



Structures
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Mr. Sam Belsito
Connecticut House Republican Office
LOB Room 4200
Hartford CT 06106

RE: Public Hearing - HB 5180 regarding Concrete Foundations
19 Feb 2016, LOB Room 2A

Dear Sam,

As much as I would like to attend this public hearing, my workload simply does not permit. However I would like to offer my thoughts on the issue.

The announcement regarding this public hearing stated *“The purpose of this public hearing is to get input directly from constituents about the on-going problems they are facing due to deteriorating foundations. After hearing from homeowners we will work together to expand the nature of the current bill to hopefully provide relief and make sure this situation does not happen down the road to future residents.”*

When I read the text of the Raised Bill I find:

“AN ACT CONCERNING THE DOCUMENTATION OF CONCRETE FOUNDATION APPLICATIONS.

To require documentation of the name of the individual or entity that poured a concrete foundation at a new residential or commercial building and the date upon which the foundation was poured prior to the issuance of a certificate of occupancy.”

The latter language seems like any basis for legal action will only be effective on future construction, and will accomplish nothing to *“provide relief”* for those *“facing ... deteriorating foundations.”*

I would ask you what is the statute of limitations with regard to pursuing damages as a result of shoddy construction and/or the use of poor quality materials? Remember, the current problem with deteriorating concrete foundations is that it has taken anywhere from 10 to as much as 15+ years for the problem to become evident. Might this put any possible legal action beyond the current statute of limitations?

As a structural engineer, I have looked into a number of home foundations that are suffering from the degradation due to reactive minerals contained in the aggregate used to make the concrete. From my work I have concluded that there is no real simple method of mitigation of the problem once it has progressed beyond what one would call *“hairline cracking.”* I suspect there may be methods of mitigation for what I call the *“early onset”* evidence of pyrrhotite degradation, but the determination of the effectiveness will take years to prove, and the cost to apply them, while perhaps substantially less than a total foundation replacement, is not encouraging to any building owner when the efficacy is unproven. The CT DCP has not helped the situation by not including the pictures that I provided to them showing what *“early onset”* cracking looks like.

But I digress—back to the proposed House Bill.

I have the following questions for you and the Committee:

1. At what point in the permitting & construction process is this information required? Is this intended to be for future construction, or does the Committee think this can be done retroactively for past construction?
2. Does the Committee recognize the fact that there is a substantial proportion of the affected owners who have no idea who constructed the foundation for their home or building?
3. What if the entity who constructed the foundation was the owner him(her)self?
4. Does the Committee recognize the fact that this information is not currently required on any Building Permit application?
5. Does the Committee understand that concrete suppliers do not place concrete, they only supply it?
6. What is the underlying purpose of this documentation?

From my perspective as a structural engineer, the only plausible benefit that I see resulting from this hearing is that the Committee may be able to compile a partial list of the foundation contractors whose product was less than perfect. From that list, you MAY be able to find a common thread pointing towards the concrete suppliers - IF these contractors have viable records.

Other than the above, I am not convinced of how this bill and hearing will serve to help the affected parties resolve the serious financial impact that a proper remedy will cost.

Should the real intent be to provide for better records in the future, then I would suggest that you consider the following.

As someone who has been involved in concrete construction for well over 40 years, this issue is very important to me.

Please understand that I have no objection to requiring certain pertinent information being permanently recorded in the towns' records. From where I sit, I view the building's foundation as THE most important part of a structure. You only get one shot to get it right as it's not easily reconstructed at some future point in time. Walls above grade can be modified. New window or door openings are usually not that complicated to add. Finishes can easily be modified. But foundations are a whole other matter when it comes to modifying, repairing or replacing. From a forensic perspective (for foundations), I think that the following information should be permanently recorded:

1. Concrete supplier and foundation contractor.
2. Batch tickets (NOT delivery tickets) for each foundation element (footing, walls & slabs).
3. Sign-off record for any modification of the concrete once it arrives on site (added water, admixtures, who authorized it and why).
4. Dates of placement for each foundation element.
5. Date that the floor framing connected to the concrete foundation was completed.
6. Date of backfilling against the foundation.

For many cracked or bowing foundations, these tidbits of information tell a very good story about how things came to be.

I also feel that foundation contractors should be licensed and certified. As it stands now, anyone can obtain a set of forms, dump some "mud" in them, let it harden, remove the forms, and walk away with a few \$\$ in their pocket. Did they accomplish that in accordance with industry recommendations? Perhaps some did, and perhaps some did not. No one really knows.

Of course, I would expect that the homebuilders associations will scream very loudly if regulations move in this direction.

The real extent of this problems is still being evaluated. I suspect it is much more widespread than anyone truly realizes. I am aware of many building owners who have invested substantial monies in repair or remediation attempts. Some were legitimate repairs involving partial or full foundation replacement. Others were simply cosmetic treatments that hide the problem for a few years until the continuing degradation “breaks through” the superficial treatment.

What is needed here is some means to make building owners whole. While ‘caveat emptor’ may apply to the selection of a foundation contractor and his/her choice of material suppliers, this problem goes beyond that. Many building owners, particularly home owners, have a significant investment in the affected structure. Many view that investment as a future resource for retirement. The loss of that investment because of a phenomena that was little understood in the beginning is more of a natural disaster than it is a case of ‘caveat emptor’.

The bottom line—for those affected, this is an unmitigated disaster. I’m not sure how much I have said will help, but I hope that it does help the Committee and the Legislature to develop the wisdom to provide for a fair resolution.

Best regards,



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