

**LINE OF DUTY
DEATH REPORT
REPORT SLIDES**



F2020-02

Firefighter Dies After Falling into the Basement due to Floor Collapse at a Modular Home Structure Fire – Missouri



Summary

- On January 5, 2020, a 30-year-old career firefighter died after falling into the basement due to a floor collapse at a residential structure fire.
- The occupants tried to fight the fire before calling 9-1-1, which caused an estimated 6 to 9-minute delay in notifying the fire department.
- At 11:04:49 hours, fire dispatch transmitted a 1st Alarm assignment for a residential structure fire.
- Engine 51, Engine 52, Medic 52, and Chief 51 from the fire protection district (FPD) were dispatched.
- An automatic aid tanker – Tanker 1 was dispatched from a different public safety answering point (PSAP) in a different county.
- At 11:06:33 hours, Chief 41 and Pumper 43 from Fire Station 41 were dispatched by their PSAP to respond to the residential structure fire.

LINE OF DUTY DEATH REPORT REPORT SLIDES



The deceased firefighter was operating a hoseline in the kitchen when the floor collapsed into the basement. The red arrow indicates the kitchen area. Photo courtesy of the fire department.



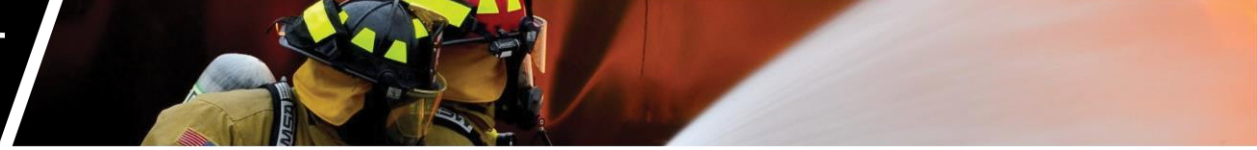
Summary

- At 11:13:02 hours, Engine 51 advised there was smoke showing from a single-family residence.
- The captain of Engine 51 advised the fire dispatcher that smoke was showing from the open basement door, which was located on the Side Bravo/ Side Charlie corner.
- The wind was blowing at 24 mph and gusting to 33 mph from the NNW (Side Bravo to Side Delta).
- The chauffeur of Engine 51 stretched a 1¾-inch hoseline to the front door and then stretched a 1¾-inch hoseline to the top of the basement steps.
- The captain and firefighter from Engine 51 made entry into the basement with light gray smoke showing at 1115 hours.



Summary

- Engine 51 was only able to proceed a few feet into the basement due to the excessive clutter.
- There was smoke in the basement but no visible fire or heat.
- Chief 51 arrived on-scene and assumed Command at 1117 hours. Engine 51 exited the basement and moved to the front yard.
- They met Chief 51 and advised him of the conditions in the basement.
- Command ordered Engine 51 to take the hoseline at the front door and make their way to the laundry room area.
- Engine 51 made entry through the front door at 1118 hours.



Summary

- Chief 41 and Pumper 43 arrived on-scene at 1119 hours.
- Battalion Chief 82, Engine 81, Tanker 81, and Squad 82 were dispatched at 1119 hours.
- Chief 41 conducted a 360-degree walk around.
- Pumper 43 was assigned to the basement.
- Pumper 43 took the hoseline at the bottom of the basement steps and stretched it into the basement.
- Engine 51 and the firefighter from Engine 52 entered the front door and went inside the house.



Summary

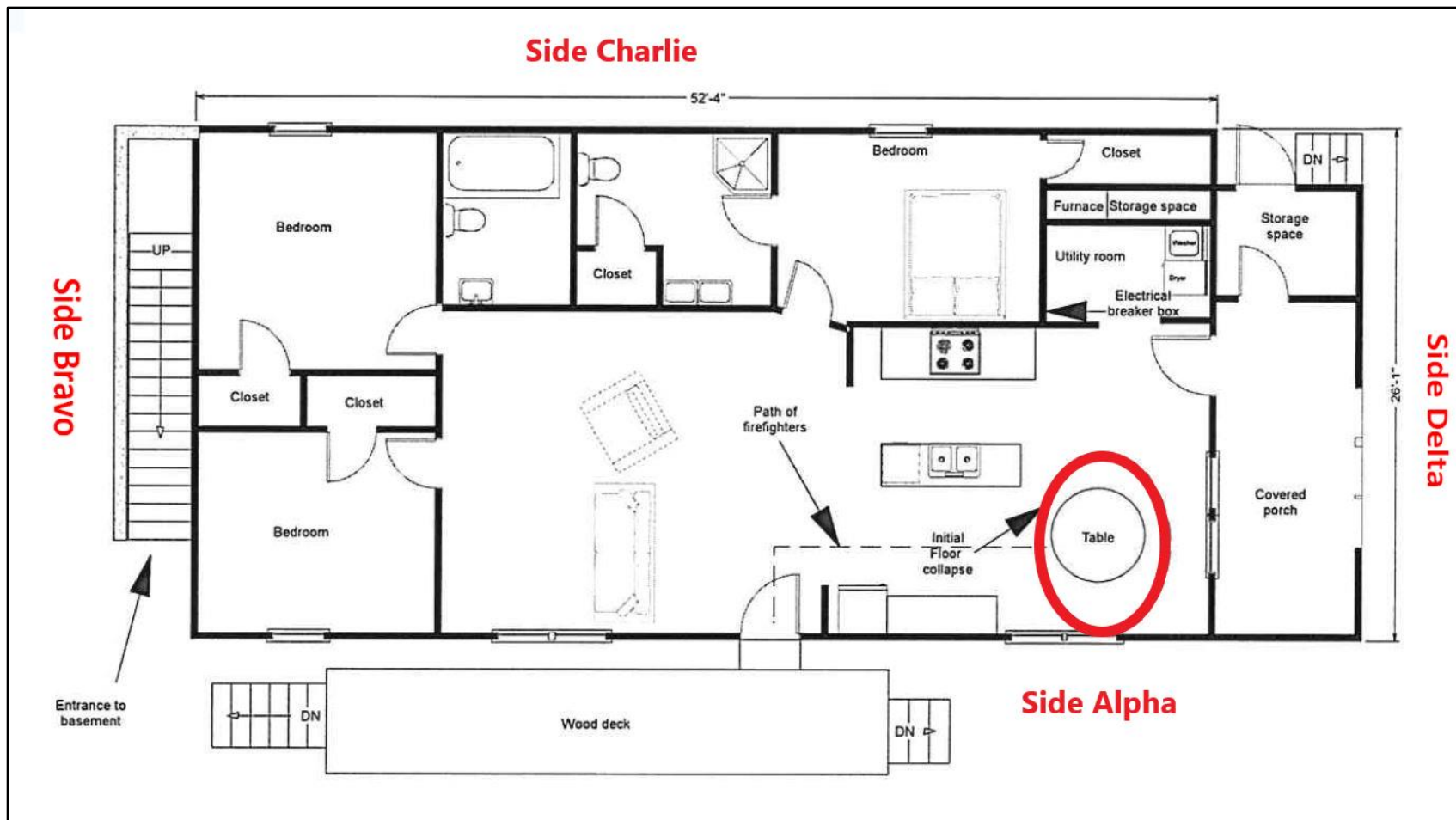
- The firefighter from Engine 51 remained at the front door.
- As they moved into the kitchen area, the captain from Engine 51 called Command and asked to have the roof vented.
- The time was approximately 1122 hours.
- They found fire in the kitchen area and were attempting to knock down the fire.
- The firefighter at the front door stated he heard glass breaking and a lot of noise.
- At 1126 hours, the captain of Engine 51 exited the structure without the firefighter from Engine 52.



Summary

- At 1129 hours, the captain advised Command that the firefighter from Engine 52 was still in the kitchen.
- The captain of Engine 51 advised the firefighter was possibly trapped by a ceiling collapse.
- Pumper 43 was reassigned from the basement to the front door to locate the missing Engine 52 firefighter.
- The smoke changed from gray smoke to black smoke under pressure.
- Pumper 43 began to advance into the kitchen beyond the hoseline a short distance when the ceiling began to come down.
- The interior conditions began to deteriorate rapidly.

LINE OF DUTY DEATH REPORT REPORT SLIDES



The floor plan of the 1st floor. The area where the floor collapsed is denoted by the red circle in the kitchen. Diagram courtesy of the Missouri Office of the State Fire Marshal.



Summary

- The officer of Pumper 43 called a Mayday at 11:31:25 hours.
- Pumper 43 was out of the structure at approximately 1132 hours.
- The Mayday for Pumper 43 was cleared.
- At 11:42:19 hours, Command contacted the fire dispatcher and requested a box alarm assignment from a metropolitan fire department.
- At 1143 hours, Command advised the strategy was changed to defensive operations.



Summary

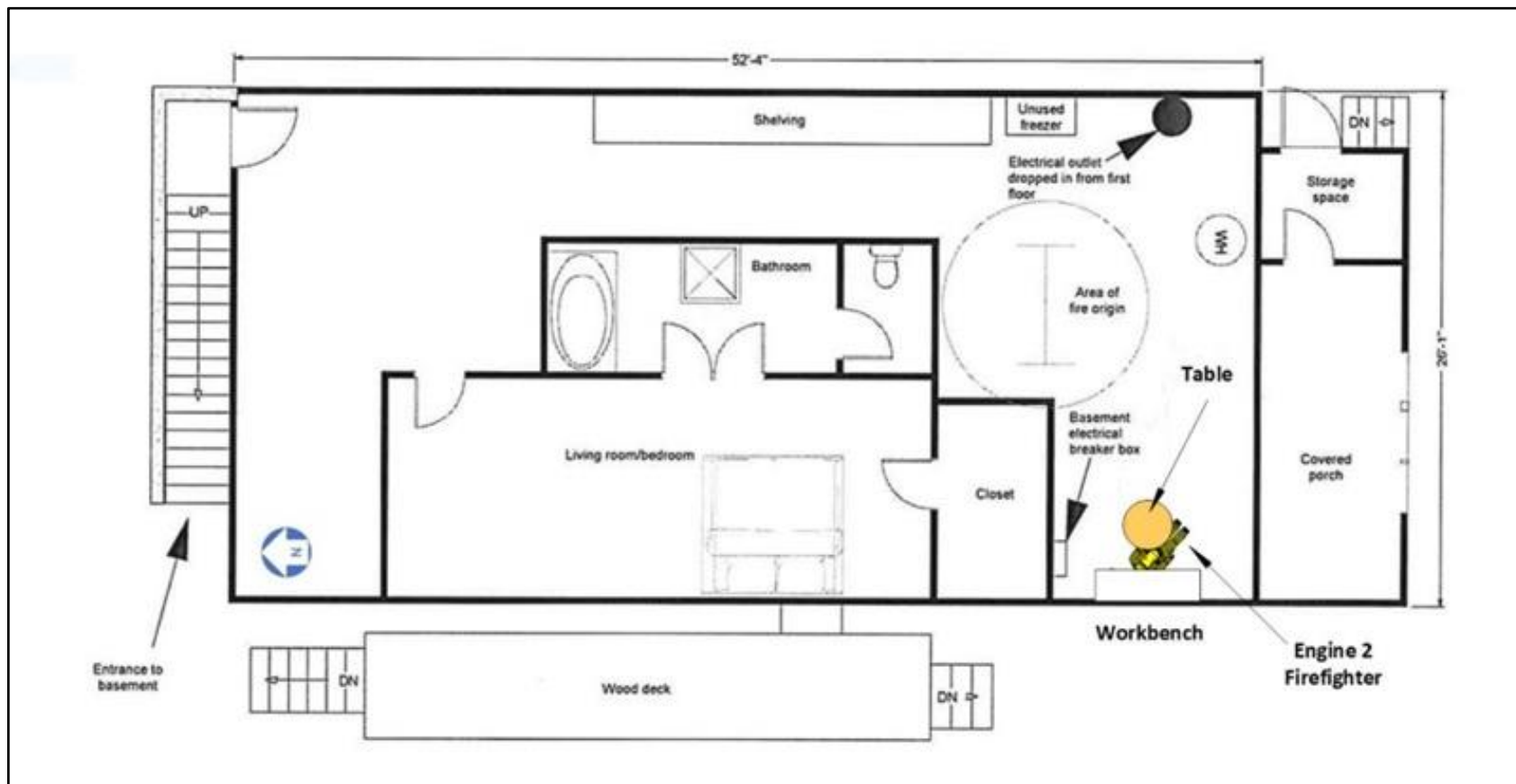
- Firefighters on-scene continued to fight the fire defensively while trying to locate the missing firefighter from Engine 52.
- At 11:49:48 hours, the metro fire department dispatched a box alarm sending 4 engines, 2 trucks, 2 heavy rescues, a district chief and a deputy chief to respond to this incident.
- At 1209 hours, the 1st Alarm assignment from the metro fire department started to arrive on-scene.
- At 1222 hours, Pumper 45 took a 1¾-inch hoseline into the basement with Truck 15.
- Pumper 45 and Truck 15 found the firefighter submerged under water and covered with debris near the wall on Side Alpha directly under the double windows in the kitchen/dining room.



Summary

- He was located partially under a workbench and a table.
- At 1241 hours, Rescue 9 and Rescue 31 entered the basement via the ground ladder in a window on Side Alpha.
- The water was approximately 20-24 inches deep in the basement and extremely hot.
- Rescue 9 had to move a considerable amount of debris to get the firefighter from underneath the workbench and table.
- A carabineer was hooked to the firefighter's SCBA strap, and the members of Rescue 9 were able to pull the firefighter to the doorway of the basement.
- The firefighter was out of the basement at 1305 hours.

LINE OF DUTY DEATH REPORT REPORT SLIDES



Pumper 45 and Truck 15 found the missing firefighter from Engine 562 under a wall-mounted workbench in the basement. The firefighter was covered with debris, a table and submerged under water. The time was 12:34:13 hours.



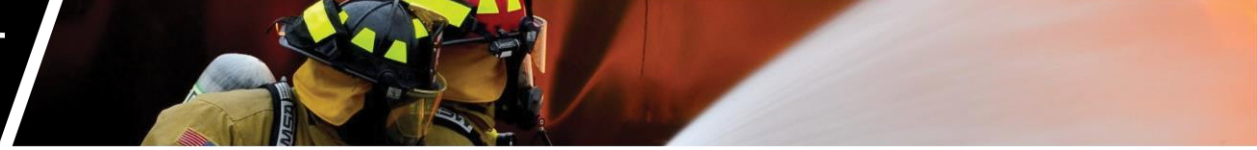
Summary

- The firefighter was moved to a medic unit and transported to a regional medical center at 1308 hours.
- The firefighter was pronounced deceased at 1328 hours.
- The fire was declared out at 1705 hours.



Contributing Factors

- Delayed notification of the fire to the 9-1-1 center
- Lack of continuous scene size-up and risk assessment
- Lack of crew integrity
- Building construction – modular home
- Basement fire
- Wind-impacted fire
- Lack of incident management, including management of a Mayday



Contributing Factors

- Lack of personnel accountability
- Lack of a rapid intervention crew(s)
- Inadequate fireground communications
- Portable radio operational issues
- Inadequate staffing
- Initial lack of a secured water supply
- Lack of proficiency training



Recommendations

- Fire departments should ensure the first arriving resource assumes command, conducts a scene size-up and risk assessment, determines the incident's strategy, and incident action plan. This information is communicated in the initial radio report.
- Fire departments need to ensure that company officers and firefighters maintain crew integrity when operating in the hazard zone.
- Fire departments should ensure that all companies are operating based upon the assignment given by the incident commander. The Task-Location-Objective assignments should be communicated over the radio, which prevents freelancing and ensures that tactical priorities are met.
- Fire departments need to ensure that critical incident benchmarks are communicated to the incident commander throughout the incident.



Recommendations

- Fire departments should use NFPA 1700, Guide for Structural Fire Fighting to develop and revise fireground operational procedures.
- Fire departments should develop and implement a standard operating procedure (SOP)/standard operating guideline (SOG) for tactical operations involving modular homes.
- Fire departments should review and update their SOP/SOGs for tactical operations involving below-grade fires.
- Fire departments should develop and implement SOP/SOGs, training programs, and tactics for wind-impacted fires.
- Fire departments should ensure incident commanders establish a stationary command post that is tied to a vehicle for effective incident management, which includes the use of a tactical worksheet.



Recommendations

- Fire departments should incorporate the principles of command safety into the incident management system. This ensures that the strategic-level safety responsibilities are incorporated into the command functions throughout the incident.
- Fire departments should ensure that all firefighters and fire officers are trained for Mayday operations.
- Fire departments should provide a Mayday tactical worksheet for incident commanders in the event of a Mayday.
- Fire departments should ensure all members and dispatchers are trained on the safety features of their portable radio, particularly the features useful during a Mayday.
- Fire departments should ensure all firefighter portable radio volume-power knobs cannot be accidentally turned down or off when in use.



Recommendations

- Fire departments should use a functional personnel accountability system, requiring a designated accountability officer or resource status officer.
- Fire departments should regularly review and revise their SOP/SOG on the deployment of rapid intervention crews (RICs).
- Fire departments should review and/or develop SOG/SOP to ensure that water supply is established and maintained during initial fireground operations, particularly in areas with limited or no hydrants.
- Fire departments should ensure that all members engaged in emergency operations receive annual proficiency training and evaluation on fireground operations, including live fire training. This training should be conducted with automatic aid fire departments.

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