



## **An architect makes recommendations for property owners who sustained storm damage**

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Hurricane Sandy created many problems for people in the NYC metropolitan area. The water table rose to levels not seen in decades and as a result, many basements and even first floors were badly flooded. The greatest damage was to construction materials that get weaker when they are exposed to water. Water tends to compromise the integrity of certain woods, sheet rock, and plaster. This causes structural problems and damage to the wall surfaces. The biggest challenge in evaluating damage to homes and other buildings is the speculative nature of how certain structural elements are compromised when they are soaked in salt water. Our books and tables only deal with ideal conditions. Secondly, it is very difficult to speculate what some of the structures looked like before the flooding. Pictures and floor plans give a clue but not the whole story. Thirdly, speculating about the long term effects of the long term damage to structural elements exposed to saltine water for an extended period of time can be difficult.

All is not lost! A professional who does not mind getting dirty in the cellar or basement and closely inspecting the structural beams for cracks and swelling has a better chance of seeing some real problems up close. A basement inspection looking up at beams can tell if the columns have shifted, the beams have cracked, the connections have become loose, etc. This is often assuming that the condition has gotten much worse in time. Or, one can just inspect with the goal of maintaining structural and aesthetic normalcy regardless of the former condition of the structure.

Most insurance companies tend to agree that bringing the building to the state prior to the flood is their responsibility but here is the caveat: no one really knows what that was. Even if they did, it would be more difficult to establish an imperfect wall and replicate it than to just build a perfect wall. As a result, most reputable insurance companies are providing claimants a rare opportunity to fix up their damaged buildings to a condition that is much better than it was before the flood.

How can one go about getting this compensation without missing anything? Take into consideration the loss of structural integrity and what is clearly obvious-not what may happen. Insurance companies do not speculate on long term effect of negative impacts to buildings. They just compensate you for the damage that is very obvious and documented. Furthermore, most policies do not cover underground water. This leaves a very grey area of what damages are caused by above or below ground water. Unless you have flood insurance, you may be out of luck on many Hurricane Sandy related claims.

The good news is that structural damage caused by water infiltration above ground is covered and can be quite costly and extensive. You really need to evaluate the damage through time by placing devices on cracks to measure if they are increasing and getting worse. These are simple rulers that are screwed to the floor or walls, photographed and monitored on regular intervals to document a quantitative analysis of the worsening of cracks. Unfortunately, this is one of the few techniques we

have at our disposal. If the cracks get wider quite fast, watch out! This can never be a good sign. If the cracks get narrower, which sometimes happens, this can be great. Most of the time, they just stay the same. This can be dealt with by bracing the structure to prevent any further separation.

Time usually helps to show any change in the structure of the building, but wall and floor covering materials are an entirely different story. Plywood and sheetrock get weak almost instantly upon exposure to water. They show this by warping and buckling. The long term effects are very negative: they can become loose and wavy. Sheetrock can actually fall off walls and ceilings when they become wet. The screws that are used to fasten them to the studs have no chance of holding in place a soggy piece of sheetrock. Plywood warps and sags when dampened. They also shrink or expand in size causing cracks on the floor and tiles. The long term effects on both materials are mold growth and discoloration. You definitely have to remove wet sheetrock and plywood from your building immediately before they cause a great deal of problems.

The effects of structural failure is serious and beyond the scope of this report, but I will say that any time you notice that the floor or ceiling is sloping more than it was previously, or that there are cracks in the foundation, or the walls are leaning: this indicates that the structure may have been compromised. This also means that having a professional come out to evaluate the weakened area prior to remediation, is imperative. They can advise you as to what is the fastest and least expensive way of dealing with the problem. They can even recommend contractors who are honest and competent in dealing with this kind of issue. Speaking to contractors initially is helpful because they know a great deal about construction and offer their estimates for free. But, they are interested in selling the job to you. After all, that is how they make their bread and butter. A better approach is to hire a professional architect or structural engineer to evaluate the problem and make specific recommendations. These can be used to get bids from several contractors and compare apples to apples.

No matter what, it is essential to remove anything that is compromised and weakened except structural elements. The latter can be reinforced or sandwiched. They can be propped up and strengthened. Sheetrock and plywood is another story. They need to be removed because once soaked in water, they are no longer rigid and strong. An exception is durock, green board or wonder board. They are designed to withstand water. Also, treated wood, cedar, redwood and artificial woods can withstand a good soaking. Many of these issues have to be handled on a case by case basis. After the initial consult with the professional, one needs to retain them throughout the construction process to make sure that everything is going along smoothly. We are available for your needs in this area and look forward to helping you get back on your feet!

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