



# In-Station Training

## TM 24-46a Large Residential Fire-Rural Water Supply



### Author

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### Purpose

Firefighters and fire officers generally have more experience fighting fires in single family homes than other types of occupancies. However, fires in larger single-family homes present unique challenges, particularly when the fire occurs in an area not serviced by a water system having adequate supply.

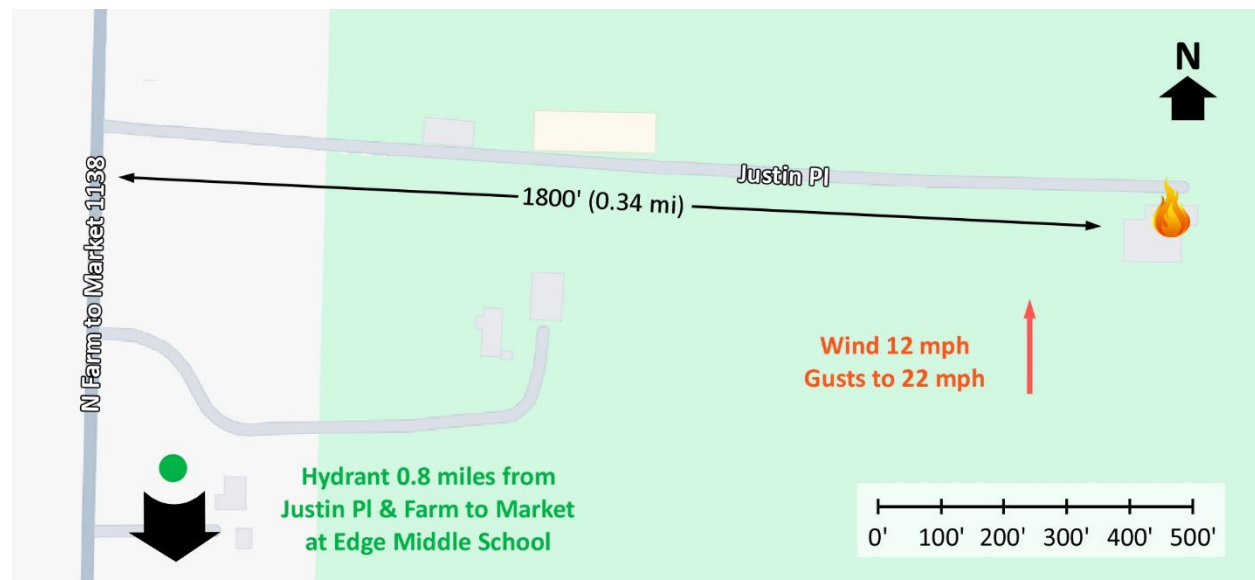
### Learning Outcomes

Command officers perform effective ongoing 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 598 Justin Place in Nevada, Texas on October 17, 2024, at 13:32 (WFFA, 2024; KTVT Staff, 2024; & Summerville, 2024). Review the map and photos (Figures 1-7) to gain an understanding of the area and building involved.

Figure 1. Map of the Incident Area



Note: Adapted from Google. (2024a). [Map, 598 Justin Place, Nevada, TX]. <https://bit.ly/3YaEtb2>.

Figure 2. Closest Water Supply at Edge Middle School



Note: Adapted from Google. (2024b). [Aerial view 620 N Farm to Market 1138, Nevada, TX]. <https://bit.ly/4e5IQem>.

There are no hydrants in the immediate area. The closest water supply is at the Edge Middle School, 1.14 miles from the incident location as illustrated in Figures 1 and 2.

Figure 3. Aerial View



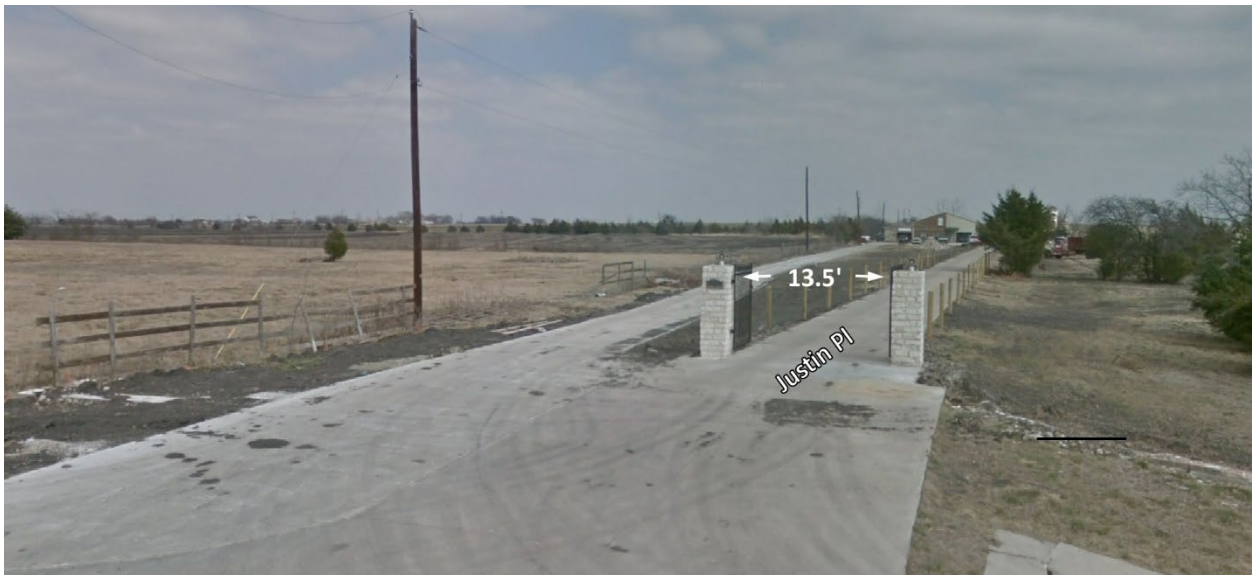
Note: Adapted from Google. (2024c). [Aerial view 598 Justin Place, Nevada, TX]. <https://bit.ly/3NA7h83>.

Figure 4. Approach to Justin Place on N Farm to Market Road 1138



Note: Adapted from Google. (2023a). [Street view 598 Justin Place, Nevada, TX]. <https://bit.ly/4e4Sgqp>.

Figure 5. Gated Entrance to Justin Place



Note: Adapted from Google. (2023b). [Street view 598 Justin Place, Nevada, TX]. <https://bit.ly/4e1Mh4N>.

Figure 6. 3D Aerial View Alpha/Bravo Corner



Note: Adapted from Zillow. (2022). 598 Justin Pl, Nevada, TX 75173. <https://bit.ly/4hlbfyT>.

Figure 7. 3D Aerial View Alpha/Delta Corner



Note: Adapted from Zillow. (2022). 598 Justin Pl, Nevada, TX 75173. <https://bit.ly/4hlbfyT>.

Before beginning the strategic and tactical decision-making segment of this 10-Minute Training, take a few minutes for a little rural water supply preplanning. Fixed critical factors are (or can be) known prior to the incident. Being able to answer the following questions will assist in effective decision-making when faced with a fire in an unhydranted area:

- How will you address water supply when the main fire occupancy is down a dead-end road or driveway? What are your tactical options and what factors will influence your decision-making?
- Given the configuration of your apparatus and hose loads what is the maximum practical length of a relay?
- What water tender tactics can you perform with the available resources (nurse tender or tender shuttle using portable tanks)?
- What flow rate can you develop and sustain using water tender operations? Do you know your tender capacity's, dump times, fill times, and travel times (based on typical average speed)?
- Which of the available fire hydrants would be your choice of fill site? What variable factors will influence your choice?

You have been dispatched to a report of a house fire at 598 Justin Place at 13:32 on a Thursday in October. You are responding to this incident as the first arriving command officer. The temperature is 67° F with wind from the south at 12 mph with gusts to 22 mph (Weather Underground, 2024). While responding you hear four engines, three water tenders, an advanced life support (ALS) ambulance, and a second command officer go enroute. The engines have staffing typical of your agency.

The first engine will arrive from the south on North Farm to Market Road 1138. The second engine and ALS ambulance will arrive from the same direction approximately one minute after the first engine. The first water tender will arrive four minutes after the second engine. Make a note of your resource and staffing assumptions prior to continuing with this 10-Minute Training. **You will arrive from the south on North Farm to Market Road 1138 after the first water tender.** Additional resources on the first alarm will arrive later in the incident.

1. What critical factors would you consider when dispatched and during response?

While responding, dispatch provides an update reporting a fire in the garage at 598 Justin Place. While enroute, the first due engine reports seeing a large column of smoke while still a considerable distance from the incident location.

While you were responding Engine 1 provided the following initial radio report:

*On-scene of a medium, two-story house with a working fire in the attached garage on the Bravo/Charlie Corner. Stretching an attack line on Side Bravo, offensive strategy, second alarm with Level 2 Staging on North Farm to Market Road at Scotland Drive, Engine 1 is Justin Command.*

Level 2 Staging on Farm to Market Road at Scotland Drive is approximately 1400' to the south of the intersection of Farm to Market Road and Justin Place.

Justin Command provides the following update report:

*360 complete, one story on Side Charlie, no basement, high wind from the south, continuing offensive, Engine 1 is accountability on Side Bravo.*

Engine 2 and Medic 2 report Level 1 on North Farm to Market Road. Justin Command provides the following orders to Engine 2 and Medic 2.

*Medic 2, park out of the way, integrate with Engine 2.*

*Engine 2, supply Engine 1, stretch an attack line through Side Alpha for fire control and primary search.*

Water Tender 1 arrives and reports Level 1 on North Farm to Market Road. Justin Command provides the following orders to Water Tender 1.

*Water Tender 1, supply Engine 1. Your fill site will be at Edge Middle School.*

Watch the first 10 seconds of the [incident video](#) (WFAA, 2024) and examine Figure 8 illustrating conditions as you arrive. It is important to recognize that it is unlikely that you would have this perspective (aerial view) on arrival. Consider the conditions you would observe from Side Alpha, the Alpha/Bravo Corner, or Side Bravo (depending on where you would position your command vehicle).

Figure 8. Conditions on Sides Charlie and Delta



*Note: Adapted from Eye on News. (2024). Structure fire: 1st Avenue, Sterling IL 6/26/24 [video].*

As you arrive, you hear Engine 2 call Justin Command with priority traffic.

*Fire has extended into Floors 1 and 2, applying water with limited effect, withdrawing to Side Alpha, need exterior water from Sides Charlie and Delta.*

IC #1 (Engine 1) acknowledges and provides the following orders to Engine 2:

*Recycle, then stretch an additional attack line off Engine 1 to the Charlie Delta Corner for fire control.*

2. What actions will you take prior to contacting IC #1 (Engine 1) to begin command transfer?
3. State your command transfer communication after IC #1 acknowledges your radio contact (exactly as you would transmit it).

Following your confirmation of the location and assignment of Engine 1, Engine 2, and Medic 2 and request for a conditions, actions, and needs (CAN) report, IC #1 provides the following CAN:

*That is correct, Engine 1 is operating an attack line on Side Bravo for fire control and Engine 2 will be stretching an attack line to the Bravo/Charlie Corner for fire control. Water tender 1 is supplying Engine 1 and is at ½ tank, need additional water supply.*

4. State the communication you would have with IC #1 and dispatch to complete the command transfer (exactly as you would transmit it).
5. What action would you take based on the CAN from Engine 1 (IC #1). State the communications you would have with the operating companies exactly as you would transmit them.

Engine 3 arrives and reports that Engine 3 and Water Tender 2 are Level 1 on North Farm to Market Road.

6. State the tactical assignment that you will give Engine 3 exactly as you would transmit it.
  
7. State the tactical assignment that you will give Water Tender 2 exactly as you would transmit it.
  
8. Chief 2 arrives and advises that they are Level 1. State the assignment you will give Chief 2 exactly as you would transmit it.

Engine 4 arrives and reports that they are Level 1 on North Farm to Market Road.

9. State the tactical assignment that you will give Engine 4 exactly as you would transmit it.

Water Tender 3 arrives and reports that they are Level 1 on North Farm to Market Road.

10. State the tactical assignment that you will give Water Tender 3 exactly as you would transmit it.

Reflect on your strategic decision-making and responses to questions 1 through 8 before answering the remaining questions.

11. What was the problem?
  
12. What was getting in the way of achieving your tactical priorities?
  
13. Was there anything in this incident that could have hurt or killed you (right now)?



14. Was it reasonable to believe that the building was occupied?

15. Was there searchable space?

16. If you believed it was reasonable that the building was occupied and there was searchable space, what could you do about it?

Watch the [incident video](#) (WFAA, 2024) from 00:10 to 01:40 before answering the next several questions.

17. Did you shift to a defensive strategy? If so, why and at what point (e.g., immediately on arrival, after command transfer, etc.). If you did not, why not? What factors influenced your strategic decision-making?

18. Were the wind conditions initially reported by Engine 1 consistent with conditions observed in the incident video? How did wind speed and direction along with the arrangement and configuration of the building impact your strategy and incident action plan?

Watch the [incident video](#) (WFAA, 2024) from 03:30 to 07:00 before answering the next question.

19. Companies operating at this incident used an elevated master stream for fire control. Was this stream effective? What factors influenced the effectiveness or ineffectiveness of water application from the ladder pipe?

Watch the [incident video](#) (WFAA, 2024) from 24:30 to 25:30 before answering the remaining question.

20. A ladder pipe was operating on Side Bravo while firefighters were working from the exterior to gain access to fire burning in the attic space on Side Delta. Why might these two tactical options have been used concurrently? What were the risks presented? How can the IC effectively manage the risk to operating companies when operating at an incident like the one in this 10-Minute Training?

**Additional Learning:** National Fire Protection Association (NFPA) *1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* (NFPA, 2020). Defines first alarm deployment for firefighting operations in single-family homes based on a two-story, 2,000 square foot house with no exposures. Strategy and tactics for single family homes typically focuses on one- and two-story houses of less than 3,000 square feet.

The house involved in this incident had two levels and over 7,000 square feet of living space with an open floor plan. Earlier in 2024, East County Fire and Rescue had a similar incident in an 8,800 square foot three level home (with even greater access and water supply challenges). These types of occupancy quite different than “typical” single family homes and yet are quite different than multi-unit residential or commercial occupancies. Read [Tactical Pre-Planning for the Big Homes](#) (Collins, 2009) for a few thoughts on preparing for this type of incident.

Larger single-family homes present a significant challenge in areas with adequate water supply, but many of these homes are in areas without a municipal water system. Watch the Montgomery County Fire and Rescue Services (MCFRS) [Rural Water Supply Series](#) with Battalion Chief Mark Davis for a look at multiple rural water supply options. Note: The “tankers” discussed in this video do not have wings but are the same thing as “water tenders” within the context of National Incident Management System resource typing.

## References

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