ITEM # 29

Staff Report

FREESTANDING SOLAR PANELS IN INDUSTRIAL ZONES

January 24, 2017

BACKGROUND:

The City of Ames adopted regulations for the installation of solar energy systems in 2009. The regulations differentiate between attached solar energy systems and free-standing solar energy systems. There is also differentiation based on the zoning districts in which they were intended to be located—residential vs. non-residential. All solar energy systems are considered accessory uses to a principal structure on the lot, whether a residential, commercial or industrial use.

The 2009 regulations initially limited freestanding solar energy systems to four feet if located in the front yard or six feet if located in the side or rear yard. In November, 2015, amendments were adopted to allow freestanding systems to be 20 feet in height if placed over a parking lot. This limit would allow for the parking lot to have a clearance of between 8 and 15 feet (generally a minimum height for vehicular clearance) and allow solar energy system on top of that. The height of a solar energy system is measured to the top or the "peak" of the panel, not the middle of an angled panel installation.

A request for an amendment to the zoning ordinance was made by Scott Renaud, PE, of FOX Engineering on behalf of Iowa State Ready-Mix (ISRM) at 1109 E. Lincoln Way. The ready-mix plant is located within the General Industrial zoning district. Staff approved a rooftop solar array for their office building and but had to deny a freestanding system because it exceeded the height limit. The panels proposed by ISRM would rise approximately 15.5 feet above ground to the top of the installation. The ISRM proposal includes solar panels that total 260 sq. ft. in area (20' x 13') for each freestanding system.

Specifically, Mr. Renaud would like to see an increase in the maximum height of freestanding solar panels (Section 29.1309 (3)(c)) if located within an industrial area. He also is asking for an increase in the allowable footprint of the solar area, currently limited by ordinance (Section 29.1309 (3)(d)(ii)) to not exceed the square footage of the principal buildings in non-residential zones. This latter request does not impact the Iowa State Ready-Mix case but may impact future installations if there was a very high electric user with a small building footprint.

A recent preliminary assessment of the City's solar regulations, done as part of the SolSmart application, indicates the City's installation standards overall fall within the norm for solar energy system installations. However, the ground mount height limit of six feet is lower than typical.

STAFF COMMENTS:

The regulations as adopted in 2009 were based on design criteria that would minimize their visual impact. The installation was to be "harmonious with the character of the adjacent area where located." And while the installation standards for attached solar panels made a greater distinction between those in residential zoning districts and those in non-residential zoning districts, regulations for freestanding systems made only a marginal distinction. Regardless of zoning district or neighborhood character, all were limited in height to four feet and six feet. The distinction was made in the footprint of the system—residential systems were limited to one-tenth the footprint of the principal building while non-residential systems were limited to the footprint of the principal building.

It should be noted that CyRide recently installed solar panels similar in type and height to what Iowa State Ready-Mix is seeking. Since University property is not subject to City zoning and the panels are interconnected with the University's energy plant, planning staff was not aware that they were installed.

Option 1:

Encouraging ground mount system rather than roof mounted systems would require a text amendment to increase the allowed height. **Staff believes allowing for 20 feet regardless of installing it over parking or as freestanding system in industrial districts would be adequate to meet installation requirements.** If the City Council believes there should be a greater allowance for the height and/or square footage of freestanding solar panels in industrial zoning districts, it can allow the applicant to complete and submit an application for a text amendment. Staff would review an applicant's request and complete an analysis of options as part of the public hearing review process with Planning and Zoning Commission and City Council.

A minor text change to adjust the height limit to 20 feet in industrial zoning districts would not require prioritization and could be accomplished as part of regular workload over the next couple of months. Prioritization is necessary if Council is interested in a more comprehensive review of requirements or comparative research.

Option 2:

If the City Council believes that the existing regulations are adequate for the community, no action is necessary to allow the applicant to initiate a text amendment.