

# Crumbling Foundations

Working Towards a Solution



## Why Does It Happen?

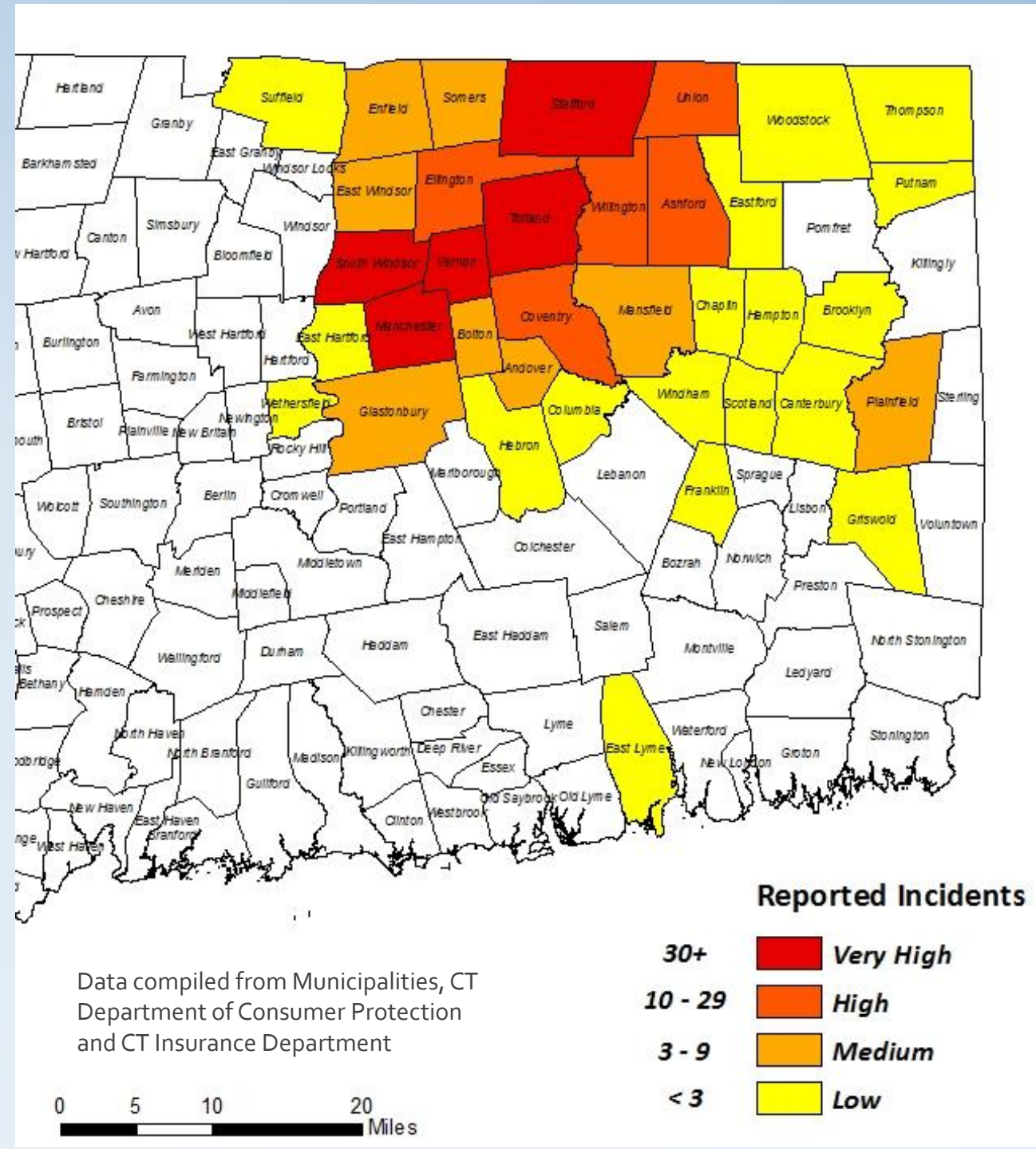
- Presence of pyrrhotite in the concrete combined with moisture and oxygen.
- Critical element is moisture and the interaction of pyrrhotite with moisture and oxygen.
- Homes with small amounts of pyrrhotite can still experience crumbling foundations\*
- Even with the presence of pyrrhotite, if there is no exposure to moisture and oxygen, the home will not experience crumbling foundations.

\*Information from Trois-Rivières, Quebec: Inspector for pyrrhotite issues



## Who Is Affected?

- 37 Towns have reported at least one case. Concentration is in municipalities within driving distance of the quarry
- Residential homes and condominium units. Commercial building could be affected but there have been no reports to date.
- Walls are where this is often first noticed, but this can affect slabs and footings
- What is not known is the total number of cases.



# What Does It Cost to Test and Remediate?

- \$3,000 - \$5,000 to test to confirm the presence of pyrrhotite
- \$100,000 - \$200,000 or more per home for remediation (the price is dependent on the size of the home). Ancillary costs, including landscaping, “accessories” increases the cost.

# What are the long term implications?

- Reduction in municipal tax will impact mill rates
- Depressed real estate market in Connecticut's northeast will affect much of the state
- Long-term economic impacts through a ripple affect from those who are currently affected or will be affected, including businesses and commercial buildings.

## Trois-Rivières, Quebec, Canada (pop. 126,000)

- Similar problem with crumbling foundations as a result of pyrrhotite.
- Estimates of total impacted houses: 1800 confirmed houses. Higher estimates are up to 4000
- State created fund (with a recent infusion of federal funding) to help homeowners.
- No aid to commercial building owners
- Lost \$13 Million in tax revenue through revaluations of the 1800 homes (\$190 Million in tax revenue in 2016). Revaluations have ranged but a reduction of 40% total value has been the average

# Trois-Rivières, Quebec Available Aid for Homeowners

- Insurance Program called “Homeowners’ Guarantee”
  - Construction Guarantee Insurance
  - Private insurance purchased by homeowner on new construction that guaranteed certain aspects of the construction, including the foundation
  - There is no known equivalent in Connecticut
  - Homes remediated: 621
- Pyrrhotite Program
  - Local Program
  - Received State Funding (\$30MM) and recently, Federal Funding (\$30MM)
  - Number of homes remediated: 445, with additional federal funding, expect to help an addition 440 homes

## Trois-Rivières, Quebec Local Program

- Developed in conjunction with the Quebec Housing Corporation (equivalent to the state's housing authority)
- Pays 75% of remediation costs up to \$75,000
- Building must have damage OR have 0.3% or more pyrrhotite as measured by volume
- Must supply two estimates from qualified contractors
- Must be pre-approved through the process before receiving any funding and before beginning work
- Residential foundation or basement rehabilitation only
- No assistance for purchases after June 22, 2011



## What is the potential impact for Connecticut?

- 439 homes have reported to DCP to date. If data from towns, department of insurance and DCP is aggregated, total known homes to date is over 592.
- 592 homes = minimum of \$59 million in damage
- True estimates of actual impact is unknown. 20 of the initially identified towns had approximately 19,000 homes built in that time period.

# CRCOG Ad-Hoc Working Group on Crumbling Foundations

- Formed by CRCOG to address the issue
- Comprised primarily of municipal officials (First Selectman, Mayors and Town Managers)
- State Representatives and Federal Delegation have been present in meetings

# Working Group Recommendations and Objectives

- Recommendations on applying HSB 5180 for towns
- Recommended Guidelines for towns in implementing fee waivers
- Creating a qualified vendor list for testing, structural engineering and remediation services
- Developing templates for funding distribution
- Working with multiple state agencies to develop additional avenues of support for homeowners

# House Bill 5180 –An Act Concerning Crumbling Foundations

- Requires the name of the individual or entity who installed the concrete be provided to the building official for new construction (residential or commercial)
- Allows for reassessment of residential buildings (90 days after receipt of report or following assessment year, whichever is earlier) upon receipt of a licenses engineer report.
- Reassessment is good for five years, but homeowner must notify of replacement or repair within 30 days.



# House Bill 5180 –An Act Concerning Crumbling Foundations - Continued

- Requires a report from DCP by January 1, 2017
- Any documentation obtained by executive branch is confidential for seven years

# Reassessment Recommended Guidelines Background

- Not enough home sales with this problem documented to establish market data
- Developed in conjunction with multiple assessors in affected towns as well as state building official, and municipal building officials
- There was not a 100% consensus on the guidelines, however, majority of the assessors agreed with the framework

# Re-Assessment Guidelines

- Five Progressive levels (vetted with State Building Official)
- Some towns have the tax assessor and building official go together to verify the problem and assess the damage in addition to the engineering report.
- Reassessment discount is recommended off of the building value (A minority of assessors feel that the devaluation value could be applied as a percentage off an estimate cost to cure (or about \$800 per linear foot), but the majority prefers the building value as that is more defensible and is a standardized measure, not subject to numerous variations)

## Re-assessment Guidelines Continued

- Level A (documented to be "defective" - no sign of problems), 20% (requires a petrographic analysis to establish that the problem actually exists)
- Level B (minor degradation- no repair required), 60%
- Level C (minor to moderate degradation- repair suggested/recommended), 75%
- Level D (moderate to severe degradation- significant repairs required), 90%
- Level E (severe degradation- imminent threat of failure), 100%



## Potential Impact –Willington Example

- 30% of Willington's taxable property was built in the affected time period (approximately 625 homes).
- The percentage of those homes that are actually affected or could be affected is unknown, but the impact to Willington's town budget and taxable property could be significant.

## Wilmington Example Continued

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7
	7/16-6/17	7/17-6/18	7/18-6/19	7/19-6/20	7/20-6/21	7/21-6/22	7/22-6/23
Number of homes added to re-assessment	4	8	25	109	31	16	16
Total # of homes on re-assessment	4	12	37	146	178	193	209
Tax revenue reduction each year	\$12,000	\$36,000	\$111,000	\$439,125	\$532,875	\$579,750	\$626,625
% of Property Tax	0.10%	0.29%	0.91%	3.59%	4.35%	4.74%	5.12%
	ACTUAL	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE

\*Model does not include additions, stand-alone garages or other structures.

Note: 209 homes is 1/3 of the potentially affected homes. Wilmington estimates that up to 50% of the 625 could be affected.

# Other Recommendations from the Working Committee

- Building fee waiver guidelines
- Recommended framework for funding.
  - Homeowner template has been approved by the committee to begin working with legislative delegation.
  - Committee is also developing a framework(s) for planned unit developments and condominiums
- Checklist for towns

# Proposal for Individual Municipal Loan Program

- Towns may require referendum or town meeting
- Issues of whether municipal bonds can be used for private interest (may require state law change and some municipalities will require charter revisions)
- Costly implementation of multiple loan programs across multiple towns
- Loan collateral issues
- Higher impact towns have staggering estimates Coventry estimates \$100 million to repair homes estimated to be damaged (assuming 30% of homes built in the time period). Willington estimates \$42 million.



# Conclusion

- Critical issue for the region
- Wide ranging impacts with multiple stakeholders

<http://crcog.org/crumbling-foundations/>

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