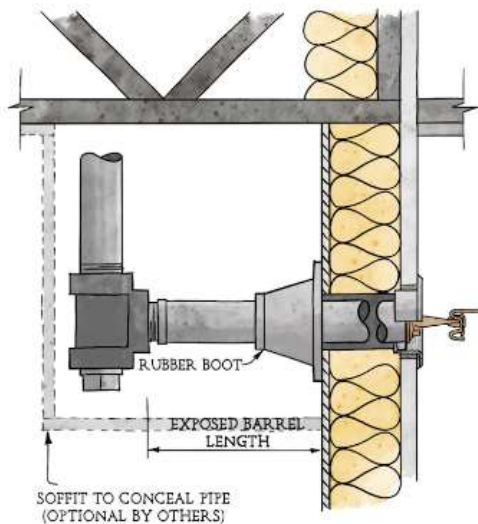# LAYOUT: AMBULANCE BAY, PART III

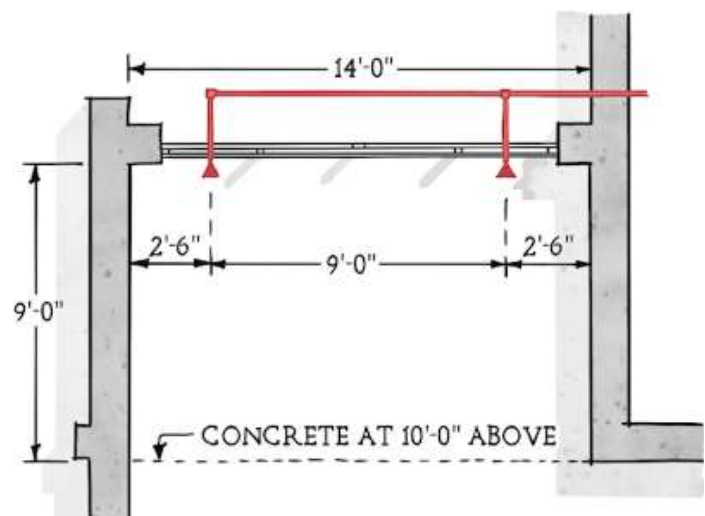**UNDERSTANDING SPRINKLER LAYOUT SERIES** BY MEYERFIRE UNIVERSITY | MARCH 2023

SUMMARY

In this segment we continue on the steps involved in designing a sprinkler system for an ambulance bay with a smooth concrete deck, walls on three sides, and an overhang. Steps:

- Step #3 - Determine Obstructed or Unobstructed Construction. In this case, **Unobstructed Construction** because it is a smooth concrete deck.
- Step #4 - Determine Combustible or Non-Combustible Construction. Here, **Non-Combustible Construction** since it is concrete and brick surround.
- Step #5 - Determine Pipe Schedule or Hydraulically Calculated System. Here, **Hydraulically-Calculated** since it is a new system.
- Step #6 - Select the Sprinkler Type and Orientation. Here, we're electing to use **dry-sidewall sprinklers**. The main benefit here is not having exposed sprinklers or pipe (which would require a dry or antifreeze system).
- Step #7 - Determine the Spacing. We visit the **spacing rules** in NFPA 13-2016 Edition and 2022 Edition (Sections 9.7 and 10.3.3 respectively)
- Step #8 - Position the Sprinklers, using the spacing rules from Step #7. Here we landed on two dry-sidewall sprinklers fed from above, 5" down from the deck.
- Extra **notes on dry-sidewalls**; we need to consider (1) the barrel length of the dry sidewall, (2) what it connects into, (3) insulation around the sprinkler, and (4) possibly concealing the backside so that there's not exposed pipe.

Section View of Dry Sidewall Sprinkler
(this could make for a nice detail on the drawings)

Plan View of the Dry-Sidewall Layout

CODE/STANDARD REFERENCES

NFPA 13 – 2016: Table 8.7.2.2.1 Standard Spray Sidewall Sprinkler Spacing
NFPA 13 – 2022: Table 10.3.3.2.1 Standard Spray Sidewall Sprinkler Spacing

VIDEO LINK

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