

COVER SHEET

FLESHMAN CONSTRUCTION INSPECTORS

DREW FLESHMAN

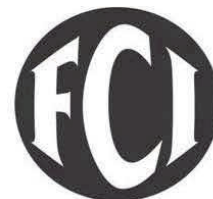
P.O. BOX 1333 MOUNT VERNON, WA 98273

PHONE- 360.708.4000

FAX: 360.707.5910

www.fleshmaninspections.com

Washington State Licensed Home Inspector Lic # 331



TO: Christie Schoebel

FROM: Drew Fleshman

DATE: Oct 22, 2024

TOTAL PAGES: 7

MESSAGE: A single item inspection was performed at 1226 Northwind Cir Bellingham, WA per request of the occupants that have been concerned with water intrusion to the underfloor areas and possible connections to indoor air quality inside the home. The inspection was performed following a rain event. The adjacent grounds surrounding the home were found to be heavily saturated including the water meter and irrigation junction boxes, the storm drain at the road did not appear overwhelmed. Significant amount of standing water observed at the under floor areas, more than what is considered to be a typical amount even after a period of heavy rainfall. This could be a high water table, spring or other condition that may not be feasible to correct. Strongly recommend further evaluation by a drainage professional and an indoor air quality professional.

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INSPECTION SERVICES INVOICE



TO: Christie Schoebel / ksandcs@msn.com

IN ACCOUNT WITH: Fleshman Construction Inspectors

INSPECTION SITE: 1226 Northwind Cir
Bellingham, WA

AMOUNT DUE: \$150 single item inspection consultation / paid in full



1226 Northwind Cir Bellingham, WA

Saturation evident at north side of yard notably at the adjacent home walkway where standing water was visible



Saturation evident at the grassy area at the corner of the back patio deck, walking in this area produced indents in the ground that filled with water



Negative slope observed in some areas around the building. There should be adequate slopes of the land and ground around a property. The slopes of the ground should be directed toward appropriate and approved drainage devices that are capable of carrying concentrated runoff. Current industry standards



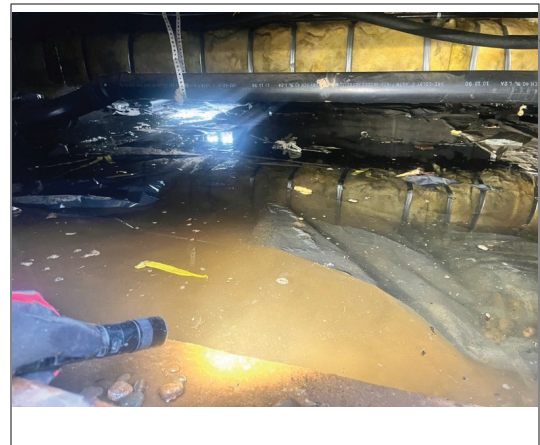
The irrigation junction box at the back yard was filled with ground water at the time of inspection



The water meter junction box was approximately 1/2 filled at the time of inspection



An excessive amount of standing water observed in the crawl space, as much as 15" deep near the access opening and covering all of the under floor areas from foundation to foundation. Means for removal of the water is needed. Consult a qualified Drainage Contractor and an Indoor Air Quality professional for further evaluation along with any all corrections as deemed necessary in a professional manner. Excessive Moisture: Any condition with the potential to enhance the moisture content of the wood, such as: obvious plumbing or roof leaks; bare moist soil; or standing and/or seasonal standing water in the crawl space.





SUMMARY PAGE

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Water Intrusion in Crawl Spaces

Water intrusion under homes is an issue that is somewhat common in the Pacific Northwest, but very important to repair. Water intrusion and standing water conditions in crawl spaces are most often the result of (1) water intrusion from the exterior (e.g., failed/insufficient perimeter footing drains, gutter downspouts discharging directly adjacent the home, lack of gutters at eaves, improper grading not sloped away from the home, water intrusion directly through the foundation wall itself) or (2) a plumbing leak in the crawl space. Less likely- and quite rare- is a local spring underneath the home itself which, if you have one, it just needs to be directed out of the crawl space through ditching, drain rock and perforated piping.

All water intrusion issues are fixable and should be repaired as soon as practical. Water intrusion into the crawl space puts the building at risk of water-related and insect damage. Every effort should be made to direct storm water away from the home (e.g., slope surrounding grade away from the home, install gutters at all eaves and splash blocks/downspout extensions at gutter downspouts.. I like to say at inspections that “water is the enemy.” In fact, the great majority of significant issues discovered during home inspections concern water-related damage in one form or another.

Water intrusion into the crawl space is a necessary repair because it can lead to (a) structural foundation settling due to saturated/compromised underlying soils, (b) wood destroying organism and insect activity/damage (e.g., carpenter ants, termites, beetles, rot fungus, etc.) and (c) moisture-related issues in the crawl space (e.g., condensation, fungal growth, mold, etc., although these are actually quite rare in my experience). I am never dismissive of water intrusion or standing water issues within a crawl space- even if it’s “only seasonal”- and report it every time it’s noted (whether present or historic). Historic standing water in crawl spaces presents as sediment deposits on top of the plastic vapor barrier and suggests the possibility of seasonal water intrusion that should be monitored for recurrence and repaired if noted. Just because we live in the Pacific Northwest- or because there have been heavy rains of late- there’s really no good excuse to have water under your home and it needs to be repaired, period.

Typical Best-Practice Repairs for Water Intrusion in Crawl Spaces

The best repair in my opinion- if practical, but usually the most expensive- is to conduct exterior lot drainage improvements, also known as a curtain drain. Typically, a curtain drain is installed at the exterior of the home to catch water before it gets to the home and route it away from the building exterior. Here’s a typical diagram of a curtain drain.

If a curtain drain isn’t possible, a contractor is usually successful in digging ditch(es) within the crawl space- filled to the top with drain rock and 4-inch perforated pipe- that are gravity sloped out of the crawl space, under the foundation footing, and discharging at least twenty (20) feet away from the home’s exterior. While it is always best to capture water before it gets to the home (e.g., with a curtain drain described previously), this interior ditching method is a good backup if an exterior perimeter curtain drain isn’t practical. Both methods are superior to a sump pump in my opinion because (a) gravity never fails and (b) you’re not reliant upon a sump pump and electricity to maintain and protect your crawl space (described immediately below).



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Another common method for dealing with water intrusion into a crawl space is to install a sump pump system (see simplified diagram below); these are very common in the Pacific Northwest, both in basements and crawl spaces. In this case, a sump pit is dug- typically 24 inches deep and 18 inches wide- and a crock with pump and float are installed within. If, after installing the sump pump system, standing water persists in other areas of the crawl space, trenches in the crawl space are typically dug, filled to the top with drain rock and 4-inch perforated pipe (gravity sloped to the sump pump crock). These ditches with drain rock and perforated pipe help ensure that all water intrusion throughout the crawl space is successfully routed to the functioning sump pump system. I also recommend installing a water alarm in the crawl space which signals remotely when the sump pump isn't working; after all, do you really want to crawl under the home to check the sump pump?

Once repairs have been conducted, I recommend installing a new vapor barrier covering all exposed ground in the crawl space area. The old vapor barrier likely shows evidence of historic water intrusion (sediment deposits) which can make it difficult to monitor for seasonal water intrusion. If your new, clean vapor barrier shows sediment deposits when you check it in the dry summer months, you'll know there's still a seasonal water intrusion issue that needs to be further addressed (and you can see exactly where it was presenting!). Do NOT install two (2) vapor barriers or a new vapor barrier over the old vapor barrier! Why? Because if water gets into the crawl space, it will become trapped between the two (2) vapor barriers, significantly prolonging evaporation time and creating elevated moisture conditions that can lead to a host of issues. You only need one (1) vapor barrier.

This blog article describes typical best practices for dealing with water intrusion in crawl spaces. Ultimately, your home is unique and further evaluation by a qualified contractor is advised to optimally assess and make recommended repairs. This article is intended to give general guidance and information. Thanks for reading and I hope you found this helpful and informative!

This entry was posted in Industry News and tagged crawl space, water damage, water intrusion on October 14, 2020 by Tim Hance