Ask Jon Eakes

WHAT ARE THE PRESSURES THAT CAN DAMAGE MY BASEMENT WALL?

Last Updated: Thursday, March 28th, 2013, Created: Thursday, October 14th, 1999

A basement is subject to three strong pressures.Settling is caused by the weight of the house pushing down on the footings and further compacting the soil underneath. This causes no great problem if everything settles together. However, settling can cause foundation and upper wall cracks when only part of the house settles. A house usually does most of its settling in the first couple of years, and then goes down no more.Lifting is often confused with settling, but generally occurs in highly expansive clay soils, such as those found in the Prairies. You remove tons of earth to dig a basement and then replace this weight with a relatively light concrete floor. The expansive clay swells and pushes up the centre of the floor, making you think that the foundation has settled. After an initial upward surge the floor will often rise and fall as much as an inch or two each year with seasonal changes (if you are on Gumbo Clay) wreaking havoc on door frames in partition walls upstairs. Continual adjustment of the centre posts is about all you can do in this case. Run a tight wire from wall to wall near the main beam -- the wire will remain straight and the beam can be adjusted to match.The fill dirt put back in around the basement after it is built exerts great inward pressure on the foundation wall. This pressure can be increased by water pressure from a high water source or poor runoff. It can reach the point of breaking the foundation if either ice-block formation or "ad-freezing" takes place on and near the wall. (search keyword "freezing" for the title " WHAT IS BASEMENT FREEZE SHIFTING?")

Keywords:
Damage, Crawl Space, Basement, Frost