CITY OF FAIRHOPE

P.O. Box 429
Building / Planning Department
Fairhope, AL 36533
(251) 929-0153

Electrical Code Supplement

FOREWORD

City of Fairhope has adopted the 2011 (NFPA-70) NEC Electrical Code and the City of Fairhope Supplement information contained herein. Electrical contractors working within the City of Fairhope Police Jurisdiction are responsible for obtaining the latest code requirements and fully complying with these requirements. Ignorance of the code, like ignorance of the law, does not relieve the offender of the consequences of their actions. We hope that if you have doubts or questions, you will call to verify solutions to your problem before continuing. A telephone call can help you to avoid expensive changes. Our job is to insure that electrical installations are correctly implemented. We are not teachers and cannot afford the time to guide contractors through jobs; however, we will help as much as possible toward the correct interpretations of the electrical Code. Code questions or calls for inspections should be directed through the building department at (251) 990-0153 Monday through Friday from 7:00 a.m. until 4:00 p.m.

CALL (251) 990-0153 FOR ELECTRICAL INSPECTION.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

Table of Contents

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

GENERAL: Electrical permits shall be obtained prior to the beginning of work on electrical installations. On new construction, the building contractor may purchase the electrical permit; however, it must be purchased in the name of an electrical contractor with a current electrical contractor's license from the City of Fairhope, and said electrical contractor must perform the work. On all other installations, the electrical contractor performing the work must purchase the permit. It is advised that the electrical contractors contact the Building Department and pertinent utility companies prior to the beginning of electrical work to clarify questions about he city code. Contractors must call for a rough-in inspection prior to the installation of insulation, electrical devices, or interior wall finishes and conduits in slab. Larger installations may require several staged inspections. Contractors shall also call for a final inspection upon completion of work. It is the sole responsibility of the electrical contractor to call for inspections. Failure to do so may result in fines, penalties, or the removal of building material so that proper inspections may be performed. A TWENTY-FOUR HOUR NOTICE IS REQUIED ON ALL INSPECTIONS.

EXCEPTION: Homeowners shall be allowed to purchase a permit for electrical work on their sole place of residence. This neither applies to owners of rental property nor to the occupants of rental property. All Electrical codes and inspection requirements shall apply. Anyone doing work at a location other than the homeowner will be fined and a stop order placed on the job.

SCOPE: The articles contained herein are in addition to the National Electrical Code, henceforth, NEC, and, in some cases, supersedes the requirements of the NEC. Some articles are quoted directly from the NEC to clarify areas of particular importance in meeting the requirements of the Fairhope Electrical Code, henceforth, FEC.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

SERVICES:

Service entrance conductors and equipment on all new construction shall have its location approved by the local authority prior to installation. This requirement shall also apply to existing structures where the service is to be rebuilt or upgraded.

A. All meter bases must be obtained from the utility company from which power is supplied. Meter bases, when on City of Fairhope power, may be obtained from Public Works / City Utilities Building. Meter bases from other utilities will not be accepted.

B. All new services and upgrades in City of Fairhope Electrical Service area must be underground unless otherwise approved by the City of Fairhope Electric Department. (Note: other utility companies have different requirements for underground).

   a. Electricians must supply and install 2-1/2" conduit for 200 amp service single phase from the meter base to eighteen inches (18") below grade. Footings that may interfere with installation of the conduit must be removed.

   b. Electricians must connect the conduit to meter base when utility conduit is run before the meter base is installed. Two and one-half inch (2 ½") conduit will fit over utility installed red pipe. Electricians must dig and shift the conduit when the meter base does not line up with conduit by utility company. Check with City of Fairhope for services above 200 amps.

C. For any overhead service, a service mast shall be used in all cases where overhead service is allowed. Protection shall be provided in the form of a conduit where a service mast is not possible. Type S.E. cables shall not be allowed to be used as service entrance conductors unless protected from physical and sunlight damage.

   EXCEPTION: Special permission may be given in extreme cases to allow the use of type S.E. type cable for entrance conductors without extra protection.

D. The service mast, where used as the sole support for the service drop conductors, shall be a minimum of two inch (2") rigid conduit. Supports shall be two-hole metal straps at no more than sixteen inch (16") centers and capable of supporting the service drop.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

SERVICES (cont.)

E. Service mast shall have a minimum height of thirty inches (30") above the roofline and a maximum of forty-two inches (42") above the roofline without guyed support.

EXCEPTION: Overhead services not through the roof and attached to the siding must have well secured 5/8" eyebolt for service drop.

F. Meter enclosures shall be installed at a height between five and six feet (5'-6') from grade level and shall be readily accessible. (Height must be approved for Flood Zones)

G. Service-entrance conductors shall have a minimum of 100 amperes for a single family dwelling if electric heat is installed minimum of 200 amperes service required.

H. The service overcurrent device shall be an integral part of the service disconnecting means or shall be located immediately thereto.

I. The service disconnecting means shall be located outside of the building or other structure.

EXCEPTION: Subject to local authority approval, other methods may be approved.

J. All Conductors originating from the service disconnect shall have protection to point of entry into structure. (i.e., conduit, chase, etc.)

K. The higher voltage to ground phase of a three-phase four wire delta connected system shall be on "C" phase for metering and shall be colored orange, <u>in City of Fairhope or if on City of Fairhope power.</u>

L. <u>Grounding electrode conductor shall originate in the meter socket.</u>

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

PANELS

A. Main lighting and branch circuit panelboards shall have a minimum rating of one hundred amperes (100 amp) and a minimum of twelve (12) spaces for overcurrent devices. If electrical heat is fed from the inside panel, a minimum of two hundred amperes (200 amp) panelboard is required.

B. Panelboards and overcurrent devices shall not be located in bathrooms or in the vicinity of easily ignitable material such as clothes closets

C. Panelboards and overcurrent devices shall be readily accessible.

D. All breakers to be full size (1"). Mini / Thin Line may NOT be used on new construction.

EXCEPTION: Mini breakers maybe used on 20 circuit 100 Amp panel to obtain 24 circuits only.

EXCEPTION: Subject to local authority approval, other methods may be allowed.

E. Electric heater closets shall have a minimum of 16" from front of heaters to door to accommodate for disconnect.

F. Each neutral wire shall be put under an independent lug or screw.

G. Panel buss must be covered during construction for protection.

NOTE: SEE DEFINITION OF READILY ACCESSIBLE IN ARTICLE 100 OF THE NEC.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

CONDUCTORS:

A. All outside conductors shall be in conduit. Conductors smaller than No. 6 AWG aluminum shall not be used. Aluminum conductors shall be provided with anti-oxidation agent on all connections.

B. #6 AL shall be rated at a maximum 40 ampere load only.

C. Minimum #12 AWG shall be used on all 15 and 20 amp receptacle circuits. 14 AWG may be used for lighting circuits only when protected by 15 amp.

D. Single phase feeders supplying panelboards from the service disconnecting means to downstream panelboard shall be four (4) conductor and no grounding connections shall be made to the neutral conductor on disconnecting means.

E. All stove and dryer conductors shall be four (4) wire. All stove and dryer receptacles and pig-tail shall be four (4) wire.

F. All conductors shall be secured and supported within twelve inches (12") of any box and every four and one half feet (4 ½'). All exposed conductors shall be protected from physical damage in cabinets, storage buildings, workshops, and garages, etc.

G. All Conductors shall be a minimum of six feet (6') from the attic access and shall not crossover walkways or flooring without protection.

H. Three-way switches must be three (3) wire conductors for travelers. No two (2) wire conductors shall be used.

NOTE: See Definition of single utilization equipment in Article 100 of the NEC.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

MULTIWIRE BRANCH CIRCUITS:

DEFINITION: A branch circuit consisting of two or more ungrounded conductors (hot legs) having a potential difference between them, and a neutral conductor having an equal potential difference between it and each ungrounded (hot) conductor of the circuit and which is connected to the neutral conductor of the system.

A. No multi-branch circuits shall be installed in dwelling units, a multi-wire branch circuit supplying more than one device on the same yoke shall be provided with a means to disconnect simultaneously all ungrounded conductors at the panelboard where the branch circuit originated. (e.g., double pole breakers or single pole breakers with the handles tied together).

B. Multi-wire branch circuits shall supply only line to neutral loads.

EXCEPTION: Multi-wire branch circuits that supply only one utilization equipment.

EXCEPTION: Where all ungrounded conductors of the branch-circuit over-current device opens the multi-wire branch circuits simultaneously. (i.e., circuit breaker)

C. In multi-wire circuits the continuity of a grounded conductor shall not be dependent upon device connection, such as lamp-holders, receptacles, etc., where the removal of such devices would interrupt continuity.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

KITCHEN CIRCUITS:

A. A minimum of two (2) GFCI 20 ampere branch circuits shall be provided for countertop small appliance receptacles in the kitchen with a maximum of three (3) receptacles on each circuit. These circuits shall have no permanently connected lighting fixtures or motor loads not a part of a plug-connected appliance.

   EXCEPTION: Stove hood fans may be pulled from the kitchen appliance circuit. Fan will count as one (1) device.

B. Refrigerators shall be provided with an individual twenty (20) ampere branch circuit. There shall be no other outlets on this circuit and this circuit shall not be counted in meeting the requirements of "A" above.

C. When location of microwave is known, a dedicated circuit shall be provided.

D. Appliance branch circuits supplying appliances occupying dedicated space or fixed in place shall not be considered in satisfying the requirements of "A" above nor shall such appliances be supplied by those circuits. (e.g., garbage disposal, dishwasher, trash compactors, microwaves, etc.)

E. NO countertop appliance receptacle shall be located behind stoves or sinks.

F. In kitchens and dining areas of dwelling units, a receptacle outlet shall be installed at each counter space wider than 12 inches. Receptacles shall be installed so that no point along the wall line is more than 24 inches, measured horizontally from a receptacle outlet in that space. Island and peninsular counter tops with long dimension of 24" and short dimensions of 12" or wider shall have at least one receptacle. Counter top spaces separated by range tops, refrigerators, sinks, etc. shall be considered as separate counter top spaces. Receptacles rendered inaccessible by appliances fastened in place or appliances occupying dedicated space shall not be considered as these require outlets

LAUNDRY CIRCUIT:

At least one (1) 20 ampere circuit shall be provided to supply the laundry receptacle. This circuit shall supply no other outlets outside the laundry nor shall it supply lighting fixtures, or fixed in place appliances (i.e., freezers, refrigerators, etc.) within the laundry.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

RECEPTACLES OUTLETS IN DWELLING UNITS:

A. Receptacles are to be located so that no "point" in any way space is more than six feet (6') from a receptacle. Fixed room dividers, including bar-type counters, are to be included in the six foot (6') measurement. Isolated wall spaces 24 inches or more in width are considered usable for the location of a lamp or appliance and a receptacle outlet must be provided.

B. A 20-ampere general-purpose branch circuit shall have a maximum of eight (8) outlets.

C. ARC-Fault circuit interrupter: All branch circuits that supply 125 volt single-phase, 15 and 20 ampere outlets in dwelling unit shall be AFCI.

D. Article 210-12 of the 2011 NEC along with supplement shall apply.

E. Receptacles shall be tamper resistant per Article 406 of the 2012 NEC.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

GFCI CIRCUITS:

A. Residential bathroom receptacles shall be provided with a minimum of one (1) 20 amp dedicated circuit with GFCI protection. No fans, lights, or other outlets shall be connected to this circuit.

EXCEPTION: Shower lights installed below 7'6" must be ground fault protected and may be installed on bathroom GFCI.

EXCEPTION: Where the 20-ampere circuit supplies a single bathroom, outlets for other equipment within the same bathroom shall be permitted to be supplied in accordance with section 210-11 (c)(3)

B. Garage and grade level portions of accessory buildings used for storage or work areas shall be provided with GFCI protection for personnel. Detached garages with electric power shall have at least one (1) GFCI protected receptacle.

EXCEPTION: Receptacles that are not readily accessible, such as those provided for garage door openers.

EXCEPTION: Receptacles with dedicated circuit provided for appliances occupying dedicated space, which are cord and plug connected.

C. All receptacles installed outdoors on residential or commercial building shall be GFCI protection for personnel protection. Residential buildings shall have a minimum of two (2) receptacles for convenience, one in front and one in back. One receptacle must be added if not within twenty-five feet (25') of the air conditioning unit including roof-top units.

D. All residential 125-volt 20-ampere countertop appliance receptacles in kitchens shall have GFCI protection for personnel. All 125Volt 15 or 20 amp receptacles in commercial kitchen shall be GFCI protected. Commercial and residential buildings shall have GFCI protection within a six-foot (6') radius of any sink, mop-sink, etc.

E. Swimming pools shall have at least one GFCI protected receptacle located no more than twenty feet (20') and no less than ten feet (10') from the edge of the pool.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

GFCI CIRCUITS (cont.):

F. Hot tubs and spas installed indoors shall have at least one GFCI protected receptacle located no more than ten feet (10') and no less than five feet (5') from edge of tub. Hot tubs and spas installed outdoors shall comply with swimming pool receptacle requirements.

G. No lights or lighting outlets shall be installed within five feet (5') of inside edge of swimming pools, spas, or hot tubs. All lights and lighting outlets within twenty feet (20') and over fifteen (15) volts shall be GFCI protected.

H. All Equipment servicing swimming pools, spas, whirlpools or hot tubs shall be GFCI protected.

I. Screened porches shall be considered outdoors and shall require GFCI protection. This receptacle(s) does NOT fulfill the requirement for an outdoor receptacle per NEC ART.210-52 (e) or

C. All receptacles installed outdoors to the building on residential or commercial shall be GFCI protection for personnel. Residential buildings shall have a minimum of two (2) receptacles for convenience, one in front and one in back. One receptacle must be added if not within twenty-five feet (25') of the air conditioning unit including roof-top units.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

SPACE HEATING EQUIPMENT FIXED ELECTRIC:

A. Air conditioning equipment installation in other than new construction shall require a permit. This includes the replacement of old units regardless of a size increase or not.

B. Air conditioning equipment employing electric resistance type heating elements shall have an approved disconnecting means within sight of the equipment, and if not provided by the manufacturer, supplementary over-current protective devices. Fuses and circuit breakers that are an integral part of the equipment do not satisfy the requirements for a disconnecting means within sight.

C. The KW load of resistance type heaters and minimum amperes and minimum conductor size shall be marked visible on the exterior of the heating unit in the space provided by the equipment manufacturer.

D. Air conditioning and heating equipment shall have copper conductors from disconnect to the unit.

E. 7 ½ KW or larger heaters must have mechanical lugs for termination.

F. Electric heater closets shall have a minimum of 16” from front of heaters to door to accommodate for disconnect.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

CONDUIT GENERAL:

The requirements for conduit installations shall be the same as required in the NEC unless otherwise stated herein.

A. All commercial and subdivision electrical installations such as lighting, receptacles, etc. shall be in conduit.

B. All buildings in the Fire District, Metal Buildings and all Metal Stud construction commercial or residential shall be in conduit.

C. Multi-Family dwellings wiring type shall be at the City of Fairhope's discretion.

D. Schedule 40 PVC conduit shall be allowed in concrete slabs.

E. Rigid and intermediate metallic conduit shall be coated when installed in concrete.

F. Metal raceways, MC and other metal enclosures for conductors shall be metallically joined together into a continuous electric conductor, and shall be so connected to all boxes, fittings, and cabinets as to provide effective electrical continuity. Raceways and cable assemblies shall be mechanically secured to boxes, fittings, cabinets, and other enclosures.

G. Raceways, cable assemblies, boxes, cabinets, and fittings shall be securely fastened in place. Support wires or conduit that does not provide rigid support shall not be permitted as the sole support.

H. For electrical installations, electrical nonmetallic tubing shall not be permitted in the City of Fairhope Permitting Jurisdiction.

I. Liquid-tight flexible metal and non-metallic conduit shall not be used where subject to physical damage or where support is not possible for lengths longer than 4 ½'.

J. All metal conduits shall require a *separate grounding* conductor as shall all types of PVC, flexible metallic tubing, and Liquidtight flexible nonmetallic tubing. All metallic boxes shall be bonded.

K. PVC water pipe may not be substituted for Electrical PVC and will not be accepted.

L. PVC conduit shall be limited in use on interior of buildings.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

BOXES:

A. Outlet, device, pull and junction boxes shall be of sufficient size to provide free space for all the conductors enclosed in the box. Article 314 of the 2011 NEC and their tables shall be applied.

B. All ceiling fans shall be installed on listed fan boxes or the box shall not be the sole support of the ceiling fan.

LIGHTING FIXTURES:

A. Clothes closets providing 24 inches or less of unobstructed clearance from ceiling to floor between the fixture and a storage area where combustible material may be stored shall have a florescent type fixture or flush recessed with solid lens type fixtures and shall be provided with a toggle switch. Pendant type fixtures are not allowed. SEE DRAWING IN THE BACK OF PAMPHLET. Article 410.16 of the 2011 NEC with light extended to 18" from shelf.

B. All lights shall have wall switch. Pull chains will not be allowed.

GROUNDING:

A. Grounding shall be as per Article 250 in the 2011 NEC and as noted herein.

B. Grounding electrode clamps shall be listed for direct soil burial and shall be either brass or bonze. Aluminum and plain or malleable iron shall not be allowed.

C. Grounding electrode conductors shall be #4 CU minimum or according to Table 250-66 in the 2011 NEC and shall originate from the meter base.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

MOBILE HOME LOTS:

A. Mobile home lot feeder circuit conductors shall have adequate capacity for the loads supplied, and shall be rated at not less than 100 amperes at 120/240 volts and provisions shall be made for connecting a mobile home feeder assembly by a permanent wiring method. (i.e., at each lot or space)

B. Feeders supplying panelboards from the service disconnecting means to downstream panelboard shall be four (4) conductor and no grounding connections shall be made to the neutral conductor on disconnecting means. Four (4) conductor cable with an insulated neutral and ground is required on the load side of the service disconnecting means.

C. Mobile home service equipment shall also contain a means for connecting a mobile home accessory building or structure or additional electrical equipment located outside a mobile home by fixed wiring methods.

D. Grounding: Mobile home service equipment shall be grounded in accordance with Article 250 of the 2011 NEC for service equipment. Grounding of both electrical and non-electrical metal parts in a mobile home shall be through connection to a grounding bus in the mobile home distribution panelboard. The grounding bus shall be grounded through the green colored conductor in the supply cord or the grounding conductor in the feeder wiring to the service ground in the service entrance equipment. NEITHER THE FRAME OF ANY APPLIANCE NOR THE FRAME OF THE MOBILE HOME SHALL BE CONNECTED TO THE NEUTRAL CONDUCTOR IN THE MOBILE HOME OR ON THE LOAD SIDE OF THE SERVICE DISCONNECTING MEANS.

E. All feeders to mobile home shall be in conduit.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2012

SWIMMING POOLS:

A. All metallic parts (ladder, hand rails, dive board, coping) shall be bonded with a minimum of #8 AWG bare copper run continuously, (i.e., unbroken). Rebar shall be included with at least six (6) taps, two (2) per side and one (1) per end. Reinforcement wire used in decks or pool shall also be bonded. Clamp must be brass, copper or stainless steel or equivalent. A perimeter surface bond shall be installed per 680.26(B) (2) with a minimum of 6 points uniformly spaced around the perimeter of the pool.

B. Swimming pools shall have at least one GFCI protected receptacle located no more than twenty feet (20') and no less than ten feet (10') from the edge of the pool.

C. Hot tubs and spas installed indoors shall have at least one GFCI protected receptacle located no more than ten feet (10') and no less than five feet (5') from edge of tub. Hot tubs and spas installed outdoors shall comply with swimming pool receptacle requirements.

D. No lights or lighting outlets shall be installed within five feet (5') of inside edge of swimming pools, spas, or hot tubs. All lights and lighting outlets within twenty feet (20') and over fifteen (15) volts shall be GFCI protected.

E. All Equipment servicing swimming pools, spas, whirlpools or hot tubs shall be GFCI protected.

F. All Whirlpools, hot tubs, saunas, etc. shall have minimum #8 CU bonding conductors to panel.

CITY OF FAIRHOPE
ELECTRICAL CODE SUPPLEMENT
2008

SMOKE DETECTORS IN DWELLING UNITS:

A. 125 Volt smoke detectors shall be required on each floor of dwelling including basement. All bedrooms shall require individual smoke detectors within the confines of each bedroom, in addition to outside bedroom areas.

EXCEPTION: In cases where bedrooms open into kitchen, distance variances may be allowed.

EXCEPTION: Smoke detectors with 15-minute silencers and automated reset may be permitted.

B. All attached garages shall have smoke detector.

EXCEPTION: Rise of heat detector may be used if interlocked.

C. All 125 Volt smoke or heat detectors must be interlocked.

D. All 125 Volt smoke detectors must be installed even when security system/fire system is installed.

E. Smoke detectors must have battery back up.

F. Carbon Monoxide detectors must be installed outside each sleeping area when fuel fired appliances are used or dwelling units have attached garage.