



Central TN Inter-NACHI Chapter

March 2010

Message from the Chapter President:

Dear Folks,

In the April meeting I shared with those present how a very tight crawl space had a unique surprise for me.

It was an older home built in the 1930's in Nashville's Sullivan Park area. The excess of gas piping positioned 1/2 way between the ground & the flooring above made moving from area to area most difficult for my portly frame. I found a leaky gas valve with my sniffer that needed immediate replacement. In addition the typical HVAC ductwork was blocking about 2/3's of the space from view. I decided if I couldn't get to the other areas I would lift the ductwork a bit & take some pics of what could be seen from the distance. As I scanned much expected older debris I saw an old teddy bear in the corner. When I took a closer look with my camera's zoom lens, the "teddy bear" moved. Yowie! I moved as smoothly & at the same time as quickly as I could to the exit.

I informed the buyers, my clients, that I was done for the day at that point & reported the offending guest & leaky valve. I returned to retrieve my Radon meter 2 days later & the animal had been removed & gas valve replaced & so I was able to re-inspect the complete crawlspace at that time, finding numerous termite & microbial growth issues the client was very thankful to learn about.

Our guest for this meeting thanks to the efforts of Melissa Osburn & Terry Wilson is 'Tennessee Trappers', whose job is to remove these unwelcome pests.

We can surely all find some safety information here that could be extremely critical to our well being. Please join us this coming Monday evening @ Corky's & sign up here <<http://tn.nachi.org/centraltennessee/events.html>> to let us know you are coming.

Best Regards
Michael Amick
Central TN InterNACHI Chapter Pres.

This Month's Meeting:

When: June 14th Meeting starts @ 7pm
(Dinner and social time 6:30pm--**Dutch Treat**)

Where: Corky's BBQ
100 Franklin Rd., Brentwood, TN 37027

Register for the meeting:

<http://tn.nachi.org/centraltennessee/events.html>

Guest Speaker: Tennessee Trappers

Wildlife Specialists (615) 424-2586
www.TennesseeTrappers.com Greenbrier, TN

Mark your calendars and plan not to miss this month's meeting.

If you have not been to a meeting lately here are a few of the companies and speakers you have missed!!!!

January: Joy Black, CPA-*In the Black Accounting*
February: Pierre Billard-*Partridge Hill Svcs, llc*
March: Nicole Avers-*State Director of Home Insp.*
April: Resolution, Inc.—*Detained from attending (Mike Amick spoke on the new EPA Lead Guidelines)*
May: Geoff Burdine--*United Structural Systems*
June: Tennessee Trappers—*Wildlife Specialists*



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Safety Notes By: Ed McDaniel

June 2010 Safety

SEPTIC & CESSPOOL SAFETY GUIDE

This document is a chapter of [Inspecting, Testing, & Maintaining Residential Septic Systems](#).

-Septic System, Septic Tank, & Cesspool Safety Warnings-



Providing inspection and diagnosis of on-site waste disposal systems is an extremely valuable public service which helps protect people from expensive unanticipated septic system repair costs and helps protect public health by assuring sanitary disposal of sewage and gray water waste from buildings.

More importantly though, septic system inspections may detect and warn about serious safety hazards at some properties. The strong warnings issued below intend to reduce septic system safety hazards for inspectors and

property owners/occupants, but it is not the author's intention to dissuade inspectors from providing this valuable service. But danger lurks at cesspools, open covers, tanks or tank covers in poor condition, and from high levels of methane gas CH_4 or hydrogen sulfide H_2S . These septic system dangers include the risk of collapse, falling, asphyxiation, explosion, and other potentially fatal hazards as well as risks of unsanitary conditions such as bacterial or viral infections.

There can be other unexpected hazards when inspecting building sites and septic systems. In the photo series above, the author was inspecting the home shown from outside before looking in the crawl space to locate the main waste line exit point and thus before predicting the probable location of the septic tank. Walking close to this house should have set off an alarm about possible unsafe conditions: poor maintenance, old home, of an age likely to have used a steel septic tank. In fact the author found the tank very quickly by stepping through its cover, avoiding serious injury or even possible fatality mostly by luck. *It was throw myself sideways into the briars and garbage at the site or fall completely into the septic tank.*

A Safety Guide for Septic System Inspection, Cleaning, Pumping, and Homeowner Care

- Don't work alone: Falling into a septic tank or even leaning over a septic tank can be fatal. Do not work on or at septic tanks alone - workers can become suddenly overcome by methane gas.
- Do not ever enter a septic tank unless you are specially trained and are wearing the special equipment and gear for that purpose, including self-contained breathing apparatus.
- Do not go into a septic tank to retrieve someone who has fallen in and was overcome by toxic gases unless you are equipped with a self-contained breathing apparatus (SCBA). If a SCBA is not available, call for emergency services and put one or more fans at the top of the septic tank to blow in fresh air.
- Don't lean over a septic tank opening: Do not lean over or stick your head into the septic tank to examine its interior - you could fall in to the tank or become overcome by gases and fall into the tank, an event which is likely to be fatal.
- Don't ignite flames Do not light a flame at or near the tank - methane gas is explosive. At one



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tank pump out my client described the explosion and burns received by the pumping contractor when he stood by the tank and lit a cigarette. A reader reported a stunning methane gas explosion that damaged nearby buildings when a brush fire was built over a septic tank. [There are safer ways to find the septic tank.]

- **Site must be ventilated:** Decomposing wastes in the septic tank produce toxic or otherwise dangerous gases (such as methane which is both explosive and in a septic tank methane gas is an asphyxiant) which can kill a human in a matter of minutes. When working on a tank be sure the area is well ventilated.
- **Rope off & Mark Dangerous Sites:** If your inspection discover that there are dangerous conditions, such as an unsafe tank cover, tank collapse, or a home-made septic tank or cesspool (which are at increased risk of sudden collapse) such areas should be roped off and clearly marked as dangerous to prevent access until proper evaluation and repairs can be made.
- **Safe covers:** be sure that the tank and its access ports have sound and secure covers that do not risk collapse and which cannot be removed by children.
- **Septic & Cesspool Collapse Hazards:** Old steel tanks, thin, rusting steel or rotting home-made wood tank covers, site-built tanks and cesspools, and recently-pumped cesspools are at particular risk of collapse. Falling into a septic tank or cesspool is likely to lead to rapid asphyxiation from methane and in cases of collapse; there is risk of becoming buried. The author has consulted in cases involving such fatalities (homeowner fell into a site-built cesspool), and at one site inspection, walking near an overgrown area the author himself stepped through a rusting steel septic tank top, surviving only by throwing himself into a nearby clump of brambles! Beware of the following additional septic system inspection hazards:
 - **Bad septic tank covers:** flimsy, rusted, old-steel, home-made, or missing septic tank/drywell/cesspool covers
 - **Abandoned septic tanks:** systems which may not have been filled-in
 - **Collapsed, or collapsing septic tanks or cesspools**
 - **Additional unexpected septic components:** possible presence of multiple components at a property, abandoned or in-use
 - **Un-stable soils:** Cesspools and septic systems in areas of unstable soils or areas of commonly-found site-built systems - collapse risk
 - **Cesspool pumping or agitating:** pumping, aerating, or agitating cesspools in an attempt to restore function can lead to sudden collapse of these systems, especially if the cesspool or septic tank was "site built" using stacked concrete blocks or stone
- **Shock & Electrical Hazards:** when digging outdoors, watch out that you don't dig into and cut an electrical wire (or other buried mechanical line such as a gas or water line). Buried electrical wires can look a lot like tree roots. Chopping through an electrical wire while digging to find a septic system can be dangerous. [Thanks to [Donica Ben](#) for reminding us of this septic safety problem.]
- **Unsanitary conditions:** Be alert for unsanitary conditions such as surface effluent or sewage backups into buildings, events which risk serious viral and bacterial hazards and which indoors, may require professional cleaning. Be alert for personal sanitation hazards when working around septic systems, such as open cuts or failure to wash properly after working on systems.
- **Damage to Septic Components:** Avoid damaging septic system components or the building: Improper septic testing procedures, such as flooding a dosing-system, can damage the system. Also, remember to check for leaks into or under the building being tested when running water into the building fixtures and drains. Don't leave water running unattended - at risk of flooding the building.



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Do not drive over the septic tank or septic piping.



Unless special provisions have been made such as protection of sewer piping and septic tanks from damage, vehicle-rated septic tank covers, or similar steps, do not drive vehicles over the septic system.

Driving over septic tanks, septic piping, or drain fields risks costly damage to the septic system and may also be dangerous.

The bulldozer in our photo (left) was called to help remove a truck which drove over septic system components leading to a surprise collapse.

If a septic line must be run under a driveway, for example to pass from a building to the septic tank, the line must be protected by choice of materials (schedule 40), or placed in a covered and protected trench at adequate depth (such as with concrete covers over the trench) to avoid damage.

If a septic tank is to be located below a drive or parking area, it too must be properly designed and protected from collapse.

A septic drain field cannot be located below a driveway or parking area. Doing so will prevent proper drain field operation due to soil compaction and also due to loss of proper evaporation of moisture through the surface, as well as almost certainly leading to crushed broken piping.

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This document outlines key septic system safety warnings for homeowners and home buyers of

properties using onsite septic systems and cesspools. Septic tanks, cesspools, and drywells present serious hazards including septic cave-in's or collapses, methane gas explosion hazards, and asphyxiation hazards. Simple precautions which we describe here can help avoid a dangerous or expensive septic problem. This document is a chapter of [Inspecting, Testing, & Maintaining Residential Septic Systems](#).

SPECIAL SEPTIC SYSTEM SAFETY WARNINGS FOR HOME OWNERS - Septic System Warnings for Home Owners and Home Buyers

Septic system concerns for a building owner start with safety. The photograph at the top of this page shows what can happen when a truck drives over a cesspool, drywell, or seepage pit. Luckily in this case no one was injured, but the seepage pit was destroyed and significant costs were involved in installing a new seepage pit as well as in repairing the soils compacted and damaged by the heavy equipment necessary to pull this dump truck out of the pit into which it fell.

Here are some red flags that suggest collapse hazards at septic systems, cesspools, drywells, or seepage pits:

- Signs of collapse-possible fatal hazards: include depressions or "soil subsidence" anywhere on or around the property. Any suspect area should be roped-off and absolutely no one should walk over or even close to such a spot until it has been investigated by a professional.
- Old or abandoned systems: such as site-built cesspools or drywells were often made with a thin steel or wood cover which with age can collapse. If the history of the site or visual observation suggests that there are or were old systems at the property, professional investigation is warranted. Improper "abandonment" (failing to fill-in a pit) can lead to sudden collapses.

Signs that there may be old systems at a property might come from anecdotal evidence (ask a neighbor, ask the local septic installing or service companies), or visual evidence such as seeing abandoned waste pipes at basement or crawl space walls or floors. Don't assume that an old house which is now connected to the public



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sewer didn't previously have an on-site waste disposal system.

- **Septic service by untrained workers:** such as aerating, agitating, or pumping out an old site-built cesspool, can lead to sudden system collapse. Prevent access over or near any such systems.
- **Unsanitary conditions** such as discharge of sewage effluent to the yard surface, to a nearby well or stream, or previous septic backups into a building deserve professional attention. Indoors special cleaning may be needed to remove bacteria or other pathogens.
- **Septic testing by inexperienced "inspectors"** who may not follow an adequate procedure increases the risk of a costly surprise.
- **Uninformed or inexperienced homeowners** may not notice a danger or malfunction. Homeowners should review the [Septic System Safety Warnings](#) listed above. If your home uses a cesspool, drywell, or seepage pit, be sure to review our [Cesspool Safety Warnings](#) - Specific Warnings about Cesspool Collapse Hazards.
- **Cesspools or drywells that are constructed of dry-laid stone or concrete block**, are especially at risk of sudden collapse if a septic service company has pumped down the sewage level in the cesspool and that risk is still greater if someone has attempted to "restore" cesspool operation or function by aerating or jetting or agitating the sludge layer on the bottom of the unit.
- The information here is general in nature. Since conditions and requirements vary widely at individual sites, you should obtain qualified expert advice pertaining to the specific system about which you have questions, and should not rely on this general text for costly diagnostic /repair/ replacement decisions.

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NEW STATEWIDE ONE- AND TWO-FAMILY RESIDENTIAL CONSTRUCTION STANDARDS LEGISLATION

July 16, 2009

In order to increase the state's energy efficiency, the Tennessee General Assembly has enacted the "Tennessee Clean Energy Future Act of 2009." As part of this Act, the legislature amended § 68-120-101 of the *Tennessee Code Annotated*, which provides for minimum statewide building construction standards, to authorize the Department of Commerce and Insurance to adopt a one- and two-family residential code. The State Fire Marshal (SFM), who is also the Commissioner of Commerce and Insurance, will be responsible for enforcement of the code it adopts. Many local governments already have adopted and are enforcing, to varying degrees, a one- and two-family residential construction code. The legislation, however, grants the opportunity for a one- and two-family residential construction code to apply to all areas of the state.

BUILDING CODE ENFORCEMENT PRIOR TO ENACTMENT OF THE TENNESSEE CLEAN ENERGY FUTURE ACT OF 2009

Building Codes (for buildings other than one- and two-family residential construction) — The SFM's office is currently charged with enforcement of building construction safety standards. Minimum building construction standards have been adopted by the SFM by rule for state, city, and county buildings and certain private buildings other than one- and two-family dwellings. The standards include provisions relating to structural strength and stability, means of egress and fire safety.

T.C.A. 68-120-101(b) allows local governments to adopt and enforce their own building construction safety standards for buildings (other than state buildings, educational occupancies or any other occupancy requiring inspection by the SFM for initial licensure which are always reviewed by the SFM's office but may also be reviewed locally). According to the SFM, 35 jurisdictions (so called "exempt" jurisdictions) presently enforce building construction safety standards pursuant to this

authority. Being an "exempt" jurisdiction basically means that the local jurisdiction enforces the codes themselves instead of the state. Local jurisdictions can lose this exemption if they fail to adequately enforce the codes or if the codes they have adopted are not current within seven years of the latest edition (unless otherwise approved by the SFM, which will be required to be in writing under the new law). This regulatory scheme remains in place under the new Act.

WHAT HAS CHANGED UNDER THE ACT?

1. As part of the effort to improve energy efficiency in the state, the Act amends § 68-120-101 to add energy efficiency to the standards to consider in adoption of the minimum statewide building construction standards.
2. The Act also adds one- and two-family dwellings, except renovations, to the list of structures that may be subject to a building code adopted by the SFM. This is the most significant change in the Act as it relates to building construction standards and is the part of the Act that grants the opportunity for a one- and two-family residential construction code to apply to all areas of the state without any local government mandate. The Act makes it clear that the statewide standards will not include mandatory sprinklers for one- and two-family dwellings, but local governments may adopt more stringent standards should they choose to do so.

State enforcement v. local enforcement — As in the prior version of § 68-120-101, local government jurisdictions can be exempt from statewide standards by enforcing standards themselves. In order to provide flexibility to

local governments, the Act allows a local government to:

- (1) enforce the construction codes for non-one- and two-family residences as in current law (according to the SFM, a few counties currently do this),
- (2) enforce the one- and two-family residential code, so long as current within seven years (according to the SFM, a significant number of counties already do this), or
- (3) enforce both.

In other words, the local government can enforce either one or both of these codes and the state will enforce the codes the local government chooses not to enforce. A survey of local governments relating to the enforcement of one- and two-family residential codes shows that many



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local governments have adopted versions of a residential code, but some have adopted the old *Southern Building Code*, which is no longer in print, and some do not have the means to enforce the code they have adopted.

State adoption of the residential code — With respect to the new part of the law relating to one- and two-family residential construction, the International Residential Code (IRC) is the only code with 2003, 2006 and 2009 editions. The SFM's office will determine which code will be adopted during a formal rulemaking process conducted by the SFM's office, and this process will involve proposed rules, public hearings, a determination of legality by the Attorney General, and the filing of a final rule which takes effect 90 days after filing with the Secretary of State. The SFM's office has advised that this process will occur this year and is the reason that the law does not take effect until next year. Local governments and other interested parties will have an opportunity to participate in the process and see which code will be adopted prior to making any determination with respect to what, if any, action the local government might need to take.

The changes made to § 68-120-101 will obviously increase the workload for the SFM. To handle this increased volume of enforcement, the Act authorizes the SFM to contract with cities and counties, as well as with individuals from the private sector, to act as deputy building inspectors. The inspectors will be paid a fee for the inspections they perform. The schedule of fees will be set during the rulemaking process discussed previously.

Opt-out provision for one- and two-family residential codes available to all local governing bodies — Local governing bodies are allowed to opt out of minimum statewide standards applicable to one- and two-family dwellings regardless of whether the local jurisdiction is enforcing its own code or has no code at all. This opt-out requires a two-thirds vote by the local governing body and expires 180 days after the next local legislative body election (or at an earlier date if set out in the resolution). Thus, should a county legislative body choose to opt-out of the application of minimum statewide standards to one- and two-family dwellings in its jurisdiction, the opt-out will last only from the effective date of the resolution until 180 days after the next county legislative body election. At such time, in order to continue the opt-out,

the county legislative body will need to pass another resolution by a two-thirds vote.

It should be noted that there is no urgency for a county to opt-out at this time. The Act does not go into effect until July 1, 2010. Also, the Act is not self-executing, and a county will have at least 90 days from the date any rules are filed with the Secretary of State to exercise an opt-out should the county determine that it does not desire to have minimum one- and two-family residential codes in its jurisdiction. Further, there is presently no state-adopted code to take effect, so local governing bodies do not have complete information upon which to make a decision to opt out. Lastly, counties should take the time to consider whether they want to take advantage of the state incentives that will be offered to encourage the application of a one- and two-family residential code, including a \$500,000 budget appropriation to aid state and local governments in training and purchasing code books and the recently announced \$9.3 million energy initiative incentive that will be available to small- and mid-sized cities and counties in the form of grants of up to \$100,000, which will have a preference for local governments that plan to enforce or have the state enforce one- and two-family residential codes.

Should a local governing body change its mind about opting out of the one- and two-family residential code, the Act does permit a local governing body to reverse its action at any time by a simple majority vote. Taking such action would make one- and two-family dwellings subject to the minimum statewide code.

Under the Act, local governing bodies are required to transmit any resolutions adopted under § 68-120-101, whether they are opting out or back in, to the SFM's office.

Effective date — The provisions of the Act amending § 68-120-101 become effective on July 1, 2010.



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UPCOMING TRAINING OPPORTUNITY

Our Central TN Inter-NACHI Chapter will be sponsoring a day of training in the coming months. The training will be open to home inspectors, real estate agents and contractor.

Once planning and classes are confirmed a formal announcement will be sent out.

HITA Meetings

The next meeting for the Home Inspectors of Tennessee will be on **Saturday August 7, 2010** at the **Middle Tennessee Association of Realtors office**. The address is **311 Butler Drive, Murfreesboro, TN 37127-5532**, phone number (615) 893-2242. Registration begins at 7:30 a.m. and the meeting time is from **8:00 a.m.** to 5:00 p.m. Central Time. The meeting place is easily accessible from Interstate 24 off exit 81.

The fourth quarter meeting will: Saturday November 13, 2010

EVERYONE (MEMBERS AND NONMEMBERS) MUST PRE-REGISTER TO ATTEND THIS MEETING

In order to attend you will need to pre-register on the HITA website at www.hita.us a minimum of one week prior to the meeting (before May 1). After that a \$50 processing fee will be charged.

Registering is easy by going to the calendar of events page on the HITA website at www.hita.us.

Please do not hesitate to contact me if you have any questions. Be sure to mark your calendar now and make plans to attend.

Brent Voss

President, Home Inspectors of Tennessee Association

615.491.4942

Question of the month:

May 2010

In House Plans a “Blue print Ufer Ground” is:

Ufer Ground

House Blueprint UFER ground is an electrical term used to refer to a bare piece of copper wire put in the footing of a foundation. This will be a #4 copper wire and a minimum of 20 feet in length.

June 2010

In Sitework construction what does the term “Grubbing” mean?



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Here's a chance to share your unique, strange, weird or most dangerous photos. Just send your photos with a brief description of what we are looking at to me. Each month we will include 2-4 photos in the monthly newsletter.

Also, send any information that you may like to share with all of our members. Please photos, documents, etc. as Jpeg, PDF or Doc. Jpeg and PDF are the preferred forms.

Send your photos and comments to: Terry Wilson
(wlsntw@comcast.net)

Monthly Submission:

This month's photo's submitted by:

Pierre Billard, Partridge Hill Services, LLC



The vent pipe has been pulled downward approximately 1 ½ feet.



Pool of gray water in crawlspace.



Cast iron pipe from utility/laundry area draining into the pool in the crawlspace.



Vent stack coupling to the vent stack pipe. When the 6" PVC waste water line dropped, so did the vent stack pipe.

Is your contact information up to date:

Have you moved, changed your address or changed any of your contact information (phone, email, website, etc.). If you have.....Please got to the NACHI website and update your profile. By updating your profile you will be keeping all of your information current and correct.



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Continuing Education/Professional Membership

Have you found a website or resource you would like to share? Send it in.....

Where's the best place to purchase inspection equipment and software? Do you have a place to recommend? Send it in.....

As with any profession we can only get better by sharing ideas, experiences and knowledge. By belonging to an organization and participating it speaks loudly about an inspector. It shows that you care about your profession and seek to ensure that only well trained and knowledgeable inspectors are working in our area.

Did you know the following are approved and available through Inter-NACHI?

1. Plumbing Issues CE# 191-06 (8)
2. HVAC Issues CE# 192-06 (8)
3. Electrical 101 CE# 193-06 (8)
4. Structural Red Flags in Residential Construction CE# 194-06 (8)
5. NACHI's Online Structural Course CE# 097-07 (4)
6. Thermal Imaging and Building Science CE# 117-08 (16)
7. Safe Practices for The Home Inspector CE# 126-08 (4)
8. Thermal Imaging & Building Science (CE Teleconference Course) CE# 128-08 (16)
9. On-Line "Green Building" CE# 130-08 (8)
10. On-Line Plumbing Course CE# 170-08 (8)
11. Law & Order CE# 173-08 (4)
12. Inspection Water Heater Tanks CE# 175-08 (4)
13. Inspecting Means of Egress CE# 176-08 (4)
14. Introduction to Infrared Thermography Online Video Course CE# 184-08 (5)
15. InterNACHI'S On-Line Roofing Course CE# 187-08 (4)
16. InterNACHI'S On-Line Electrical Course CE# 188-08 (4)
17. InterNACHI'S On-Line Log Home Inspection Course CE# 189-08 (8)
18. Inter NACHI'S On-Line Wood Destroying Organism Inspection Course 003-09 (12)
19. On-Line Radon Measurement Service Provider Course 005-09 (12)
20. On-Line----Inspecting Foundation Walls and Piers 006-09 (3)
21. On-Line 25 Standards Every Inspector Should Know 007-09 (5)
22. On-Line Moisture Intrusion Inspection Course 008-09 (8)
23. On-Line Mold Inspection Training Online Video Course 021-09 (12)
24. On-Line Advanced HVAC Training Course 023-09 (21)