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MEMORANDUM

From: Janna Richards, Development Services Director
To: City Council
Cc: David Cole, City Manager
Date: March 4, 2020
Subject: Proposed Solar Energy System Regulations/Amendments to Ordinance

Background:

Given recent incentives at the State level to encourage solar power development, City staff anticipate receiving applications to site commercial solar energy systems in Ellsworth. Responding to this prediction and with direction from the City Manager, City staff drafted new land use regulations to help facilitate these applications. In doing so, staff researched available model ordinances, as well as those that have been enacted by other municipalities in Maine. Following procedure, the proposed ordinance amendments to allow for solar and energy storage systems were reviewed by the Planning Board and are now before the Council.

Proposed Amendments:

The proposed amendments are to Chapter 56, the City's Unified Development Ordinance, which regulates land use development in Ellsworth. The amendments would establish standards to regulate the installation, operation, maintenance, decommissioning, and abandonment of solar energy systems and energy storage systems in the City. Proposed amendments to Chapter 56 include:

1. Create additional categories and allowable uses in Article 3, Section 307 Table of Land Uses;
2. Create additional entries in Article 14 Definitions; and
3. Add the following sections to Article 8 Performance Standards:
 - a. Section 823 Solar Energy Systems,
 - b. Section 824 Energy Storage Systems, and
 - c. Section 825 Facility Operations, maintenance, Decommissioning, and Abandonment.

The Table of Land Uses outlines allowable locations in the various zoning districts for the new use types and for essential services, which were not in the table previously. The City's Official

Land Use Map has been included for reference. The definitions include those for solar energy systems and for energy storage systems. Performance standards have been written to help further define and guide the approval process given the unique characteristics of solar energy system and energy storage system projects. Operations, Maintenance, and Decommissioning/Abandonment Plans are also addressed and can pertain to solar and energy storage projects, as well as other types of applicable projects.

Process:

The Planning Board held a public hearing and discussed the proposed amendments at their January 8, 2020 and February 5, 2020 meetings. At the February 5, 2020 meeting, the Board made a favorable recommendation to the City Council pending revisions. The Board's suggested revisions were incorporated into the draft that is before the Council. This draft is also currently being reviewed by the City's attorney. We respectfully request that the Council hold a public hearing and act on the proposed amendments to Chapter 56 at their March 16, 2020 meeting.

Suggested Motion:

Move to approve the proposed amendments and additions, as outlined above, to Chapter 56 Unified Development Ordinance, Article 3 Zoning Districts, Article 14 Definitions, and Article 8 Performance Standards, to establish standards to regulate the installation, operation, maintenance, decommissioning, and abandonment of solar energy systems and energy storage systems.

307. Table of Use Regulations. [partial]		GROWTH AREAS						RURAL AREAS		SHORELAND ZONES 408.8		
		DT Down town	U Urban	N N'hood	C Comm.	CP Commer Park	I Indus.	BP Business Park	R Rural	DW Drinking Water	RP or SP	All Other SZ
COMMERCIAL/INDUSTRIAL USES												
Commercial Use		Y	Y	N	Y	N	Y	Y	Y	Y	NO	CEO/NO
Convenience Store		Y	Y	Y	Y	N	N	N	Y	Y		
Custom Manufacturing		Y	Y	Y	Y	Y	Y	Y	Y	Y		
Equipment Sales and Rental		N	Y	N	Y	N	Y	Y	Y	Y		
Gas Station		Y	Y	N	Y	N	Y	N	Y	N		
Energy Storage Systems, Stand-alone*		N	N	N	N	N	Y	Y	N	N		
Essential Services	Distribution	Y	Y	Y	Y	Y	Y	Y	Y	Y	CEO	YES
	Transmission	Y	Y	Y	Y	Y	Y	Y	Y	Y	PB	PB
	Facilities	Y	Y	Y	Y	Y	Y	Y	Y	Y	PB	PB/NO
Industrial Service		Y	Y	N	Y	N	Y	Y	Y	Y	NO	CEO/NO
Industry, Heavy		N	N	N	N	N	Y	Y	N	N	NO	CEO/NO
Industry, Light		N	Y	N	Y	Y	Y	Y	Y	Y	NO	CEO/NO
Laboratory, Research, and Development Facility		Y	Y	N	Y	Y	Y	Y	Y	N		
Personal Service Establishment		Y	Y	Y	Y	Y	Y	Y	Y	Y		
Medical Marijuana Primary Caregiver Operation (cultivation, production, dispensing, and all related activities) Outside the Primary Residence and collectives		N	N	N	N	N	N	N	N	N		
Processing, Fish Wholesale		Y	N	N	N	Y	Y	Y	Y	Y		
Professional Establishment		Y	Y	Y	Y	Y	Y	Y	Y	Y		
Restaurant/Bar and/or Cocktail Lounge		Y	Y	N	Y	N	N	N	Y	Y		
Shopping Center	Small	N	Y	N	Y	N	N	N	Y	N		
	Community	N	Y	N	Y	N	N	N	N	N		
	Big Box	N	N	N	Y	N	N	N	N	N		
Solar Energy System, Stand-alone*	Small-Scale	Y	Y	Y	Y	N	Y	Y	Y	Y		
	Medium-Scale	N	Y	N	Y	N	Y	Y	Y	Y		
	Large-Scale	N	Y	N	Y	N	Y	Y	Y	Y		
Warehouse		N	Y	N	Y	N	Y	Y	Y	Y		

* Accessory Uses are considered as part of the principal use for zoning purposes including allowable locations.

[Shoreland Zone (SZ) Note: No changes are proposed at this time in the SZ. Stand-alone Energy Storage Systems and Solar Energy Systems will continue to be treated as “Commercial” or “Industrial” Uses in Table of Land Uses 408.8. We can add these items next time we revise Article 4 if desired. This will involve approval by Maine DEP. Essential Services are already listed in SZ Table 408.8.]

Definitions: *(alphabetical additions to Chapter 56, Article 14)*

Energy Storage Systems (ESS), Accessory. ESS store energy for industrial and general uses utilizing various technologies. Accessory use ESS, are considered part of the principal use for zoning purposes including allowable locations. To be considered as accessory, ESS shall be designed with appropriate storage capacity to serve the principal use only and not the electric power grid.

Energy Storage Systems (ESS), Stand Alone. ESS store energy for industrial and general uses utilizing various technologies. Chemical batteries are a type of ESS that are installed as a stand-alone use.

Footprint: the entire area of ground covered by the structure(s) on a lot, including but not limited to cantilevered or similar overhanging extensions, as well as unenclosed structures, such as patios and decks. *[This definition is needed for Shoreland Zoning and is from the State Model, Chapter 1000]*

Solar Energy System (SES), Accessory: SES of any size that primarily serves an on-site principal use or one on an adjacent parcel. Accessory use SES, are considered part of the principal use for zoning purposes including allowable locations.

Solar Energy System (SES), Stand Alone: SES of any size that primarily serves an off-site user such as the electric power grid or another use on a non-adjacent parcel.

Solar Energy System (SES), Small-Scale: A Solar Energy Collector System that has 1,750 square feet or less of collector panel surface area.

Solar Energy System (SES), Medium-Scale: A Solar Energy Collector System that has more than 1,750 but less than 40,000 square feet of collector panel surface area.

Solar Energy System (SES), Large-Scale: A Solar Energy Collector System that has more than 40,000 square feet of collector panel surface area.

Performance Standards: *(added to the end of Chapter 56, Article 8)***823 Solar Energy Systems (SES).**

Solar Energy Systems (stand-alone or accessory) are energy collecting structures composed of impervious components and are subject to all applicable regulations as such except as otherwise provided for below. Applicants need to describe how their systems are designed to perform in order to satisfy the intent of applicable regulations.

- A. Application Permit Fees and Level of Review. Application fees shall be based on the total area of the solar panels calculated for lot coverage below plus the floor area of any proposed buildings. The disturbed area portion is calculated separately as usual. Permit fees for solar panels are based on the Electrical Code. All Medium-Scale and Large-Scale SES shall be reviewed by the Planning Board as Major Use Site Plan Developments.
- B. Height. Solar panels up to three feet above a roof on which they are mounted may be ignored in building height measurements unless the panels block a scenic view or create a nuisance condition.
- C. Lot Coverage. Solar energy systems or portions thereof may be exempted from lot coverage standards. Roof top systems do not count further towards lot coverage. If SES are located over live ground cover with sufficient space between the panels and above the ground to allow sunlight for vegetation to grow, half the area of the panels would be considered structure area for lot coverage calculations due to sharing of the space.

- D. Setbacks/buffers. Front, rear and side property line setbacks of Tables 308 and 409.2 apply to structural components. Buffer, screening and landscaping standards of Sections 801.5 or 813 also apply but low lying shrubs may be used to replace tree requirements where trees would shade the panels from sunlight.
- E. Stormwater. Article 10, Stormwater Management applies. Solar energy systems or portions thereof may be considered partially pervious if they are constructed over pervious ground with sufficient space between the panels to allow rainwater to flow through with provision for dispersion of the water on the ground without channeling. In some cases, only the area of support footings would be considered impervious for stormwater calculations.
- F. Safety. Solar Energy System installations are regulated through the National Fire Protection Association NFPA 850 and NFPA 70 Electrical Code. For example, fencing is required for larger ground systems and dead load structural analysis is required for rooftop systems. In addition, the locations of emergency access ways and of all means of shutting down the system shall be clearly marked on the site plan for all SES projects.
- G. Signage. Signs shall be installed at medium-scale and large-scale ground mounted SES that shall identify the owner and provide a 24-hour emergency contact phone number.
- H. Operations, Maintenance and Decommissioning Plan. Applicants for medium-scale and large-scale systems shall submit a plan pursuant to Section 825 of this Ordinance.

824 Energy Storage System (ESS). There are many types of ESS technologies which may be accessory or stand-alone installations. They are regulated by State and Federal authorities. For example; batteries, which are filled with hazardous materials are regulated through the National Fire Protection Association NFPA 111, NFPA 855, NFPA 1 Fire Code Chapters 11 and 52, and NFPA 70 Electrical Code. Site plans shall clearly indicate locations of ESS, access ways and signage identifying the owner and a 24-hour emergency contact phone number. Applications shall include all means of disabling the system in the event of an emergency. Stand-alone systems shall submit an Operations, Maintenance and Decommissioning Plan per Section 825 of this Ordinance.

825 Facility Operations, Maintenance, Decommissioning and Abandonment.

Applicability: This section outlines plans for facility operations, maintenance and decommissioning where specifically required by provisions of this ordinance or where ordered at the discretion of the project administrator. Grounds for requiring a proposed facility to provide these plans by the project administrator include those serving specialized industries with limited re-use potential for improvements, those with known substantial obsolescence and/or the presence of significant amounts of hazardous materials. Abandonment procedures are activated by conditions described below.

Operations, Maintenance and Decommissioning Plans shall include:

- A. 24-hour emergency contact name, title and phone number.
- B. Procedures for safe access and shut down by emergency responders.
- C. General maintenance schedule for the facility including a removal/replacement plan for major components during the lifespan of the facility.
- D. A Decommissioning Plan that shall include the following:
 - i. An estimated date of decommissioning of the proposed facility based on the average life span of the major components that would need to be removed per below.
 - ii. Provisions for the removal from the site of all structures, equipment and systems that are not demonstrated to have potential continued use.
 - iii. Provisions for the disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
 - iv. Provisions for the stabilization and re-vegetation of the site as necessary to minimize erosion.
 - v. An estimated cost to implement the decommissioning plan at the estimated date of decommissioning accounting for the anticipated sale of usable components and scrap from the facility.
 - vi. Provision of Financial Assurance of Performance per below.
- E. Financial Assurance of Performance

Based on the estimated cost to implement the decommissioning plan at the estimated date of decommissioning, the Applicant shall demonstrate in the form of a performance bond, surety bond, letter of credit, parent company guarantee or other form of financial assurance as may be acceptable to the Administrator that upon the end of the useful life of the facility, the Applicant will have the necessary financial assurance in place for 100% of the total cost of decommissioning. The funds for decommissioning must also be securely made available for use by the City of Ellsworth in the event of abandonment per below. Financial assurance provisions must be noted on the final site plan and must be transferred with the development if it is sold.

Abandonment Provisions:

- A. A facility under the authority of this Section 825 shall be considered abandoned after it ceases to function according to its intended use for more than one year. Determination of abandonment shall be made by the Code Enforcement Office.
- B. If the owner or operator of the Facility fails to carry out the Decommissioning Plan within one year of abandonment or the proposed date of decommissioning, the City retains the right to use any and all legal and available means necessary to do so at the owner/operator's expense.