

Residential Electric to Septic Information

This is not an all inclusive list of all the requirements of the 2011 National Electric Code (NEC) and the 2013 Residential Code of Ohio (RCO). However, the following information is a basic overview of some key points regarding electric to septic installations. All installations shall comply with all of the requirements of the 2011 NEC. Essentially two inspections will be required for the following: *Underground (before backfill) and a Final Inspection (panel, junction & tank lid must be open for inspection).*

1. **2013 RCO R106.1.3(9)** Additional graphic or text information as may be reasonably required by the residential building official to allow the review of special or extraordinary construction methods or equipment.
2. **NEC 110.11** - Unless identified for use in the operating environment, no conductors or equipment shall be located in damp or wet locations; where exposed to gases, fumes, vapors, liquids, or other agents that have a deteriorating effect on the conductors or equipment; or where exposed to excessive temperatures.
3. **NEC 300.6** - Raceways, cable trays, cablebus, auxiliary gutters, cable armor, boxes, cable sheathing, cabinets, elbows, couplings, fittings, supports, and support hardware shall be of materials suitable for the environment in which they are to be installed.
4. *If any equipment, devices, outlets, cord connections, etc. are field installed “within the tank” and not identified for use in the operating environment then, separate electrical construction documents (drawings, details, manufactures specifications and installation instructions) according to section R106.1.3 (9) shall be submitted for review and approval prior to installation for such components that are being proposed to be installed within this environment.*
5. **NEC 110.3(B)** Listed and labeled equipment shall be installed and used in accordance with any instructions included in the listing or labeling.
6. **Circuits shall be derived from a properly grounded system.**
7. **NEC 310.10(C)** - Insulated conductors and cables used in wet locations shall comply with one of the following: 1.) Be moisture –impervious metal-sheathed 2.) Be Types MTW, RHW, RHW-2, TW, THW, THW-2, THHW, THWN, THWN-2, XHHW, XHHW-2, ZW 3.) Be of a type listed for wet locations.
8. **NEC 312.2** - Enclosures installed in wet locations shall be weatherproof.
9. **NEC 408.4(A)** - Every circuit and circuit modification shall be legibly identified as to its clear, evident, and specific purpose or use.
10. **NEC 430.102(B)** - A disconnecting means shall be provided for a motor in accordance with (B)(1) or (B)(2). See exception to 1 and 2 (lock installed at breaker or switch). **Note:** *The provision for locking or attaching a lock to the disconnecting means must be part of the disconnect and a permanent component of the switch or circuit breaker. At least one of the disconnecting means shall be readily accessible (NEC 430.107).*

11. **NEC 300.5(A) - Underground Installations.** Minimum Cover requirements-Direct buried cable or conduit or other raceways shall be installed to meet the minimum cover requirements of **Table 300.5 (24” for direct buried cable & 18” in conduit)**.
12. **NEC 300.5(B)** - The interiors of enclosures or raceways installed underground shall be considered to be a wet location and shall comply with 310.10(C). Any connections or splices in and underground installation shall be approved for wet locations (example: UF cable).
13. **NEC 300.5(D)(4)** - Where the enclosure or raceway is subject to physical damage, the conductors shall be installed in rigid metal conduit, intermediate metal conduit, Schedule 80 PVC conduit, or equivalent.
14. **NEC 300.5(G)** - Conduits or raceways through which moisture may contact live parts shall be sealed or plugged at either or both ends. **Note:** *Presence of hazardous gases or vapors will also necessitate sealing of underground conduits or raceways entering buildings.*
15. **NEC 300.5(J)** - Where direct buried conductors, raceways, or cables are subject to movement by settlement or frost, direct buried conductors, raceways, or cables shall be so arranged so as to prevent damage to the enclosed conductors or to equipment connected to the raceways.