

CATtales

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Part 2: Building resiliency to natural hazards into new homes

A discussion with Alberta master homebuilder

Murray Pound

By Glenn McGillivray, Managing Director, ICLR

On September 19, 2013, after closing our Second Basement Flood Symposium in Toronto (at which he spoke) I sat down with Alberta master homebuilder Murray Pound, president of Gold Seal Homes, to discuss his company's philosophy of 'Building better behind the paint' and about building new homes that are more resilient to natural hazards.

Murray hails from Carstairs Alberta, where, as a homebuilder, he actively seeks out superior build solutions to provide the most durable, safe and valuable homes he can for his clients. He is an avid volunteer in the community. His passions other than his family are fly fishing and being an active

member of the local Emergency Services Group.

Glenn McGillivray: One thing we find through our research is most home builders don't realize that new homes in Canada are being damaged by severe weather, including basement flooding, but other things as well. Do you think this is the case? Are homebuilders uninformed and unaware of this trend and is it also a barrier to building better homes?

Murray Pound: It all comes down to price, and when you have several builders in a showhome parade all competing for the same client, ►

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there is going to be some norming, there is going to be some cost norming. So it can be very dangerous for one builder financially to put themselves too far out there. And so, you're not going to see a lot of individualization of product offering in a community where you have a showhome parade of four or five different builders. Where there is less competition, and in my environment there is less competition, we can put ourselves out there a little bit to be the better builder and take that risk. It's difficult for builders to sell, you know, an upgrade to a 50 year shingle if their competitors aren't doing the same thing. So, what it leads me back to, building code constantly needs to be revised and improved. Certainly, durability and resiliency needs to have a larger spot in the code. And as the code moves along, the builders follow. So, if we can get third party agencies helping our government to improve code, showing them a way, showing them reasons to improve the code, the market will follow and the builders, for lack of a better word, will do what they're told and the consumer will benefit.

The other side of it is affordability, and the builder associations will always talk about affordability and every change we make is going to affect affordability, and they're not wrong, but the consumer will buy what they can afford. And if they can't afford a 3,000 square foot home with hardwood floors and granite countertops anymore because the code has adjusted up a little bit, that is something to work towards. What's interesting, I find, about our society today versus 50 years ago, 50 years ago my grandparents were just happy to have a home, a very simple home. They worked towards the next home, and maybe their retirement home had hardwood floors and a fireplace. It seems that in our lives today

we have to offer up everything immediately, people want everything right now. So, if we mix that with the argument of affordability, I don't think the argument for affordability holds a lot of water because people are getting a lot more home, especially in their first purchase then what we have ever seen before in history. So, I think affordability has to be tempered with what is the right thing.

The last point I want to make is are we building homes that are going to be affordable two generations from now? My fear is that as utility costs increase and servicing costs increase, 30 years from now, the homes we are building now are going to be extremely expensive to operate and service because durable methods weren't used, they've been damaged potentially by natural events, and/or they just weren't built that efficiently and the envelope is inefficient and it's very costly to retrofit downstream. And that's one of my big concerns is that we are looking at very superficial things in new home construction, how pretty the house is, but we're really not looking at the bones, what we call 'Behind the paint' and my big concern is the serviceability of the home we are building now, 20, 30 years from now, are we building homes that no one can afford to live in?

GM: You talked about building code. The building code process in Canada is quite conservative. It's not easy to change the code. Furthermore, it's very easy to raise the ire and hackles of the building industry. How can an institution like ICLR work with builders to improve the code and get things done and get some actual changes made?

MP: My experience has been you can talk to a builder and they will say 'Yep, yep, yep, sounds like a good idea', but until it becomes code, there is no real benefit for

them to make changes. I think working with third parties, lobbying groups, government groups and showing them the need for code revision probably makes more sense. My building peers probably don't want to hear that, I will probably get chastised for that. But code change is an eventuality, it's going to improve and if it makes sense, if a change in the building code is going to make a home safer, less people are going to die, less people are going to get sick from mould. Insurance companies are going to be able to continue to offer insurance to the homeowner because they are not worried about payouts – and that's my fear, there are certain types of insurance riders that you're just not going to be able to get pretty soon because the insurance companies are going to say 'What kind of premiums are we going to charge to cover that?' So, insurance is kind of the medicine for the ailment. Instead of curing something once you're sick, how do we prevent someone from becoming sick? It's the same with homes, if we can stop the home from becoming damaged in the first place then there's none of these downstream repairs and payouts that have to be made for future generations.

GM: You have really 'connected' with ICLR and to our 'better than building code' initiatives. How and why do you think your philosophy and way of doing business corresponds well with ICLR's 'Building resilient communities' program?

MP: We connected [with ICLR] on social media a little over a year ago and at that time we were looking at durability in our homes as the next phase of what we wanted to introduce into our homes and the fit was just perfect. Things we were already talking about with our trades and customers and suppliers, ►

and it seemed some of the solutions you had already developed were great for us. The research had been done, there was good science behind it, I could look through your documentation and say 'Alright, they've figured it out.' The data is there, I can take that to my clients and say 'Do you want to do this and here's why.' The studies have been done and we can embed these philosophies into a home and you'll have a better product for years to come. So, it just added to our toolbox of things we could offer and the tie in to our philosophy of 'Building better behind the paint' was fantastic. It was just one more wrench in our toolbox and built on our philosophy.

GM: Just to get back to code to end it off. I don't want to give the impression that the building code in Canada is poor, it's not, it's one of the best codes in the world. And I think on the whole, Canadian homebuilders do a very good job, they build a good home, again, some of the best in the world. But why do you think it's necessary to take home building to the next level, to go beyond code? Where do you see gaps in code and building practices? Where do we a good job?

MP: In Canada we have to adapt to the current code. Our friends south of the border are kind of a la carte when it comes to which code they want to use. They can pick and choose from prior codes, whatever suits them, a governor can mandate what code is going to be employed in a state, one municipality can have one code that is very different from homes on the other side of the street. And I think that's a very confusing environment for a homebuyer because you really don't know what you're getting. So, I think our country has done a really good job at developing a

code consistently across all our provinces and territories, but you can never stop improving. There's always new products, new technologies, new methods, new challenges, and new problems. And we are seeing our climate change. I don't know if it's cyclical, I can't answer that, I'm not an environmental scientist. But we are seeing more and more natural events that are impacting on homes.

I used to tell my customers ten years ago, "You don't need an air conditioner in Alberta, we only get a week or two that's above 20. Well, you can barely live in a home without air conditioning now in central Alberta. So things are changing. So for code to just stay the same when other influences around us are changing, doesn't make much sense. And the code is not perfect, it's good. But I'm a big believer there are some safety holes in code. People are dying in their own homes, firefighters are dying in peoples' homes. In North America we lose over 3,500 people a year to house fires, and we're challenged with that. And durability, people are spending a lot of money soon after they have been in their homes. There have been a lot of studies where people have to replace things because maybe the quality of the fixtures wasn't very good and they're falling apart. And for a lot of families money is tight. So when you have to go out and buy a \$40 door knob because it fell off the door three years later, that's hard for somebody, that's taking money away from a vacation, that's taking money away from savings that they might want to put aside. And so, if we start having mandates for resiliency in homes and safety, we're protecting people. And our industry has a responsibility, and our government has a responsibility, to protect the homebuyer within their own home. They should be safe within their own home and

secure, and they should be able to maintain the value in their home. It's the largest investment most people are ever going to make, and for that reason it should be one of the elements in their life that the most thought was put into. Not just, 'this home is here for the next five to ten years.' But, then again, a lot of buyers think that way: 'I'm going to be in this house for five years, I'm going to sell it and make some money and move into my next house and my final house after that.' So, maybe some of that philosophy is part of the problem as well. Maybe they're not concerned about building a home that's going to be here 100 years from now.

In my travels I've been to the British Isles and I remember staying in a Bed & Breakfast that an American couple had bought in Scotland and it was a brick structure and it was 400 years old. And every home on that street was 300 to 400 years old, and there were no problems with the structure. But we don't think that way here, we don't think for the long term. So, you're right, code is a difficult thing to change, but if we stay where we are I think we will end up going backwards.

GM: Anything else?

MP: No, I think I've said enough.

GM: Thanks Murray.

MP: Thank you for having me, it has been a pleasure. We have learned a lot from your organization and continue to have this useful relationship. **CT**

Insurer class action raising climate change withdrawn, points remain relevant

By Travis Allan and Alexandra Kocherga, Zizzo Allan

- A recently launched class action in Illinois that invited a court to consider whether municipalities were negligent in preparing for severe rainstorms in light of climate change has been withdrawn by the plaintiff.
- Despite its withdrawal, the plaintiff raised the important issue of municipal liability for climate-related flooding and highlighted that homeowners are not the only potential plaintiffs in flooding class actions: insurers are a powerful class that may try to recoup payouts made for flooding damage.

Background on the case

On April 17th and 18th, 2013 a significant flood caused stormwater and sewer water intrusions for homeowners in the County of Cook, which includes the City of Chicago.

After paying out a currently unspecified sum to insured homeowners, a group of insurers led by Illinois Farmers Insurance Company and Farmers Insurance Exchange (“Farmers”), filed a complaint as representative plaintiff on April 16, 2014 (the “Farmers Complaint”). [1]

The Farmers Complaint named a total of 100 municipalities and other local public entities as defendants. The Farmers Complaint has recently been withdrawn (more discussion below).

Consideration of climate change

Despite its withdrawal, the Farmers Complaint is significant

because it explicitly raised the issue of defendant municipalities’ responses to climate change, arguing that the mid-April rainfall was reasonably foreseeable in light of climate change models that were already known to, or should have been known to, the defendant municipalities. In contrast, the Canadian flooding class action claims we have profiled do not explicitly reference climate change.

Although the Farmers Complaint dealt with specific Illinois statutory law), its use of climate change in articulating what is reasonably foreseeable is relevant to negligence claims against municipalities in other jurisdictions, which typically require plaintiffs to show that a harm was reasonably foreseeable from the defendant’s failure to meet the required standard of care.[2] This argument is interesting because, in many cases, municipal design, operation and maintenance decisions are based on historical flooding data, which may no longer be the best predictor of future flooding risks, according to climate change models.

The Farmers Complaint argued that defendants “knew or should have known that climate change in Cook County has resulted in greater [rainfall] volume, greater rainfall intensity and greater rainfall duration than pre-1970 rainfall history evidenced, resulting in greater stormwater runoff from a rainfall with Cook County and its Watersheds.” [3] It further claimed that “because of climate change causing increased rainfall, this defendant had to increase stormwater storage capacity of its stormwater sewer system(s) to prevent sewer water invasions.” [4]

The Farmers Complaint also referred to the Chicago

Climate Change Action Plan as evidence that some or all of the defendants had “adopted the scientific principle that climate change has caused increases in [rainfall] amount, intensity and duration during a rain in the Cook County...” [5] This argument raised the important issue of ensuring that up-to-date climate modeling is shared between municipal departments with responsibilities that could be affected by climate change. This case was also an interesting example of insurers stepping into the shoes of persons to whom they have paid-out claims, known as “subrogation.”

Withdrawal of the Claim

Subsequently, Farmers withdrew its claim. Farmers spokesman Trent Frager explained that the “lawsuit brought important issues to the attention of the respective cities and counties, and [...] our policyholders’ interests will be protected by the local governments going forward[...] Therefore, we have withdrawn the suit and hope to continue the constructive conversations with the cities and counties in Chicagoland to build stronger, safer communities.”

It appears that despite the withdrawal of its claim, Farmers wishes to actively work with governments to ensure adequate responses to climate change. It will be interesting to see if insurers elsewhere in North America take a similarly active role with municipalities who they believe are not taking adequate care in light of new climate models.[CT](#)

On-site damage assessment finds much of the destruction from the Angus tornado could have been prevented 5

By Glenn McGillivray, Managing Director, ICLR

At approximately 5:20 p.m. June 17, an EF2 tornado tore through Angus, Ontario damaging more than 100 homes, many severely. A few hours later, Western University engineering's Storm Damage Assessment Team, supported by the Institute for Catastrophic Loss Reduction (ICLR), was on the ground to work with Environment Canada to assess the tornado damage. The team then worked to map the storm track and document damage to about 100 homes, 10 of which had complete roof failures.

According to Dr. Greg Kopp, leader of the forensic research team, much of the damage in Angus could have been prevented.

"Canadian homes are well built, but roofs continue to be vulnerable to strong wind. With small changes in building practices we can substantially reduce the risk that an EF2 tornado destroys a new home in Canada. Along with doing what the building code requires, we need to invest just a few hundred dollars extra in each home to avoid the kind of structural damage we saw in Angus," says Kopp. "These changes would add much less than 1 percent to the cost of a new home."

Dr. Kopp's lab and field research has found that a few low-cost measures can protect homes from the most severe structural damage. These include use of hurricane straps, metal bands that wrap around trusses and connect to walls. "These cost, perhaps, a dollar apiece

and can largely eliminate the risk of roof failures from an EF2 tornado," says Kopp.

Other considerations include using longer nails in roof sheathing, like 2.5 inch, rather than the code minimum 2 inch nails, placed every 6 inches apart rather than every 12 inches. "The longer nails and tighter nailing pattern more than doubles the strength of the roof sheathing against uplift forces, and the added costs are minimal," he says.

Dr. Kopp is working with ICLR to discuss emerging wind engineering research with Canadian homebuilders and on proposals that have been made to the National Building Code of Canada. We believe that most damage to homes in Canada from severe wind, basement flooding and other natural hazards is preventable with small changes in home construction practices.

Our efforts to assess and document the tragic and preventable destruction in Angus will hopefully result in improvement in future home construction in regions vulnerable to severe winds. **CT**



Notes from 'Insurer class action' raising climate change (page 5)

[1] "Illinois Farmers Insurance Company and Farmers Insurance Exchange v The Metropolitan Water Reclamation District of Greater Chicago" (16 April 2014), Climate Lawyers Blog, online: <<http://www.climatelawyers.com/file.axd?file=2014/5/20140416+Illinois+Farmers+Ins.+v.+Metro.+Water+Reclamation+Dist.+of+Greater+Chicago.pdf>> [Original Complaint].

[2] The claim alleges that the defendant municipalities breached 745 ILCS §3-102(A) and 745 ILCS §3-103(A). A third claim, revolving around Illinois law on the "Taking of Real and Personal Property" is not considered in this post.

[3] *Original Complaint, supra* note 1 at para 50.

[4] *Ibid* at para 51.

[5] *Ibid* at para 49.

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Mission

To reduce the loss of life and property caused by severe weather and earthquakes through the identification and support of sustained actions that improve society's capacity to adapt to, anticipate, mitigate, withstand and recover from natural disasters.

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