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To: Building, Masonry Contractors and other Interested Parties

Re: New Requirement to Use Reinforcing Rod in Basement Footings as an Electrical Service Ground.

A new change in the National Electrical Code requires that if a building footing contains more than 20 feet of reinforcing rod, not smaller than ½" diameter, it must now be used as one of the grounding electrodes to ground the electrical service for a building. This building may be anything from a single-family dwelling to a high-rise building.
This minimum 20' of ½" diameter (or larger) reinforcing rod may be one continuous piece, or several smaller pieces adding up to 20' or more where the pieces are tied together by steel tie wires or similar. In order for the electrical contractor to tie onto the reinforcing rod, this will require a piece of reinforcing rod that is attached by tie wire to the rest of the rod(s) to be "stubbed up" above the basement slab so it is accessible to the electrician after the floor is finished. If all of the reinforcing rod is encapsulated in a non-conductive coating (such as epoxy coating) this reinforcing rod does not have to be used as an electrode, since it does no good as an electrode.
Since many times the electrical contractor is either not on site or not even hired when the footings are poured, this requirement becomes the responsibility of the General Contractor and the masonry contractor pouring the footings. The St. Paul Building Inspectors will be inspecting for this "stub-up" as part of the footing inspection and will not allow the project to continue until this is installed.
This requirement was actually in force as of July 1, 2005 when the 2005 National Electrical Code was adopted state-wide by Minnesota, but due to the implications of this change, some leeway on enforcement of this has been done. This "grace period" is now ending, and all installations will be required to have this electrode available if reinforcing rod is used in the footings.
Failure to have this "stub-up" installed will require re-opening the basement floor and whatever other work may be required to install this electrode. By State Law, this cost is borne by the contractor who did not have the connection to the reinforcing rod installed, and this is not necessarily the responsibility of the electrical contractor.
This "stub-up" may be at any place inside the building, and must be accessible to the electrical contractor for connection of a grounding conductor. A suggestion would be to place this stub-up close to where the water service is coming into the building, since the location of the electrical panel may not be known at that time, and usually the water service entrance is in an unfinished area thus the stub-up won't end up sticking out of the basement floor in a finished area of the basement. Also, since the electrical contractor has to run a grounding electrode conductor to the water service within 5' of where it comes into the building, the same conductor can also attach to the reinforcing rod electrode at the same location. This is only a suggestion and the stub-up may be anywhere around the perimeter of the basement, we are only trying to ensure it will not end up being a tripping hazard or an eyesore in a finished area.