

Electrical Panel/Service Update/Upgrade/Change-out

Residential Service Update

- Service update may be required for additions and alterations. Load calculations may be required.
- Service upgrade/update/change-out shall be done only by Electrical Contractors licensed by the State of Iowa and registered with the City of Ankeny and shall be permitted and inspected.
- 100 amp minimum for updated panel – larger as required
- 2 ground rods required – 6' apart and outside the drip line of eave
- Water ground, if available, with jumper wire
- Federal Pacific panels must be replaced if altered or additional load(s) imposed
- Zinsco panels must be replaced if altered or additional load(s) imposed

Ground Fault Circuit Interrupter Protection Update Requirements

- Kitchen receptacles shall be GFCI protected
- Bathroom receptacles shall be GFCI protected
- Unfinished basement receptacles shall be GFCI protected
- Garage (attached) receptacles shall be GFCI protected

Smoke Detector Update Requirements – Dual Sensor

- Dual sensor smoke detectors shall be installed in every bedroom, in close proximity to the bedroom(s) and on each floor level of the dwelling
- If existing wall and ceiling coverings are not removed then battery operated units OK
- If new construction or existing wall and ceiling finishes are removed then hard-wired smoke detectors are required
 - Ionization smoke alarm shall not be installed less than 20' horizontally from a permanently installed cooking appliance.
 - Ionization smoke alarm with an alarm silencing switch shall not be installed less than 10' horizontally from a permanently installed cooking appliance.
- Photoelectric smoke alarms shall not be installed less than 6' horizontally from a permanently installed cooking appliance.

Carbon Monoxide Detector Update Requirements

- Carbon monoxide alarms shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms (required if attached garage or fuel fired appliances within the dwelling)

Arc Fault Circuit Interrupter Requirement

- Bedroom addition(s) receptacles or receptacles in a room(s) converted to a bedroom(s) shall be AFCI protected

CSST

- Corrugated stainless steel tubing (CSST) gas piping systems to be bonded to the electrical service grounding electrode system at the point where the gas service enters the building. The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent

Permitting

- For other than service upgrade/update/change-out work an owner/occupant may acquire permits for branch circuit wiring after passing the required homeowner's electrical test

See additional information - following page – requirements based on work

	Panel Change Out	Service Upgrade
Smoke Detectors	Required – battery operated ok	Required – battery operated ok
GFCI's	Bathrooms, Kitchen, Basement	Bathrooms, Kitchen, Basement, Exterior
Bond CSST	Required	Required
Ground Rods	Required	Required
UG Water Pipe (metallic)	Required	Required
CO Detectors	Required	Required
Visible Fire Hazards	Required	Required
Two Kitchen Circuits	Not Required	Required
Confirm Minimum Circuits	Not Required	Laundry, Bathrooms, Central Heating
Confirm Receptacles	Not Required	Two per habitable room (min) required
New Meter & Mast	Not Required	Required

Note: all smoke detectors shall be dual sensor

Note: new receptacles shall be tamper resistant

Corrections to Visible Fire Hazards might include, but are not limited to the following: incorrect breaker size, missing connectors in boxes, open splices, broken devices, missing cover plates, missing breakers in panel, damaged wiring, use of extension cords in place of permanent wiring, improper installation of electrical equipment