FIRE PREVENTION AND BUILDING SAFETY COMMISSION
Department of Homeland Security

Written Interpretation of the State Building Commissioner

Interpretation #: CEB-2018-12-2009 IEC-230.50 and 300.05

Building or Fire Safety Law Interpreted
675 IAC 17-1.8, the 2009 Indiana Electrical Code.
230.50 Protection Against Physical Damage (A) Underground Service-Entrance Conductors. Underground service-entrance conductors shall be protected against physical damage in accordance with 300.5.

300.5 Underground Installations (A) Minimum Cover Requirements. Direct-buried cable or conduit or other raceways shall be installed to meet the minimum cover requirements of Table 300.5.

Issue
The dispute centers on the required method of protection and minimum required depth of burial to be provided for an underground service entrance in a Class 2 structure, when such service entrance is routed beneath a residential driveway. According to the **interested person,** the code official has stated, without providing an actual citation reference, that the requirement in such circumstances is to encase the cables/conductors in Sched. 80 PVC, buried a minimum of 28 inches below grade. The **interested person,** however, maintains that an installation compliant with **Table 300.5** of the **2009 Indiana Electrical Code** is sufficient to meet the applicable code requirements.

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The underground service entrance damage protection must meet the minimum requirements of the code, which in this case are described in **Article 230.50, Article 300.5,** and **Table 300.5.** Protection in excess of the code requirements is acceptable, but it is **not** required in order to be considered a code-compliant installation. **Article 230.50 (A)** of the **2009 Indiana Electrical Code** references **Article 300.5** for underground installation requirements. **Article 300.5 (A)** in turn references **Table 300.5**, which provides required minimum protection for 0-600 volt installations, based on application and location.

Table 300.5 provides minimum requirements for installations beneath one- and two-family dwelling driveways and outdoor parking areas, used only for delivering power for dwelling-related purposes. Among these requirements are two particular scenarios relevant to the specifics of this request: **Column 1** – direct burial of cables or conductors is permitted; and **Column 3** – nonmetallic raceways that are listed for direct burial are permitted. In both cases, the nominal minimum burial depth is 18 inches (450 mm), as measured from the top of the conductor or raceway to the top of the finished grade, concrete, or other cover.

Consequently, in this circumstance cable or conductors may be direct-buried, or they may be encased in nonmetallic raceways that are listed for direct burial. If the **interested person's** Sched. 40 PVC is so listed, it is acceptable for use in this instance. In either case, the nominal minimum burial depth is 18 inches. Depths greater than that are entirely voluntary. Even if the local utility requires more protective raceways or burial depths greater than 18 inches, those requirements are not enforceable by the code official, but are matters for resolution between the owner and the utility.

While **Article 300.5 (D)** requires conductors to be installed in rigid metal conduit, intermediate metal conduit, **Sched. 80 PVC** or equivalent when the enclosure or raceway is subject to physical damage, no evidence has been provided that shows a credible threat of such damage to this installation. Potential damage from backfill cannot be considered a hazard, as **Article 300.5 (F)** prohibits the use of backfill materials with sharp edges or of a corrosive nature.

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