

## Expansive Soil Guidelines

Several areas within the City of Torrance contain differing amounts of expansive (also called adobe or clay) soil. If your home is located in one of these areas there are a few basic precautions you, as homeowner, should take to minimize the detrimental effect of the expansive soil on your home. If you rent your home it would be in your best interest to share these guidelines with your tenant.

Expansive soil is a fine grained clay which is found in most of North Torrance and in the WALTERIA Lake area of Southwest Torrance. It occurs naturally and is generally found in areas that historically were a flood plain or lake area.

Expansive soil is subject to swelling and shrinkage of the soil, varying in proportion to the amount of moisture present in the soil. As water is initially introduced into the soil (by rainfall or watering), an expansion takes place. If dried out, the soil will contract, often leaving small fissures or cracks. Excessive drying and wetting of the soil will progressively deteriorate structures over the years. This excessive wetting and drying causes damage due to differential settlement within buildings and other improvements.

If your home is located on expansive soil it is likely that your home will experience more hairline cracks in the walls and slabs than a home built on sandy soil. This is due to the native soil in the area, and not much can be done to prevent minor soil movement. You can, however, protect your house from major damage, and minimize the minor cracking by taking a few precautions to ensure that the soil under the foundation does not become either saturated or completely dried out. The following guidelines are intended to assist you in that regard:

1. Proper drainage after a rain is the most important single factor. Rainfall should run off the property as fast as possible following a storm. About an hour or two after the next storm you should inspect your property to determine if there are any areas where water is "ponding", especially next to the building. If this is the case, the lot drainage should be improved as soon as practical, as ponding water could saturate the foundation and cause major structural damage. Regrading of the lot and/or installation of a drainage system may be necessary to alleviate the drainage problem.
2. Installation of rain gutters and downspouts can help in the elimination of a drainage problem, but be sure that the downspout outlet does not discharge close to the structure, as this could cause a problem. The discharge point should be on walkways, driveways or other paved areas away from the building. Drainage should then flow directly to the street.
3. In the summer water your lawn lightly two or three times a week. Heavy watering is not recommended as this could saturate the foundations. However, it should be emphasized that a uniform moisture condition around foundations should be maintained throughout the year. This will prevent periodic drying (shrinkage) and wetting (expansion) which will cause damage to structures.
4. Monitor your water consumption. An unexplained increase in your water bill could indicate a plumbing leak. Any leak should be repaired immediately, as the soil around the foundation could become saturated and distressed if the leak is allowed to continue for a long time.
5. If you notice a number of ground fissures or cracks in a short period of time, it would be in your best interest to contact a soil engineer who specializes in expansive soil problems. A soil engineer can investigate the problem and make specific recommendations for elimination of the problem and repair of your home.

6. Planting trees (even small ones) within about ten feet from the house is not recommended. Trees tend to extract moisture from soil causing shrinkage. Greater separation is appropriate for larger trees. Plants that require a large amount of moisture are also not recommended near buildings.

If you have any further questions or would like some advice on your particular problem please call the Grading Division of the Department of Building and Safety Department at (310) 618-5910.