

STRUCTURE INSPECTION

SCOPE OF THE STRUCTURAL INSPECTION: 266CMR: BOARD OF REGISTRATION OF HOME INSPECTORS

266 CMR 6.00: STANDARDS OF PRACTICE:

6.04 System: Structural Components:

A. Basement:

- (1) The **Home Inspector** shall **Observe** the following exposed **Readily Accessible** and **Observable** basement structural components including:
 - a. The exposed portions of the foundation.
 - b. The exposed portions of the floor.
 - c. The exposed portions of the superstructure system (girders, sills, floor joists, headers, and sub-floor).
 - d. The exposed portions of the columns and posts.
- (2) The **Home Inspector** shall **Describe**:
 - a. The type of exposed basement foundation materials (brick, concrete block, concrete, stone, wood, other).
 - b. The type of exposed basement floor system (concrete, earth, wood, other).
 - c. The type of exposed basement superstructure system (girder(s), sills, floor joists, and sub-floor).
 - d. The type of exposed basement columns and posts (brick, concrete block, concrete, steel, wood, other).
 - e. The **Home Inspector** shall document obstructions that prevented him/her from inspecting the items noted above in the **Report**.
- (3) The **Home Inspector** shall **Report On** the condition and recommend repair (if needed) on the following exposed **Readily Accessible** and **Observable** structural components including:
 - a. The foundation.
 - b. The floor system.
 - c. The superstructure system.
 - d. The columns and posts.
- (4) The **Home Inspector** shall:
 - (b) Probe exposed **Readily Accessible** and **Observable** structural components where deterioration is suspected. However, probing is **NOT** required when probing would unduly damage any finished surface.
 - (b) Report signs of previous water penetration into the basement including the presence of sump pumps, sump pits and dehumidifiers. (The **Home Inspector** is prohibited from activating the sump pump(s) and or dehumidifier(s); it shall be the **Seller/Sellers Representative** responsibility to demonstrate that they are functional.)
- (5) The **Home Inspector** shall not be required to:
 - a. Collect engineering data on the size, span, spacing, species, section modulus, slenderness ratio and or modulus of elasticity of the structural members.
 - b. Inspect for the presence or absence of wood destroying insects such as wood damaging organisms, rodents, or insects unless specifically contracted to in writing.
 - c. Provide access to the items being inspected (Responsibility of **Client/Seller/Sellers Representative**).

B: Crawl Space:

The **Home Inspector** shall enter **Readily Accessible** under floor crawl spaces only after the **Seller/Sellers Representative** and/or the **Client** provide **Safe Access** as determined by the **Home Inspector**. The **Home Inspector** is not required to enter any area, including the crawl space if access is obstructed, when entry could damage the property, or when **Dangerous or Adverse Situations** are suspected and documented in the **Report** by the **Home Inspector**.

- (1) The **Home Inspector** shall document the methods used to observe under floor crawl spaces in the **Report**.
- (2) The **Home Inspector** shall **Observe** the following exposed **Readily Accessible** and **Observable** crawl space and roof framing structural components including:
 - a. The exposed portions of the foundation.
 - b. The exposed portions of the floor.
 - c. The exposed portions of the superstructure system (girders, sills, floor joists, headers, and

sub-floor).

d. The exposed portions of the columns and posts.

(3) The **Home Inspectors** shall **Report On** obstructions, unsafe access, and **Dangerous or Adverse Situations** that prevented him/her from inspecting the items noted above.

(4) The **Home Inspector** shall **Describe** (if different from the description of the basement supports) and report the condition and recommend repair (if needed) on the following exposed **Readily Accessible** and **Observable** structural components of the crawl space including:

a. The foundation: (Brick, Concrete, Concrete Block, Wood, Other).

b. The floor system: (Brick, Concrete, Earth, Wood, Other).

c. The superstructure floor system: (Girders, Sills, Floor Joists, Headers, Other).

d. The columns and posts: (Brick, Concrete, Concrete Block, Steel (Adjustable or Fixed), Wood, Other)

(5) The **Home Inspector** shall not be required to:

a. Collect engineering data on the size, span, spacing, species, section modulus, slenderness ratio and or modulus of elasticity of the structural members (**Engineering Services**).

b. Inspect for insect infestation, rodents and or vermin (Independent Pest Control/Extermination Service).

c. Provide **Safe Access** to the items being inspected (Responsibility of **Client/Seller/Sellers Representative**).

(6) The **Home Inspector** shall:

(a) Probe exposed **Readily Accessible** and **Observable** structural components where deterioration is suspected: However, probing is **NOT** required when probing would unduly damage any finished surface.

(b) Report signs of previous water penetration into the crawl space including the presence of sump pumps and dehumidifiers. (The **Home Inspector** is prohibited from activating the sump pump(s) and or dehumidifier(s); it shall be the **Seller/Sellers Representative** responsibility to demonstrate that they are functional.)

C: Attic Space:

1. The **Home Inspector** shall enter attic spaces only after the **Seller/Sellers Representative** and or **Client** provide **Safe Access** as determined by the **Home Inspector**. The **Home Inspector** is not required to enter any area, if it is not **Readily Accessible**, if access is obstructed, when entry could damage the property, or when **Dangerous or Adverse Situations** are suspected and reported by the **Home Inspector**.

2. The **Home Inspector** shall observe the following exposed **Readily Accessible** and **Observable** roof framing structural components including:

a. The exposed portions of the roof framing, including the roof sheathing.

3. The **Home Inspector** shall:

a. Probe exposed **Readily Accessible** and **Observable** structural components where deterioration is suspected: However, probing is **NOT** required when probing would unduly damage any finished surface.

4. The **Home Inspector** shall describe the roof framing system and the roof sheathing:

a. Framing: Rafters, Collar Ties, Tie Beams, Trusses, Other

b. Roof Sheathing: Boards, Oriented Strand Board, Plywood, Other.

5. The **Home Inspector** shall **Report On**:

a. The methods used to observe attics (through a hatch or while standing in the attic space).

b. The presents and or lack of flooring, obstructions, unsafe access, and dangerous or adverse situations that prevented him/her from inspecting the items noted above.

c. The condition and recommend repair (if needed) on the following exposed **Readily Accessible** and **Observable** structural components of the roof framing:

The roof framing (Rafters, Collar Ties, Rafter Ties, Trusses, Beams, Other)

Sheathing Materials (Boards, Oriented Strand Board, Plywood, Other).

d. Evidence of prior water penetration.

e. The presence of a light.

6. The **Home Inspector** shall **not** be required to:

a. Collect engineering data on the size, span, spacing, species, section modulus, slenderness ratio and or modulus of elasticity of the structural members (**Engineering Service**).

b. Inspect for insect infestation, rodents and or vermin (Independent Pest Control/Extermination Service).

c. Walk on the exposed and or insulation covered framing members.

DISCLAIMERS:

A. This report does NOT GUARANTEE A DRY BASEMENT. (see General Comment #A below)
 B. The inspector is not required to enter under-floor crawl spaces or attics when entry could damage the property, or when dangerous or adverse conditions are suspected. Be advised that areas not entered may contain hidden defects.
 C. The **Client** understands that the inspection does not include invasive inspection or exploratory demolition. Structural components or mechanical systems concealed by finished surfaces or stored goods are inaccessible for visual inspection and are therefore **EXCLUDED** from this *Report*. Be advised that hidden problems may exist.
 D. The **Client** understands that the inspection & final report do not provide an engineering service or architectural service as assessing structural integrity of a building is beyond the scope of a limited visual inspection. A certified engineer is recommended when there are structural concerns about the building. No engineering calculations are performed during this inspection.
E. The Client understands that the home inspection & Report do NOT INCLUDE A TERMITE OR WOOD BORING INFESTATION REPORT. No inspection is made by this **COMPANY** to detect past or present insect or rodent activity. Wood boring insects that can appear anytime, even if there were no signs of infestation or damage at time of inspection. This *Company* is NOT a licensed pest control company or exterminator. The inspection for rot is done by line of sight and is done in conjunction with the responsibility to examine structural condition. **I ADVISE THAT EVERY HOME BE INSPECTED BY A LICENSED PEST CONTROL COMPANY NOW, PRIOR TO THE CLOSE OF ESCROW to protect your right to negotiate for repairs or chemical treatment if needed. I emphasize that your only assurance of arresting or preventing infestation, whether concealed or discovered, is to obtain treatment and a warranty from a state licensed pest control company.**

GENERAL COMMENTS: A. *A dry basement cannot be guaranteed because a basement is a hole in the ground that is vulnerable to infiltration when exposed to prolonged rain, ground saturation, changes in seasonal hydrostatic ground water pressure and fluctuation in the water table. If you want a guaranty of a dry basement, then you should hire a basement waterproofing contractor to install a perimeter French drain system along the perimeter of the basement walls and connected to a sump pump with battery back-up.* Ideally, the site should have hard surfaces and soils that slope away from the residence, functional gutters & downspouts and a difference in elevation between the exterior grade and the interior floors. **If the site does not live up to this ideal, then the Company disavows all responsibility for water penetration problems.** Be advised that evidence of prior dampness is often concealed by the owner's stored goods, painted surfaces or finished surfaces below grade level. You should ask the owner about honest disclosure of any prior wet basement problems prior to purchase. Most basement dampness can be reduced by directing all surface water and roof run-off away from the foundation. B. **You should request in writing that the basement, garage and attic be emptied and broom swept clean prior to purchase. Then you should return to re-inspect for concealed defects.** C. Owners are required to maintain structural elements in good repair and fit for intended use. D. Be advised that any source of water penetration or ventilation imbalance can cause interior damage and / or mold. E. The condition of hidden wall substrate is undetermined as it is not *readily accessible* for inspection.

1. DESCRIPTION OF BUILDING:

STYLE: Wood framed colonial reproduction.

TYPE OF SPACE BENEATH BUILDING:

Observation: The home has a full basement that is approximately 70% finished.
Analysis: While a finished basement may be a positive feature, it prevents a home inspector from gaining access to inspect those parts of the structure and mechanical systems that are covered by finished surfaces - hidden problems may exist. (Note: Be advised that new foundations enclosing habitable space below grade level are required to have **waterproofing** to prevent potential water infiltration problems. The original dampproofing of the foundation alone is not adequate. Be further advised that average basement windows are not sized properly for safe emergency egress.
Recommendation: You might ask the owner if and there are any past wet basement problems and if the foundation was treated with waterproofing or if a drainage system is present to protect the basement.

2. OSTRUCTIONS THAT RESTRICTED INSPECTION:

TYPE OF OBSTACLE:

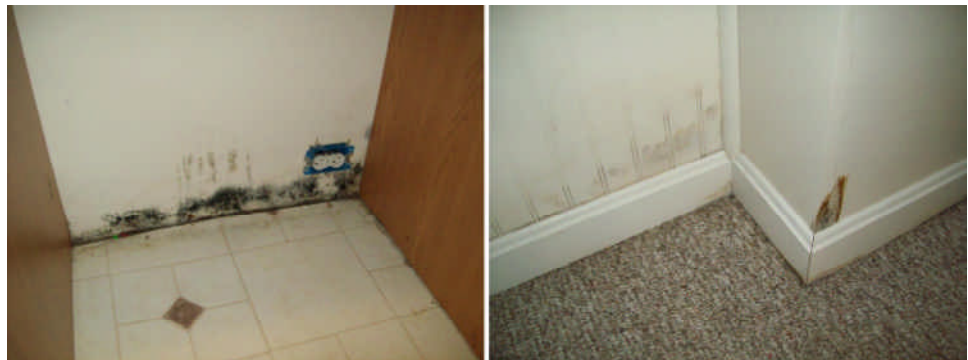
Observation: The basement is partly finished. **STRUCTURAL ELEMENTS WERE VIEWED IN THE UNFINISHED AREAS ONLY.**

Analysis: While the inspector used an earnest effort to alert you about visible or suspected problems, please understand that the he does NOT have X-ray eyes. The condition of structural elements & mechanical systems hidden by finished surfaces is undetermined. **HIDDEN PROBLEMS MAY STILL EXIST that are not documented in this report.**

Recommendation: Ask the owners if they have any knowledge of conditions beneath the finished surfaces and if there is a drainage system in place to protect the finished areas below grade. If through your negotiations access becomes possible, components become *readily accessible*, repairs are done or systems are restored, you may desire to schedule a "return visit" inspection with this office, at an additional charge, prior to commitment.

3. SIGNS OF WATER PENETRATION:

SIGNS OF BASEMENT / CRAWL SPACE WATER PENETRATION:



Observation: Suspected mold was visible in the home.

Analysis: **DISCLAIMER: THE INSPECTION AND REPORTING ON MOLD IS EXCLUDED FROM THE INSPECTION AND REPORT PER OUR AGREED CONTRACT. Mold detection and investigation are beyond the scope of this limited visual home inspection and report. Any reference to mold is done so as a courtesy, without consideration, so that you can consult other experts.**

WARNING: Excessive mold can be a health concern and an irritant to those with respiratory problems. Be advised that many homes have excessive moisture and poor ventilation issues which might lead to mold, and that the extent of mold beyond visible surfaces is undetermined. There is a possibility of concealed problems. Therefore, further investigation is needed as mold abatement can quickly involve significant expense.

Recommendation: I advise that you hire a microbiology laboratory **NOW** to perform a comprehensive investigation including collection and analysis of indoor air and surface mold samples, full report and discussion of qualitative and quantitative results, and suggestions concerning remediation before close of escrow. Be advised that testing may confirm a need to hire a professional environmental company to perform

remediation at **significant expense**.

Mold Resources: <http://www.epa.gov/iaq/pubs/moldresources.html>

<http://www.epa.gov/iaq/molds/moldguide.html>

<http://www.epa.gov/mold/>

Observation: Water stains are visible in the basement at the locations identified below:

- ** Joint of the basement floor and foundation walls.
- ** At the chimney base.
- ** Near the water heater.

Analysis: The stains indicate previous moisture in the basement at the indicated locations. The past frequency or amount of water in the basement is undetermined. Be advised that all basements are vulnerable to seasonal wet basement problems depending on variables such as: lot drainage, drainage along the foundation, roof drainage, soil conditions, water table, type of foundation and weather conditions. Be advised that any source of water penetration or ventilation imbalance can cause interior damage and / or mold.

Recommendation: You should ask the owner to disclose any known past history of wet basement problems as only the owner has seasonal experience in the home. ***If you want a guaranty of a dry basement, then you should hire a basement waterproofing contractor to install a perimeter French drain system along the perimeter of the basement walls and connected to a sump pump with battery back-up. Such systems involve significant expense.***

Web Resource: <http://www.thisoldhouse.com/toh/print/0,17071,591677,00.html>

**FLOOR DRAIN
OR SUMP
CONDITION:**

Observation: There is a floor drain present in the basement floor.

Analysis: The true function, seasonal need and discharge point of the drain are undetermined.

Recommendation: Ask the owner where the drain discharges and how often it is needed. (Cleaning & testing for drainage is advised.)



SUMP PUMP & CONDITION:

Observation: No sump pump in the *readily accessible* parts of the basement at time of inspection. But the home does have a sewage ejection pump. This collects the sewage, grinds it up and sends it out to the septic system.



4. EXPOSED FOUNDATION SYSTEM:

TYPE OF EXPOSED FOUNDATION MATERIALS:

Poured concrete. (1920's to present)

TYPE OF EXPOSED BASEMENT FLOOR SYSTEM:

CONCRETE where exposed. (Note: The inspector is not required to move storage or floor coverings to examine the basement floor. There is a risk of concealed damage, shrinkage cracks, cold joint separations or hidden water stains behind the storage or finished surfaces). Non-critical small random cracks are present in the basement floor.



Observation: Some of the basement floor system is concealed by finished floor coverings.

Analysis: As the basement floor system is not *readily accessible*, true conditions are

undetermined. Be advised that removal of floor coverings may reveal problems that are not documented in this report.

Recommendation: If you have concerns regarding hidden problems, then you should ask if the floor covering can be removed for further investigation.

CONDITION OF EXPOSED FOUNDATION: FOUNDATION PROBLEMS:

**** FUNCTIONAL with EXCEPTIONS: (See visible problems below)**

Observation: No visible critical foundation or basement floor problems were observed where *exposed and readily accessible* at time of inspection. (Note: Because of storage, not all parts of the foundation were inspected. The foundation and basement floor should be re-examined for hidden defects when the basement is empty.)

5. EXPOSED CRAWL SPACE(S):

ACCESSIBILITY: Observation: Not applicable. No crawl spaces were found with this building.

6. EXPOSED COLUMNS AND POSTS:

TYPES: **Steel** (fixed) columns are present.

CONDITION OF EXPOSED COLUMNS:

*** FUNCTIONAL where *readily accessible* at time of inspection.**

COLUMN PROBLEMS:

Observation: No visible column problems observed where *readily accessible* at time of inspection.

7. EXPOSED BASEMENT SUPERSTRUCTURE SYSTEM:

TYPE OF EXPOSED FRAMING:

Observation: Modern platform & box sill floor frame construction present.

DISCLAIMER: NO ENGINEERING OR LOAD CALCULATIONS ARE EXPRESSED OR IMPLIED BY THE IDENTIFICATION OF THE STRUCTURE OR MATERIALS.

CONDITION OF EXPOSED SILLS, GIRDERS, JOISTS, SUBFLOOR:

**** FUNCTIONAL with EXCEPTIONS as NOTED:**

Observation: Areas of ceiling covering materials at the basement level prevented complete viewing, probing and sounding of the floor frame.

Analysis: Complete evaluation undetermined due to lack of access. Hidden problems could exist.

Recommendation: If through your negotiations access becomes possible, components become *readily accessible*, repairs are done or systems are restored, you may desire to schedule a "return visit" inspection with this office, at an additional charge, prior to commitment.

VISIBLE PROBLEMS OBSERVED:

Observation: Where *readily accessible*, the floor frame(s) appear **FUNCTIONAL** and did not exhibit any defects of a critical nature at time of inspection.

8. EXPOSED WALL FRAMES:

TYPE: Wood.

CONDITION WHERE EXPOSED:

* **FUNCTIONAL** or visually plumb where *readily accessible*. The wood framed walls did not exhibit any excessive bowing, sagging or other critical defects as viewed from living spaces & unfinished areas. (Note: The actual wall framing members are covered by siding, drywall or plaster. The condition of the concealed framing and substrate is undetermined as such components are not *readily accessible* for direct visual evaluation.)



Observation: In the basement there is a finished room with paneling installed that is poorly done.

Analysis: As we could see the wall is very wavy. It is possible moisture absorbed into the paneling to cause this when they had the leaks in the plumbing. Or it could be just poorly installed from the beginning.

Recommendation: I would remove the paneling for further inspection behind then make any corrections and reinstall new paneling.

9. EXPOSED STAIRCASES / BALCONIES / TRIM:

CONDITION: ** **FUNCTIONAL** with **EXCEPTIONS** as noted:

STAIRCASE PROBLEMS:



Observation: The staircase to the basement and second floor lacks returns at each end of the handrail.

Analysis: **** **UNSAFE**. A return is a short piece of handrail intended to prevent someone from hooking a handbag or pocket on the end of the railing and tripping or falling and suffering a personal injury. While the old staircase handrail may be pre-existing, **URGENT** safety upgrading is advised.

Recommendation: Hire a finish carpenter to correct the handrail in accordance with the requirements of the building code.

Web Resource Video: <http://www.thisoldhouse.com/toh/video/stairsfloors/article/0,26206,1187093,00.html>

10. EXPOSED ROOF STRUCTURE AND CEILING FRAMES:

Description of roof structure and roof sheathing:

Where *readily accessible*, the roof frame has wood rafters and wood boards as decking.

CONDITION - PROBLEMS:

* **FUNCTIONAL**. No visible problems observed where *readily accessible* and clear of storage only at time of inspection. (Note: If there was storage in the attic at time of inspection, then YOU should examine the roof structure again when the owner has emptied the attic.)

11. Did the inspector probe exposed and readily accessible structural components where deterioration is suspected?

YES - Suspected areas of deterioration were probed where *readily accessible* at time of inspection.

12. Did the inspector enter readily accessible under floor crawl spaces and attic spaces?

YES - the inspector did enter *readily accessible* attic spaces.

13. OVER-ALL CONDITION / RECOMMENDATIONS:

Structural summary:

Analysis: Repairs are necessary. Note: There is a potential for concealed damage.
Recommendation: Prior to commitment, you should consult a licensed expert relative

to the above listed area of concern, for reappraisal and cost estimates.