

# MONROE COUNTY ZONING OFFICE

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100 South Main Street  
Waterloo, IL 62298  
618-939-8681 Ext. 260  
zoning@monroecountyil.gov

Monroe County has adopted the 2005 National Electrical Code (NEC) in its entirety for the unincorporated areas of the County. The following is a list of guidelines for your reference to help avoid common mistakes. These guidelines are not intended to be all inclusive and it is the installer's responsibility to comply with the National Electrical Code, Monroe County Ordinance 06-05, the Power Company requirements for electrical services and these guidelines where applicable.

## **GENERAL GUIDELINES**

1. Per Article 110.12. NEC – Electrical equipment shall be installed in a neat and workmanlike manner.
2. Inspector shall have access to the building for his inspections by leaving the building open or by locating a key outside. Accurate phone numbers and directions are very helpful. No access will result in Failure of inspection.
3. If job is not ready, please call and cancel your inspection or job will be turned down.
4. Any inspection which is not approved due to a code or ordinance 06-05 violation, not ready, or not accessible will require a re-inspection fee.
5. When To Call For Inspections: There shall be two business days notice to Monroe County Zoning Office (618.939.8681 ext. 260 or 270) prior to inspection.

ROUGH-IN: When all wiring is complete, including terminations, and before insulation is installed so inspector can see all wiring including alarm, etc.

UNDERGROUND ROUGH-IN: Before backfill

SERVICE: When complete and reading for power company. Power Company will not connect without inspection sticker.

FINAL: When all devices and fixtures are installed and operating but before occupancy.

6. If residence is occupied, inspector will not inspect unless someone is present.

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## SERVICES

1. Article 16.A. Workmanship Services shall be installed in a neat and workmanlike manner, securely anchored, with the least amount of bends or fittings that the particular installation will permit, and all holes cut for installation of conduits through walls and foundations shall be securely patched with mortar or other suitable material as compatible with the finish of the walls or foundation as possible, so as to prevent the entrance of air current and moisture. Careless and slipshod work will not be permitted under any circumstances.
2. Minimum service 100 AMP. It shall be the responsibility of the contractor or authorized person installing new services to determine the correct size service required per Article 220 of the National Electrical Code.
3. **Article 16.B. Grounding** - Special attention must be paid to Article 250 of the National Electric Code, Current Edition, with regard to grounding of service equipment.
4. Aluminum Wiring shall not be permitted in any installation within the County of Monroe.
5. **Article 16.D. Extensions** - Services shall be so installed that the maximum extension within a building or structure of the service run shall not exceed twenty-five (25) feet before providing over-current protection, and a means of disconnecting service.
6. **Article 16.E. Location** - Service equipment, panel boards, and switchboards shall not be located in bathrooms, restrooms, shower rooms, clothes closets, or above washers and plumbed-in fixtures.
7. All residential panel boxes must have a single main disconnect and be mounted at a maximum height of six feet six inches (6'6") to the handle with a maximum of forty-two (42) circuits in panel. No tandem breakers shall be allowed in new installations. Minimum of (3) spare breakers must be left in new installations. The maximum size breaker for a #12 branch circuit is 20 AMPs. The maximum size breaker for #10 branch circuit is 30 AMPs. All panels shall have circuits properly indexed.
8. #3 THWN copper minimum entrance cable for 100 AMP service residential; 2 for commercial.
9. 2/0 THWN copper minimum entrance cable for 200 AMP service residential; 3/0 for commercial.

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10. Entrance cable and neutral must be of the same size and rating.
11. Neutral shall be identified and continuous from weatherhead through meter socket into the panel. Identified with white tape or white wire.
12. Ground wire for all services must be encased in PVC conduit from meter socket to ground rod.
13. An Intersystem bonding termination block is required at the meter location.
14. The minimum size ground wire for a 100 AMP service is #6 and the minimum size ground wire for a 200 AMP is #4.
15. Inspector will enforce power company's specifications. It is the contractors or owners responsibility to inform the inspector which power company will serve the property.
16. Whenever PVC conduit is used on a service between the meter and the panel, it shall have a proper size ground wire pulled in it. If PVC is used for any run of wire, it shall have a proper size ground wired pulled in it.
17. Individual Romex not enclosed in short nipples above the panel must be supported per code for rough-in inspection and have protective covering for final inspection.
18. Homeowners are required to pass the Homeowner's Electrical Test or Service Test if doing the work themselves.
19. Electricians desiring to practice in Monroe County must show proof of passing the Master Electrical or Master Residential Test through the Thomson Prometric Program. Monroe County has been approved as a Sponsor of Thomson Prometric.

### **ROUGH-IN**

1. All rough-in wiring shall be complete and made up. All wires shall be spliced and tailed out with a minimum of six (6) inches of tail at each box. No exceptions.
2. **Article 15.B.** Number of Receptacles and Wire Size - Receptacles in kitchen, dining, and utility areas shall be wired with at least No. 12 wire and not more than four (4) outlets per circuit. All other wiring shall be at least No. 12 and not more than twelve (12) outlets per circuit.

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**Exception No. 1** When it is a part of an approved cable assemblage, the ground conductor may be sized as required by the most current edition of the National Electric Code.

**Exception No. 2** When adequate mechanical protection is provided, any adequate ground conductor

**Exception No. 3** For installation of low voltage conductor when voltage does not exceed fifty (50) volts between conductors, or to ground.

**Exception No. 4** For control wiring only, as permitted by the National Electrical Code, Current Edition, however, this exception is not to be construed to include switch legs or circuits over fifty (50) volts.

3. **Dryer and Range:** An electric range must be wired with a minimum conductor No. 6-3 with ground. Dryers shall be wired with minimum # 10-3 with ground and on a maximum breaker size of 30 AMPS.
4. **Additional Load on Existing Service:** It shall be the responsibility of the contractor or authorized person adding additional circuits and/or equipment to existing services to determine beforehand if said service is of sufficient size and capacity to carry such additional load according to the rules established under Article 220 of the National Electrical Code, and if not, it shall be unlawful to make said addition until the service has been increased to required size.
5. All major appliances shall be on a circuit by themselves. Including but not limited to:

Refrigerator  
Freezer  
Washer  
Furnace  
Motors  $\frac{1}{4}$  HP & above  
Dishwasher  
Garbage Disposal  
Garage Door openers  
Sump Pump  
Range Hood/Microwave

6. All receptacles in kitchens and baths, outside, garages and unfinished areas of basements shall have ground fault circuit interrupters (GFCI's) for personal protection. This includes all whirlpool tubs and hot tubs.
7. Recessed lights and fans in bathrooms over showers or tubs must be on GFCI protected circuits and be suitable for wet locations.
8. GFI receptacles or breakers shall be rated for the load size of the wire.

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9. Arc Fault breakers are required in all bedroom installations.
10. All residential buildings shall have smoke detectors. They shall be hard wired, with battery back up and shall be interconnected.

Locations: Within fifteen (15) feet of sleeping areas (generally in a hallway), in each bedroom, and on each level. If the home has gas or an attached garage, the hallway detector on the bedroom levels and the single detector any other level must be a combination smoke/monoxide device.

11. All wires in the basement shall be encased or in drilled holes in the joist. Holes shall be drilled in such a manner that maintains the integrity of the joist (maximum fill 40%). All exposed drops in basements shall be installed in thin wall conduit with a bushing at the ceiling.
12. Wiring in attics shall be protected in areas 30” or more in vertical heights. No junction boxes shall be permitted in attics or any concealed locations.
13. All recessed lighting that will be in contact with insulation shall be required to be Type IC or “Inherently Protected”.
14. All “multiwire branch circuits” shall be required to provide a means to simultaneously disconnect all undergrounded conductors when used as defined in Article 210.4 (B), NEC.
15. Metal piping systems shall be bonded per Article 250.104 and sized per Article 250.66 NEC.
16. An outside receptacle must be located within 25 feet of the A/C condensing unit for service work.
17. The use of Romex is not allowed in a commercial building.
18. All penetrations through the top or bottom plate and all cold air returns shall be fire caulked.

Dated: 10/18/06

Revised: 7/31/12

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