

CHAPTER 9: SITE DEVELOPMENT STANDARDS

1. **APPLICABILITY:** All the Site Design Requirements in Chapter 9 of these Regulations shall be applicable to any use that requires a Commission Review of a Site Plan, Special Permit or Master Plan. The parking requirements in §9.4 [renumbered so old 9.4 is now 9.5] and the outdoor lighting requirements in §9.11 [renumbered so old 9.10 is now 9.11] shall be applicable to all uses, regardless of whether the application requires Commission Review.
2. **INTENT:** The Site Design Requirements are intended to protect public health, safety, welfare, property values, and natural resources; to encourage site design and development that is efficient, effective and in keeping with the general architecture, rhythm, aesthetics, and existing development pattern/layout in the immediate neighborhood.
3. **SUSTAINABLE DEVELOPMENT**
 - A. **Energy Efficient Design:** The Commission encourages all applicants to provide energy-efficient site designs and patterns of development, including but not limited to:
 1. passive solar energy techniques that maximize solar heat gain and minimize heat loss during the various seasons;
 2. renewable energy sources for heating, cooling, and electricity; and
 3. appropriate building orientation, street and lot layout, vegetation, natural and man-made topographical features, and solar access.
 - B. **Low Impact Development (and Design):** To minimize the negative impacts of development on the environment, all proposed developments, including municipal developments, should, where feasible, implement Low Impact Development (LID) practices and techniques.
 - C. **Performance Standards:** Uses shall be designed to minimize any injury or nuisance to nearby premises by reason of noise, vibration, radiation, fire and explosive hazard, electromagnetic interference, humidity, heat, glare, and other physical impacts that may be caused by the use. For Special Permit applications, the Commission may impose additional restrictions on the use if it determines, after a hearing for which the owner of the facility is given written notice that the physical impacts of the use are causing a nuisance to nearby properties.

The following performance standards shall apply to all uses of land subject to Chapter 9 of these Regulations.

1. No dust, dirt, fly ash or smoke shall be emitted into the air so as to endanger the public health, safety or general welfare, or to decrease the value or enjoyment of other property or to constitute an objectionable source of air pollution.
2. No offensive odors or noxious, toxic or corrosive fumes or gases shall be emitted into the air.
3. With the exception of time signals and emergency signals and noise necessarily involved in the construction or demolition of buildings or other structures, no noise which is unreasonable in volume, intermittence, frequency or shrillness shall be transmitted beyond the boundaries of the lot on which it originates.
4. With the exception of vibration necessarily involved in the construction or demolition of buildings or other structures, no vibration shall be transmitted beyond the boundaries of the lot on which it originates.

5. Any glare or radiant heat produced shall be shielded so as not to be perceptible at or beyond the boundaries of the lot on which it originates.
6. Fire and explosion hazards. Uses shall conform to the fire safety code of the State of Connecticut, the regulations of the Town of Ledyard, and any other applicable regulation.

D. Infrastructure and Utilities: Internal roads and travel ways must be designed to accommodate all projected traffic flows. **For new developments, all utilities shall be located underground.**

E. Environmental Protection: In accordance with CGS §22a-19, uses that are subject to Commission review and approval shall be designed in such a manner as to avoid any unreasonable pollution, impairment or destruction of the air, water and other natural resources of the state.

4. **LANDSCAPE DESIGN STANDARDS AND REQUIREMENTS**

A. Purpose: In addition to the purposes set forth in §§9.1 and 9.2 [should be 9.2 and 9.3 with new numbering] of these Regulations, these landscaping design standards are intended to reduce excessive heat, glare, and accumulation of dust; provide privacy from noise and visual intrusion; prevent the excessive runoff of storm water and erosion of soil; and preserve or improve the quality of the environment and attractiveness of the Town of Ledyard.

B. General Requirements:

1. When determining the density and intensity of techniques and materials needed to provide adequate, aesthetically pleasing, year-round screening, due consideration should be given to the overall mix and intensity of current uses, building styles, existing type and presence of street trees, landscaped yards, existing landscaped buffering, stonewalls and/or type of fencing, and the presence of natural or historic features and assets within the surrounding neighborhood or district.
2. Landscape designs shall only use native species. Invasive species shall be prohibited as part of any landscape plan.
3. To the extent possible, existing trees, vegetation and unique site features such as stonewalls, ledge faces, kettle holes, and boulder trains shall be retained and protected.
4. Any disturbed area of a lot or property which is not being used for the location of buildings, accessory structures or uses, parking, loading, storage areas, or other similar purposes shall be landscaped and maintained in such a manner as to minimize stormwater runoff.
5. The retention of existing topography and vegetation in the buffer areas is preferable to regrading and new plantings, however, if natural site conditions are not adequate to meet the purposes of the buffer requirement, then landscaping shall be required to comply with criteria set forth herein.

C. Perimeter Landscape Area Requirements: Any use subject to Site Plan/Special Permit review shall provide an ornamental landscaped area along the perimeter of the property, excluding areas specifically reserved for vehicular or pedestrian access or for other accessory uses designated on the proposed Site Plan. The landscaped areas shall be a minimum of ten (10) feet in width, unless otherwise specified, and shall be designed with a combination of grass, shrubs, flower, shade trees, evergreen and other vegetative materials skillfully designed to provide a visual landscaped buffer between adjacent properties and to enhance the aesthetic appearance of the district.

- D. **Landscape Buffer Requirements:** When a Site Plan or Special Permit application is submitted for the establishment of a new non-residential use, and the parcel is located within, or abutted by any Residential Zoning District or abutted by a parcel containing an existing use that would be allowable as of right in a Residential District, a landscaped buffer no less than twenty-five (25) feet in width shall be provided along all such abutting portions of the perimeter. Such buffers shall be designed to provide appropriate screening to minimize any potential negative impacts of noise, light, dust, vibrations, hours of operation, and substantially dissimilar aesthetics.
- E. **Outdoor storage areas associated with motor vehicle repair facilities and similar repair facilities shall be fully screened from view from any road or access way, and/or any neighboring building/structure including parking areas. Screening shall include a mixture of landscaping (including evergreens) and hardscape meeting the intent of §9.3 [should be 9.4 with new numbering]. Fencing alone shall not be used for screening.**
- F. **Completion of Landscaping:** All landscaping shown on the approved Site Plan shall be completed before issuance of a Certificate of Occupancy unless the landowner provides surety, in a form and amount satisfactory to the Commission, assuring completion within a specific time, not to exceed one year. Such surety shall be forfeited if the work shall not have been completed within such time limit.

5. **PARKING REQUIREMENTS AND DESIGN STANDARDS**

***Design Objective:** To locate parking lots behind, below, or between structures, appropriately screened with attractive landscaping in accordance with these regulations. It is the intent of the Commission to ensure safe access for all pedestrians and bicyclists. This is to be achieved by limiting curb cuts, providing clearly marked and designated crosswalks through the use of brick, stamped asphalt, and bollards. All new developments should provide parking at the rear of the building, accessible through either a shared entrance, alley or side streets. This will consolidate and eliminate the need for multiple entrance and egress points for vehicles, slowing vehicle traffic, and forcing entry towards a single shared entrance.*

- A. **Application and Scope:** For any use hereafter established, off-street parking and loading shall be provided in accordance with ~~this §9.4~~ **these regulations**.
- B. **Maintenance Required:** All spaces required to be provided per ~~this §9.4~~ **these regulations** shall be permanently maintained and made available for occupancy in connection with, and for the full duration of, the use of land or structure(s) for which such spaces are required.
- C. **Change of Use:** Any change of use or the addition of ~~one or more~~ uses to an existing use shall require that the aggregate off-street parking specified in ~~this §9.4~~ **these regulations** be provided. If such changes are proposed in connection with an existing use that is already non-conforming with respect to parking requirements, such existing use(s) shall ~~also~~ be brought into compliance at such time.
- D. **Number and Size of Parking and Loading Spaces and Berths:** Plans for all existing and proposed uses shall provide sufficient on-site parking to accommodate the motor vehicles of all occupants and visitors that may reasonably be expected at any one time, and sufficient loading berths to accommodate the anticipated needs of all planned uses. The standards set forth in ~~§9.4~~ **these regulations** shall ~~be~~ deemed to specify the necessary and appropriate number and size of parking and loading spaces, berths and areas in the absence of any contrary evidence. ~~However, as part of a proposed Site Plan, an applicant may submit evidence that the~~

~~same or similar uses can be reasonably accommodated with fewer or smaller spaces or berths,
or that~~

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more or larger spaces or berths will be needed. The Commission shall weigh the credibility of any such evidence in deciding whether the proposed parking and loading plans are adequate.

E. Shared On-Site Parking:

In calculating required parking, the Commission may allow shared on-site parking in cases where it is demonstrated that individual uses occupying the same property will have peak parking demands at different hours of the day or are expected to share many of the same customers. A Special Use Permit application must be submitted, and shall contain the following information:

1. A description of proposed uses that are subject to the shared parking proposal, the square footage of each such use, and the number of dwelling units if residential use is proposed.
2. A description of the hours of operation and estimated number of employees by shift
3. A proposed layout of parking including the number and location of all spaces, vehicular access and internal drives.
4. Any change in use of the property which substantially alters the conditions of the Special User Permit shall require modification of such permit, to be approved by the commission. Continued validity of the Special Use Permit depends on the applicant's ability to continuously provide the requisite number of parking spaces for the duration of said Permit.

F. Residential Parking Agreements:

When dedicated off-site parking or shared parking is proposed for residential uses, there shall be a legally binding agreement between each of the parties, which must be executed and filed in the Ledyard Land Records before any Zoning Permits are issued. The applicant shall present a draft agreement to the commission for review and approval containing the following:

1. Stipulated responsibilities and costs for maintaining the shared on-site parking area and/or dedicated off-site parking area in compliance with standards set forth in these regulations.
2. A covenant assuring in perpetuity the availability of the shared on-site parking area and/or dedicated off-site parking area for each of the residential units they are intended to serve, binding on all property owners and their successors. When a corporation or trust is used, ownership shall pass with conveyances of the residential units.

1. ~~**Shared Parking:** Nothing in this section shall be deemed to prohibit a cooperative action to provide in common the parking spaces required for individual uses, provided that the area or a sufficient portion thereof, is located within 600 feet of the building which it serves. Common spaces of two or more parking facilities on adjoining lots, if designed for use as a single parking area, may use the same means of access.~~
2. ~~**On-street parking** is encouraged throughout the LCDDs and discouraged in the GFDD. In these Districts, on-street parking need not be contiguous with the building or the use it serves. Plans must be reviewed by the Public Works Director and Town Planner. If on-street parking is provided, it shall meet the requirements of the Americans with Disabilities Act (ADA).~~

G. Parking Ratios: The following off-street parking ratios shall apply to all uses and combinations of uses in the absence of any contrary evidence provided in accordance with

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~~§9.4D.~~ If the proposed number of parking spaces is greater than ten percent (10%) above the minimum number of spaces required by this ~~§9.4E~~ these regulations, and any such spaces are located outside

of a parking garage, the applicant must demonstrate why so many spaces would be necessary or desirable. For purposes of the following ratios, the term “maximum shift” means the time or times during which the greatest number of workers (including management, staff, and all other persons employed by the relevant business) are located at the site on a regular (but not necessarily daily) basis. When the calculation results in a fraction, the number shall be rounded to the next highest whole number. The abbreviation “GFA” means gross floor area.

1. **Motor Vehicle Sales/Service**: One (1) space per employee on the maximum shift, plus one (1) space per 500 square feet of internal display area, plus one (1) space per 2,000 square feet of outdoor display area, plus two (2) spaces per service bay.
2. **Financial Institution**: One (1) space per employee on the maximum shift, plus one (1) space per 200 square feet of floor area accessible to the general public.
3. **Bed and Breakfast/Country Inn**: Two (2) spaces, plus one (1) space per guest bedroom, plus one (1) space per employee at maximum shift, in addition to resident parking. Adequate parking shall be provided for patrons if Country Inn contains a restaurant that is open to the public.
4. **Drive-through Restaurant (Fast Food)**: One (1) space per two (2) permanent seats, plus one (1) space per employee on the maximum shift, plus one (1) space per fifty (50) square feet of floor area devoted to customer service.
5. **School**: Two (2) spaces per classroom, plus one (1) space per four seats in any auditorium or gymnasium, and one (1) space per employee on the maximum shift.
6. **Funeral Home**: One (1) space per fifty (50) square feet of public area.
7. **Home occupation**: Two (2) spaces for the dwelling unit, plus one (1) space for the non-resident employee (if applicable). Adequate parking shall be provided for patrons if applicable.
8. **Hospital**: One (1) space per five beds, plus one (1) per full-time employee on maximum shift and fleet vehicle (if applicable).

9. **Hotel**: One and one quarter (1.25) spaces per guest room, plus one (1) space per employee on the maximum shift. Additional spaces must be provided for accessory uses open to the general public.
10. **Library**: One (1) space per 500 square feet.
11. **Lumber Yard/Building Material Sales/Construction Supply Sales/Service**: One (1) space per employee on the maximum shift, plus one (1) space per 250 square feet of floor area accessible to the general public.
12. **Heavy Manufacturing Facility/ Light Manufacturing/ Warehousing/Distribution Facility**: One (1) space per employee on the maximum shift, plus one (1) space per fleet vehicle. Required parking shall be in addition to any loading areas/spaces.
13. **Medical Office/Clinic/Outpatient Care**: One (1) space per employee (including doctors) on the maximum shift, plus three and one-half (3.5) spaces per treatment room.
14. **Assisted Living Facility**: One (1) space per employee on the maximum shift, plus one and one quarter (1.25) spaces per bedroom.
15. **Mixed - use Commercial or Commercial/Industrial Development**: Four (4) spaces per use, plus one (1) space per 250 square feet of GFA of commercial uses, plus one (1) space per employee on the maximum shift, for each use.
16. **Multiple-use Commercial Developments with Gas Station**: Ten (10) spaces for gas station, plus four (4) spaces per use, plus one (1) space per 250 square feet of GFA of commercial uses plus one (1) space per employee on the maximum shift.
17. **Adult Day Care/Child Care Center//Nursery School**: One and one-half (1.5) spaces per employee on the maximum shift, plus four (4) spaces, plus adequate drop-off and pick-up areas for children attending the day-care facility or nursery school.
18. **Office or Professional Building**: One (1) space per 300 square feet of GFA.
19. **Restaurant/General Hospitality**: One (1) space per employee on the maximum shift, plus one (1) space per three (3) seats.
20. **Retail Stores**: One (1) space per 250 square feet of GFA, but no fewer than four (4) spaces.
21. **Places of Public Assembly (including places of worship)** : One (1) space per (3) three single-person, fixed seats or, where capacity is not determined by the number of single-person, fixed seats, one (1) space per sixty (60) square feet of floor area available to patrons.
22. **Multi-Family Residential (>16 dwelling units)**: One (1) space for each studio or one-bedroom apartment and two (2) spaces for all dwelling units with two or more bedrooms. In addition, one loading space, compliant with the standards set forth in 9.5.3 [this citation needs to be changed to 9.5.H per the new numbering], per 50 units shall be provided. Any Multi-Family Residential development may submit a Parking Needs Assessment to support a reduced number of parking spaces.
23. **Multi-Family Residential (<=16 dwelling units)**: Sufficient parking to be provided as supported by a narrative in the application.
24. **(Option 1 for uses not listed)** For uses not listed in these regulations, including but not limited to - list Rhonda's additional list here, the Planning and Zoning Commission shall determine the number of required parking spaces. The Institute of Traffic Engineers

Parking Generation, 6th Edition shall be used as a guide in determining such required parking. The calculated number of spaces shall be rounded up to the next whole number.

25. (Option 2 for uses not listed) For uses not listed in these regulations, including but not limited to - list Rhonda's additional list here, the application shall submit [applicant shall submit or application shall include] a Parking Needs Assessment.

2. **Uses Not Listed:**

~~A. The minimum number of parking spaces required for certain uses not listed above are set forth elsewhere in these Regulations. If no minimum number of parking spaces has been established in these Regulations for a particular use, the minimum number shall be determined by the Commission based on such evidence as may be provided or available in the record.~~

~~An applicant for any such use must submit sufficient information to the Commission to allow it to estimate the number of motor vehicles of all occupants and visitors that may reasonably be expected at any one time. Such information may include, without limitation, evidence regarding the nature, intensity, and mix of the proposed use;~~

~~projected attendance figures; the number of anticipated employees, visitors or customers; and the experience of similar facilities elsewhere.~~

~~The Commission may deny or require modifications for an application that fails to provide sufficient, credible information to enable the Commission reasonably to determine the number of parking spaces likely to be required. The Commission may, alternatively, require the applicant to designate an overflow parking area in the event the parking plan results in insufficient spaces.~~

H. Off-Street Loading Requirements:

- 1 Size:** Except as provided elsewhere each required loading berth shall be at least twelve (12) feet wide, fifty (50) feet long and fifteen (15) feet high. Such berths shall be in addition to an access driveway and required parking spaces.
- 2 Location:** All permitted or required berths shall be on the same lot as the use to which they are accessory. No entrance or exit for any off-street loading area shall be located within fifty (50) feet of any street intersection. Such loading berths may be enclosed or outside, but in no case shall they be located in a front yard.
- 3 Access:** Unobstructed access, at least (12) feet wide, to and from a street shall be provided. Such access may be combined with access to a parking lot.
- 4 Number:** For every structure used for commercial or industrial purposes, or for public institutions and facilities, loading berth requirements shall be as set forth below:

Floor area	# of Berths
10,000 - 25,000 sq. ft	1 Berth
25,000 - 40,000 sq. ft	2 Berths
40,000 -150,000 sq. ft	3 Berths
Each additional 50,000 sq. ft	1 Additional Berth

I. Parking Facilities:

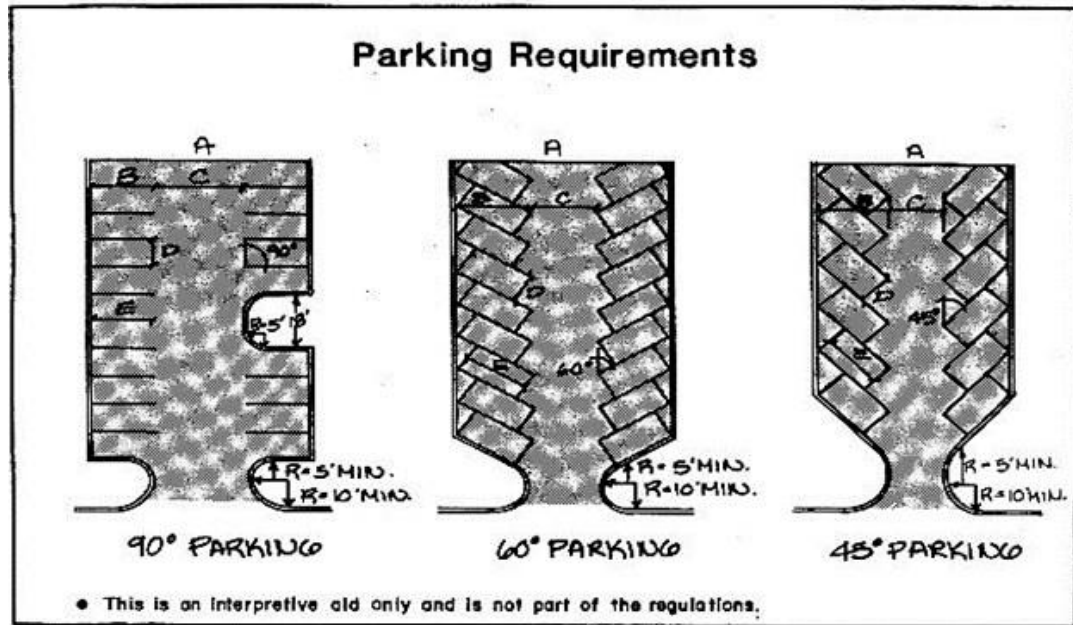
1. The dimensions for parking spaces and drive aisles shall conform to the following table.

		Angle to Drive Aisle	
		90°	60°
a)	Double parking bay	60 ft.	58 ft.
b)	Depth of bay	18 ft.	20 ft.
c)	Aisle width	24 ft.*	18 ft.
d)	Width of space	9 ft.	9 ft.
e)	Depth of space	18 ft.	18 ft.

**Aisles for single-loaded parking bays may be twenty-two (22) feet wide.*

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2. Aisles for 90-degree parking are for two-way circulation, and aisles for 60- degree and 45- degree parking are for one-way circulation.
3. **Other Standards:**
 - a. The outside radius of parking lot end islands shall be ten (10) feet minimum.
 - b. All other radii shall be five (5) feet minimum.
 - c. All interior landscaped islands shall be a minimum width of eighteen (18) feet.
4. Where parking spaces abut a concrete or bituminous walk the depth of the parking space may be reduced by two (2) feet.
5. **Reduction in parking spaces:**

The Planning and Zoning Commission may reduce the on-site parking requirement through Special Use Permit for or properties provided:

 - a. The reduction in parking shall not exceed 25% of the required parking required by these regulations.
 - b. A Parking Needs Assessment has been submitted to support any reduction in required parking
 - c. A reduction in parking may be applied only to customer parking. Parking for employees must be provided as required by the use and may not be reduced in favor of available on-street parking.
 1. **Permanent shared use reduction:** The Commission may permit a reduction of up to twenty five percent (25%) of the required parking spaces due to shared use of parking facilities when the parking needs of the uses occur at different hours of the day.
 2. **Permanent compact space reduction:** In parking lots in excess of fifty (50) spaces, the Commission may allow the installation of eight (8) by sixteen foot (16) foot compact spaces, not to exceed twenty five (25) percent of the total number of

~~spaces installed. These spaces shall be clearly designated as compact car parking.~~

6. Parking Lot and Driveway Design:

- a.** For uses requiring a Special Permit, in order to protect the public safety, where traffic volumes, patterns or street geometry warrants, the Commission may require that only one driveway serve any lot, regardless of the length of street frontage, and may designate the location of any driveway.
- b.** In the case of corner lots, driveways shall be located not less than 150 feet from the intersection of the street lines of the lot. In the case of a corner lot having frontage of less than 150 feet, the driveway shall be as far from the intersection as is practical.

Driveways entering streets at a curve or near the crest of a hill shall be located to provide the maximum sight distances possible.

- c. Driveways shall be designed to be as perpendicular to the street line as possible, and in no case may the angle between the street line and the driveway centerline be less than sixty (60) degrees.
- d. Parking lots designed for ninety (90) degree parking are encouraged and may be required by the Commission. However, where a one-way circulation pattern is desired due to traffic safety considerations, the Commission may require angled parking.
- e. Parking lot aisles longer than forty-five (45) feet may not be dead-ended and must provide continuous circulation unless the Commission finds that sufficient turnaround areas and adequate overall site circulation has been provided.
- f. No parking area or driveways shall be closer than ten (10) feet from any portion of a building other than its garage entrance or loading area apron. This ten-foot area may be used for walkways and/or landscaping.
- g. See §7.5 for additional requirements for Interior Lots.

J. Parking for Buses and other Large Vehicles:

- 1. In addition to the required automobile parking, a minimum of one bus parking space shall be provided for every forty (40) units in a hotel and for every eighty (80) seats in a restaurant, except that, if a restaurant is an accessory use to a hotel, the number of bus parking spaces shall be determined by the greater of the two requirements.
- 2. Minimum bus parking space dimensions shall be ten (10) feet wide by forty (40) feet long.
- 3. The Commission may require additional parking spaces that can accommodate larger vehicles that include, but are not limited to, shuttle vans or limousines that may be typically associated with the proposed use or expected to be parked on site.

K. Parking Lot Landscaping Requirements: Any lot that contains parking facilities for more than ten (10) cars shall provide landscaped end islands and at least one (1) landscaped center island (per twenty (20) twenty) within the parking area. Such islands shall be designed and located to maximize the attractiveness of parking lots by providing ornamental landscaped areas and shade. The design of such islands must assure adequate circulation, aesthetic appeal, shade, and capacity for snow storage as a result of plowing.

L. Parking Needs Assessment: The Planning and Zoning Commission may require a parking inventory and needs assessment prepared by a Professional Engineer, registered in the State of Connecticut with expertise in traffic Engineering, as part of the application for the modification of parking regulations. The Parking Assessment shall evaluate the parking availability and usage on the premises and adjacent properties and shall address, at a minimum, the following issues:

- 1. Physical layout of the development
- 2. Number of spaces for each of the individual land uses
- 3. Available existing public and private parking that may be used by residents of the proposed development
- 4. ⁸⁻¹³Public transportation options that may be used by residents, visitors, and/or customers of the development

5. Projected future needs for off-street parking of the proposed development
6. Availability of any supporting local traffic, parking or safety study in the immediate area of the development.

6. **ACCESS MANAGEMENT**

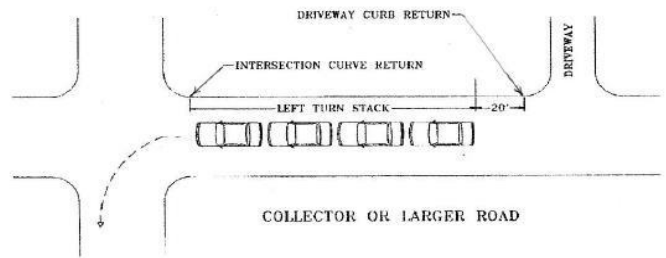
1. **Purpose:** This section is intended to control the number, size, and location of driveways and access points for business uses to promote overall traffic control and promote public safety and welfare.
2. **Commercial Access:**
 - A. Commercial access is defined as an access way providing a vehicular connection from a public or private roadway to a parking area serving commercial, recreational, institutional, office, multi-family, mixed use, or industrial land uses.

- B. Commercial access shall be designed to be as perpendicular to the street line as possible, and in no case may the angle between the street line and the access-way centerline be less than sixty (60) degrees.
- D. **Sightline Distance**: Access shall be designed and located to provide a minimum sight distance, clear of all obstructions, natural or man-made, of 250 feet in either direction on secondary roads, 325 feet on primary roads, and 375 feet on primary and secondary arterial roads.
- E. **Connection to Roads**: The portion of driveway through the right-of-way connecting the property with the physical roadway shall be the shortest perpendicular distance possible. Any grading, filling, or drainage design in the right-of-way shall require a Zoning Permit (unless the access is part of a road approved as part of a subdivision or Site Plan approval) and the approval of the Town Public Works Director.
- F. **Commercial access** shall be placed so the following minimum distances are maintained to any street intersection, including a T-intersection on the opposite side of the street from a property where access is proposed.

1. **Local access or low volume road**: a minimum distance of fifty (50) feet shall be maintained from the driveway curve return to the edge of the right-of-way at the intersection.
2. **Primary road or larger road**: a minimum distance consisting of the left turn stacking distance (described below) plus twenty (20) feet, as measured from the intersection curve return to the driveway curve return, shall be maintained.

3. The **left turn stacking distance** shall be calculated using the following formula (or based on a traffic study, if available or required).

- a. Peak Hour Traffic =
Average daily traffic/10
- b. Peak hour left turns = 1/6
of peak hour traffic for
4-way intersections
- c. Peak hour left turns = ¼ of peak hour traffic for T-intersections
- d. Driveway to intersection spacing = [1.5 x peak hour left turns x 20 feet] + 20 feet.



4. **Intersection Spacing**:

3. **Frontage Requirements**: The project's frontage may be traversed by not more than one (1) driveway, unless the Commission finds that more than one driveway is desirable for safety reasons. Applicants are encouraged to arrange common accesses with adjoining properties, and the Commission may approve temporary access designs when a more desirable permanent access serving more than one property appears achievable in the future.

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4. **Traffic and Access:** Access to the lot and internal circulation shall be designed to promote the safety of pedestrian and vehicular traffic, both on the lot and off site. The Site Plan and/or Special Permit shall be evaluated on the following basis:
 - A. the effect of the development on traffic on adjacent streets;
 - B. circulation pattern of vehicular and pedestrian traffic on the site;
 - C. provision for parking and loading;
 - D. adequacy of sight lines;
 - E. relationship of the proposed circulation to circulation on adjacent property, for both vehicles and pedestrians, with special attention to promoting pedestrian traffic among adjacent parcels; and
 - F. emergency vehicle access (to the satisfaction of Fire and Police).
5. **Access Driveway Design:**
 - A. **Access Driveway Widths:** Unobstructed access to and from a street shall be provided on each lot to serve principal and accessory uses thereon. One-way driveways, access ways, thoroughfares, entrances, and exits for nonresidential use shall have a minimum width of twelve (12) feet. Two-way driveways, access ways, thoroughfares, entrances, and exits for nonresidential use shall have a minimum width of twenty-four (24) feet and a maximum width of thirty (30) feet except that an access way may be configured as a boulevard so long as each entrance and exit lane is a maximum of fifteen (15) feet wide, and the median design is appropriately landscaped. **Shared entrances are allowed and encouraged, as well as use of side entrances that provide access to multiple developments.**
 - B. Driveways shall not be located within ten (10) feet of a side or rear property line

Access Driveway Widths				
Type of Use	Minimum Access Driveway Width	Opening Width (Including flares)		Minimum Centerline Radius of Curvature
		Minimum	Maximum	

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Non-Residential	12 feet (one-way) 24 Feet (two-way)	24 feet	TBD at SPL Review	65 feet
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abutting a lot that is in a residential Zoning District or that is currently used for single-family or two-family residential purposes. Adequate space for snow stacking must be provided on all lots.

- C. In all nonresidential Zoning Districts, parking areas, parking spaces, and internal access drives may be located within half of the required front yard setback area, when screened from the street and abutting property by landscape materials, including trees, shrubs and/or earthen berms.

- D. Curbing:** The front or primary driveway, entrance, and exit shall be lined, for its entire length on both sides, with curbing unless the Stormwater Management Plan demonstrates that stormwater will be properly controlled without such curbing.
- E. Surface treatment:** All parking spaces, loading facilities, and access driveways/roadways shall have at least six inches (6") of process stone and two- and one-half inches (2½") of bituminous concrete as surface treatment unless the applicant can demonstrate that an alternate treatment would provide an adequate all-weather surface consistent with LID techniques and capable of H2O Loading. In these cases, the applicant shall submit a maintenance plan to the Commission for their approval.
- F. Grade:** Driveways serving commercial or industrial uses shall have a maximum grade of six percent (6%). Driveways shall provide a reasonable transition in terms of grade between the driveway and the gutter line. The driveway shall maintain a grade equal to or less than the crown slope of the road from the point where the driveway meets the road right-of-way to where the driveway crosses the gutter line. This transition is needed to eliminate plows catching their blades on driveways with abrupt grade changes in the vicinity.
- G. Handicapped Access:** Parking spaces and general access designed and designated for handicapped persons shall be provided in all parking lots in accordance with all applicable state and federal laws and regulations.
- H. Modification of Site Plans:** The Commission may require the modification of any Site Plan if it finds such modifications necessary to satisfy the requirements of these Regulations. Such modifications may include, but are not limited to, the following:
1. closing existing curb cuts, limiting proposed curb cuts, or closing temporary curb cuts when alternative access points become available;
 2. limiting turning movements to right turns in or out of curb cuts;
 3. aligning access drives or roads with opposing access drives or roads wherever practical;

7. REFUSE STORAGE

- A. Purpose:** This section is intended to control the number, size, location, and screening of refuse storage areas in order to protect the public health, safety and general welfare.
- B. Requirements:**
1. Refuse storage facilities shall be located in such a manner as to be inconspicuous to the general public and neighboring properties.
 2. Refuse storage areas shall be designed on a concrete pad a minimum of six inches (6") thick and shall be enclosed and screened from view with fencing, wall, hedge/shrubs, or other suitable means.
 3. Refuse storage areas shall be easily accessible for service vehicles and building occupants and shall not interfere with required parking spaces or circulation on and off the site.
 4. No refuse storage area shall be located in the required front yard setback area or within ten (10) feet of any property line.

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8. OUTDOOR STORAGE

All uses requiring Site Plan approval may store materials and equipment outside of a building only if such storage is a customary accessory use of the principal use and only under the following conditions:

A. Materials:

1. All outdoor bulk storage items, including recyclable materials, shall be fully enclosed within approved storage containers (Three-sided bins may be permitted as appropriate).
2. No outside-storage materials shall be permitted that will attract animals or insects.
3. No perishable merchandise shall be stored outdoors.

B. Location:

1. The location of all structures to be utilized for outdoor storage must be designated on an approved Site Plan as outdoor storage.
2. No outdoor storage shall be allowed in the required front, side, or rear yard setbacks, required buffer areas and/or areas required for parking on the site.
3. With the exception of mulch, dirt, stone, and other similar material typically associated with landscaping businesses or services if stored in customary, three-sided enclosures, outdoor storage areas shall be screened so as not to be visible from any street in accordance with applicable provisions of §9.3.
4. Maximum height of stored material and storage structures shall be six (6) feet except as provided in subsection C below.

C. Industrial (I) and Commercial Industrial Park (CIP) Districts

1. All areas for outdoor storage of equipment (including vehicles) or materials shall be located to the rear of the principal building and shall be screened so as not to be visible from any street or abutting properties. Box trailers are permitted.
2. Vehicles ~~(shipping containers and/or box trailers)~~ shall not be stacked, and storage of materials shall not exceed a maximum height of twenty-five (25) feet.

9. OUTDOOR MERCHANDISE DISPLAY

All uses requiring Site Plan approval may display merchandise for sale outside of a building only under the conditions listed below.

A. Merchandise:

1. No perishable items shall be displayed outside, except as permitted for farm stands.
2. No merchandise shall be displayed outdoors that will attract animals or insects.
3. No goods that are leaking or have broken packaging shall be displayed.

B. Location:

1. The location of any area to be used for outdoor merchandise display must be designated on an approved Site Plan.
2. No merchandise display shall be allowed in areas required for parking on the site.

3. Displayed merchandise shall not be stacked higher than six (6) feet from the ground. Individual display items that are not stacked may exceed six (6) feet (for example, a kayak leaned against the building of an outdoor recreation store).
4. Outdoor merchandise display shall be screened from adjacent residential properties, as required in accordance with intent and applicable provisions of §9.3.
5. No outdoor merchandise display shall be allowed within the front yard setback with the following exceptions:
 - a. as part of a permitted roadside stand or farm store; or
 - b. if the display is located within ten (10) feet of the principal structure and does not block any sidewalks, parking spaces, or entrances. The total area of any such display may not exceed 200 square feet.

10. ARCHITECTURAL CHARACTER, AND HISTORIC AND LANDSCAPE PRESERVATION

1. **General Provisions:** The overall character of the proposed site layout and the architectural character of proposed structures shall be designed, to the extent feasible, to protect property values in the neighborhood and the Town; preserve the existing historic character in terms of scale, density, architecture, and materials used in construction of all site features; protect the existing historic patterns of arrangement of structural and natural features, including circulation patterns; and preserve public access to scenic views and vistas and to water courses.
 - A. **Historical and Archaeological Sites:** When a site or portion of a site has been identified by the State Historic Preservation Officer, or the State Archaeologist, as historically significant, the applicant shall identify on the plans the nature and location of the resource and shall indicate what measures are being taken to protect such resource.
2. **Encouraged Materials and Practices:**
 - A. Materials, texture, and color used on the exterior walls and roof should emphasize the use of natural materials or should be those associated with traditional New England architecture. Preferred façade materials are brick, stone, and wood, including narrow-width siding, clapboards, wood shingles, or a reasonable equivalent. Metal, unfinished concrete, and concrete block, as well as asphalt siding, are discouraged.
 - B. Architectural details characteristic of the particular style and period proposed should be incorporated into the design for new construction and should relate harmoniously to adjacent buildings. Architectural details of a period need not be duplicated precisely, but they should suggest the extent, nature, and scale of the period.
 - C. Large structures should have well-articulated façades to reduce the appearance of significant bulk. Provision shall be made to coordinate site architecture with that of the surrounding district. Rooflines should be varied to provide architectural interest.
3. **Development District Design Objectives:**
 - A. When feasible, cluster new commercial buildings and parking areas on the most developable land within the district and retain significant contiguous land areas in a natural or landscaped condition.
 - B. Assure that the design of new structures, parking, access ways and landscaping is compatible with the natural features and topography of the area.

- C. Limit and control access for new development from public roads so that traffic safety is maintained, and a sense of the rural landscape is retained and enhanced (RCCD District only).
- D. Discourage uncoordinated strip commercial development consisting of small, individual, unrelated uses varying unpredictably in type, size, style, access arrangements and environmental impact.
- E. Minimum five (5) ft Sidewalks required. Wider sidewalks (8 feet) are encouraged in areas of high pedestrian traffic and commercial activity – especially where opportunities for outdoor dining may exist.
- F. New Structures strongly encouraged to be built to the sidewalk in the LCDD and GFDD.

11. **OUTDOOR ILLUMINATION**

- A. **Purpose:** The purpose of this §9.10 is to encourage lighting practices and systems that minimize the degradation of the night-time visual environment, thereby maintaining night-time safety and security while preventing glare, light trespass and light pollution.

Design Objective: *The fixtures chosen, and their illumination qualities should complement and enhance the architectural style and unique features of the building and those typical to the surrounding district.*

- B. **Exempt Light:** The term “outdoor lighting” includes all exterior lighting systems except those associated with the following:

- 1. airports;
- 2. emergency lighting, provided such lighting is temporary and is disconnected, or otherwise ceases, immediately upon termination of the emergency condition;
- 3. fossil fuel lamps; and
- 4. temporary residential holiday lighting, provided it is illuminated for fewer than ninety days per year.

- C. **Lighting Design Requirements**

- 1. All exterior lighting systems shall be designed, installed and maintained in such a manner as to minimize or substantially reduce disability glare at any location on or off the property; and to minimize or substantially reduce light trespass beyond the property lot line, minimize sky illumination, and present an overall appearance appropriate to the rural/suburban setting. All searchlights are prohibited unless expressly allowed elsewhere in these Regulations.
- 2. The maximum horizontal foot-candle measurement at any property line shall be two (2) foot-candles. The maximum maintained vertical foot-candle at an adjoining property line shall be two (2) foot-candles, as measured at five feet above grade.
- 3. The maximum average-maintained foot-candles for a parking lot lighting fixture shall be three (3) foot-candles. The maximum lighting level for a parking lot lighting fixture shall be ten (10) foot-candles.
- 4. Photometric Plans shall be required for all Site Plans that contain proposed lighting and shall include a description of the proposed lighting fixtures and shall demonstrate compliance with subsection B & C above.

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5. Poles and standards used for outdoor lighting shall not exceed twenty (20) feet in height (the Commission encourages twelve (12) foot to fifteen (15) foot light poles).
6. Lighting fixtures shall be full cut-off and shall be located, aimed, and shielded to minimize the glare that is emitted on objects other than a building's façade or landscape walls.
7. All lighting not essential for security purposes shall be turned off after hours. Exterior lighting should be off when sufficient daylight is available and when the lighting is not required during nighttime hours.
8. Area illuminators for parking lots, driveways, pedestrian walkways, and yards shall be pole-mounted or building-mounted. Flood lighting shall be avoided except for loading areas. Building-mounted floodlights may be installed where full cut-off luminaires are impractical, provided top and side shields are attached and maintained to prevent light emission above a vertical cut-off angle of forty-five (45) degrees.
9. Fixtures shall be designed and mounted such that neither the light source nor the lens are visible from above a height of five (5) feet at the property lot line. Luminaires with sag lens or drop lens shall be shielded.
10. Luminaires are not permitted in buffer areas between adjacent properties and in buffer areas adjacent to roads, except that recessed low intensity up-lights, well lights, louvered lights, and cone lights may be used for landscaping purposes only.
11. The Commission may approve a height greater than twenty (20) feet for sports area luminaires and other commercial, outdoor recreational uses provided the luminaires are designed, located and directed to prevent glare and light trespass.
12. Temporary events shall be exempt from the luminaire height and cut-off requirements of these Regulations, provided a Zoning Permit has been granted for the event and the illumination system will be used only during the temporary event.
13. The ZEO may approve temporary floodlights higher than twenty (20) feet at a construction site for which a Zoning Permit has been issued, provided the luminaires are designed, located and directed to prevent glare and light trespass.

12. STORMWATER MANAGEMENT & SOIL EROSION AND SEDIMENT CONTROL REQUIREMENTS

All Stormwater Management systems, Flood and Soil Erosion & Sediment Control measures shall be designed and installed as applicable in accordance with TOWN ORDINANCES #300-16, #300-17 and #300-24

- A. The following additional criteria apply to applications that require Utilities, Drainage, and/or Storm Water Control in addition to the Site Plan information required per Check Sheet Appendix B.
 1. **Drainage**: Storm water control measures shall be provided within the site.
 2. All storm water control measures shall be approved first by the appropriate Town of Ledyard staff member, or its consultant, followed by a review by the Commission.
 3. All storm drainage for proposed commercial development in which the combined square footage of roofs, paved Parking Areas and other impervious surfaces exceeds ten thousand (10,000) square feet shall be designed in accordance with, and subject to, the provisions of the Drainage Ordinance.

- B. Applications that require Soil Erosion and Sediment Control Plans pursuant to CGS §22a-325 to §22a-329 based on the "Connecticut Guidelines for Soil Erosion and Sediment Control," (1985) as amended (disturbed area cumulatively more than .5 acre) must include the following information in addition to the Site Plan information required per Check Sheet in Appendix B :
1. Locations of areas to be stripped of vegetation, re-graded and contour data indicating existing and proposed grades;
 2. A schedule of operations, including the sequence of major improvement phases such as clearing, grading, paving, installation of drainage features etc.;
 3. Seeding, sodding or re-vegetation plans and specifications for all unprotected or un- vegetated areas;
 4. Location, design and timing of structural control measures, such as diversions, waterways, grade stabilization structures, debris basins, storm water sediment basins, etc. The narrative shall indicate design criteria used in the design of control measures;
 5. A description of procedures to be followed to maintain sediment control measures;
 6. The name of the individual responsible for monitoring the plan with whom an inspector for the Town may contact routinely; and
 7. **The plan map shall show the words:** "Erosion and Sediment Control Plan Approved by:" with space for the date and signature of the Chairman/Vice Chairman of the Zoning Commission or its agent.

13. **CONSOLIDATED PARCELS**

A. **Purpose and Applicability:**

1. This §9.12 encourages the consolidated development of parcels located in the non-residential zoning districts to preserve the capacity and safety of existing arterial roadways; to provide flexibility in meeting bulk requirements; to facilitate integrated development of large areas of land; to reduce parking requirements through shared parking; and, to facilitate consolidation of stormwater management systems among smaller parcels.
2. Any number of contiguous parcels may be consolidated for the purposes of development regardless of ownership, and the consolidated parcel shall be considered to be one lot for the purposes of meeting the requirements of these Regulations.
3. Consolidated parcels shall be permitted only in the LCDD, LCTD, MFDD, GFDD, RCCD, CIP and I Zoning Districts and shall only consist of uses permitted in the underlying Zone. All consolidated parcels must be located within the same zone.
 - ii. **Basic Requirements:** The consolidated parcel must be developed with an integrated plan for access, buildings, parking, loading, landscaping, lighting and signage. Applicants for consolidated parcels shall be required to:
 1. provide for shared access to abutting properties through common driveways, parking lots, service roads and/or cross-easements (whether existing or future);
 2. construct all or a portion of a shared driveway or service road to provide for shared access, where appropriate; and

3. file easements on the land records, acceptable to the Commission and Town Attorney, in favor of the abutting properties and/or the Town to allow for their future interconnection.

C. Additional Requirements:

1. Within a consolidated parcel, the yard, buffer, parking, and building setback requirements shall not apply to individual lots within a consolidated parcel but shall instead apply to the consolidated parcel as a whole.
2. The Commission may limit direct highway access to individual parcels within a consolidated parcel in accordance with the access management requirements of §9.4.

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