

Staff Report

**SETBACKS FOR VEHICLE CHARGERS AND RELATED EQUIPMENT**

February 28, 2023

**BACKGROUND**

Ames Electric is working with vehicle charging companies on locating equipment for Level 3 fast chargers on existing commercial sites within the City. Ames Electric has also installed their own Level 2 chargers in various locations around the community, including the City Hall Parking Lot M. Current zoning standards regulate placement of equipment in relation to setbacks and landscaped areas.

**While locating chargers seems to be a minor issue within a parking lot, in fact there is a substantial amount of infrastructure and equipment needed to power Level 3 Fast Chargers. Commonly, the charging company will need to deploy new infrastructure, including transformers, to be able to power the new chargers.** Note that Level 3 fast chargers require additional equipment compared to Level 2 chargers.

After speaking with representatives from Tesla, they typically deploy a package of equipment for fast charging in groups of four chargers with ancillary equipment. Below is an example of eight fast charging stations in Altoona that depicts the amount of equipment necessary to support such an installation. In some cases, there can be a fewer number of cabinets depending on the manufacturer. Tesla believes their current generation of equipment has fewer cabinets than the Altoona example.



When this equipment and chargers are located internal to a site, there are no conflicts with zoning standards. **However, on existing sites we have had requests to place equipment in front yards, which is prohibited by the zoning standards. There is no stated exception for projecting into setbacks for front yard mechanical equipment or vehicle chargers.**

Many existing commercial sites have 5 to 10 feet of front yard landscaped area before their parking lot paving begins. The amount of equipment could easily take up all front yard area. Although all of the equipment can be placed within a site subject to the minimum setback of 20 feet, companies may find that more difficult to accomplish with other site planning factors of the property owner or more expensive for the charging company. In some cases the property owners have their own parameters about where equipment may be situated that are different than our zoning allowances.

Charging companies are also conscious of cost and how dispersal of cabinets away from chargers would result in higher costs. Cabinets and transformers can be set away from the chargers; however, it has higher costs for wiring. There are some limitations in accessing transformers and connecting to transmission lines.

**Staff believes that the City Council should address allowances for vehicle chargers within the Zoning Ordinance in order to allow for potentially more convenient installations of chargers on a site.**

#### **OPTION 1 - NO CHANGE TO SETBACK REQUIREMENTS**

City Council could maintain the status quo and require all charging equipment, cabinets, and transformers to meet minimum setbacks. This would still allow for charging stations, but it would not be possible in the first row or edge of parking along a street for almost all commercial sites in the City. Staff would add references to vehicle chargers to the Zoning Ordinance, but change no standards.

#### **OPTION 2 - ALLOW LIMITED ENCROACHMENT FOR ONLY VEHICLE CHARGERS WITHIN FRONT YARD SETBACKS**

City Council could establish an allowance within Section 29.402 (2) (c) of the Zoning Ordinance for a setback encroachment of the actual vehicle charger. This option recognizes that parking spaces are commonly allowed within the front yard setback and that a charger must be situated at the front of the parking space to serve vehicles. Level 2 and 3 chargers would typically take up 4 to 9 square feet for the charger itself, this would be an encroachment of approximately 3 to 5 feet into the setback. The other cabinets and transformers would not be permitted to fully encroach and would have to meet setbacks.

**This option would allow encroachment within the 20-foot setback, but require at least 10 feet of landscape space between the chargers and the property line.**

Note that Tesla indicated to staff that if one cabinet could be placed with each package of four chargers that would be desirable to them for cost savings over remotely placing the cabinets. Such an installation would be within a similar footprint to what staff described above for the chargers.

A variation of this option would be to allow for a stated encroachment depth whether it is a cabinet or charger. Although one cabinet as described by Tesla representatives and smaller than those shown above may be acceptable as a minimal encroachment, it is hard for staff to anticipate all charging company's products and sizes to say for certain how this type of allowance would precisely be laid out for a site.

### **OPTION 3 - FULL PROJECTIONS RELATED TO VEHICLE CHARGING STATIONS**

This option would allow for all equipment, including transformers to be within a setback. This option would still require landscape screening of transformers, which could be difficult within small landscaped front yards.

While this option is the most convenient for placing vehicle chargers, it has the most visual impacts in regards to the prominence of equipment and reduction in landscaping. Even if all equipment could be in the setback as an encroachment, **staff would still desire that at least a 10-foot landscape separation be required with this full encroachment option.** If a 10-foot landscaped separation is still required it would allow for equipment to be in a paved parking lot setback, but only minimally encroach into a landscaped front yard when a site has more than 10 feet of landscaped front yard setbacks maintained after encroachment.

### **OPTION 4 - SPECIAL USE PERMIT OR MINOR EXCEPTION PROCESS**

This option would make placement of equipment and charges within setbacks a discretionary review for the Zoning Board of Adjustment. It would have compatibility criteria, but would not require variance findings. This approach would be warranted if City Council did not believe a standard allowance for chargers would fit sites uniformly across the city and individual review and permitting is necessary. Staff believes this level of permitting is only necessary if Council wants to consider a greater levels of exceptions and encroachments into setbacks for sites that do not have larger landscaped front yards.

### **WHAT ARE OTHER CITIES DOING?:**

City staff reached out to other Iowa cities (Ankeny, Marion, Iowa City, Des Moines, West Des Moines, Waukee, Urbandale, Grimes) to discuss their approach to setbacks for equipment related to vehicle charging. The equipment is commonly treated as accessory buildings or equipment, with each city having variations in how setbacks, landscaping, and permitting applies to such structures and equipment within their city. **Generally, the equipment is not permitted to fully occupy a front setback if it is permitted to encroach within a landscaped setback. Ultimately, landscaping buffering appears to be expected in all situations with some cities having a design review process to**

**make a case-by-case determination of how to situate accessory structures on a site.**

The responses also indicated that new development is accommodating the equipment within sites and not needing exceptions. Retrofits of existing sites has not been a common issue for most cities. Iowa City is in the process of updating their standards specifically for chargers due to retrofitting situations.

**STAFF COMMENTS:**

Staff believes it would be beneficial to identify vehicle charging facilities within the Zoning Ordinance to communicate standards to charging companies. **Staff believes Option 2 is a reasonable allowance to support chargers in parking lots, but also to maintain at least a 10-foot landscape buffer within front yards.** With Option 2, staff would proceed with drafting a text amendment for Planning and Zoning Commission review and recommendation before returning to City Council for approval of an ordinance.