PROPOSED Zoning Amendment for Solar Energy Projects
Public hearing held on May 26, 2021

Add a new Zoning Ordinance Section: Section 305.29.2, titled Solar Energy Collection Systems:

A. Authority and Purpose

This solar collection system ordinance is enacted in accordance with RSAs 672:1-III-a, 674:17(I)(j), and 674:21, RSA 772:21, as each might be amended. The purpose of this ordinance is to accommodate solar energy collection systems in appropriate locations, while preserving the character and quality of life of the neighborhood(s) and the overall City, and protecting the public's health, safety, and welfare.

B. Definitions:

1) **Solar Collection System** - Includes all equipment required to harvest solar energy to generate electricity. The Solar Collection System includes, but is not limited to, panels, storage devices, transfer equipment, and the equipment and poles related to the connection made to the utility grid or other on-site service connection point.

2) **Roof Mount** – A solar collection system that is structurally mounted to the roof of a building or other permitted structure, including limited accessory equipment associated with system which may be ground mounted. These can be either mounted flat on a roof, or raised panels oriented for maximum solar collection.

3) **Ground Mount** – A solar collection system and associated mounting hardware that is affixed to or placed upon (such as ballasted systems) the ground including, but not limited to fixed, passive or active tracking racking systems.

4) **Carport Mount** – Any solar collection system of any size that is installed on the roof structure of a carport over a parking area.

C. Use definitions:

1) **Roof-Mounted Residential / Commercial Building Solar**: Any roof-mounted solar collection system primarily consisting of collection panels and related equipment, with the purpose to provide power to the subject building.

2) **Ground-Mounted Residential**: One free-standing ground-mounted, solar array or panel system, intended to primarily reduce on-site consumption of utility power. Solar systems mounted flat on a residential carport shall be included in this category.

3) **Small-Scale Ground-Mounted Commercial Solar**: For any ground mounted [including on a covered parking area] which is less than 150 KW, and is intended to either be used

to reduce on-site to reduce the consumption of utility power, or connected to the utility grid system.

4) **Accessory Agriculture Solar:** Any ground-mounted or roof-mounted solar collection system designed to primarily reduce on-site consumption of utility power. This type of use shall only be allowed on parcels of land 5 acres or more where agriculture is the primary use [but where a residential dwelling can be located]. These systems are not intended to be connected to the utility grid.

5) **Commercial Utility Solar:** A use of land that consists of a ground-mounted solar collection system that will be connected to the utility grid. The minimum lot area is 5 acres.

D. Use Table

[Note: This Use Table for Solar Energy Projects is a supplement to the Table at Section 305-13, Permitted Uses, Special Exceptions, and Special Use Permits]

District ----------->	**RR**	**RS**	**R-1**	**R-2**	**R-3**	**B-1**	**B-2**	**I-1**	**I-2**	**C**	**LP**
Solar Energy Uses											
Roof-Mounted Residential or Commercial Roof Building Solar [see Notes 1, 2 for special conditions]	P	P	P	P	P	P	P	P	P	P	P
Ground-Mounted Residential [See Notes 1.b and 3]	P	P	P	P	X	X	X	X	X	P	P
Small-Scale Ground Mounted Commercial [See Note 4]	X	X	X	X	SUP	SUP	X	SUP	SUP	X	X
Accessory Agricultural Solar	P	X	P	X	X	X	X	X	X	P	X
Commercial Utility Solar	X	X	X	X	X	X	X	SUP	X	SUP	X

- P = Permitted [See below notes for special provisions]
- SUP = Special Use Permit; application for the SUP will be concurrent with the requirement for Site Plan Approval.
- X = Use prohibited.

Notes:

1. For roof mounted systems, the following conditions apply:
   a. Systems for single- and two-family homes, multi-family buildings [3 or more units], or commercial properties, and where the panels are mounted flat on the roof, are permitted by right with a building permit.

b. All raised panel roof systems [including car-port mounted], no matter which use category or zoning district, require a Special Use Permit.

2. In the downtown historic district, systems that are not mounted flat on the roof must be approved by the Heritage Commission.
3. All free-standing ground-mounted Residential Solar systems shall be located in rear yard between the primary structure and rear lot line, and appropriate screening must be shown on the application. The building permit application must show the screening. If the Ground-mounted residential systems have to be located in the side or front yard areas due to site layout conditions, then additional screening and buffering shall be shown on the application. A residential car-port mounted system must be sized to conform to the primary parking area. All ground mounted residential systems must comply with the applicable building setbacks. The maximum height of a ground-mounted residential system is 14 feet.
4. Small-Scale Ground-mounted Commercial Solar systems, including car-port based systems, are permitted with a Special Use Permit approval as shown in the table. All system components, including any car-ports utilized, shall comply with front, side and rear yard building setbacks.

E. Specific Solar System Requirements and Exemptions:

1) Municipal Systems: All solar collection systems for municipal use are exempt from land use regulations pursuant to NH RSA 674:54.
2) Commercial Utility Solar Systems on municipal land, where there is a lease to an LLC or other commercial party, require Special Use Permits and/or Site Plan approval as applicable.
3) Building Height: Roof flat-mounted solar collection systems shall be exempt from building height limitations.
4) For all roof-mounted systems, the owner or applicant must provide with the site plan application, or the building permit application, sufficient data and analysis to demonstrate that the existing roof can support the proposed system. No building permit will be issued without this documentation.
5) Lot Coverage: For any zoning district where maximum lot coverage limitations are in place, non-Commercial Utility Solar Ground-mounted collection systems shall not be included in the calculations for total lot coverage.

F. Lot, Yard, and Setback Requirements

[Note: These provisions for Solar Energy Projects are a supplement to, and unless conditions are outlined, takes jurisdiction over, the Table at Section 305-14, Lot and Yard Requirements]

1) Solar collection systems shall be considered structures. Except as noted below, all portions of any type of a ground-mounted system shall comply with building setback requirements from lot lines as outlined in Section 305-14. No portion of a system may cross into the setback.

2) For any type of ground-mounted tracking system, the setback shall be measured from the point [and time of day] where the array is closest to the lot line.
3) For any Commercial Utility Solar project located in the Industrial [I-1] Zoning district, the following requirements shall apply:
    a) The outside edge of the racked panel systems must maintain a minimum 50-foot setback from all lot lines. This required setback may be adjusted, at the discretion of the Planning Board through the Special Use Permit approval, if the abutting land is also industrially zoned.
    b) As noted above in section C.4, the minimum lot area is 5 acres.
    c) The Planning Board recognizes that the interconnection of the system to the utility grid system will involve equipment and poles that will not be able to comply with the required setbacks. That being said, the applicant must provide comprehensive plans [plans, photographs, renderings, etc.] that document all of the interconnection equipment prior to the issuance of any approval. For projects in the I-1 district, where the interconnection equipment is also in the I-1 district, the Board recognizes that the level of detail for this comprehensive plan might not need to be at the same level as an interconnection zone located in other zoning districts.

4) For any Commercial Utility Solar project located in the Conservation [C] Zoning District, the following requirements shall apply:
    a) The required minimum lot area is 10 Acres.
    b) The required setback between the limit of clearing, necessary for the installation of the solar arrays, and any abutting property used for residential purposes shall be 100 feet. This required setback may be adjusted to no less than 50 feet, at the discretion of the Planning Board through the Special Use Permit approval, upon a finding that the proposed setback will not have an impact to the abutting properties or to the characteristics of the neighborhood. Issues such as the nature and use of the abutting properties, the preservation of the natural vegetation screening, or the existence of electrical transmission lines that might cross through the property would be taken into consideration.
    c) The Planning Board recognizes that the interconnection of the system to the utility grid system will involve equipment and poles that will not be able to comply with the required setbacks. That being said, the applicant must provide comprehensive plans [plans, photographs, renderings, etc.] that document all of the interconnection equipment prior to the issuance of any approval. For any commercial Solar project within the Conservation district, the following requirements shall apply:
        i. The applicant shall submit an Interconnection Agreement with the local utility, and a plan that details all of the interconnection equipment to be installed.
        ii. For any interconnection equipment which would be visible from a public road or any abutting residential structure, the equipment shall be ground-mounted. To be granted a waiver, through the Special Use Permit process, from this requirement, the applicant must be able to document and prove beyond all reasonable doubt that ground mounted equipment does not meet

any applicable codes, or is not permitted [and is not already in use in any other solar project within the state] by the utility company. Cost factors will not be viewed as reasonable documentation.

iii. In the event that poles are approved by the Planning Board, the location and number of poles shall be shown on the submitted plans. And all of the equipment to be installed on each pole shall be detailed.

iv. On the primary plan for the project, or on some other plan sheet, the owner shall provide the location of any residential structure that would be able to see the interconnection poles and equipment from their front or side windows, and the distance to any such residence.

v. As outlined in Section "H" below, the plan shall detail all of the screening and buffering for the proposed project. In their review and consideration of the project, the Planning Board will evaluate the buffering. Buffering is important for any project located within the City, but it is especially important for projects in the Conservation Zoning District, due to the more rural characteristics of the district.

vi. The interconnection equipment shall be located, screened, or buffered to the greatest degree possible.

G. Special Use or Site Plan Permits and Approvals

1. For any Site Plan or Special Use Permit application, the Planning Board retains the rights, under RSA 767:4-b, to hire a third-party consultant to assist the Board in various phases of the review, approval, or inspection of the construction work. The applicant or owner shall submit funds to the City to establish an escrow account to compensate the consultant.
2. In granting a conditional use permit pursuant to this section, the Planning Board may impose any reasonable conditions or restrictions deemed necessary to carry out the intended purpose of this ordinance.
3. In their review of any solar project, the Planning Board will evaluate how the design and location characteristics of the project might impact the character of the neighborhood and specifically the direct abutters. Two important review criteria will be if the project is contrary to the public interest, and if there will be adverse impacts to the character of the neighborhood and / or the direct abutters.
4. For any specific requirements for a Special Use Permit, or any requirements in Section 305:6 of the Ordinance, which overlap with requirements in the Site Plan Review Regulations, the most restrictive shall apply.
5. A Conceptual Design Plan hearing, with full notice to all abutters, is required for all commercial utility Solar projects.
6. If the project triggers the submission of an Alteration of Terrain Permit [AOT] application to the NH DES, then no further stormwater analysis is required. If no AOT application is required, then the applicant shall provide a stormwater analysis consistent with the Site Plan Regulations.

H. Screening, Buffering, and Natural Resource Impacts

Solar collection systems shall be visually screened through the preservation of existing vegetation or through a landscaped buffer in accordance with the following.

1) One overall goal of the submitted, and required, plan shall be to screen the project from views of abutting properties and public ways. The applicant shall submit a plan which has been prepared and stamped by a Licensed Landscape Architect. The plan shall indicate the location, height and spacing of existing vegetation to be preserved and areas where new plantings, fencing, etc. will be required.
2) The applicant should, to the greatest degree possible, utilize the existing terrain and landscaping to help provide appropriate screening and buffer. The minimization of clearing of existing trees and shrubs will assist in this goal.
3) The use of evergreens, and other native species found in the area, are recommended.
4) Required screening shall be maintained during the operative lifetime of the Solar Collection System Special Use Permit or Site Plan Approval. Any decision by the Board shall indicate the frequency of inspections and the submission of reports to the Planning Office.
5) Primary Agriculture Solar should minimize impacts to farmland activities and Prime Farmland Soils (as defined and delineated by soil survey and definition of NH NRCS). Dual use arrangements (solar and farming activities are encourage where practical).
6) The use of chemicals for vegetative management is prohibited. The use of native grasses, wildflowers, or other seed mixes approved by the NH DES shall be used, with regular mowing used to manage the facility.

I. Land Clearing

1) Land clearing shall be limited to what is necessary for the installation and operation of the system and to insure sufficient all-season access to the solar resource given the topography of the land.
2) Following construction, cleared land areas must be restored with native species that are consistent with the use of the site as a solar collection system (such as slow growth or low ground cover).
3) Erosion control measures during construction shall be detailed as required.

J. **Electrical Requirements**.

1) All systems not connected to the grid shall be approved by the electrical inspector or Building Inspector, as required.
2) Grid-tied systems shall file a copy of a final approved interconnection agreement with the municipality prior to operation of the system.

K. Glare

1) All Commercial Utility solar systems shall have anti-glare coatings.

L. Noise

1) For Commercial Utility Systems. The application must include calculations for any equipment noise on the site based on equipment specification materials (such as inverters).
2) Noise levels at the property line shall be in accordance with reasonable levels given the location of the facility with due consideration to the surrounding land uses and zone.

M. Lighting

1) On site lighting shall be minimal and limited to access and safety requirements only. All lighting shall be downcast and shielded from abutting properties.

N. Abandonment and Decommissioning

1) The owner of the facility shall notify the City and the Planning Office if it intends to abandon the facility. The term owner includes the owner(s) at the time of the application or approval, and any future owner(s), project management team, or lease holder.
2) If the owner fails to notify the City, the City reserves the right to determine that abandonment has occurred. Solar Collection Systems shall be deemed to be abandoned if operations have discontinued for more than 3 months without written consent of the municipality (for example, reasons beyond the control of the owner/operator). Notice of this determination shall be provided to the owner by the Building Inspector. The owner shall have a 30-day period within which to respond to the City.
3) An abandoned system shall be removed and the site restored within 120 days of date of abandonment.
4) The term "site restored" means that the property is cleared of all solar components, and is left in a stable, non-eroding, litter-free, and clean condition. A landscaping may remain in place.
5) The term "solar components" includes, but is not limited to, all panels and racking systems, all above-ground equipment, all underground utility lines, security fencing, any subsurface foundations, poles and any associated mounted equipment. Utility poles that are owned or managed by the applicable energy company, and which can be removed without impacting the overall grid system, shall be removed as well.
6) In cases where the proposed solar facility is approved, the application shall submit the Decommissioning Plan with the 30-day appeal period following the endorsement of the approved Notice of Decision. The applicant can, of course, submit the Plan, or a draft during the hearing process.
7) In order to ensure that the required site restoration work is performed, the owner of any Commercial Utility, Accessory Agricultural, or multi-unit residential solar system, shall provide the City with a performance bond equal to the estimated costs of restoration. The following conditions shall apply:
    a. The bond shall be kept current on a yearly basis by the owner. The owner shall provide to the City every 3 years a new cost estimate to perform all of the

restoration work. The bond amount shall be adjusted accordingly every 3 years.

b. The performance bond can be used by the owner, with the written approval of the City, to pay for the removal or decommissioning costs. Once the restoration work has been completed, and the Planning Office or the Code and Inspection Division has issued a certificate for the work, any remaining funds will be returned to the owner.
c. If the owner fails to undertake the restoration work, the City reserves the right to perform the work and to utilize the performance bond funds. The City shall give 45 days' notice to the owner that it will commence with the restoration work. Any bond funds remaining shall be returned to the entity which posted and maintained the bond.