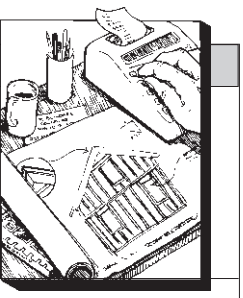
Managing Foundation Subs



by Richard Lind

Placing a foundation for a structure is serious business—even without unusual site or soil conditions to worry about. If mistakes are made, they will be costly and at best difficult to correct after the fact—if, indeed, they're correctable.

Foundation problems and failures rarely result from a deficiency in the concrete mix. They usually result from inadequate thought, planning, and supervision, and reflect a breakdown in communication between the builder and the formwork subcontractor. Better planning and management of this phase of the operation can prevent such mistakes.

Qualify Your Sub

For starters, give yourself a break and begin with a form sub who knows what he's doing. What should you look for in a form sub? Reliability, of course, and a price that you can live with. But certainly among a good sub's qualifications is experience in form erection and concrete handling. The sub should be able to deliver a foundation with square corners and straight and plumb walls. The forms should be smooth-surfaced and clean, and there should be a variety of form heights to select from.

A ready-mix concrete company that works daily with a stable of form subs can be a source for leads on good form subs. On large jobs, a concrete company salesperson will likely knock on your door early on, having heard of the building application in the Dodge reports or the Standard and Poor's report of construction activity. He can usually offer suggestions based on his knowledge of which form subs are busy and the type and quality of forms available. The sales rep can save you lots of leg work and get you started in the right direction.

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Lay a Good Foundation

At the job site, start with a level pad. Even the very best form sub is not a miracle worker. He can only place forms on top of what the builder provides. Make sure the excavation is roomy enough for all of the jogs in the foundation with enough space to set up forms without scraping the sides of the excavation. If the form sub does not have a crane, prepare a ramp into the excavation, if feasible, so that the sub's flatbed truck can be driven down to unload. Provide surveyor's stakes or an accurate reference point on the pad from which to start.

Soil conditions and codes will determine the need for foundation footings. Many building codes allow the local building inspector to select options instead of footing, such as thicker and/or reinforced walls. Know your options and determine which can save you time and money.

Work Closely With Your Sub

Although builders typically order and pay for the concrete, the form sub likely will be responsible for placing the concrete in the forms. After choosing your sub, meet him at the site to review job conditions. Of interest will be the temporary ramps for his trucks and whether the ramps have been graveled over to prevent slipping and sliding in wet weather. Difficult or limited access to the forms, or forms that would be hard to pour due to a lot of jogs or stops might require a pump and/or crane to get the concrete poured. Arrange for such equipment early, not at the eleventh hour.

Anticipate separate forming and pouring operations, such as stepped footings, a frost wall for a walk-out basement, garages, and other attachments to the basic foundation. These are common, but require planning and coordination.

Talk over the approach with the sub, who often may very well have some time-saving suggestions. Give the form sub a copy of the foundation plan right from a set of blueprints and review the plan together. Some things on the plan, such as the overall dimensions and window and door locations, are rather obvious. Other significant items on the plan that are not so apparent:

- The height of the walls and which walls, if any, are to be dropped in height.
- Thicknesses of the walls, particularly where there is a variance, such as for a thicker wall here or there to support brick veneer.
- Openings needed for crawlspace access. Point out placement of cavities or girder pockets, requesting that they be made wide enough to provide a little leeway to avoid chipping concrete on framing day.

Also discuss items that probably won't show on the blueprint: the location and elevation of holes in the foundation wall for telephone and electric service, water supply, and the sewer outlet. If the sewer outlet will eventually connect to an on-site sewage disposal system, the pipe must come through the hole in the wall provided at the precise and predetermined elevation as indicated on the approved plan of the disposal system. If it doesn't, I guarantee the health inspector will make you do it over until you get it right.

Make the sub aware of any local regulations, such as the requirement that forms be left in place for a specified period after pouring, or that inspection or location certification is needed before pouring.

Most subs include in their service breaking off the steel rods left in the walls after the forms are stripped, and plugging up the resulting concave holes. This job is usually left to a young helper who, with bucket and trowel in hand, feverishly races around the foundation, slapping mortar in the holes before he makes a running leap onto the existing truck. It is a simple job but an important one. If not done thoroughly, leaks are a certainty even in damp-proofed walls. To assure quality, assume this step yourself.

If reinforcing is to be used, specify the location of the rods within the forms and who should provide them. Form subs will normally pour Lally and chimney footings, but they are not in the excavation business, so have the holes dug out before pouring time. Confirm that the sub will place the anchor bolts and point out where wood strips are to be left in the concrete for nailing door frames or whatever later.

Keep It in Writing

Your relationship with your form sub is likely to begin as a formal one—especially if you're not familiar with him—and grow less formal as time goes by. Even so, it's best to have the details in writing, especially when conditions warrant special considerations.

For a problem-free foundation, anticipate, plan, and review every point with the form sub. Always check out the work in progress and be available for decision making. Even your best-laid plans may need revision. ■

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