

2011 NATIONAL ELECTRICAL CODE AMENDMENTS

The 2011 National Electrical Code (NEC), adopted in Section 9-4-1, Subsection A of the Sycamore City Code as the electrical code of the City, is amended and revised in the following respects:

1. **Service Equipment – Disconnecting Means:** Means shall be provided to disconnect all conductors in a building from the service entrance conductors. The service disconnecting means shall be installed at a readily accessible location either outside the building or inside the building nearest the point of entrance of the service conductors. The maximum distance from the point of entrance of service conductors to a readily accessible service disconnecting means shall be six (6) feet.
2. All residential, commercial and industrial electrical services shall be installed with rigid metal conduit (RMC) or intermediate metal conduit (IMC). PVC and service entrance cable is not allowed. Electrical metallic tubing (EMT) is permitted between the meter enclosure and the electrical panel only if compression fittings are used and provided the EMT exits the back of the meter enclosure and is not exposed to weather.
3. When additional grounding is required for hot tubs, spas or similar equipment, the grounding conductor is allowed to be located at the cold water pipe of that piece of equipment provided the ground clamp is accessible. If the ground clamp is not accessible, a minimum #8 insulated copper conductor shall be run from the motor or pump back to the electrical panel.
4. The dedicated branch circuit for GFCI'S and outlet receptacles in bathrooms shall be for a single bathroom. It is not permissible to use the power from the GFCI circuit in one bathroom to supply power to GFCI circuits in another bathroom.
5. Raceways for underground installations shall be limited to RMC, PVC coated steel conduit or PVC Schedule 40 conduit. Only RMC and IMC are permitted above grade in outdoor exposed work. PVC conduit that is installed underground, transitioned to RMC prior to breaking grade and then transitioned to EMT above grade for indoor applications is allowed. Underground feeder cable (UF) is prohibited.
6. **Support of fixtures in suspended ceilings:** In addition to the requirements of Article 410-36, all 2' x 4' luminaries shall be secured from two (2) opposite corners of the fixture to the building structure.

7. When using sleeves for cables entering cabinets and cutout boxes, Article 312-5 will apply. Cables with entirely nonmetallic sheaths shall be permitted to enter the top of a surface-mounted enclosure through one or more nonflexible raceways not less than eighteen (18) inches or more than ten (10) feet in length, provided exceptions A thru G are met.
8. All exposed indoor residential wiring that is readily accessible and subject to physical damage shall be in RMC, IMC or EMT. NM and NMC cable is allowed provided it is covered with drywall, plywood or OSB.
9. Where a portion of a raceway or sleeving for cables is subjected to different temperatures and where condensation is known to be a problem (*cold storage areas of buildings or where a raceway or sleeving passes from the interior to the exterior of a building*), the raceway or sleeving shall be sealed to prevent the circulation of warm air to a colder section of the raceway.
10. Electrical continuity at service entrance equipment where concentric or eccentric knockouts are used shall be assured by the use of bonding-type (grounding) bushings, both at the meter base and the service disconnect panel. The bushings shall have a plastic type insert for protection.
11. All grounding conductors in a grounding electrode system shall be protected from physical damage. If installed above grade, the conductors shall be installed in RMC, IMC or EMT (with compression fittings) only.
12. All lighting and/or fan fixtures installed in tub or shower areas shall be GFCI protected.
13. **Electrical Service Grounding:** Shall include the water service and two (2) ground rods with spacing not less than six (6) feet apart per Article 250 of the National Electrical Code. The water meter shall be grounded from the electrical panel to the house side of the meter, then to the street side of the meter with a continuous grounding conductor. Where subjected to physical damage, the grounding conductor shall be sleeved.
14. The use of MC and AC cable is not allowed.
15. **Minimum Clearance:** A minimum of thirty six (36) inches front clearance and thirty (30) inches of side clearance must be provided for all air conditioning condensing unit disconnects. This also includes disconnects for other similar appliances including, but not limited to, electric hot water tanks. (Side clearance is measured from the left or right side of the disconnecting means).
16. Where flexible metal conduit (Greenfield) is used, a separate ground wire shall be installed regardless of the length of the raceway.
17. All outdoor receptacles shall have a weatherproof enclosure (bubble cover) regardless of whether an attachment plug cap is inserted.

18. Should an outdoor meter enclosure require replacement for any reason and if the main disconnect or the overcurrent protection for the panel board is protected by fuses, the panel board shall be replaced with a circuit breaker panel board.
19. Nonmetallic rigid conduit commonly known as PVC schedule 40 & 80 shall not be used above ground. This includes reinforced thermosetting resin conduit (DZYR).
20. NM and NMC (Romex) shall not be used in commercial or industrial buildings or applications where otherwise not permitted.
21. Receptacles in screened-in porches (with no windows) shall be GFCI protected and include weatherproof enclosures (bubble covers). Should windows be installed, GFCI protection is not required; however, AFCI protection shall be required for all receptacles.
22. All ceiling mounted electrical boxes intended to provide power to luminaires shall be fan or fixture rated. **Note:** Smoke detectors, carbon monoxide detectors and garage door openers are exempt from this requirement.
23. All underground electrical wiring installations shall be inspected prior to burial.
24. The electrical contractor shall be present for all electrical inspections.