



James J Kilroy
1701 Enterprise Dr, Canton, Ohio

Inspection date
September 04, 2018

Reason for inspection
Deficiencies or damage found during a level 1

Level of inspection
Level II

Prepared by
Jim Ferguson CSIA Certified Chimney Sweep CCP Certified Master Chimney Professional
Ferguson's Fireside Chimney Cleaning and Repair Inc.



Disclaimers and notifications

Ownership: This report is the exclusive property of Ferguson's Fireside Chimney Cleaning and Repair Inc. and James Edwards. If this report is for the required Level II inspection for the sale or transfer of property it is mandatory that full disclosure of defects be made to the current owner and the potential buyer.

Recommendations: Any recommendations are made as a service to our customers and is not a contract or proposal for work for repairs even if an approximate cost is given. If requested a separate repair estimate may be submitted.

Grandfathering: When chimney repair is found to be necessary due to potentially hazardous or unsafe conditions, there is no grandfathering for any portion of the chimney. There is no state or national code that "Grandfather's" any portion of a chimney that represents a potential hazard.

Professional chimney inspection: This report is the result of a professional chimney inspection. The report reflects the level of chimney inspection as stated in the report. Everything in this report is factual and supported by the standards represented in the International Residential Building Code 2006, NFPA 211 2016, U.L. and manufacturer installation instructions. The observations in this report are factual and fully supported by documentation, codes and standards.

Inspection level indicated: National Fire Protection Agency (NFPA 211) has 3 levels of inspection. We have added a basic level for estimating purposes. The basic estimating level is restricted to the areas required for a specific estimate request such as an exterior chimney repair. This level does not assess the usability, safety or functionality of the entire structure. This level is a courtesy for the convenience of the client to provide an estimate for the repairs desired. The NFPA 211 level or combination of levels used will be indicated on the report.

Visual observation: All aspects of this report are taken from visual observations. Visual observations whether an internal camera system is used or not are limited in scope by the angle of perspective. Hidden flaws could exist that are not available for a visual observation from the angle of the perspective available.

Inaccessible areas: There are areas of the chimney, fireplace or appliance that are not available for inspection. These areas include but are not limited to: attic space, hearth support, hearth extension, basement, crawl space, areas concealed between floors and walls and areas that the person inspecting may not have been given access to at the time of the inspection. Roof construction or weather conditions may limit or prohibit roof access. The Customer understands that the Inspector cannot obtain access to certain portions of the fireplace and certain enclosed adjacent areas. The Inspector makes no representations express or implied and will not be responsible in any way whatsoever for deficiencies, improper installation, or improper equipment in inaccessible areas. The findings listed within this report are based on the condition of the appliance system at the time of this inspection and may be limited due to access or type of inspection requested

Inspection validity timeframe: We cannot control what happens to this chimney, fireplace, vent, or appliance after we leave the location. Customers may move or construct things that change the clearance to combustibles. Weather, use, misuse, lack of use, vegetation, age and alterations are just some of the factors that can change the condition of the structure. We will not be held responsible for any of these changes that may affect the suitability for use of this chimney, vent or appliance.

Suitable for intended use: The purpose of the inspection is to determine reasonable suitability to use this chimney, appliance, vent, or fireplace as the structure was intended when constructed or inspected. A fireplace is intended to be used as an ornamental structure that is designed for short term use and not as a source of heat. Use of a fireplace or other appliance in a way that it is not intended to be used could present a hazard.

Measurements: Some of the measurements in this report are approximations. Some of the approximations are used to aid the estimator to write a proposal for work. These approximations are also valuable to help determine proper equipment needed to insure the safety of the chimney professionals doing any of the proposed work. Any inaccuracies in any of these approximations does not invalidate the findings in this report.

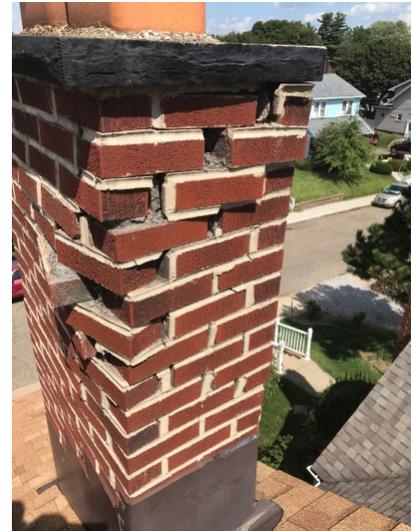
Masonry Chimney damaged by lightning

- **Description and photos:**



This chimney was struck by lightning. Claim # 5555555 John Schmidt 419-306-XXXX

- **Brick / Stone / Chimney walls condition: Potential hazard**



The bricks are no longer being held in place by the mortar. The chimney needs to be taken down to the lower roof and rebuilt

- **Attic space:**

There is wood

- **Mortar Condition:** Potential hazard



The force of the lightning strike has dislodged much o

- **Crown / Wash cap:**



The stone crown of the chimney is attached to the tile with mortar. It will not likely be reusable when removed

- **Expansion joint between flue and wash:** Does not meet industry standards



Heating and cooling of the flue tile can cause the tile to expand and contract. This expansion of the flue tile can cause the tile length to increase. The flue tile needs to be able to move through the crown/ wash cap of the chimney to help prevent damage to the tile the chimney, or the crown / wash cap. This is done by an expansion joint that prevents the masonry material from bonding with the flue liner and preventing this movement. This joint must be sealed in a way that does not allow moisture to enter the chimney. Industry standard IRC 2103.12 2016 NFPA 211 7.2.13.4

- **Flashing:**



The flashing will need replaced after it is removed to allow for the chimney rebuild

Fireplace Flue

- **Flue shape (used to determine flue size ratio to fireplace opening):** Rectangular
- **Chimney cap / spark guard / Top damper:**

This flue does not have a chimney cap. A chimney cap should be installed to prevent rain, snow, animals and debris from entering the flue. The cap should have a spark guard to help prevent burning embers from exiting the chimney. Burning embers from the chimney could ignite roof materials, trees, and other nearby combustible materials.

• **Chimney liner presence, condition regarding readily visible defects, holes, cracks, missing mortar joints, spalling, mortar protrusions, and proper alignment:**



The lightning strike caused the surface of the tile to “pop” in a way that resembles flaking or spalling of the tile. This flue system is no longer capable of containing the by

There is spalling or flaking of the tile. This is evidence that the tile is softened or derogated to a point where it can no longer perform its intended function of containing all of the byproducts of combustion and transferring them to the outside. This flue must be repaired if possible or a new lining system installed 2016 NFPA 211 14.9

Living room fireplace

- **Flue tile sealed at smoke chamber:**



- **Smoke chamber general accessibility, construction, parging and condition:**



The smoke chamber walls are not parged smooth. This can cause a chimney to draft poorly. Lack of the parging material may also increase the risk of a structural fire and the risk of the byproducts of combustion migrating into the home. 2016 NFPA 211 11.2.1.13 IRC 2006 2111.S

- **Operation and closure of the damper assembly:**

The chimney had a top mounting damper before the lightning strike. It is completely gone except for a small part of the cable and bracket in the firebox

- **Smoke chamber height: 34**



The tile is not sealed at the top of the smoke chamber

- **Combustible framing/forms under hearth or hearth extension of masonry fireplaces:**



Masonry is a great conductor of heat. Heat can be transferred through the hearth and hearth extension under the fireplace. If there is wood in this area it will get dryer over time (this process is known as pyrolysis) and be more easily ignited as the wood gets older. These supports were required to be removed at the time of construction. 2016 NFPA 211 11.3.1.2 IRC 2006 2111.9

- **Attic space, fire stopping, clearance to combustibles:**



There is combustible framing touching the chimney in the attic space.
2018 I.R.C. R1003.18 Chimney clearances. Any portion of a masonry chimney located in the interior of the building or within the exterior wall of the building shall have a minimum airspace clearance to combustibles of 2 inches (51 mm). Chimneys located entirely outside the exterior walls of the building, including chimneys that pass through the soffit or cornice, shall have a minimum airspace clearance of 1 inch (25 mm). The airspace shall not be filled, except to provide fire blocking in accordance with Section R1003.19.

There is a cloth coated wire in contact with the chimney. This is a potential hazard

- **4" clearance from the hearth support to combustibles:**



There are combustible materials that are within the 4" required clearance below the hearth extension. This presents a possible fire hazard. The masonry hearth extension can conduct heat that could allow the combustible materials to dry out and have a lowered ignition temperature over a period of time. The potential exists for these combustibles to ignite. Industry standard 2016 NFPA 211 11.3.1

- **Hearth extension size measured starting at the face of the fireplace: 18**

The area protecting the floor in front of your fireplace is the hearth extension. If the hearth extension is too small the areas in front of fireplace are not properly protected from heat or sparks. The potential hazard for heat or a spark to cause a fire in the dwelling Industry standard 2016 NFPA 211 11.3.3 IRC 2006 R1001.10

- **General condition of the firebox:**



The firebox was blown out by the lightning strike. Bricks were laying on the grate after the strike

- **Throat size: 1**

A primary cause of smoke spillage into a room is the height of the throat being inadequate. It is required for the throat height to be 8" above the lintel for safe operation. Anything less than this does not allow proper transition of the smoke to the smoke chamber without curling out of the fireplace 2016 NFPA 211 11.2.1.8.2 IRC R1001.7

Water heater Flue

- **Unused flue openings:**



The clean out cap is deteriorated.

- **Appropriateness of the chimney liner type for the appliance:**

The flue is oversized for venting the water heater. A 4" lining kit should have been installed when the water heater was orphaned into the flue

The chimney must be lined with a material that is appropriate for the appliance attached. NFP 211 7.2.2.2 2006 IRC 2113.11

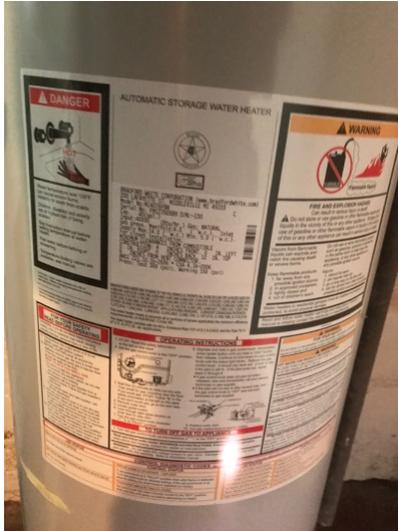
- **Flue clean out presence and condition:**



The clean out door is not in good repair and should be replaced 2016 NFPA 211 7.1.4.1

Water heater

- **BTU input:**



- **Heater Connector Type:** Single wall



Connector pipe #1

- **Connector pipe security, support and stability:** Meets industry standards



Findings and conclusions

Ohio revised code 2427.5.5.3 Unsafe chimneys. Where inspection reveals that an existing chimney is not safe for the intended application, it shall be repaired, rebuilt, lined, relined or replaced with a vent or chimney to conform to NFPA 211 and it shall be suitable for the appliances to be vented.

The chimney has been struck by lightning which has caused damage to the exterior of the structure as well as the interior of the structure. The exterior brick structure is damaged. The flue tiles are damaged. The joints between the flue tiles are no longer intact. The firebox is damaged. The glass doors are broken.

This damage will require the chimney lining to be removed and replaced. According to code when a chimney is lined or re-lined the structure must meet all requirements in the NFPA 211 for fireplaces and chimneys. There are other deficiencies that must be corrected as part of this repair.

The smoke chamber is not parged smooth. There is wood under the hearth and hearth extension. There is wood in contact with the chimney in the attic space. These deficiencies must be corrected the chimney never met any code previous or current. The water heater was orphaned into an oversized flue.

An estimate will be submitted that will make this chimney and fireplace suitable for use.

Signature Acknowledgment

Signature of the technician

A handwritten signature in black ink, appearing to read "J. Ferguson". The signature is written in a cursive style with a horizontal line extending from the end.