

**SOLAR ENERGY SYSTEMS**  
**DRAFT ORDINANCE - Durham, New Hampshire**  
**Revised draft endorsed by Planning Board on March 13, 2019**  
for March 27, 2019 Public Hearing  
*Showing changes to prior draft presented for public hearing on September 12, 2019*

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*Additions from September 12 document shown like this.*

~~*Deletions from September 12 document shown like this.*~~

Proposed amendments to the Durham Zoning Ordinance to accommodate solar energy systems.

❖ *Make the following changes in Article II. Definitions.*

- *Add this new section for “Solar Energy Systems.” Place this section right before “Solid Waste” and retain the order as shown here.*

SOLAR ENERGY SYSTEMS – Specific definitions pertinent to solar energy systems follow.

Solar Energy – Radiant energy emitted by the sun.

Solar Energy System – A structure and the related components used to transform solar energy into electricity, ~~including a solar photovoltaic system and a solar thermal system~~ (through a solar photovoltaic system) or heat (through a solar thermal system).

Solar Photovoltaic System – A solar collection, inversion, storage and distribution system that converts sunlight into electricity.

Solar Thermal System – A solar collection system that directly heats a heat-transfer medium.

~~Roof-or~~ Building-Mounted Solar Energy System – A solar energy system attached to and completely supported by a building ~~and not extending beyond the building footprint more than 5 feet~~ that does not extend more than 5 feet beyond the building footprint. The system may include ~~limited~~ necessary accessory equipment that is ground mounted. A ~~single-family or duplex residential~~ solar energy system or a multiunit residential or nonresidential solar energy system that is installed on a carport is considered a ~~roof-or~~ building-mounted solar energy system.

Freestanding Solar Energy System – A ground-mounted solar energy system, including a stationary or tracking system (either single axis or dual axis). ~~An enterprise solar energy system that is installed on a carport is considered a freestanding solar energy system.~~

Single-Family or Duplex Residential Solar Energy System – An accessory use that is designed to provide energy for the ~~principal use~~ property.

Multiunit Residential or Nonresidential Solar Energy System – An accessory use that is designed to provide energy for ~~the principal use~~ all uses other than single-family or duplex residences – multiunit developments, commercial uses, other nonresidential uses, mixed uses, and shared systems.

Enterprise Solar Energy System – A principal use designed to generate energy for use off site. An enterprise solar energy system may be structured as a for-profit, not-for-profit, utility, municipal, or community solar operation.

Community Solar Energy System – A solar energy system shared by multiple subscribers/investors located elsewhere who receive credit on their electric bills for their share of the electricity that is produced.

Shared Solar Energy System – A solar energy system that serves houses and/or developments situated on two or more separate neighboring lots. The system is considered accessory to the uses on each of the lots that it serves.

➤ ***Add the following new definition for “Carport.”***

CARPORT – A roofed structure for parking motor vehicles that is open on at least two sides. A carport may be a freestanding structure or attached to a building.

❖ *Modify the Table of Uses as follows:*

*Add the new uses below in the Table of Uses in Section 175-53 under Subsection VI. Utility & Transportation Uses at the end after Personal Wireless Services Facility:*

*Add the following note at the end of the table under Notes: “2. A freestanding enterprise solar energy system in the Rural or Residence C District that is located on a lot which is in use as commercial agriculture is a Permitted Use (P).”*

CATEGORY OF USES	RESIDENTIAL ZONES				COMMERCIAL CORE ZONES					RESEARCH-INDUSTRY ZONES			
	Rural (R)	Residence A (RA)	Residence B (RB)	Residence C (RC)	Central Business (CB)	Professional Office (PO)	Church Hill (CH)	Courthouse (C)	Coe’s Corner (CC)	Office Research - Route 108 (OR)	Mixed Use and Office Research (MUDOR)	Office Research Light Industry (ORLI)	Durham Business Park (DBP)
<b>VI. UTILITY &amp; TRANSPORTATION USES</b>													
Single family or duplex residential solar energy system - accessory use (See Article XX)	P	P	P	P	P	P	P	P	P	P	P	P	P
Multiunit residential or nonresidential solar energy system - accessory use (See Article XX)													
• <del>Roof-or</del> building-mounted	P	P	P	P	P	P	P	P	P	P	P	P	P
• Freestanding	<del>SE</del> <u>P</u>	<del>SE</del> <u>P</u>	<del>SE</del> <u>P</u>	<del>SE</del> <u>P</u>	SE	P	P	P	P	P	P	P	P
Enterprise solar energy system (principal use) (See Article XX)													
• <del>Roof-or</del> building-mounted	<del>P</del> <u>CU</u>	X	X	<del>P</del> <u>CU</u>	P	P	P	P	P	P	P	P	P
• Freestanding	<u>CU</u> <sup>2</sup>	X	X	<u>CU</u> <sup>2</sup>	X	X	X	X	CU	CU	CU	CU	CU

❖ *Modify the Wetland Conservation Overlay District and Shoreland Preservation Overlay District as follows:*

➤ *Add the following use at the end of Section 175-60. Permitted Uses in the WCOD Subsection A.:*

10. ~~Roof-or~~ building-mounted solar energy system.

➤ *Add the following use at the end of Section 175-71. Permitted Uses in the SPOD Subsection A.:*

10. ~~Roof-or~~ building-mounted solar energy system.

➤ *Add the following use at the end of Section 175-61. Conditional Uses in the WCOD:*

6. Freestanding solar energy system.

➤ *Add the following use at the end of Section 175-72. Conditional Uses in the SPOD:*

6. Freestanding solar energy system.

❖ *Add the following as a new section in Article XX – Standards for Specific Uses, Section 175-109, and reletter R. Temporary Sawmill (including the table shown at the end).*

R. **Solar Energy Systems.** Solar energy systems shall be allowed in conformance with the following standards and procedures (See Definitions for solar energy systems).

1. **Authority.** This ordinance is adopted pursuant to RSAs 362-F, 374-G, 477:49, 672:1 III-a, and 674:17 (I)(j).

2. **Purpose.** The purpose of this ordinance is to:

- a. encourage the implementation of solar energy systems in accordance with the recommendations stated in the Energy Chapter of the 2015 Durham Master Plan;
- b. promote environmental sustainability, while respecting ~~the~~ aesthetics and the rural character and scenic landscape of Durham, and the use of productive agricultural lands; and
- c. comply with and support the State of New Hampshire's goal of developing clean, safe, renewable energy resources as provided for in the statutes referred to in 1., above.

3. **Applicability.** Solar installations that *use are designed to produce* less than one kilowatt and are not connected to the electrical grid are not covered by this ordinance, though they may be subject to other specific regulations.
4. **Single-Family or Duplex Residential Solar Energy System (~~accessory use~~) – *accessory use.* The following provisions apply to single-family or duplex residential solar energy systems.**
  - a. **Basic requirements.** This accessory use serves single-family or duplex residences situated on the same lot. Both ~~roof-or~~ building-mounted and freestanding systems are a permitted accessory use in all zoning districts. Only a building permit is required (except under c. below).
  - b. **Placement.** For a freestanding solar energy system, no part of the system may be placed closer to the front property line (and side property line in the case of a corner lot) than the fully enclosed part of the house closest to the street. In addition, for a freestanding solar energy system that exceeds ~~10~~ 12 feet in height (any part of the system), no part of the system may be placed closer to the front property line (and side property line in the case of a corner lot) than the fully enclosed part of the house furthest from the street.
  - c. **Special Exception.** A proposed system that does not conform with b. above, may be approved by a special exception *provided it is not practical to place the system as specified in b., above (See Section 175-26 Special Exceptions).*
5. **Multiunit or Nonresidential Solar Energy System (~~accessory use~~) – *accessory use.* ~~This accessory use serves all uses other than single-family or duplex residences—multiunit developments, commercial uses, other nonresidential uses, mixed uses, and shared systems, including systems serving residential subdivisions.~~ The following provisions apply to multiunit or nonresidential solar energy systems.**

A ~~roof-or~~ building-mounted system is a permitted accessory use in all zoning districts. Only a building permit is required.

The following standards and procedures apply to freestanding multiunit residential or nonresidential systems.

- a. Site plan review ~~with~~ by the Planning Board is required.
- ~~b. — The maximum allowed rated nameplate capacity for the system is the capacity that is needed to serve the estimated annual on-site requirements of the property.~~

- b. No part of the system may be placed closer to the front property line (and side property line in the case of a corner lot) than the part of the fully enclosed principal building closest to the street. In addition, for a system that exceeds ~~10~~12 feet in height (any part of the system), no part of the system may be placed closer to the front property line (and side property line in the case of a corner lot) than the fully enclosed part of the principal building furthest from the street.
  - c. In cases where there is no building or no distinct principal building on the lot or where there are multiple lots, the system shall be set back at least 100 feet from the front property line and buffered from the road.
  - d. A proposed system that does not conform with b. or c., above, may be approved by a special exception (separate from the special exception if one is needed for the accessory use) *provided: 1) it is not practical to place the system as specified in c. or d., above; and 2) the system is screened from the road and from neighbors in accordance with a plan submitted by the applicant and approved by the Planning Board.*
  - e. The Planning Board may require an analysis of potential glare at its discretion.
6. **Enterprise Solar Energy System** (~~principal use~~) – principal use. This designation refers to a system that is designed to provide electricity to uses off site. The following standards and procedures apply to enterprise solar energy systems.
- a. Site plan review is required for all systems, including ~~roof~~or building-mounted systems.
  - b. *The* Any freestanding system shall be set back at least 100 feet from the front property line. The system shall be buffered from neighboring roads and properties in accordance with the Site Plan Regulations and as reasonably determined by the Planning Board.
  - c. ~~The applicant shall submit an analysis about potential glare at the Planning Board's request~~ The Planning Board may require an analysis of potential glare at its discretion.
  - d. ~~Where a solar energy system is allowed by conditional use, the conditional use permit shall be granted only if the Planning Board determines that: a) the proposal conforms to the general conditional use criteria contained in Article VII; and b) the location, topography, site conditions, design, and proposed screening for the proposed project are such that it will not be prominently visible from Bay Road, Bennett Road, Durham Point Road, Mast Road, or Packers Falls Road.~~

7. **Other provisions.** The following additional provisions apply to all solar energy systems.
- a. **Building permit.** A building permit is required for the installation of any system.
  - b. **Setbacks.** Every part of a freestanding system, including components elevated above the ground, ~~and moving~~ components **that track and move, and necessary accessory equipment that is ground mounted,** shall conform to required setbacks for the zoning district.
  - c. **Maximum Height.** For ~~roof-or~~ building-mounted systems ***located in any of the four residential zoning districts,*** the maximum height for any part of the system is ten feet above the ridge of the roof or ten feet above the highest part of the roof where there is no ridge. ***For roof-or building-mounted systems not located in one of the residential zoning districts, there is no height limit.*** The maximum height for freestanding systems is 25 feet.
  - d. **Impervious surface.** The maximum impervious surface ratio in the Table of Dimensions does not apply to solar energy systems.
  - e. **Submission requirements.** Applicants for projects that require a site plan shall submit all pertinent information, including specifications for the equipment, to the Planning Board, as specified in the Site Plan Regulations. Applicants for a special exception shall submit plans showing all pertinent aspects of the project and all elements specified by the Zoning Board of Adjustment.
  - f. **Decommissioning.** Applicants for freestanding Multiunit Residential or Nonresidential Solar Energy System and freestanding Enterprise Solar Energy Systems shall submit a plan as part of site plan review for the removal of the structures and reclamation of the site when the system is no longer in use.
  - g. **Historic District.** Additional procedures and standards for proposed solar energy systems located within the Durham Historic District are contained in Article XVII of this ordinance.
  - h. **Solar easements.** Private property owners may establish solar skyspace easements to preserve access to solar energy at their option pursuant to RSAs 477:49, 50, and 51.
  - i. **Review process.** The process for review of proposed solar energy systems is specified in Table 175-109 R below. (In case of any conflict between this table and the text of the ordinance or the Table of Uses, the text of the ordinance and the Table of Uses shall prevail.)

**TABLE 175-109 R - REVIEW PROCESS FOR SOLAR ENERGY SYSTEMS**

<i>Type of use</i>	<del>Roof</del> <i>Building-mounted</i>	<i>Freestanding</i>
Single family or duplex residential system <del>(accessory use)</del> – <u>accessory use</u>	Permitted as accessory use to any single family or duplex residence  Building permit only	Permitted as accessory use to any single family or duplex residence  Building permit only  Special exception if system does not meet placement requirement
Multiunit residential or nonresidential system <del>(accessory use) including shared systems</del> – <u>accessory use</u>	Permitted <u>as accessory use</u> in all zones  Building permit only	Permitted <u>as accessory use</u> in all <del>commercial core and research-industry</del> zones (except for Central Business District)  Special exception in CB, <del>R, RA, RB, and RC</del> zones  Site plan review
Enterprise solar system <del>(principal use)</del> – <u>principal use</u>	Permitted use in <del>R, RC, and</del> all Commercial Core and Research-Industry zones  <u>Conditional use in R and RC zones</u>  Site plan review	Conditional use in R, <del>and</del> RC ( <u>see below</u> ) and <del>CC all Commercial Core zones except for CB,</del> and all Research-Industry zones  <u>Permitted use in R and RC zones where located on a lot that is in commercial agricultural use</u>  Site plan review