From: "PC - Civil/Structural Assignments" <pc-civil@EnvistaForensics.com>
Sent: Tue, 1 Sep 2026 12:33:19 +0000
To: "statefarmfireclaims" <statefarmfireclaims@statefarm.com>
Cc: "John Gilbertson" <John.Gilbertson@EnvistaForensics.com>; "PC - Civil/Structural Assignments" <pc-civil@EnvistaForensics.com>; "Christy Lynn Rogers" <Christy.Rogers@envistaforensics.com>
Subject: [EXTERNAL] 49-98D9-92J
Attachments: MAT-198930-G4P2 - Michael Ellis - Report.pdf

Dear Kirk Brendelson,

Please find attached Envista Forensics' report for Michael Ellis (Claim #49-98D9-92J), Envista MAT-198930-G4P2.

We greatly appreciate the opportunity to work with you on this claim.

Our invoice for service will follow in the coming days. In some instances, you may receive a copy of the report with our invoice unless otherwise stated, this is just a duplicate copy of the report.

Please do not hesitate to contact us should you have any questions or require additional information.

Kind regards,

Christy Rogers
Project Coordinator | envistaforensics.com

D. 224.214.0837tel:224.214.0837
M. 843.647.2954tel:843.647.2954
E. Christy.Rogers@envistaforensics.com
SUBMIT AN ASSIGNMENT

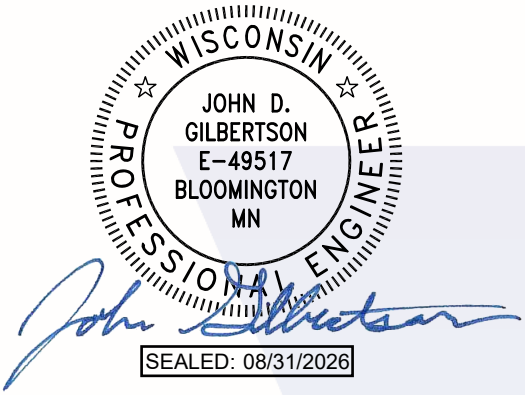
5565 Glenridge Connector, Suite 900
Atlanta, Georgia 30342

TOLL-FREE 888.782.3473
envistaforensics.com

REPORT OF FINDINGS

MICHAEL ELLIS

State Farm Insurance Company Claim No: 49-98D9-92J
Envista Matter No: MAT-198930-G4P2
REPORT DATE: August 31, 2026



Prepared For:
Kirk Brendelson
State Farm Insurance Company
P.O. Box 106169
Atlanta, Georgia 30348-6169
statefarmfireclaims@statefarm.com

BACKGROUND

On August 6, 2026, John Gilbertson, P.E. of Envista Forensics (Envista), inspected the property of Michael Ellis located at 2150 Julie Avenue in Sparta, Wisconsin (the residence). The residence was a zero lot line building that was adjacent to a neighboring west zero lot line building. The residence consisted of a wood-framed, two-story structure atop a cast-in-place concrete shallow foundation. The exterior walls of the residence were clad with vinyl siding, and the gable-type roof was covered with laminate-style asphalt composition shingles. The interior walls and ceilings were covered with gypsum board (drywall). According to the Monroe County, Wisconsin, Property Summary Report, the residence was constructed in 2007. For the purposes of discussion within this report, the front of the residence was considered to face south as shown below in **Figure 1** and in Attachment A, Photographs.

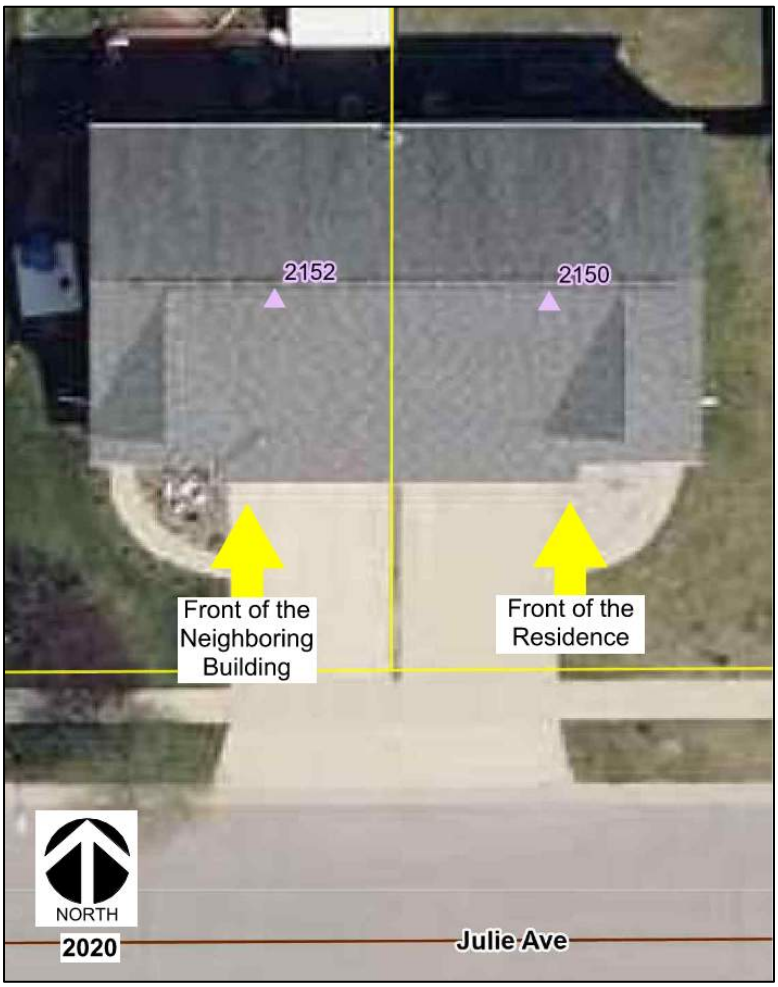


Figure 1 - Aerial overview of the residence (right) and neighboring west building (left), courtesy of the Monroe County Land Information Office, GIS.

Reportedly, the residence was damaged during a fire that occurred on or about February 28, 2026.

PURPOSE

State Farm Insurance Company retained Envista to:

1. Determine the extent of fire damage to the structure of the residence.
2. Provide a recommended scope of conceptual repairs for the fire-damaged structural components.

CONCLUSIONS

1. Various areas of the interior and perimeter wood wall structure, the Level 2 wood floor structure, and the Level 1 and Level 2 wood roof structure of the residence were structurally impacted by the fire. For a graphical representation of the observed extent of the fire-damaged structural components, see **Figure 3** through **Figure 5** below.
2. The fire-damaged structural components can be repaired or replaced in accordance with current code provisions, and complete replacement of the structure is not required. For a recommended scope of conceptual repairs for the fire-damaged structural components, see the Conceptual Repairs section of this report.

DOCUMENTS REVIEWED

The following documents and materials were reviewed and/or referenced as part of Envista's investigation, and/or contain information pertinent to the discussion and conclusions presented herein:

1. CONNECTExplorer aerial imagery, URL: https://explorer.eagleview.com/login.php
2. Monroe County, Wisconsin, Public Portal, Property Summary Report URL: https://pp-monroe-co-wi-fb.app.landnav.com/Login (Accessed 7/30/2026)
3. Monroe County, Wisconsin, Land Information Office, GIS, URL: https://www.co.monroe.wi.us/departments/land-information-office (Accessed 8/7/2026)
4. Wisconsin Uniform Dwelling Code, Chapter SPS 320, Administration and Enforcement, URL: https://docs.legis.wisconsin.gov/code/admin_code/sps/safety_and_buildings_and_environment/320_325 [Accessed 8/19/2026].
5. UDC Repair Credential FAQ bulletin by the Wisconsin Department of Safety and Professional Services, January 16, 2018.
6. City of Sparta, Wisconsin, Codes of Ordinances, April 8, 2026, Chapter 14 Buildings and Construction, URL: https://library.municode.com/wi/sparta/codes/code_of_ordinances?nodeId=15517 [Accessed 8/19/2026].
7. Fire Damage Evaluation for Residential & Commercial Buildings by James W. Jordan, Marc A. Sokol, and John H. Stewart, for the Sixth Congress on Forensic Engineering 2012, American Society of Engineers (ASCE) 2013.
8. Mitigation Estimate, prepared by Servpro, dated June 18, 2026.

PROVIDED INFORMATION

Subsequent to Envista's inspection, Envista spoke with Mr. Shane Rolff, the Community Development Director/Building Inspector for the City of Sparta, Wisconsin, who reported the following information, as understood by Envista:

- The residence is one of two zero lot line buildings with separate owners. The repairs can be contained to the structure affected by fire and/or water in the residence. The repairs in the residence will need to meet fire separation requirements for that side of the building.

- The repair work will involve damaged structural components and therefore is classified as an alteration under the Wisconsin Uniform Dwelling Code. As such, the repaired structural components will need to meet the current Wisconsin Uniform Dwelling Code.
- The structural components of the residence that were not damaged by fire or water do not need to be replaced.
- There is a Wisconsin state statute that allows municipalities to demolish structures if the repair is more than 50% of the assessed value; however, they prefer not to invoke that as it is their hope that people will rebuild and remain in the area.

DISCUSSION

Envista inspected the residence for evidence of fire damage. The residence consisted of a zero lot line, two-story, wood-framed structure that was adjacent to a west neighboring zero lot line building (**Figure 2**). The wood-framed walls of the residence had been constructed with a platform framing convention in which the floor and roof assemblies rested on top of the wall framing of the underlying floors. The Level 2 wood floor I-joists and the wood roof trusses on Level 1 and Level 2 of the residence spanned from north to south and thus were independent of the neighboring west building. The exposed wood floor I-joists exhibited multi-span conditions that were continuous over the tops of the wood-framed walls at the middle of the residence. An inspection of the neighboring west building was beyond the scope of this report.



Figure 2 - Overall view of the south (front) elevations of the residence (yellow) and the neighboring west building (blue).

Reportedly, on or about October 31, 2025, a fire occurred that damaged multiple areas of the structure throughout the residence. The exterior of the residence exhibited vinyl siding on the north, south, and east elevations with areas of soot accumulation. Additionally, on the south and east elevations of the residence, multiple areas of exposed wood wall and roof framing members and wall sheathing exhibited

charring, which included the framing members of the south porch. At the south elevation and the south-half of the roof above the residence, multiple uncovered openings were observed in the building envelope where interior building components and finishes were exposed to exterior elements. In the interior of the residence, the surfaces of the building materials on each of the two levels exhibited widespread indications of soot accumulation. Areas of missing interior finishes, presumably created during firefighting activities, exposed the wood-framed wall, floor, and roof members on Level 1 and Level 2 of the residence. Various locations of the wood members in these areas revealed charring on the interior and perimeter wall framing, roof framing, and the Level 2 floor framing that included areas of the continuous multi-span I-joists and engineered wood beams. The observed areas with charred wood members equated to approximately 84% of the total roof structure and approximately 23% of the total Level 2 floor structure.

The heat generated by a fire in a building, as well as the significant amount of water used to extinguish the fire, can result in damage to both the structure and finishes of a building. Fire exposure causes the thermal degradation of wood, in which the wood is converted to volatile gases and a char residue. The effects on a wood structure exposed to fire may manifest as soot accumulation (soot deposits) and fire damage (charring or scorching). Soot deposits are considered a non-structural effect and can normally be cleaned. Charring has an alligator-skin appearance and indicates consumption of the wood, reducing the cross-sectional area of the member. Charring tends to slow the rate of flame spread and often aids in containment of the fire. Charring is the actual burning of wood and weakens members and connections. When charring occurs, the effective cross-sectional area of a wood member is reduced. Its strength is therefore reduced by the depth of the char, plus a small additional amount due to the heat exposure. Scorching of wood members is evidenced by a smooth, shiny, black surface with no section loss of the member. Scorching of wood is a response to high heat exposure, with the wood member not engaged in the actual process of pyrolysis. Therefore, while scorching alters the appearance of the wood member, it does not reduce the wood member's structural capacity. The amount (depth) of charring that a wood member in a conventionally framed structure can sustain and still be serviceable is dependent upon a number of factors, including the original member dimensions, fire duration, and the amount of stress in the member from all applied loads relative to the member strength. In the case of dimensional lumber framing, it has been commonly accepted that members that have sustained more than 1/8-inch of char are not serviceable, although the use of such a guideline should also incorporate the evaluation of the residual strength of the reduced-sized member to verify that it can resist the applied loads.

In the case of the interior and perimeter wall framing, Level 2 floor framing, and the Level 1 and Level 2 roof framing of the residence, Envista observed wood structural members with charring generally in excess of 1/8-inch and therefore not considered to be superficial. Thus, in determining the extent of fire damage to wood structural components, any char was considered sufficient to necessitate the removal and replacement of the member. Based on the observed conditions and reasoning provided herein, Envista concluded that *various areas of the interior and perimeter wood wall structure, the Level 2 wood floor structure, and the Level 1 and Level 2 wood roof structure of the residence were structurally impacted by the fire. For a graphical representation of the observed extent of the fire-damaged structural components, see* ***Figure 3*** *through* ***Figure 5*** *below.*

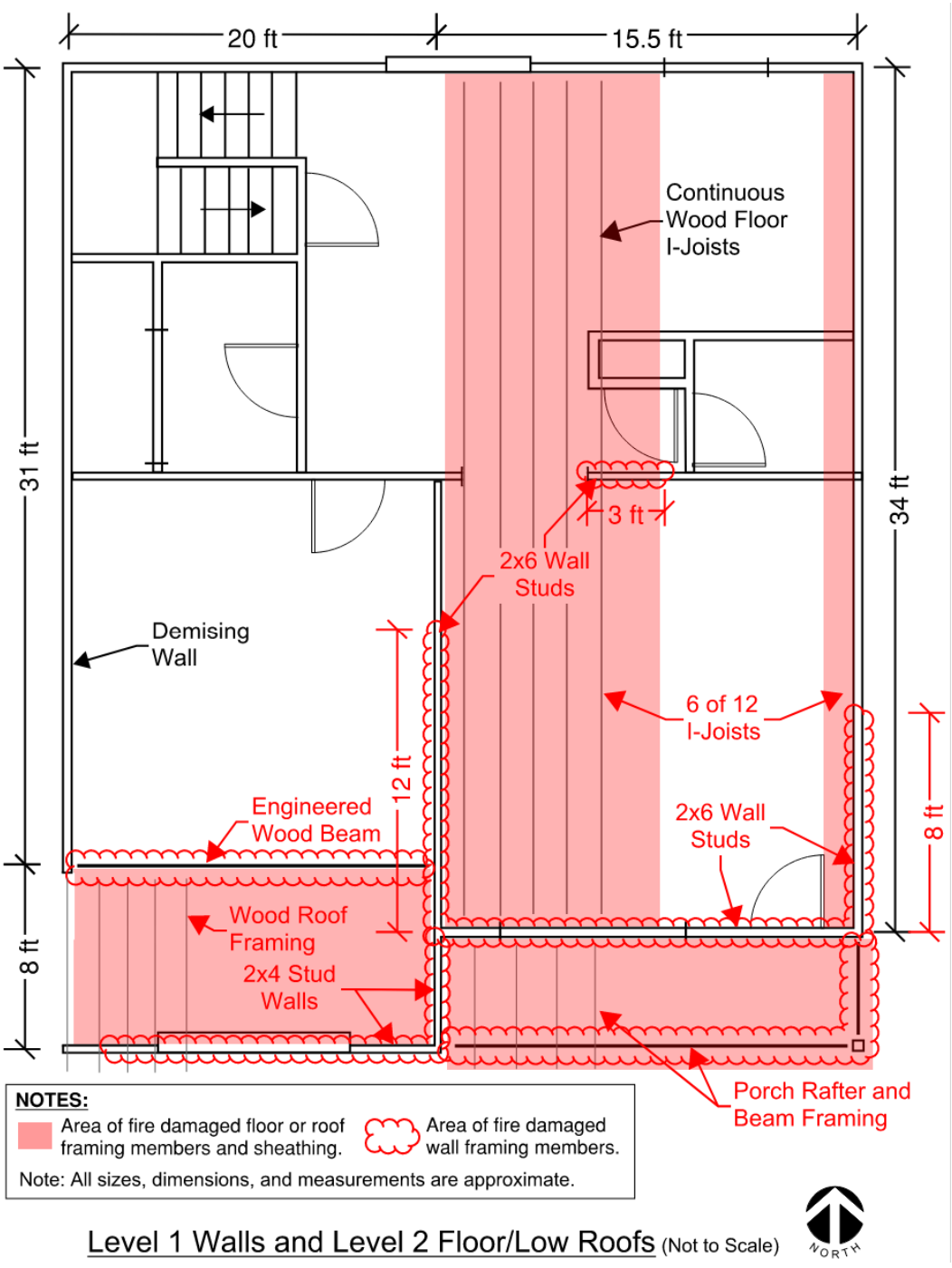


Figure 3 - Level 1 floor plan of the residence with annotations of observations from Envista's inspection.

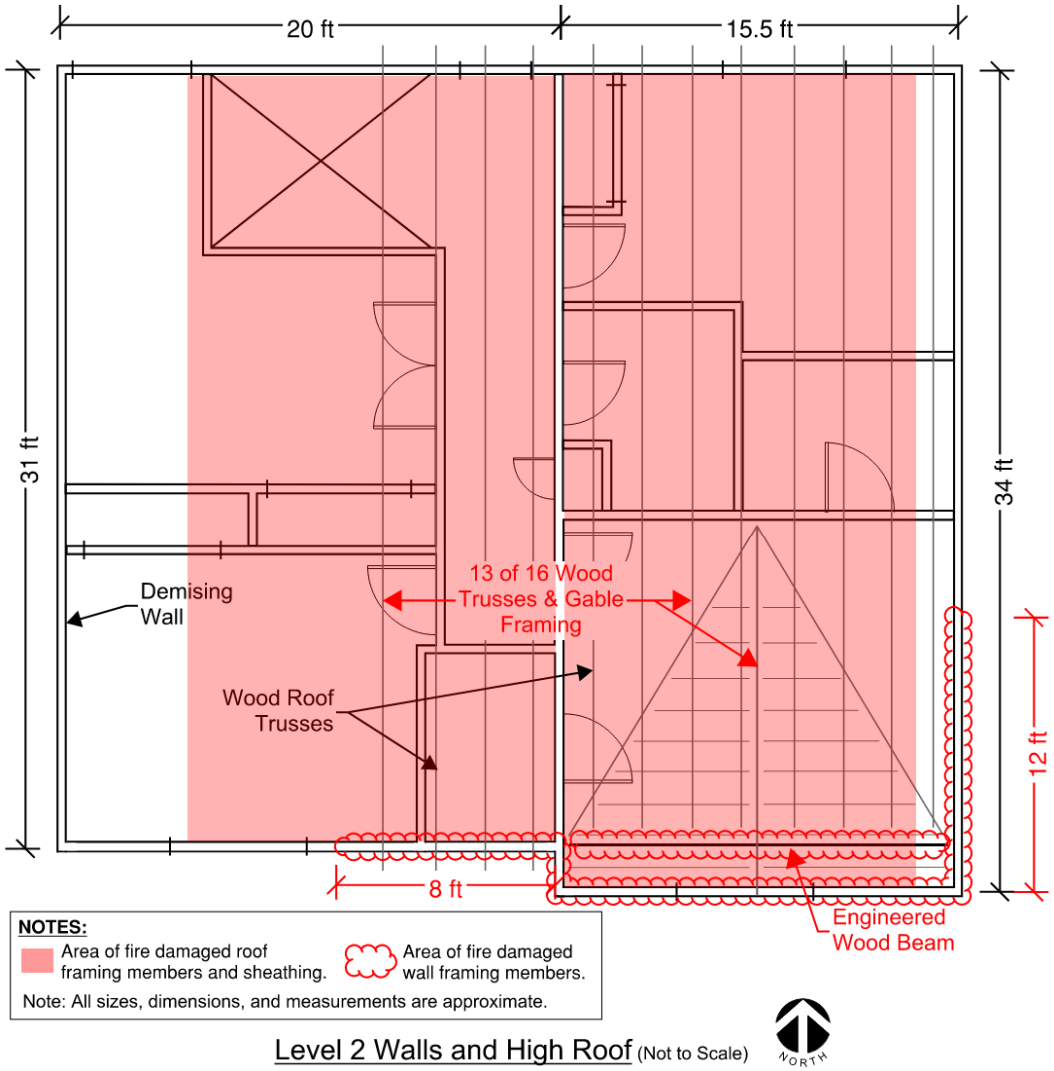


Figure 4 - Level 2 floor plan of the residence with annotations of observations from Envista's inspection.



Figure 5 - Aerial overview of the residence, courtesy of the Monroe County Land Information Office, GIS, with annotations of observed areas of fire-damaged roof structure in red (low and high roofs).

The Wisconsin Uniform Dwelling Code (UDC) applies to all one- and two-family dwellings, specifically those that were built on or after the effective date of June 1, 1980, as it pertains to the administration and enforcement, and construction standards of said dwellings. The UDC and the Wisconsin Department of Safety and Professional Services define a 'Repair' as work pertaining to nonstructural repairs and/or maintenance and an 'Alteration' as work that includes structural elements. The City of Sparta, which adopts the UDC, notes the following in Chapter 14 of their Codes and Ordinances:

> *"Sec. 14-4. - Alteration permitted.*
>
> *When not in conflict with any other regulation,* ***alteration to any building or structure, or building component or*** *system accommodating a legal occupancy or use but of nonconforming type of construction,* ***which involves either the structural members of floors, roofs, beams, girders, columns, bearing or other walls****, room arrangement, heating or air conditioning systems, electrical systems, plumbing systems, light and ventilation systems, changes in location of exit stairways or exits, or any or all of the above,* ***then such existing construction shall be made to conform to this chapter****, applicable to such occupancy and use and given type of construction."*

As such, considering the residence was constructed in 2007 after the effective date of the UDC, which has been adopted by the City of Sparta, and that the repair work for the residence will include the fire-damaged elements of the building structure, the provisions of the current UDC will apply to the structural repair work of the residence. According to the building official from the City of Sparta, the structural components of the residence that were not damaged do not need to be replaced. Therefore, based on the observed conditions, the researched and reported information, and the reasonings outlined herein, Envista concluded that *the fire-damaged structural components can be repaired or replaced in accordance with current code provisions, and complete replacement of the structure is not required. For a recommended scope of conceptual repairs for the fire-damaged structural components, see the Conceptual Repairs section of this report.*

Attachment A, Photographs, contains photographs relevant to this discussion.

CONCEPTUAL REPAIRS

The following conceptual repairs are for estimation purposes only and are not intended to be used for construction or permitting. This conceptual repair section of the report is intended to outline the required repairs to restore damaged components visible at the time of Envista's inspection to their pre-damaged condition. Cosmetic repairs to cracking damage that resulted from elastic movement of the structure and damage resulting from water intrusion are not specifically addressed in the following section. If damage beyond that listed below is found, Envista is to be contacted.

The fire-damaged wood structural components of the interior and perimeter wall structure, the Level 2 floor structure, and the roof structure can be repaired. It is anticipated that repairs will include the removal and replacement of the fire-damaged wood framing members at the locations shown in **Figure 3** through **Figure 5**, in the Discussion section of this report. However, considering the locations and extent of the fire-damaged wood structural components and the framing convention of the residence, the replacement of the building structure in its entirety may be more economical than the removal and replacement of the individual fire-damaged structural components.

If repairs are desired, the building structure above the first floor will need to be shored in place during repairs to prevent movement and/or damage to the structure above. In addition, Envista recommends that a design professional licensed in the state of Wisconsin be engaged to design the necessary repairs.

The scope of Envista's work was limited to evaluation of the structure. The evaluation of site features, contents, odors, electrical, plumbing, or mechanical was beyond the scope of this report. Evaluation of environmental issues such as mold or asbestos was beyond the scope of this report. Aesthetic considerations such as color and texture matching were also beyond the scope of this report. Maintaining proper environmental conditions (temperature and humidity) within the residence and protecting the interior from the elements during the repair effort is essential to minimizing additional damage.

CLOSURE

This report is for the exclusive use of Envista's client and is not intended for any other purpose. All opinions expressed by the undersigned within this report are formulated to a reasonable degree of engineering certainty. This report is based on information made available to Envista at this time. Should additional information become available, Envista reserves the right to determine the impact, if any, of the new information on the opinions and conclusions herein and to revise the opinions and conclusions if necessary and warranted by the discovery of additional information.

Envista Forensics



John D. Gilbertson, P.E.
Senior Project Engineer,
Civil/Structural Engineering



Technical Review by:
Aaron J. Trenshaw, (P.E. Missouri)
Director,
Civil/Structural Engineering

Attachment A, Photographs

Attachment A

Photographs

Photographs taken during our inspection, which have not been included in this report, have been retained in our files and will be made available to you upon your request. Note that the brightness and/or contrast of some photographs may have been enhanced for purposes of clarity. Some photographs may be cropped from their original sizes in order to emphasize a specific item or feature. No significant changes to any photographs were made that would alter factual representations.

Photograph 1.



Overall view of the south (front) elevations of the residence and the neighboring west building.

Photograph 2.



Overall view of the east elevation of the residence.

Photograph 3.



Overall view of the north elevations of the residence (yellow) and the neighboring west building (blue).

Photograph 4.



View of charred sheathing and wood framing members on the south elevation of the residence.

Photograph 5.



Close-up view of charred wood framing members from the exterior of the residence.

Photograph 6.



Overall interior view of the garage of the residence.

Photograph 7.



View of exposed roof framing members above the garage of the residence.

Photograph 8.



View of charred roof framing members above the garage of the residence.

Photograph 9.



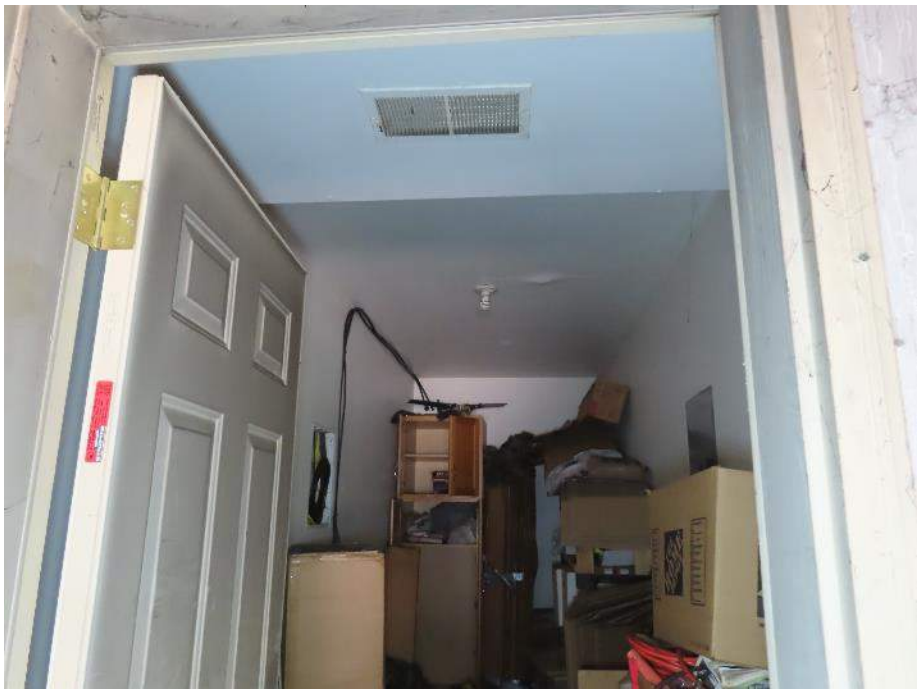
View of charred wood framing members above the garage of the residence.

Photograph 10.



Close-up view of an exposed I-joist from the Level 2 floor framing above the garage of the residence.

Photograph 11.



View of a closet adjacent to the west demising wall of the residence.

Photograph 12.



Overall interior view of the residence.

Photograph 13.



Overall interior view of the residence.

Photograph 14.



Close-up view of a charred I-joist from the Level 2 floor framing of the residence.

Photograph 15.



Close-up view of charred wall framing members of the residence.

Photograph 16.



Close-up view of charred wall framing members of the residence.

Photograph 17.



Overall view of exposed wood roof trusses above Level 2 of the residence.

Photograph 18.



View of charred gable framing members above charred Level 2 roof trusses of the residence.

Photograph 19.



View of charred gable framing members above charred Level 2 roof truss members of the residence.

Photograph 20.



View of charred roof trusses and framing members above Level 2 of the residence.

Photograph 21.



View of charred roof trusses and framing members above Level 2 of the residence.

Photograph 22.



View of the Level 2 roof trusses adjacent to the west demising wall of the residence.


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