

Tips to Prevent Wet Basements-Standing Water/Poor Drainage

Here are some tips to reduce standing water/poor drainage. Some homeowners experience water in their basement a few years after they have lived in their homes. This is typically caused by settlement around the house foundation. When a house is constructed, a hole is excavated for the foundation that is larger than the foundation and when the hole is backfilled (earth pushed in against the wall) sometimes there are voids that eventually fill up with earth from above. This settlement may take several years and go unnoticed until water starts appearing in the basement.

Minimum Grade - A rule of thumb is to have and maintain approximately 5"-6" of fall in the first five feet (downward slope) from your foundation. This is the equivalent of a 10% grade. A minimum grade should be not less than 3" in that same five feet. This assures that rainfall (in a driving rain) will not continue down the outside of the house and into the basement. In very dry years, the ground can literally shrink from the house and in that case it is best to place clay soil in the crack between the wall and earth.

Landscaping Next to Foundation - Most homeowners choose to landscape around their home, but there are some things you can do to improve drainage from the foundation wall. Make sure you achieve the minimum grade (see above) and place 4-6 mil plastic sheeting on top of the ground and under landscape rock. This accomplishes two objectives: keeps water from penetrating into the ground and prevents weeds from growing. With careful surface grading, homeowners can direct some of the water to the shrubs and planting areas. In some areas, where flowers are planted, plastic can not be used and in those instances, make sure a 5-10 percent grade is maintained from the foundation. Be careful you do not trap water with plastic edging that is designed to keep grass from growing into the landscaped areas. If necessary, cut the edging in several places to allow water to flow from the foundation. After all, it is a lot easier to remove a little grass than to clean up a wet basement.

Downspouts - A number of homes utilize rain gutters and downspouts to minimize damage from water off the roof and onto the ground. However, it is a good idea to add an elbow to the downspout along with an 8-10 foot pipe (downspout laying nearly parallel to the ground) for the water to flow from the foundation (especially with clay or sandy silt soils). At a minimum, a splash guard, at least three feet in length should be installed beneath the downspout. This will prevent erosion of the soil.

Sump Pump Discharges - It is extremely important to discharge the sump pump away from the foundation. At the very least, install a pipe extension at least 8 feet from the foundation wall. This is the normal depth of your basement and minimize "recycling" the water. Ideally, the discharge pipe should be installed underground. As long as the discharge pipe is installed at a slope (1/4 bubble on a level) from the foundation, the discharge pipe should not freeze because the water pumped out of your home by the sump pump is at least 45 degrees. If there are no low spots in your discharge line, the water will drain when the pump shuts off and therefore no ice will form.

Window Wells - Many homes now have window wells to provide emergency access from basements. These are the source of moisture intake. Ideally, the bottom of the window well is filled with a well graded sand or pea gravel with a tie to the foundations drain tile system. This tie can be accomplished with sand/gravel or with a piece of drain tile. Plastic covers can be installed, but cannot be anchored to the building as this would defeat the purpose of the window well. Window wells should be inspected each fall prior to winter to make sure leaves are removed (if you do not have a plastic cover). If the leaves are allowed to remain, they can mat to prevent water from percolating into the ground. If this occurs, it is possible that the water will build up and flow in and around the window frame. The window frame can be caulked to not only avoid water, but also prevent insects and rodents from entering the basement.

Annual Inspection - Each spring you should walk around your home (after the frost is gone) and look for settled areas. Areas of most concern are the trenches where your utilities were extended into your home. If you do not know where these trenches are, locate your sewer cleanout along your basement wall facing the street. The trench will typically be 10 feet on both sides of this line to the street. Your electrical trench will typically be along the same wall in the basement (facing the street), where your electrical service box is located. If you find settlement, the sod will have to be removed and/or replaced or covered with topsoil. If the settlement occurs in the landscaped area, the landscape rock or mulch should be removed and topsoil brought in to raise the surface to a minimum grade.