

Taking Care of Your Home

How do I know if I need a new foundation?



It's time for a new foundation

By Jim Gardner

When I am evaluating whether or not there are foundation problems in your home there are several key indicators I am looking at. Some are more important than others, but taken as a whole they paint a fairly good picture as to the current and future health of the material that is holding up your home.

• Condition of the concrete

Concrete is a mixture of cement, sand and rock. Many of older homes were built in the 1920's when it was common to use sand from the Bay. The salts tend to react with moisture in the soil which accelerates deterioration of the concrete. If you see a lot of whitish powder on the concrete (efflorescence), or your crawlspace soil is damp, water in the soil may be an issue.

The proportion of these three components varies, but I find that foundations with a higher proportion of cement and sand vs. rock are often weaker and more susceptible to moisture-related deterioration. When I can dig into a foundation with my fingers, this is a concern. When you consider that this material is holding up more than a hundred tons of house, and how it might get affected when subjected to shaking in an earthquake, this is usually my number one reason for recommending a new foundation.

Ironically some of the worst looking concrete has a higher rock percentage and is often stronger than the better looking but weaker material. You can check this out yourself by poking at your foundation with a screwdriver. If you can dig into it or pieces fall off, it's time to call us.

• Lack of Reinforcement

We generally don't see rebar in most concrete until around the 30's or 40's. Most older homes have no reinforcement. When older foundations settle over time, they can develop cracks. In newer foundations the rebar will keep foundation cracks from growing, as the rebar holds the concrete together. Without rebar, cracks can move and get bigger over time, and the foundation on either side can move up or down, leading to movement in walls and floors.



This portion of the foundation is at ground level and is badly deteriorated. The newer section at the right is what we would like to see.

• Grade issues and problems with size of footings

There are minimum dimensions for the size of your foundation and how deep it needs to be buried and how far above the ground it should go. The soil level around buildings tends to get higher over time due to erosion and landscaping, and the



Typical settlement crack in a shallow footing

top of the foundation can get close to the ground level rather than the current requirement of 8" above grade.

This can be compounded by the fact that in older buildings stucco went down to the ground, Wood behind it got saturated with ground water. The mudsill and framing at the point where they connect to your foundation can experience dry-rot or possible termite problems, and old steel foundation bolts (if any) can rust. If the foundation is not deep enough into the underlying soil, or if it does not have a properly designed footing, it is more susceptible to settlement or rotation, especially in the wet soils of the Bay Area.

There are a lot of clay soils in the East Bay, which expand and contract seasonally and can have more of an impact on the older foundations than on the newer reinforced

foundations installed at a deeper depth.

• It's all about the drainage

The common theme here is groundwater or surface water issues – French Drains and downspout drainage. Most people suspect foundation or structural problems when they see cracks inside the house, sloping floors or sticking doors, but these are just reflections of what is going on underneath or around your home.

Foundations that are historically dry are rare in this area, but they look much newer and are in generally much better condition. When older homes were built, even when they did have drainage systems they were typically clay pipes that filled up with soil over time and no longer functioned. With the exception of occasional earthquake damage, most of the foundation problems described above were initiated or accelerated by water issues. If the drainage is addressed early enough or if the water problems are minor, we can sometimes extend the lifespan of your foundation if the material is still in reasonable condition. If not, then a new foundation and proper drainage are the solutions to preserve the long-term structural integrity of you home.



Water in the crawlspace flowing under shallow foundation footings, causing deterioration of the foundation over time.



Pictured at the Napa Ride to Defeat ALS on September 21 are 18 members of Team Linda and Marvin: (front) Gary Laymon; Janet Hittle, Russ Graham, Judy Stern, Robert Lettieri, Samantha Lettieri, James Stockham, Cathy Laymon, Elke Miranda, Colin Bly, Paul Lettieri and Harry, Marco Lei, Mike Bruner, Ann-Marie Yeakey, Melanie Bruner, Debra Dryden, and Dr. Edward Morse.

Lettieri riding team raises \$73,000 for ALS research

Participating in the annual Napa Ride to Defeat ALS, on Saturday, September 21,

Team Linda and Marvin, now up to 21-members, broke their previous team record by raising more than \$73,300 for ALS Research.

The namesakes of the team, Linda Lettieri (Piedmont) and Marvin Stern (New York), both passed away from this terrible disease. The funds will be used to help local ALS clinics as well as research to find the cause and hopefully, a cure for ALS (Amyotrophic Lateral Sclerosis).

Piedmont resident and team co-captain Paul Lettieri individually raised over \$55,000 toward the team's goal. The team members rode from 28 to 100 miles on a beautiful, sunny day in the Napa Valley and enjoyed an educational and entertaining after-ride event at Justin Siena High School.

Team Linda and Marvin thanks everyone who participated, with special thanks to Oakland based KTG Architects (not pictured) and to The Guzzardo Partnership, Inc, Landscape Architects for their support.

Stravinsky

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me). The soloist was young Oliver Herbert, cool as a cucumber at center stage, offering gratifying insights.

MUSIC NOTES

The career of MTT, now 74, overlapped with that of Stravinsky, who lived to nearly 90, both in Los Angeles, thus tracing an arc of continuity going back to the turn-of-the-century era of czars, emperors and colonialists. In his early meeting MTT recalled Stravinsky's fascination and enthusiasm for music. One of the composer's eccentricities was

to work at the keyboard in his studio and post on a large board countless snippets of notes he found appealing. He would then cut out the best ones and save them, presumably to be worked into his next score.

How many snippets are required to produce a symphony? The mind boggles.

S.F. Symphony and Chorus with MTT with a mostly Stravinsky program was performed September 26-28 in Davies Hall. For info: (415) 864-6000, or go online. www.sfsymphony.org

Paul Hertelendy, a Piedmont resident, also writes reviews for www.artsSF.com.

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