

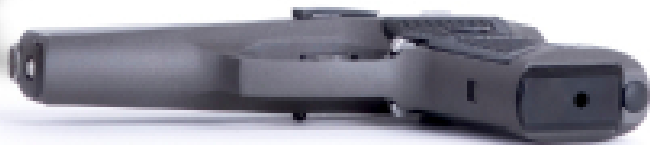
Groundwater Home Inspections:

15 smoking guns

by

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Whether you are buying or selling, here are the top 15 drainage problems the home inspector will be looking for...

When a pest dry rot and structural home inspector conducts his inspection, he is likely to cover the waterfront, as they say. This guy is trained to see a bear behind every tree. Few stones are left unturned for this fellow, and you can be sure this guy won't be fooled often. After all, if the home inspector is making a living crawling about crawlspaces and basements, he likely is passionate about his work, and is state licensed and knows what he is doing.

Whether you are the seller or the buyer of a home, you should know about the most common signs of groundwater problems. By recognizing these signs, from the perspective of your home inspector, buyers can save a lot of cash by not writing earnest money agreements to purchase homes that have obvious home problems that the sellers will not acknowledge or fix. Sellers can fix problems that would have otherwise come up at the last moment putting their real estate transaction in jeopardy. Both sellers and buyers can save much time and a few gray hairs as well by understanding what home inspectors look for during their home inspection.

The following 15 items are always inspection points that are on the inspectors mind.

*If the problem exists,
the home inspector is
trained to spot it*

*Buying or selling, it's
to your advantage to be
informed*

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1. The physical presence of water drops or moisture on the crawlspace or basement walls.

These are automatic red flags. A pest dry rot and structural home inspector will pick these signs up and determine that periodically the home has a groundwater problem. Usually during hard sustained rains.

If you are a buyer, look for this one yourself when inspecting the crawlspace prior to writing the earnest money agreement. By rushing into the purchase of a home prior to your own discovery and due diligence period, you are at the very least gambling your home inspection money on the fact that any repairs or conditions that do come up during the home inspection will be within the repairs amount cap specified in the earnest money agreement between yourself and the sellers.

Let's hope you can negotiate the repairs needed after ordering the appraisal from the bank, or you will be adding this amount to the total loss as well, if you are forced to walk away from the transaction due to repairs that cannot be done prior to closing, or that the seller just will not acknowledge. If you do not have a budget to do the work, you may lose money and still have to find another home and start the process and fees all over again.

*Inspect the crawlspace
prior to writing the
earnest money
agreement*

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Ask the sellers about the home drainage groundwater problems you suspect may exist prior to diving into the transaction and spending money. You will get a better feeling for the sellers' honesty and your ability to deal with them and any repairs not covered in the original agreement. Read additional articles on <http://www.aaahomedrainage.com/> about setting home repair clause amounts in earnest money agreements to protect yourself.

The home inspection report always comes out just before closing, which will trap you into the transaction due to the amount of money already invested. Read additional articles on this website on the pest dry rot and structural home inspection trap for more detailed information on how to proceed with an earnest money agreement that protects your cash.

2. Look for stains or efflorescence on the exterior foundation walls and inside basements and crawlspaces where evidence of groundwater is apparent.

Efflorescence is the white chalk lime deposit from the concrete mix that is leached away from the concrete by groundwater and deposited on the concrete foundation or interior basement walls. These are top items of concern that the home inspector is always looking for. There is not much you can do to hide this condition. The evidence of this lime deposit always

These are key items of concern to the home inspector

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triggers the home inspector to ask the buyer for a professional home drainage assessment.

Most often your professional home drainage contractor will not default to the sump pump and crawlspace french drain system just because it is cheaper in most cases, but will recommend exterior foundation hand excavated french drains to remove groundwater that causes the problem. Homeowners want the buyer to accept the quick, cheap fix by getting a proposal for a sump pump installation to pump out groundwater that runs below grade. This does not address the condition and is not a method to prevent the groundwater entry into the crawlspace or basement.

3. Rusty metal in the basement, like the bottoms of water heaters or re-bar sticking out of the wall is a smoking gun for moisture problems in the eyes of your home inspector.

This condition is most often solved by hand excavating french drains around the exterior foundation walls to prevent the saturation of groundwater that causes the moisture within the crawlspace or basement.

4. Stained or rotted carpet on finished basement floors, and the smells that come with wet carpet and carpet pads.

You know, that mildew nasty odor that says wet basement. Look for these signs and beware.

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This condition usually just beats everyone on the head. It is almost impossible to miss, and only homeowners with a serious financial or denial problem will let something like this go all the way down the line to the home sale process. Pull all the carpet and pads. Install hand excavated french drains around the foundation wall if it can be ascertained that the moisture did not come from sweating or leaking plumbing pipes.

5. Dry rot in the window sashes and sills.

This condition is very common in old basements; especially ones with the windows nailed shut which prevents the homeowner from opening them in the summer for additional airflow.

Foundation sill plates that were not pressure treated are more likely to be damaged by moisture in a basement. Sometimes they dry rot even if they were pressure treated. A home repair that includes dry rot damage could be expensive, but the overall subject to be addressed is how the moisture that caused the dry rot got into the crawlspace or basement in the first

*This condition is very
common in old
basements*

place. You guessed it, hand excavated french drains around the exterior of the foundation will prevent this from happening again and should be included in any repair addendum.

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6. Damaged, improperly installed rain drain discharges and downspouts are very common aspects of home drainage that impact the home by putting groundwater in the crawlspace or basement.

Washed out dirt areas around the exterior of the foundation where the rain drain discharge goes into the soil are smoking guns that indicated there are plugged pipes in the rain drain discharge. It may be plugged near the home or many feet away from the home. The drywell itself may be silted in due to bad engineering and materials used.

Rain drain discharges are plumbed in solid abs pipe and can also contain solid ads flexible pipe for areas that require lots of twists and turns. Abs pipe should be used on all above grade installations. Many times the ads flexible pipe below grade is commonly used to offer the homeowner a more cost effective solution to the failed rain drain system replacement.

When a rain drain system is plugged, it is likely that a new rain drain discharge system will be installed, as the effort and work, other than

The drywell itself may be silted in due to bad engineering and materials used

flushing the clean out, is not worth the money spent when looking for a blocked pipe. Besides your lawn may look like craters of the moon before you

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ever find it, only to find out that the same amount of time and money is required to repair the old system, and you could just as well excavated for a new drywell and vent line. You will get more bang for your buck by installing a new drywell and rain drain discharge system.

7. Sinking foundation spot footings in the crawlspace, and wood debris under or over the moisture barrier.

Rotting wood debris left in the crawlspace brings in bugs and critters. This is a red flag for the home inspector and will be written up as debris in the crawlspace.

This can also include insulation that has fallen on the ground in the crawlspace. The entire crawlspace will have to be clear of any debris to pass the re-inspection.

Look for areas within the crawlspace that show hanging insulation pieces that are caused by moisture and groundwater periodically in the crawlspace. This is a tip off for a homebuyer that excessive moisture is present at times in the crawlspace.

The seller may have a handyman enter the crawlspace and replace the moisture barrier if it shows signs of mud from groundwater entry, but the

*Rotting wood left in the
crawlspace is a red
flag*

insulation hanging in clumps below the floor joists is a dead give away for the home inspector

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that indicates a groundwater problem exists. A potential homebuyer with this knowledge can easily discover the same fact before any offer is written on the home.

8. Improperly installed and vented sump pumps are very common details that a home inspector red flags.

Sump pumps may be installed by simply sitting in a hole in the ground. These sump pumps have probably failed and are not functional at all.

A sump pump could be plumbed with PVC pipe instead of black abs 1 1/2" pipe, and this will also be written up as a problem in the home inspectors report. The sump well may consist of a plastic bucket with holes in it. This is very common, and does not pass inspection. The sump pump may vent to the outside of the home where the water spills out next to the foundation and is circulated back into the crawlspace as it saturates, just causing the sump pump to discharge the same groundwater over and over.

The sump pump may be installed to vent into a rain drain discharge that overflows next to the foundation on the outside of the home. This is caused by the backpressure of the sump pump discharging into a plugged or dead headed rain drain discharge pipe.

The sump well may consist of a plastic bucket with holes in it. This is very common, and does not pass inspection

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The installation of sump pumps is not recommended at all prior to the installation of hand excavated french drains, as the installation of hand excavated french drains will nearly always shut those sump pumps off for life. Sump pumps do not prevent groundwater from entering the below grade areas of your crawlspace or basement.

Sump pumps are sometimes plumbed to vent next to the home, just recycling the same water back into the basement. Sump pump installers commonly show ignorance of home drainage in general and I do not recommend dealing with a home drainage contractor who only installs sump pumps.

The correction of any faulty sump pump installation will likely become part of the home inspectors "to do" list. Install hand excavated french drains to prevent the groundwater from entering below grade, thereby invalidating the sump pumps' need.

9. Pumps installed but no hand excavated french drains on the exterior of the home.

This condition shows evidence of why the sump pump is needed, and tells the home inspector that no effort has been made to prevent the groundwater from entering below grade to the crawlspace and/or basement.

*Sump pump installers
commonly show
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drainage in general*

10. Ingress-egress windows without coverings or properly installed low point drains within the window wells cause rainwater to run right down the foundation wall and below grade into the basement.

Moss and efflorescence growing around the exterior foundation, basement wall, and at the base of the ingress-egress windows show evidence of this groundwater entry.

11. Flat or negative soil grade at the exterior foundation wall.

Soil dug up, and gardening near the foundation wall. Trees or other deep rooting plants near or on the foundation wall that can crack the foundation or make pathways where groundwater runs below grade.

*Trees can crack the
foundation*

12. Concrete poured flat or negative sloping to the foundation wall on the exterior of the home.

This allows rainwater to run to the wall and down the wall to the crawlspace or basement. As the concrete shrinks with age, the groundwater from hard rain runs down the crack that is formed at the

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foundation wall made as the concrete cures and shrinks away from the foundation wall. This is a condition that requires the cutting and removal of the concrete in order to install a hand excavated french drain.

13. The low point drain in the crawlspace is plugged or does not exist.

The home inspector finds this often. Many times there is standing groundwater in the crawlspace where the low point drain exists but is not functional due to the common error in construction where the contractor pours the 4" abs low point drain with a backflow flapper into the foundation wall but does not vent it to anything on the outside of the foundation, or pours it too high in the foundation wall so it does not function. Many times the low point drain was poured at the grade soil level and was made to work, but during the construction of the floor joists and other foundation work, the soil gets compacted down so it is a few inches lower than the existing low point drain, which cannot be adjusted as it is already poured into the concrete foundation stem wall.

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14. Dry rot in the spot footing posts, floor joists and groundwater stains on the spot footings are all evidence of groundwater problems, and your home inspector will most certainly write them up.

These conditions will have to be repaired prior to closing of escrow, as well as many of the items already listed above.

15. Exterior sump wells installed next to the foundation wall on the outside of the home are a real problem that home inspectors look for during their evaluation of the home.

The sump pumps never pump out all the water, and as a result groundwater soaks down the foundation wall just like a drywell that is placed too close to the foundation would perk groundwater back into the crawlspace or basement.

Code wants at least 10 feet from the foundation area for the placement of a drywell, and any sump well located along the outside wall of the home likely has a crude ditch, which the installer probably called a french drain, that attaches to the sump well. The entire system leaches groundwater along the foundation and does much more damage than if it were not there

Code wants at least 10 feet from the foundation area for the placement of a drywell

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at all. Inspectors do not like these systems, as they indicate that a groundwater problem exists and that a poor attempt to deal with it is the only thing present. Hand excavated french drains are the only way to solve groundwater collection problems.

Prevent the groundwater from entering below grade. Most likely a buyer will want to make hand excavated french drains a condition of approval for buying any home with this groundwater-evidenced condition.

Pay attention to these home inspection items if you can, and you will save yourself the element of surprise and a great deal of money and denial, if you are the homeowner, when the home inspection report comes in.

If you are the buyer, you will want to discuss these problems prior to writing the earnest money agreement and paying any fees. **If at all possible, solve these groundwater contribution problems before they turn into full-scale capital outlays prior to the marketing of your home if you are the homeowner/seller.** Inspect crawlspaces and basements often to look for these common signs of home drainage problems and save yourself lots of cash and unexpected grief in the process.

*Prevent the
groundwater from
entering below grade*

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AAA Home Drainage offers onsite worldwide consultation services available to homeowners with home drainage problems.

Design, engineering, and installation of hand excavated french drain groundwater removal systems. Bonded, licensed, and fully insured for your peace of mind.

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Mr. Lundeen concluded his career as a commercial-investment and residential real estate broker over a 25-year period while marketing and developing commercial-investment land and structures, residential land and homes, subdivisions and multi-family properties, as well as a golf course. Mr. Lundeen has been a member of the National Association of Realtors, The Oregon Association of Realtors, a CCIM commercial real estate appraisal candidate, and an active member of the Oregon real estate community structuring IRC 1031 Tax Deferred Exchanges for Oregon clients.

His specialty was selling land to developers in the Portland metro area, which he concluded in the late 1990's, because of a desire to serve the home drainage needs of many customers requesting referrals to competent parties. Mr. Lundeen has a foundation for his expertise in the drainage field of over 35 years involved with various aspects of real estate, both commercial and residential, water mitigation for residential and commercial development, and home drainage techniques specific to the use of hand excavated french drain groundwater removal systems.

He served the U.S. Air Force during 1967-1971 in the capacity of munitions supervisor, handling and loading explosives for inspection, storage, disposition, and repair; while holding a secret clearance, stationed various places around the United States and southeast Asia.

Mr. Lundeen has represented a wide range of apartment and condominium associations, businesses, residential and commercial developers, governmental agencies, an Oregon governor, as well as homeowners with

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groundwater removal construction projects, specializing in the installation of hand excavated french drains. Mr. Lundeen continues to be a consulted and respected expert witness by the legal community in Oregon pertaining to home drainage issues.

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