



CLCLT Water Intrusion Workshop

March 28, 2020

Agenda Overview



- Water intrusion overview
- The facts about water and houses
- Different types of water intrusion
- Roof (from above) water intrusion
- Walls/windows (from the side) water intrusion
- Basement (from side/below) water intrusion
- Lessons learned – other advice?
- Questions and next steps

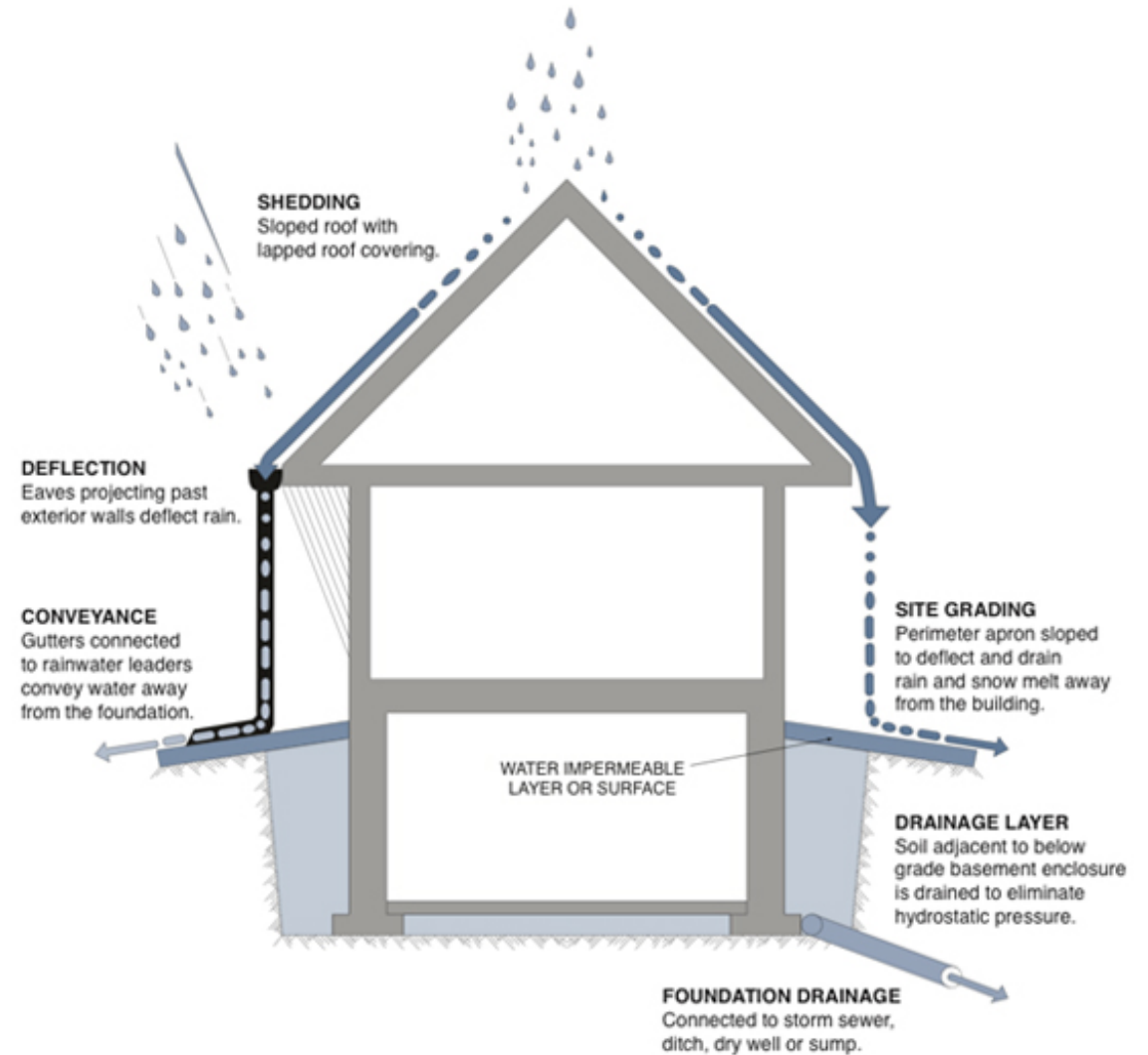
Water Intrusion Overview



- In 2019 CLCLT received dozens of calls. No calls in 2020 thus far.
- Water intrusion issues and fixes can be tricky to solve
- Water intrusion fixes can be costly...and potentially not fix issue
- One potential fix may cause a water intrusion issue elsewhere
- Just like eliminating an allergic food from a diet, there are cost-effective ways to isolate water intrusion causes
- Solutions may require cooperation with neighbors

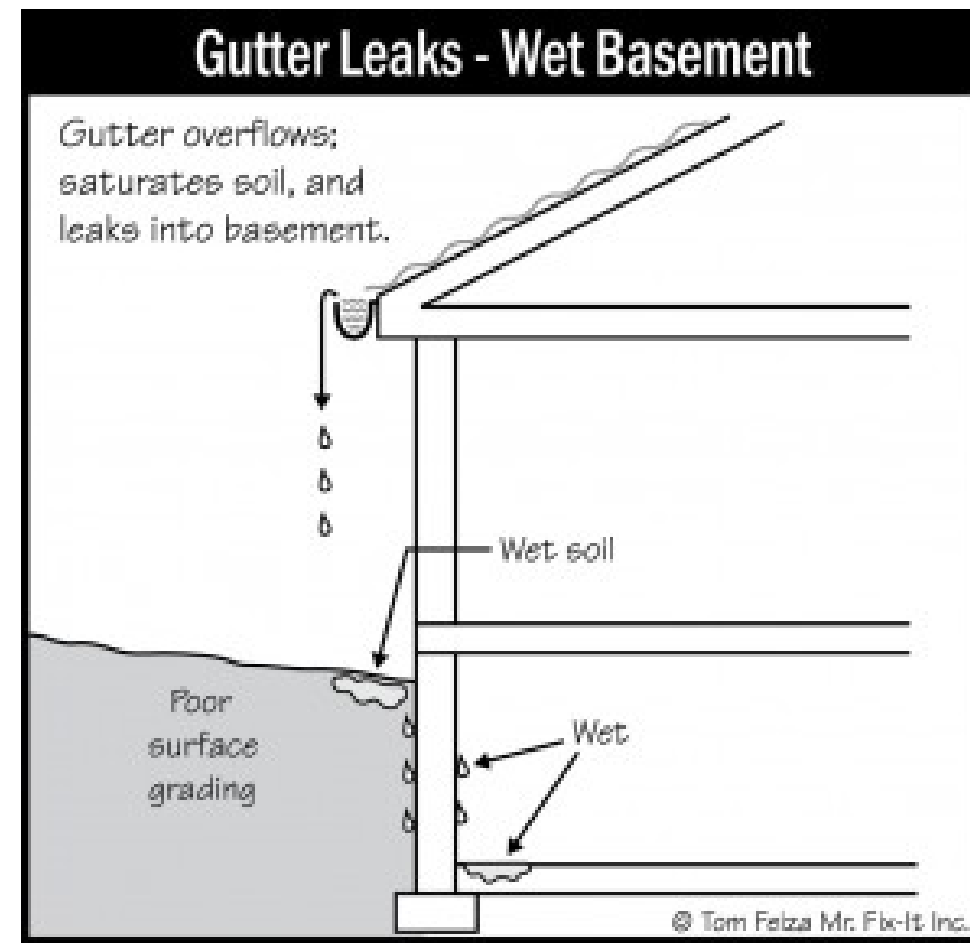
The Power of Water

- Think like a raindrop...mostly
- Wind + rain push physics
- Water pressure is a powerful force
- It will find the path of least resistance
- Fixes involve creating paths of lesser resistance



Vulnerability of Houses to Water

- Multiple levels where water can enter a home
- Each level or housing component will require a different response
- Gravity, slope, and natural environment/landscape will all play a role



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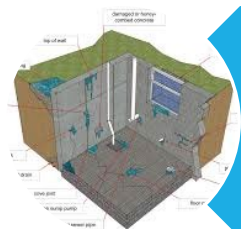
Different types of water Intrusion



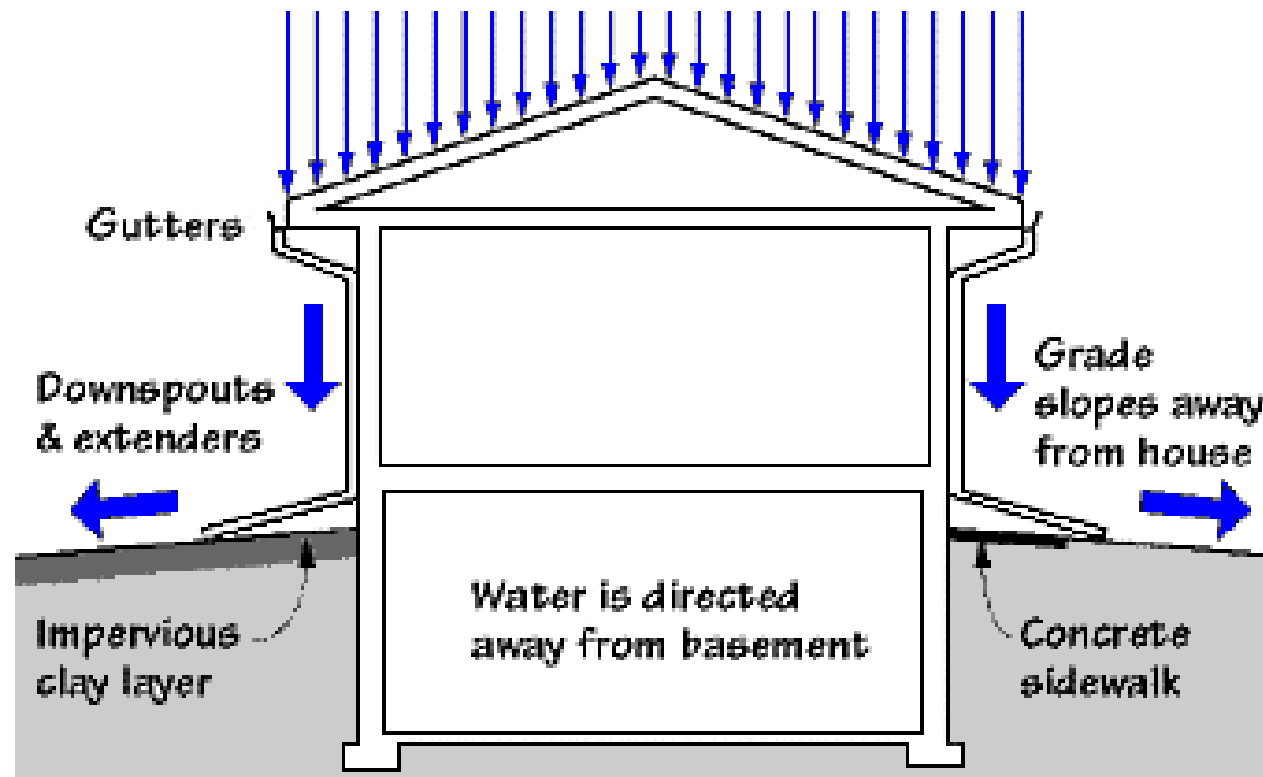
From Above (roof)



From the Side
(walls/windows)

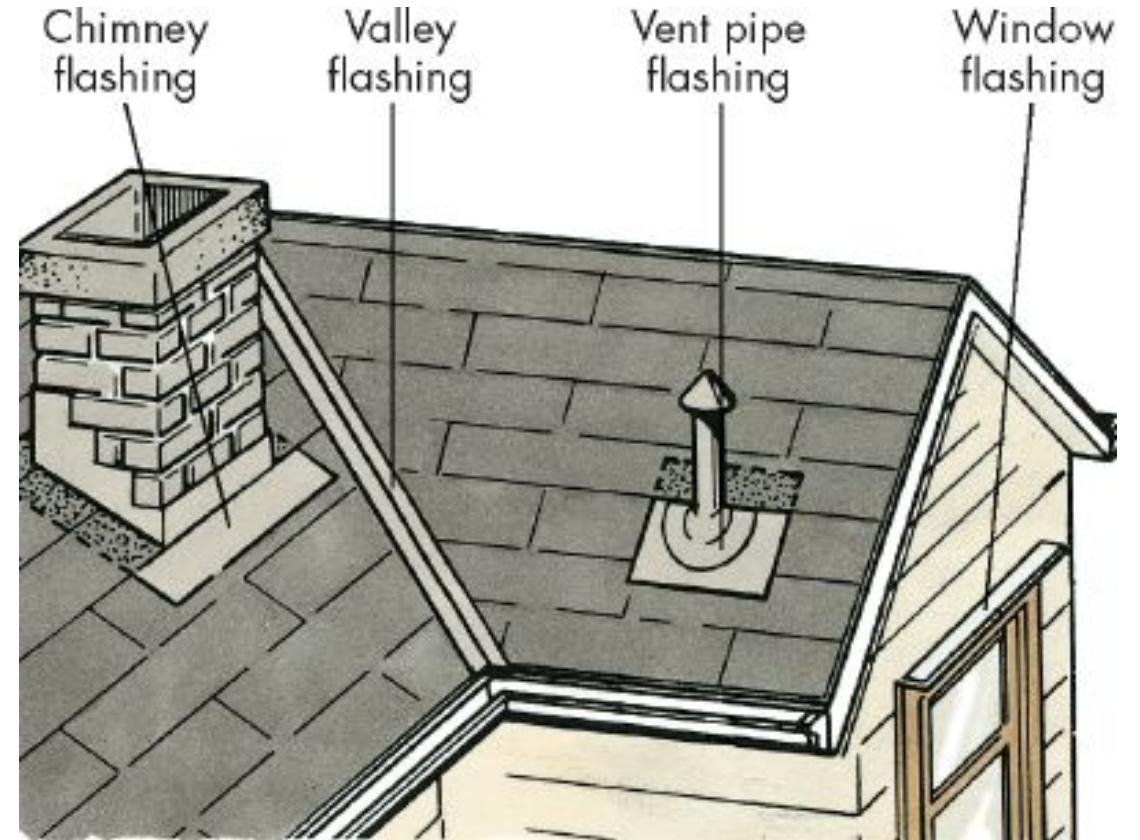
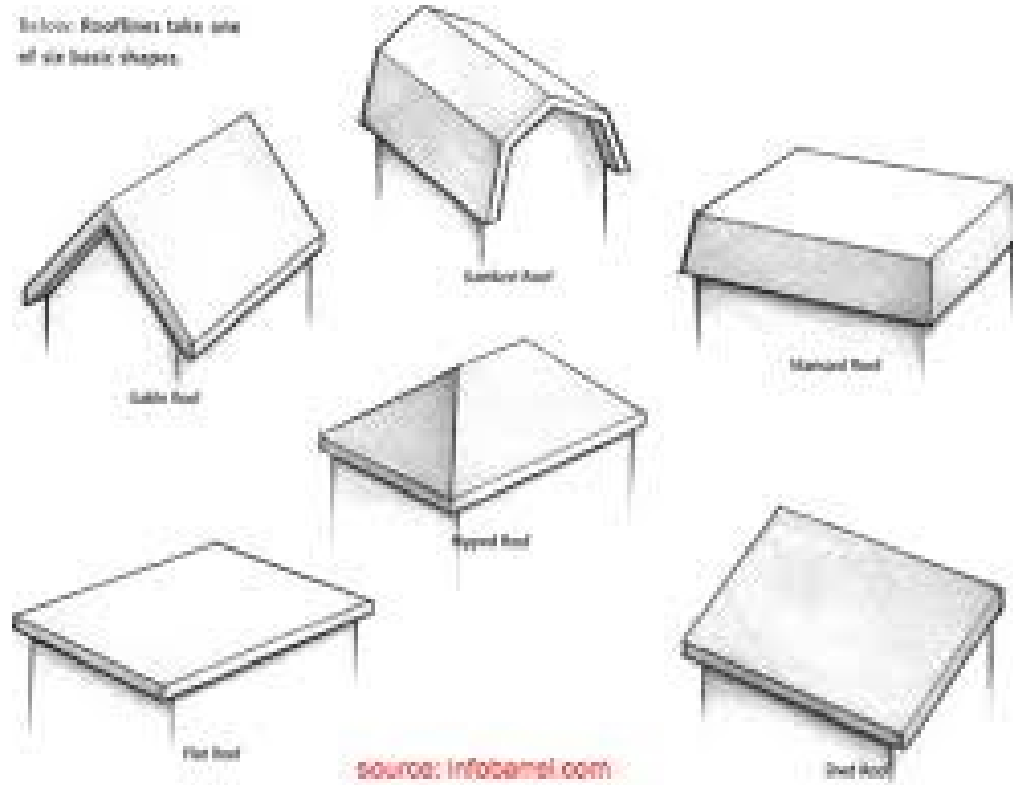


From Below
(basement
floor/walls)



Roof (from above) water intrusion

Below: Rooflines take one of six basic shapes.



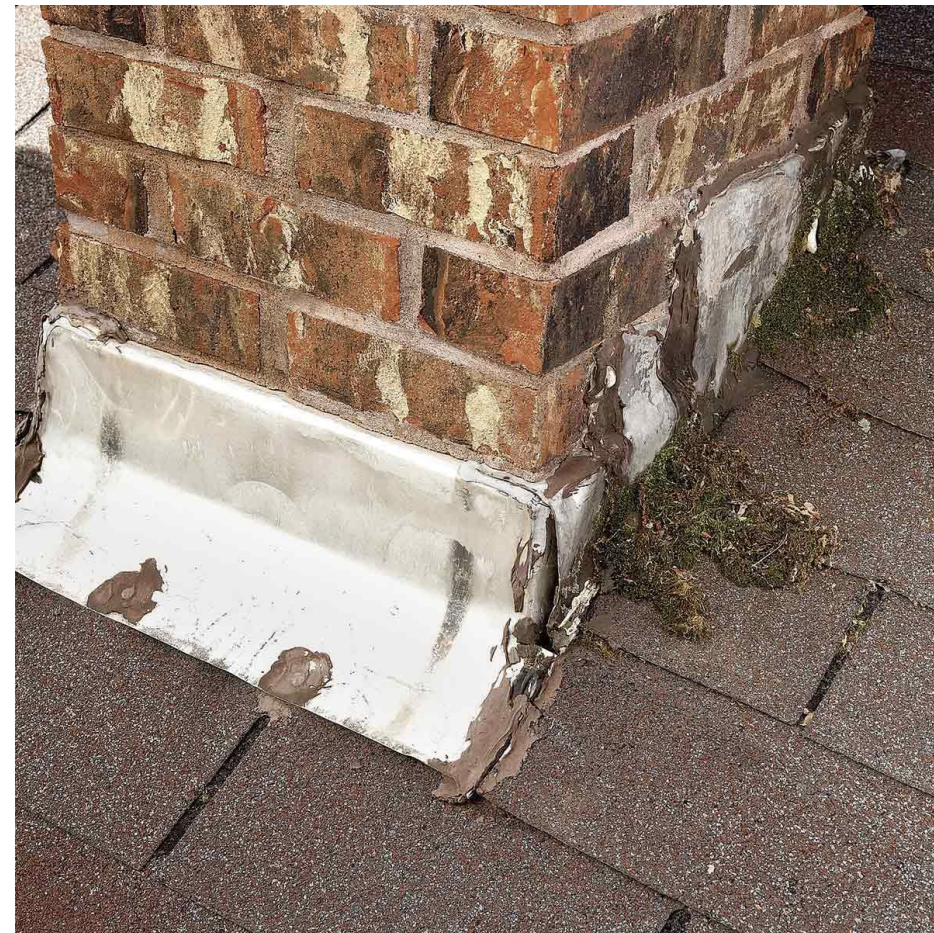
Roof (from above) water intrusion



Any potential water intrusion risks in this image? Rain? Snow? Ice?

Roof (from above) water intrusion

Areas on roofs that require flashing are the usual culprits for water intrusion.



Roof (from above) water intrusion



Ensuring roofing components are installed correctly and maintained over time is also critical.

Walls/windows (from the side) water intrusion

Example of good
roof overhangs
on a home



Walls/windows (from the side) water intrusion



Examples of some not-so-good roof overhangs on homes

Walls/windows (from the side) water intrusion



Lack of flashing can easily cause wall rotting and molding in walls

Walls/windows (from the side) water intrusion

Have you ever seen this in a home? Typically caused by improper flashing around windows or holes in exterior membrane.



Walls/windows (from the side) water intrusion



More than likely some roof valley damage that has run down the inside of the wall.

Basement (from side/below) water intrusion



Think of a home (with a basement) as a boat. A boat with the slightest hole in it's hull will take on water.

Basement (from side/below) water intrusion

While there might not be much surface water showing – depending on the make up of soil – there could be much higher concentrations of water at lower levels near the house foundation.



Basement (from side/below) water intrusion



Standing water near the foundation is never a good sign and is an indication of a negative slope toward a home.

Basement (from side/below) water intrusion



Unfortunately, a pretty common image in Minneapolis homes. It's pretty bad...

Basement (from side/below) water intrusion



.....but not as bad as these situations.

Triage + Fixes.

Step 1: The Clues

Exterior Clues

- Rotting wood
- Flaking paint
- Stain marks
- Pooling water

Interior Clues

- Stained ceilings/walls
- Staining on roof rafters
- Efflorescence on basement walls/floors
- Wet spots/staining on basement walls/floors
- Mold (anywhere)

Triage + Fixes.

Step 2: Triage and/or isolate reason

Ceiling/Wall Stains

- Is the stain growing over time? If not, was there a unique one-time storm?
- If staining on ceiling/walls, more than likely the source is nearby...or at least further up from the staining.
- Begin there.
- Go into attic to try to isolate where there is a leak.
- More often than not it's from flashing or caulking failure.

Triage + Fixes.

Step 2: Triage and/or isolate reason

Basement Walls/Floors

- When is it happening? Seasonal, weather-related, all the time?
- Through the walls or through the floor?
- Are there any fixes (next slide) already in place?
- Is there ever pooling of water outside the house?
- Is the pooling only on place...or all over?
- If one place, what are the physical characteristics on the exterior of the home at that location (rooflines, gutters, downspouts, grading, landscaping?)

Triage + Fixes.

Step 3: Fixes

- Dehumidifier
- Gutters (install, clean?)
- Downspouts (not just yours, but also your neighbors!)
- Landscaping/grading
- Exterior French Drains (poss. rain garden)?
- Interior foundation drain tile
- Sump pump

Lessons learned – other advice?



Questions/comments

