storage facilities shall only be permitted when co-located on a site with a substation facility.

3. A Type D Buffer Yard shall be required on all sides of a grid-scale battery storage facility adjacent to a residential zoning district. All other required Buffer Yards shall be consistent with Section 7.4 (I)(1).

4. All sides of a grid-scale battery storage facility shall be screened from off-site view by use of a fence or masonry wall. The materials of the fence or masonry wall shall be consistent with those listed in Section 7.6 (C). The height of any fence or masonry wall shall be consistent with the height of the energy storage container. The maximum height of such fence or masonry wall shall not exceed 8 feet in height regardless of the height of the energy storage container.

5. The grid-scale battery storage facility shall have at least one entrance of sufficient design to allow for the provision of emergency services, as approved by the Knightdale Fire Department.

6. Prior to Construction Drawing approval, a Third-Party Noise Analysis shall be submitted establishing that the grid-scale battery storage facility as designed will not exceed noise level limits at the property line(s) set forth in the applicable noise ordinance.

7. The noise level limits applicable to the grid-scale battery storage facility shall be determined by the location of the facility. If the facility is located in Town Limits, the noise level limits set forth in the Town's Code of Ordinances (Knightdale Noise Ordinance) shall apply. If the facility is located outside of Town Limits but within the Town's extra-territorial jurisdiction, the noise level limits set forth in Wake County's Code of Ordinances shall apply.

8. An additional Noise Analysis shall be required if the facility exceeds the applicable noise level limits. If warranted by the Noise Analysis, noise dampening measures shall be installed in any area that produces excessive noise.