HOW TO KNOW WHEN ITS TIME FOR SOME EXTERIOR WORK TO BE DONE.

Typical Causes of Roof Problems

A. Lack of Maintenance

The failure to find and correct minor roof deterioration in the earliest stages is probably the greatest cause of premature roof problems. This is particularly true of roofing materials applied on relatively low-sloped roofs.

B. Weathering

All roofing materials deteriorate from exposure to the weather at rates determined largely by the kind of material and the conditions of exposure. In general, inorganic roofing materials tend to deteriorate less rapidly from exposure than organic roofing materials. All types of roofing materials may be damaged by hail.

Exposure to air pollutants and industrial or salt-laden atmospheres may accelerate the deterioration process of some roofing materials.

C. Wind Damage

Roofing materials are subject to damage from strong winds and flying debris. Generally, roofs are not designed to withstand winds of hurricane and tornado intensity. However, roofs may also be damaged by winds of moderate intensity, with gust that may reach 50 to 75 miles per hour. The primary cause of wind damage is from the partial vacuum created by wind blowing over the edge of the roof. Nature tries to neutralize the low-pressure area by bringing in air from a higher pressure area, usually from inside the building.

This air pushes up on the bottom side of the roof assembly and, over time, loosens fasteners and breaks the adhesion making the roof susceptible to damage from the next moderate or strong wind. To counteract the effects of wind-uplift forces, the roofing and insulation should be adequately fastened to the roof deck, and a securely-fastened perimeter detail should be provided.

D. Improper Design

Troublesome and costly roofing problems are often the result of faulty initial design of the roof system. Design deficiencies are costly to correct, and usually can only be corrected during roof replacement. However, unless design deficiencies are discovered and corrected during roof repair or re-roofing, the problems relating to them most likely will recur. Some examples of faulty design are:

Weak roof structures that deflect excessively under load, causing splitting of the roof membrane
Inadequate roof slope, sagging roof structure, or insufficient number or location of drains, resulting in ponding water
Inadequate provision for expansion and contraction at changes in deck material or direction, causing membrane splits.
Incompatible roof materials - i.e. the use of asphalt to adhere a torch-on material (APP).

E. Flashing Failures

The function of flashings is to provide a watertight junction between roofing materials and roof projections or other parts of the structure, and between roof sections. Flashings should be designed to furnish service for at least as long as the materials used in the field of the roof. Flashings are the most vulnerable part of any roof. Their importance and the importance of maintaining them properly cannot be overemphasized.

Many early roof problems are actually flashing problems. Often, repairing the flashings or providing new flashings is all that is needed to make the roof watertight again.

Most flashing problems result from inadequate flashing design or faulty construction. Many flashing problems can be reduced or eliminated by careful examination by competent inspectors during roof installation, and by regularly scheduled inspection and maintenance.

In many instances, leaks occur at flashings where there are no flashing defects. These leaks may be the result of open joints in a masonry wall or coping cap, which permits water to enter behind the flashings and into the building. This problem may be eliminated by "through-wall" flashings.

 Granule Loss - New roofs begin aging immediately. The shingles are still “curing.” They lose a noticeable amount of granules after a short exposure to sun and weather.

 Curling, Blistering - Temperature changes cause shingles to curl—especially in cold weather. Heat can cause blistering.

 Cracking, Staining, Failure - Algae causes dark brown or black streaks. As shingles become more brittle they can crack. Wind, hail and heavy rain can cause failure.

 Bald Shingles - It is time to replace the shingles when black asphalt shows because most of the granules have been washed away.

 Open Blisters - An open blister means that the shingle will continue to get worse. Replace quickly to prevent water getting under the shingle and doing more damage.

 Ice Dams - Snow and ice become trapped on the roof. Improper ventilation in the attic causes the heat from the house to melt the snow and ice next to the shingles and water backs up under the ice dam and soaks through the roof to cause damage.