



# In-Station Training

## TM 24-12 Residential Fire



### Author

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### Purpose

Chimney fires are often confined to the inside of the flue. However, this is not always the case. Firefighters and fire officers must understand and recognize the characteristics of masonry and metal chimneys and related building construction features that impact fire spread when a chimney fire extends beyond the flue.

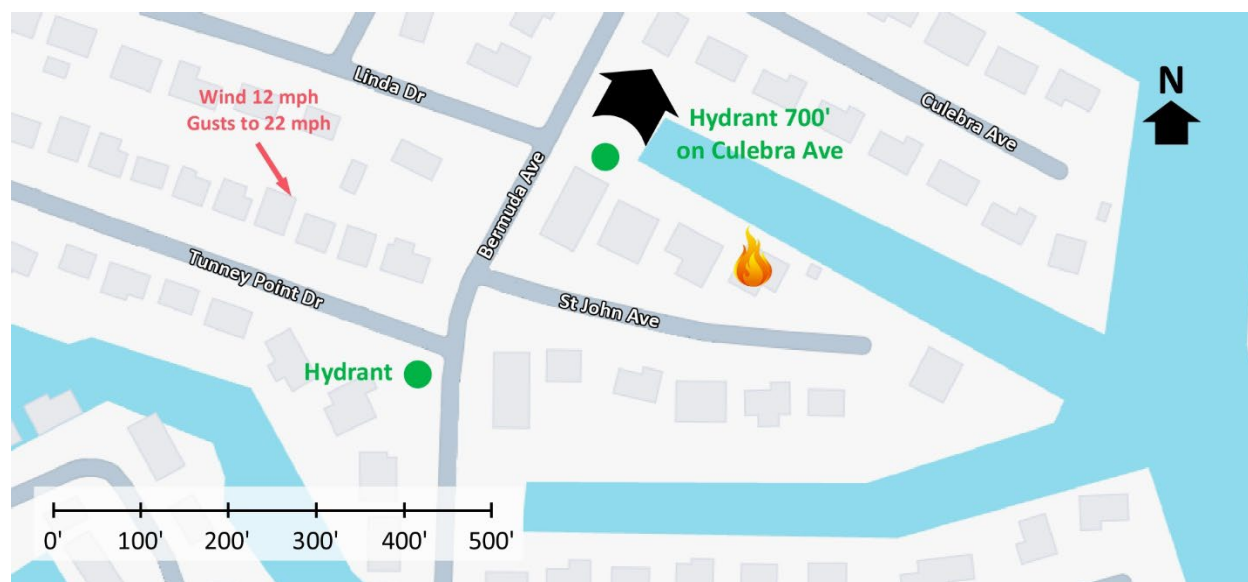
### Learning Outcomes

Firefighters and officers perform an effective size-up, select an appropriate strategy, and implement tactics based on the strategic decision-making model.

### Conducting the Drill

This incident involved a residential fire at 14 Saint John Avenue, Toms River, New Jersey on January 21, 2024, at 16:26 (Demonracer2, 2024). Review the map and photos (Figures 1-6) to gain an understanding of the area and building involved.

Figure 1. Map of the Incident Area



Note: Adapted from Google. (2024a). [Map, 14 Saint John Avenue, Toms River, NJ].

<https://bit.ly/3uDZlC>.

Figure 2. Aerial View



Note: Adapted from Google. (2024b). [Aerial view 14 Saint John Avenue, Toms River, NJ].  
<https://bit.ly/48t7GRB>.

The closest hydrant is at the intersection of Tunney Point Drive and Bermuda Avenue with an additional hydrant on Culebra Ave at shown in Figure 1.

Figure 3. Alpha/Bravo Corner



Note: Adapted from Google. (2022a). [Street view, 14 Saint John Avenue, Toms River, NJ].  
<https://bit.ly/3TailMF>.



Figure 4. Side Alpha



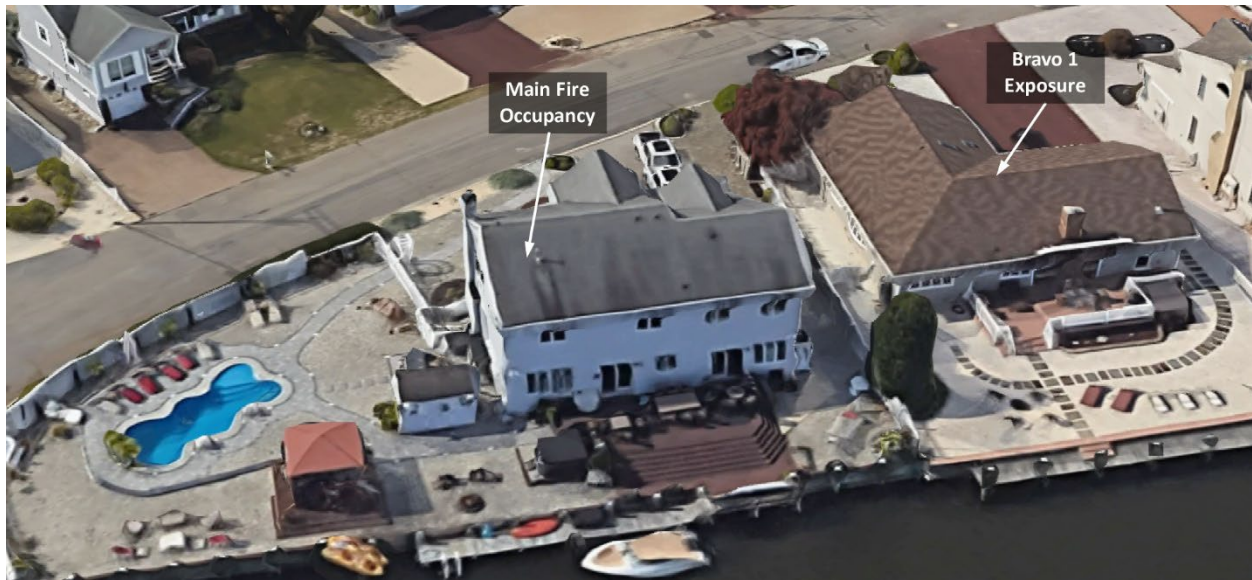
*Note:* Adapted from Google. (2022b). [Street view, 14 Saint John Avenue, Toms River, NJ].  
<https://bit.ly/3UZNQYt>.

Figure 5. Side Delta



*Note:* Adapted from Google. (2022c). [Street view, 14 Saint John Avenue, Toms River, NJ].  
<https://bit.ly/3Tbhv2c>.

Figure 6. Side Charlie



Note: Adapted from Google. (2024c). [3d aerial view, 14 Saint John Avenue, Toms River, NJ].  
<https://bit.ly/3UTOqcS>.

The temperature is currently 31° F with wind from the northwest at 12 mph with gusts to 22 mph (Weather Underground, 2024). You have been dispatched to 14 Saint John Avenue for a report of a residential fire at 16:26. You are the company officer or AIC of the first arriving engine and have your company's typical staffing.

1. What critical factors would you consider when dispatched and during response and what conversations would you have with your crew while responding?

Dispatch provides an update reporting that they are receiving multiple calls for a structure fire at this address. You hear a command officer and two other engines with typical staffing for your agency go enroute. You will arrive from the west northwest on Tunney Point Road. The second engine will arrive from the north northeast on Culebra Ave six minutes after you. The command officer will arrive shortly after the second engine. All other units dispatched on the first alarm will arrive after the command officer.

Watch the first 00:30 of the incident video (Demonracer2, 2024) and examine Figure 7 illustrating conditions on arrival.

Figure 7. Conditions on Arrival



*Note:* Adapted from Demonracer2. (2024). *Pre arrival working structure fire Toms River NJ 1-21-24* [video]. <https://bit.ly/3wsCWTr>.

2. State your initial radio report (IRR) exactly as you would transmit it to dispatch.
  
3. What specific actions would you take (as the company officer) immediately upon arrival and exiting the apparatus and what task orders you would give your crew?

Watch the [incident video](#) (Demonracer2, 2024) from 00:50 to 01:20 before answering the questions four through seven. No smoke is visible from Side Charlie and the occupants report that they have evacuated the house and are accounted for.

4. Would you change the action you are taking or modify the assignments given to your crew? If so, what task orders would you provide?
  
5. State your update report exactly as you would transmit it to dispatch.

6. Engine 2 arrives and reports that they are Level 1 on a hydrant on Culebra Avenue. State the tactical assignment you would give them exactly as you would transmit it.
  
7. Based on the anticipated effectiveness of your tactical operations, state your conditions, actions, and needs (CAN) report that would you provide to the first arriving command officer as part of command transfer to IC #2.

Watch the [incident video](#) (Demonracer2, 2024) from 02:00 to 05:30 before answering the remaining questions.

8. Was the quick hit from Side Delta effective? Why or why not?
  
9. What factors would have influenced the effectiveness of water distribution when water is applied from ground level through the gable into the attic?
  
10. What fire behavior indicators (visible from the exterior) indicate the probability of fire extension to the interior and attic?
  
11. If there was significant extension into the interior, what risk was presented by making entry through the door on Side Alpha? What alternative access point and tactics would minimize this risk?



**Additional Learning:** Review *Standard Operating Guideline (SOG) 4.3.6 Structural Firefighting Under Wind Conditions* (ECFR, 2024). Consider how the fire location (Side Delta) along with wind speed and direction may have influenced fire conditions encountered in this incident. What changes in critical factors could have resulted in a different, and potentially tragic outcome?

Newer homes with wood burning fireplaces or stoves commonly have a prefabricated metal chimney inside of a wood framed chimney chase. In some cases, as in this incident, the wood framed chase is exposed on the exterior and/or above the roofline. In other cases, a masonry veneer of brick or stone is attached to the exterior surface of the wood framed chase, giving the appearance of a masonry chimney. The wood framed chimney chase may have multiple openings to structural framing voids and the attic of the house, providing avenues for fire spread.

Read [All About Prefabricated Fireplaces](#) (Bianco, 2022) and examine Figure 8 illustrating two different wood frame chimney chases (neither of these photographs were of the building involved in this incident).

Figure 8. Wood Framed Chimney Chases



*Note:* Adapted from Bianco, P. (2022). *All about prefabricated fireplaces*. <https://bit.ly/3P11YQ0>. & Hearth.com. (n.d.). [Photo of a wood framed chimney chase]. <https://bit.ly/4bUFY33/>.

Watch [Chimney Chase](#) (Brick Industry Association, 2014) and consider the additional challenges and potential hazards when dealing with a chimney or structure fire involving a wood framed chimney chase with a masonry veneer.

Get out in your response area and identify chimneys that have (or may have) a wood framed chimney chase. It is a bonus if you can find one under construction and get permission to have a closer look! Discuss the tactical implications and potential hazards presented by this construction feature with the members of your crew.

## References

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