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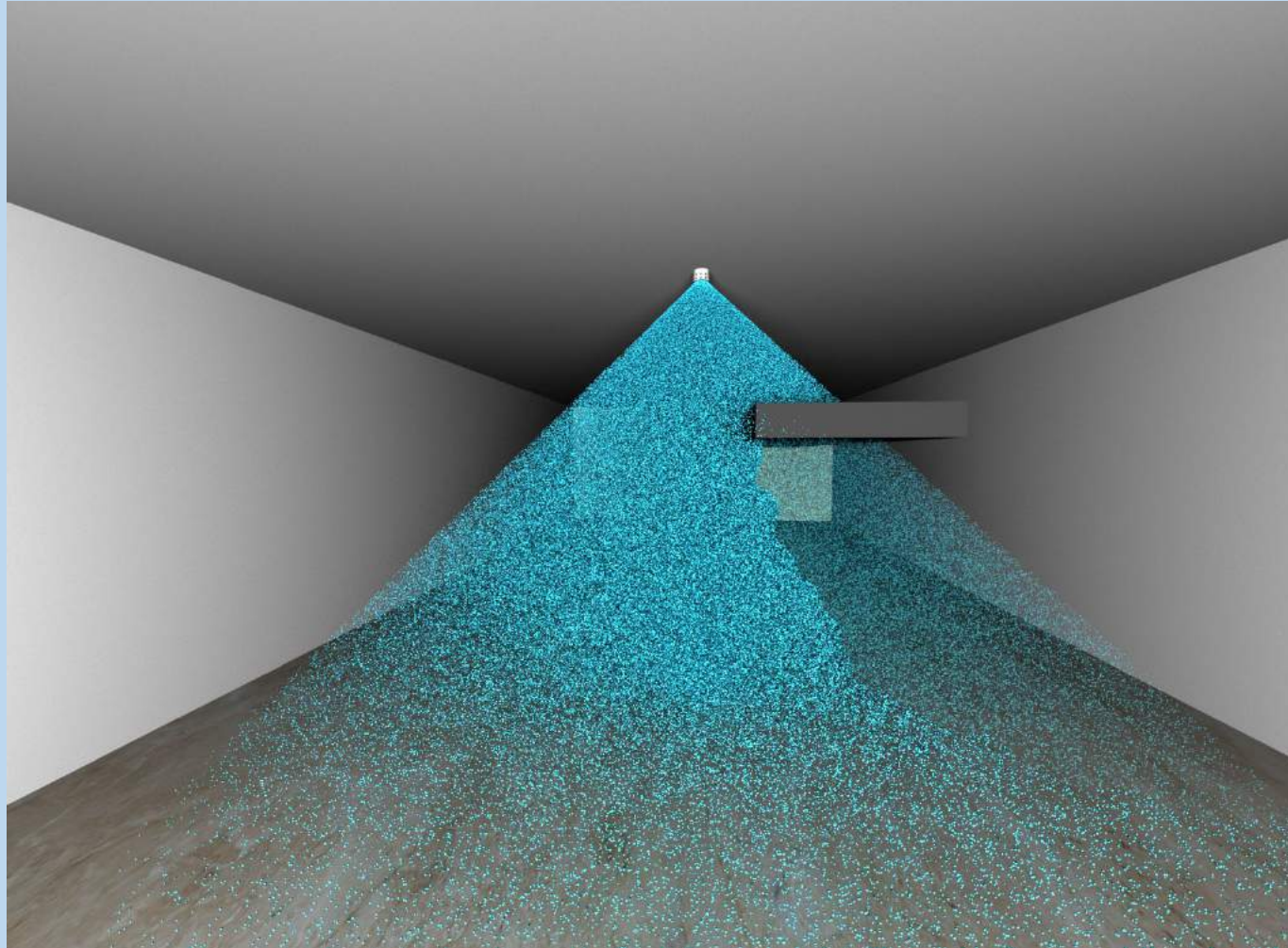
1. OBSTRUCTIONS CAN AFFECT THE PERFORMANCE
2. EXAMPLES FROM NFPA 750
3. EXAMPLE OF COORDINATION
4. IMPORTANCE OF QUALITY ENGINEERING
5. REAL-LIFE CASES

A decorative graphic consisting of three overlapping, curved lines in red, black, and yellow, forming a shape that resembles a stylized 'C' or a swoosh, framing the main title text.

Ensuring the Water Mist System Performance

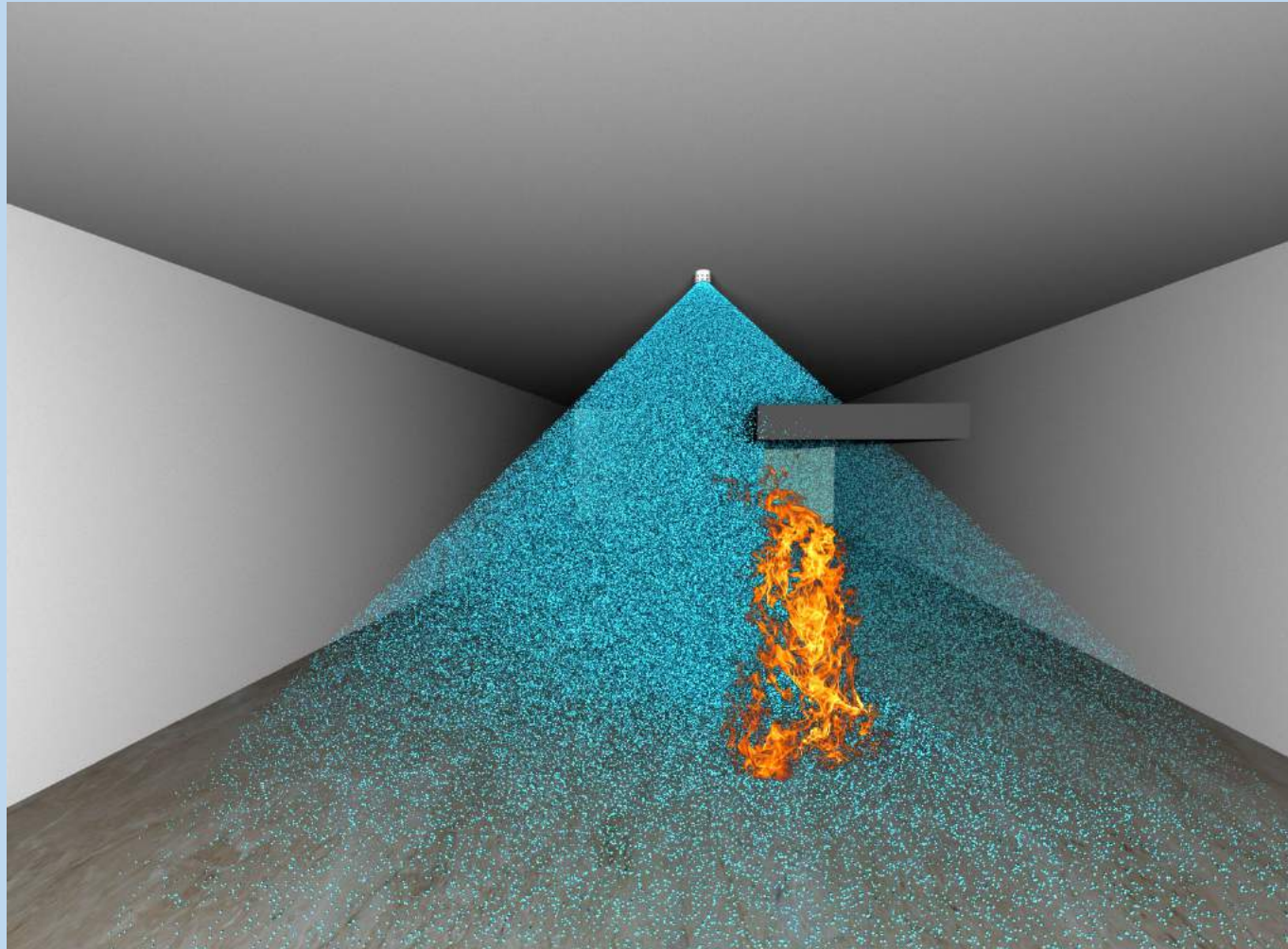
OBSTRUCTIONS CAN AFFECT THE PERFORMANCE

NFPA 750_2015 A.8.2.5 *“Spray that strikes obstructions too close to the nozzle will not fully atomize, and a portion of the water mass will be removed from suspension in the space.”*



OBSTRUCTIONS CAN AFFECT THE PERFORMANCE

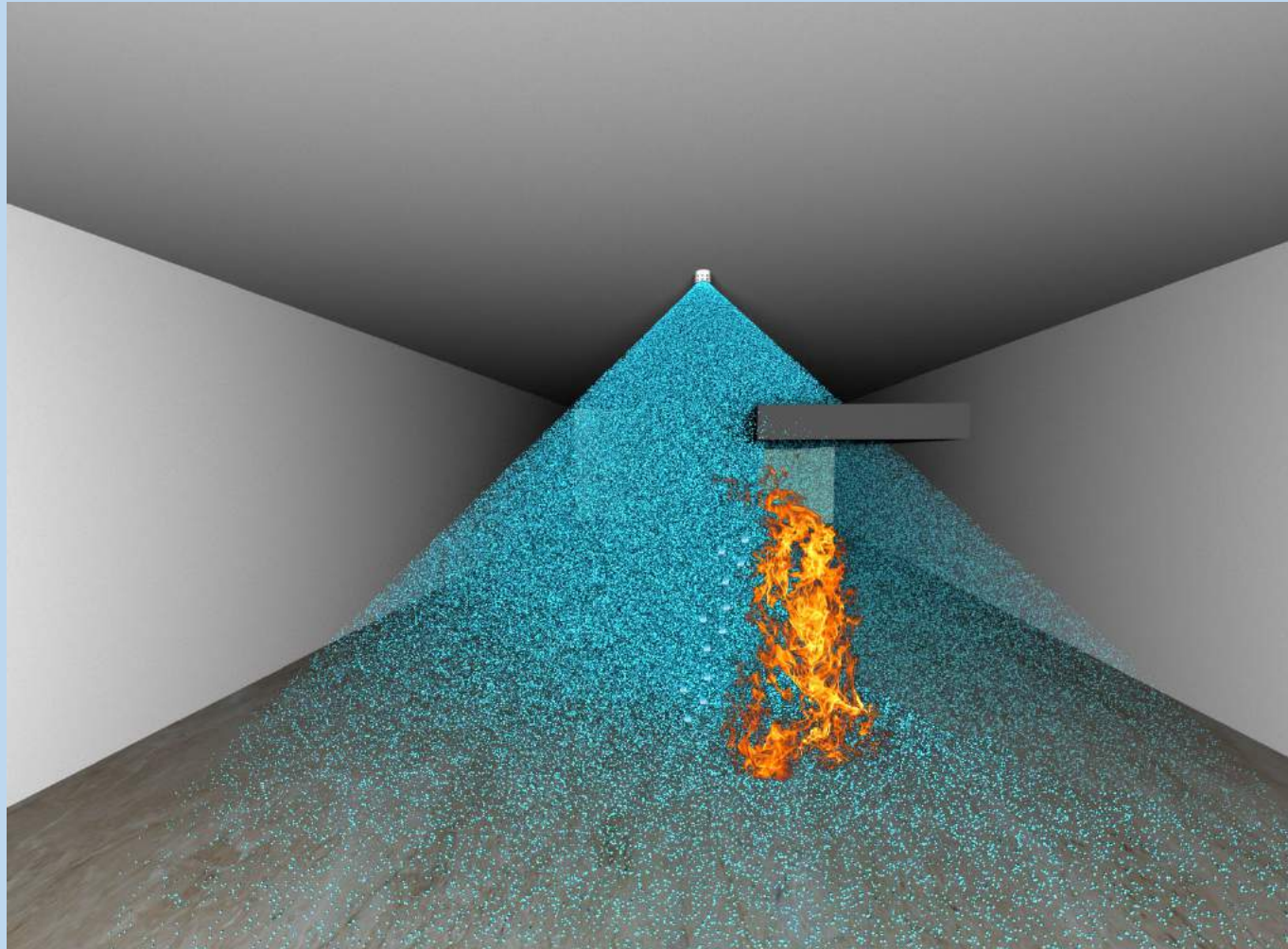
NFPA 750_2015 A.8.2.5 *“Water mist that impacts directly on surfaces will not be available as fine droplets for heat absorption, radiation attenuation, or evaporation. Such losses diminish the extinguishing effectiveness of total flooding or local application systems.”*



Hazard: OH1
Flux per volume: 0.35 LPM/m³

OBSTRUCTIONS CAN AFFECT THE PERFORMANCE

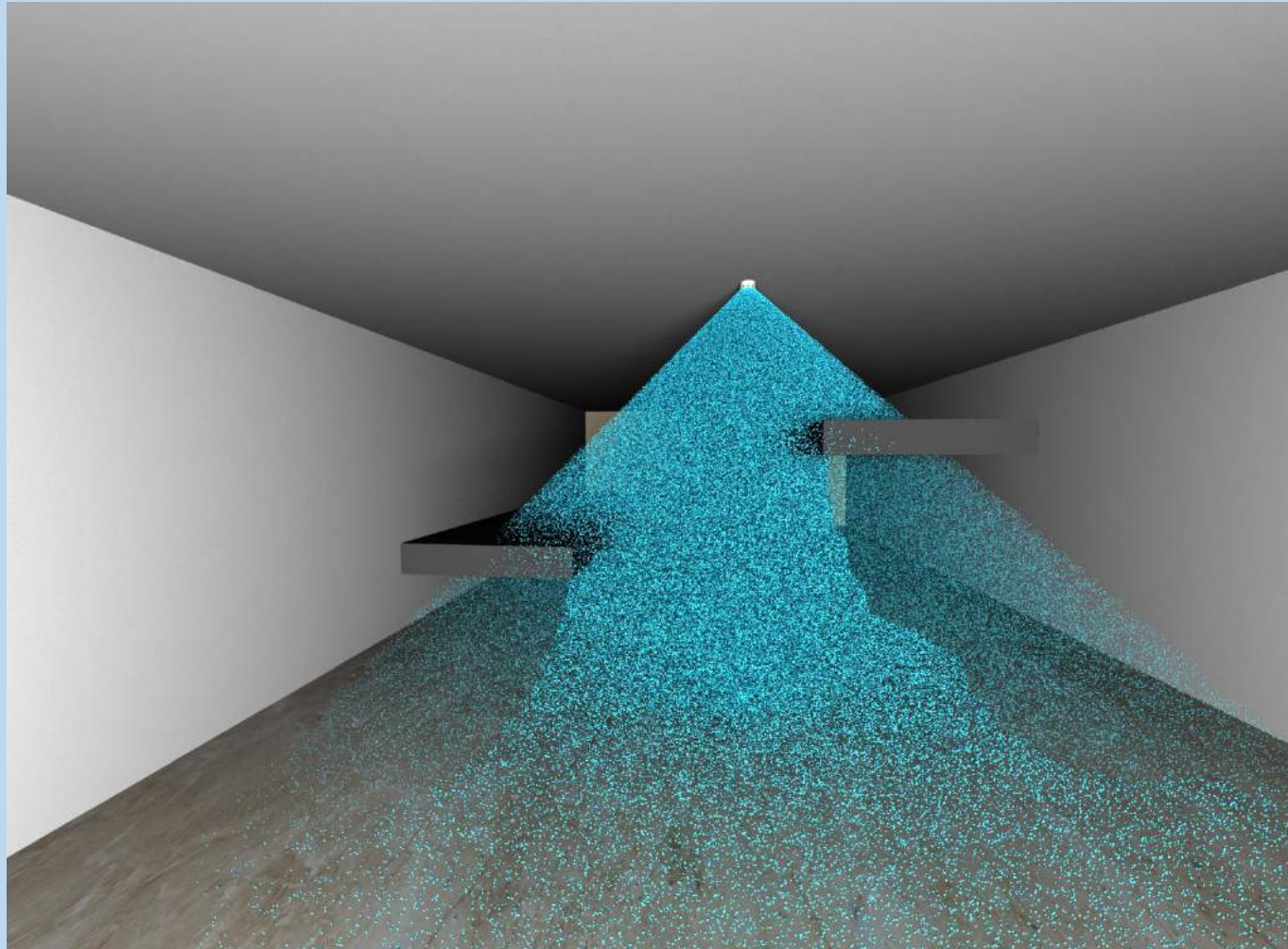
NFPA 750_2015 A.8.2.5 *“For Class A fire scenarios where pre-wetting of combustibles is an important factor in preventing fire growth, obstructions to spray development prevent wetting of unburned materials and diminish the performance of the system.”*



Wetting the surfaces helps in preventing fire growth

OBSTRUCTIONS CAN AFFECT THE PERFORMANCE

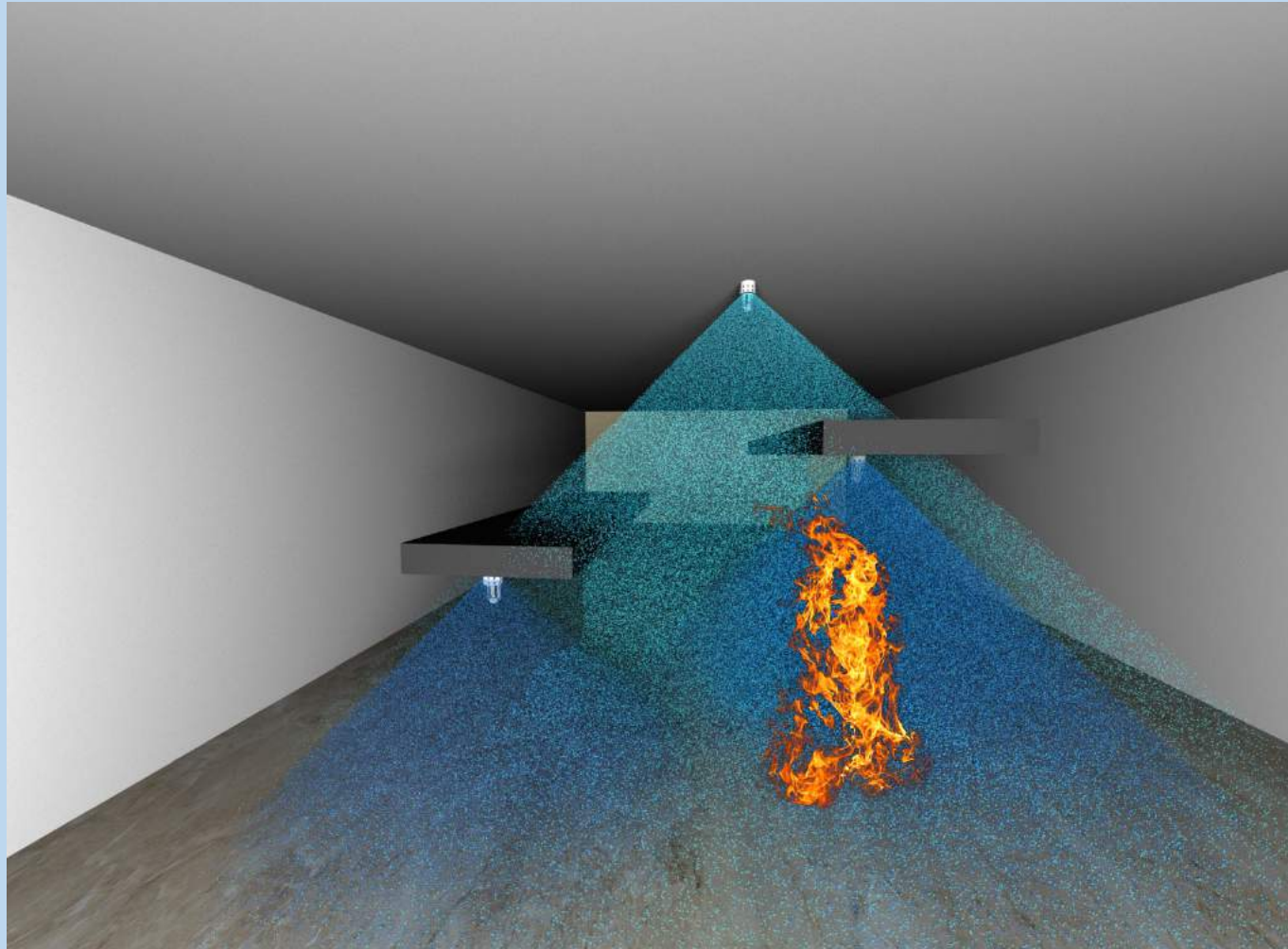
NFPA 750_2015 A.8.2.5 *“The degree to which obstructions can affect the performance of water mist protection differs according to the type of spray technology and the type of application.”*



Flux per volume below the obstruction is about 0.15 L/min

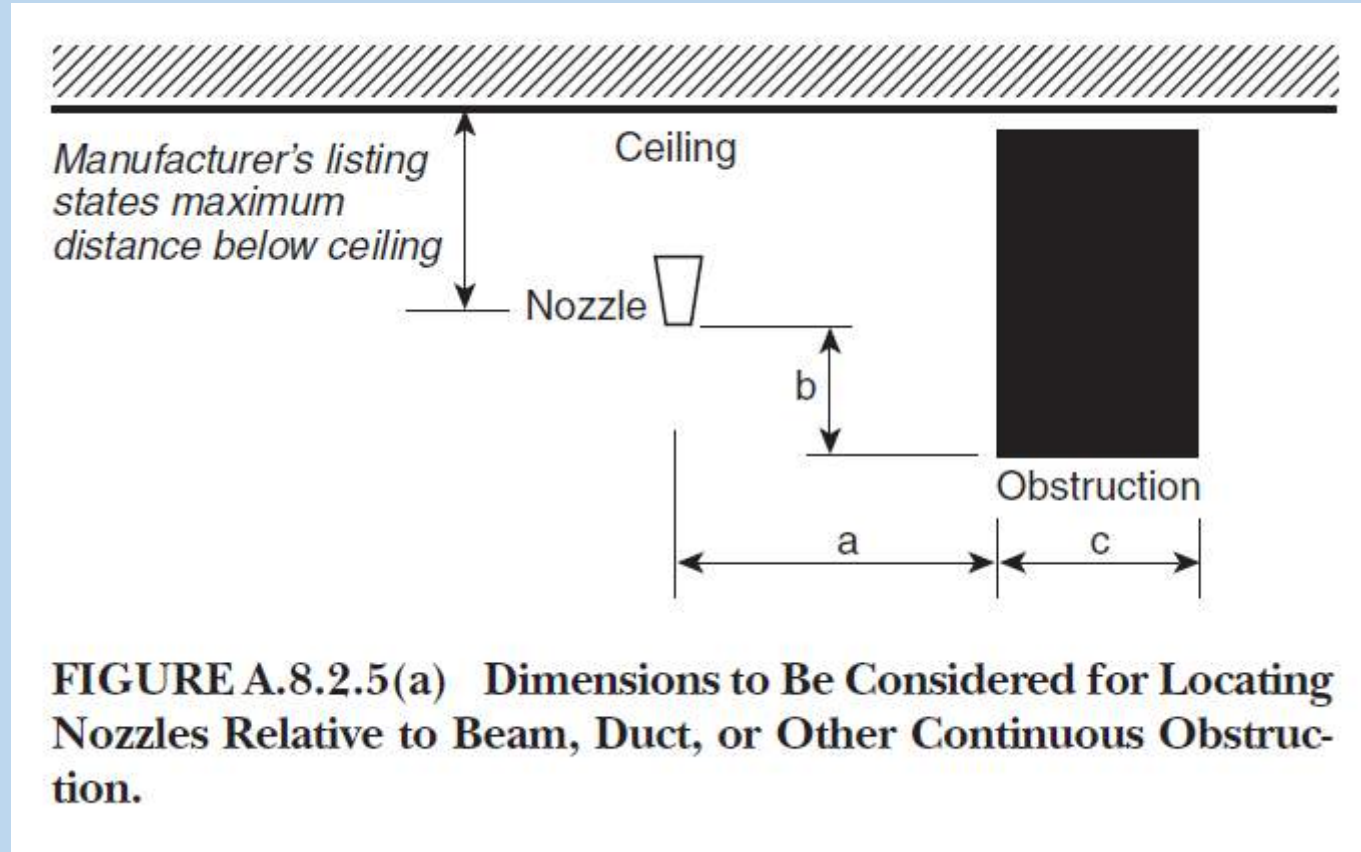
OBSTRUCTIONS CAN AFFECT THE PERFORMANCE

NFPA 750_2015 A.8.2.5 “Additional nozzles can be required to ensure complete water mist fire protection when obstructions and maximum coverage distances to obstructions are not evaluated as part of the manufacturer’s listing.”



Pump size in this case would be certainly affected

NFPA 750_2015 Figure A.8.2.5 (a)



NFPA 750_2015 Figure A.8.2.5 (b)

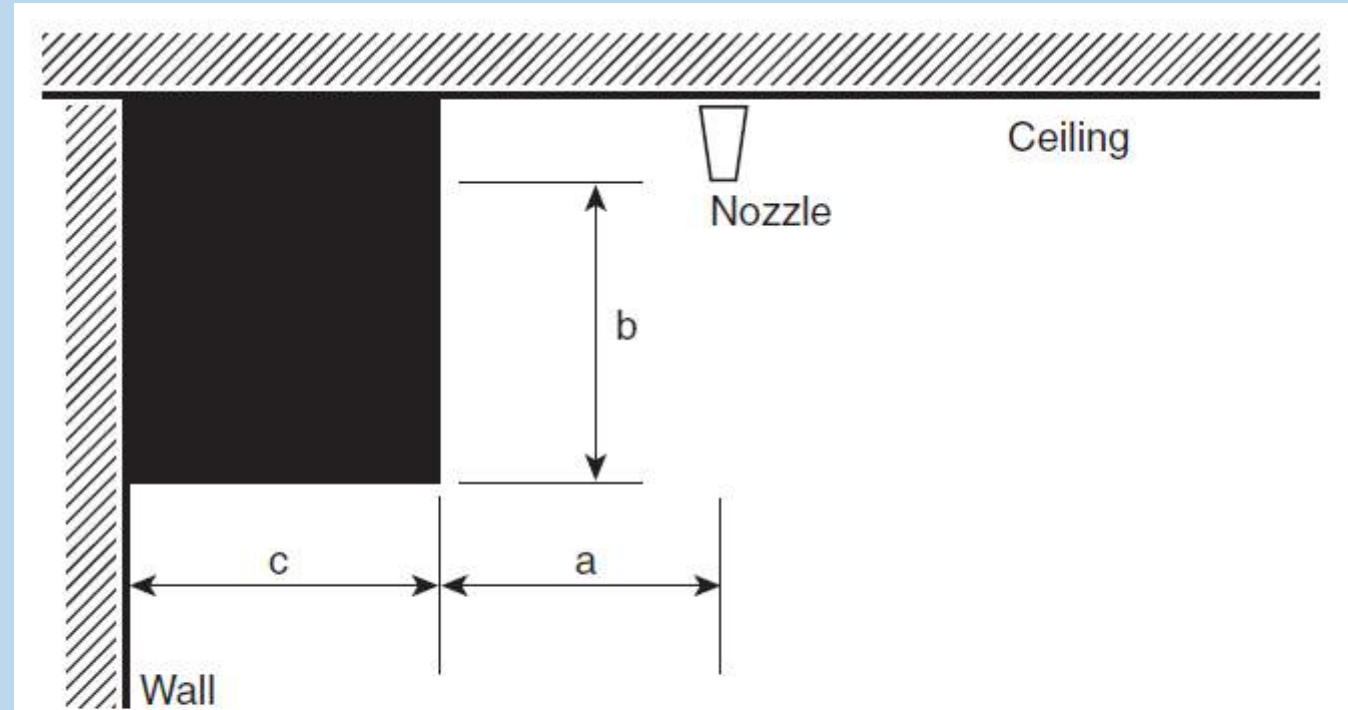
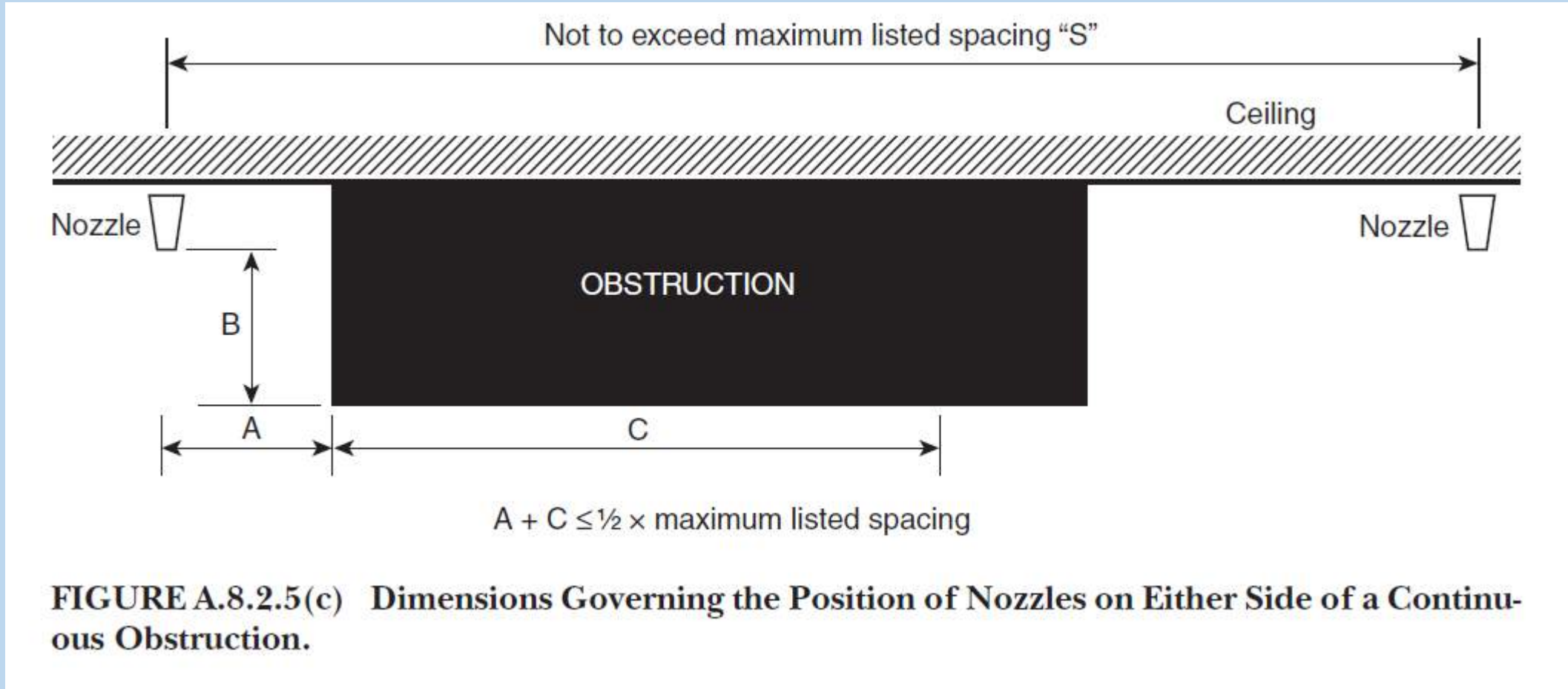
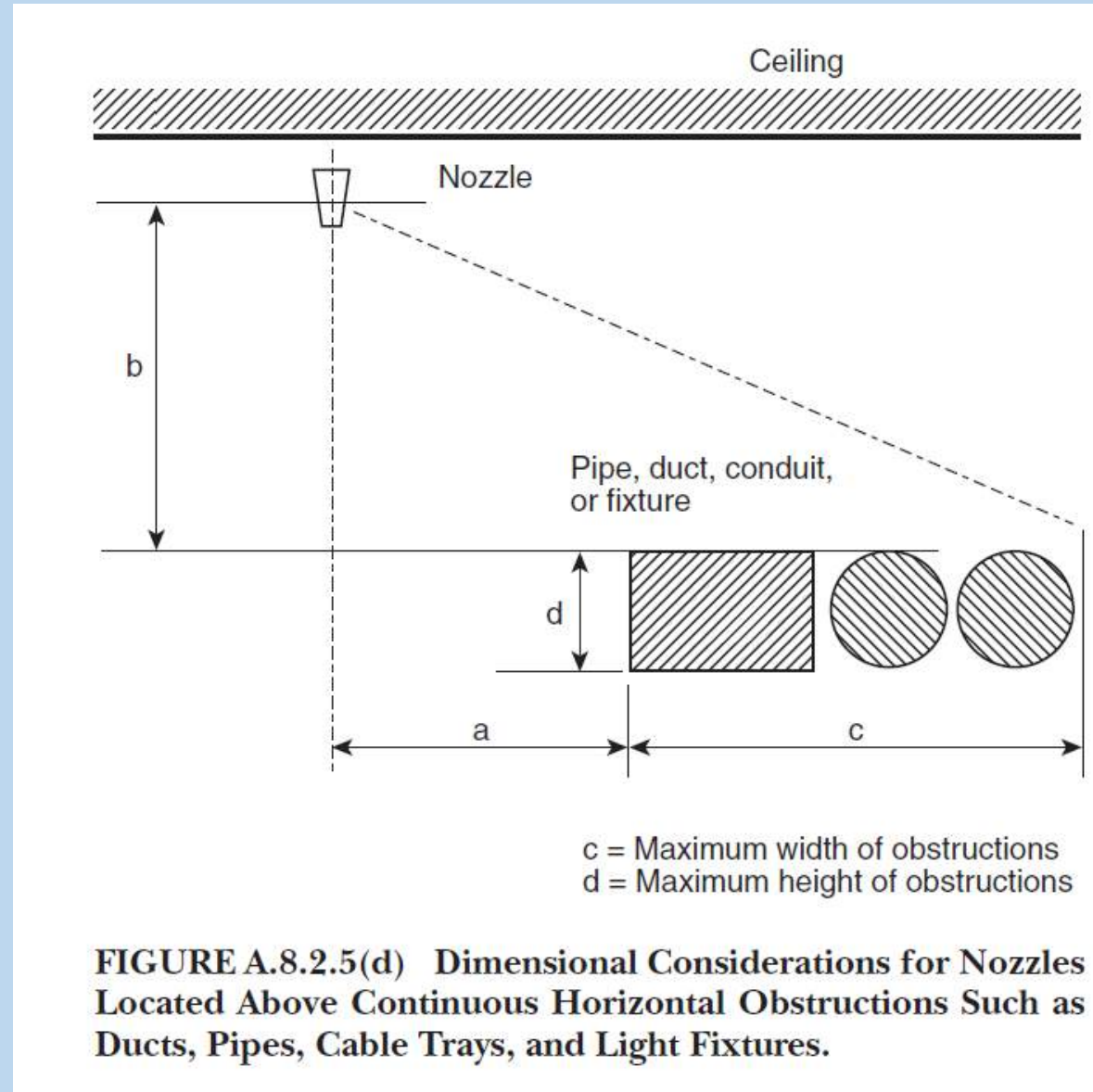


FIGURE A.8.2.5(b) Position of Nozzle Relative to Beam, Duct, or Other Continuous Obstruction Against a Wall.

NFPA 750_2015 Figure A.8.2.5 (c)



NFPA 750_2015 Figure A.8.2.5 (d)



NFPA 750_2015 Figure A.8.2.5 (e)

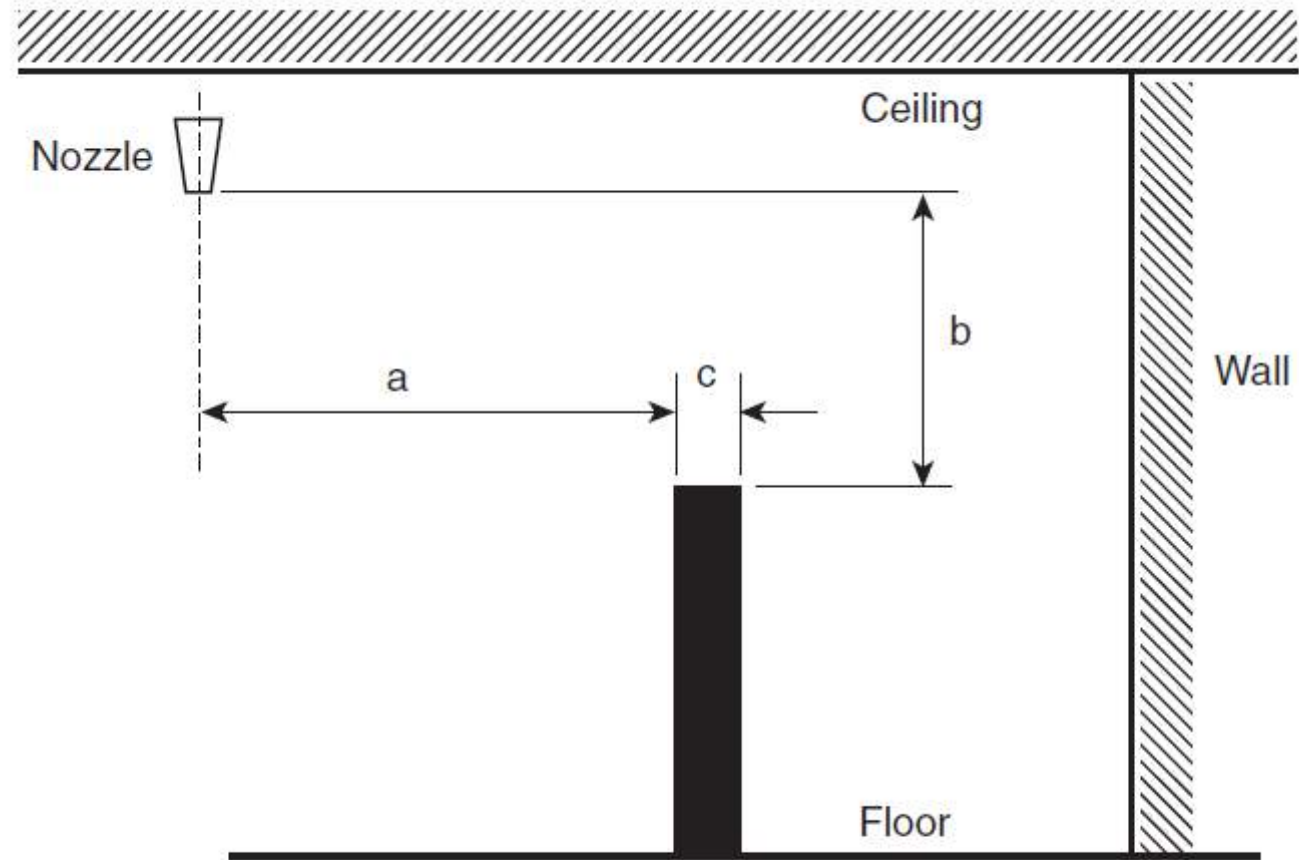


FIGURE A.8.2.5(e) Dimensional Considerations for Suspended or Floor-Mounted Continuous Obstruction Under a Water Mist Nozzle.

NFPA 750_2015 Figure A.8.2.5 (f)

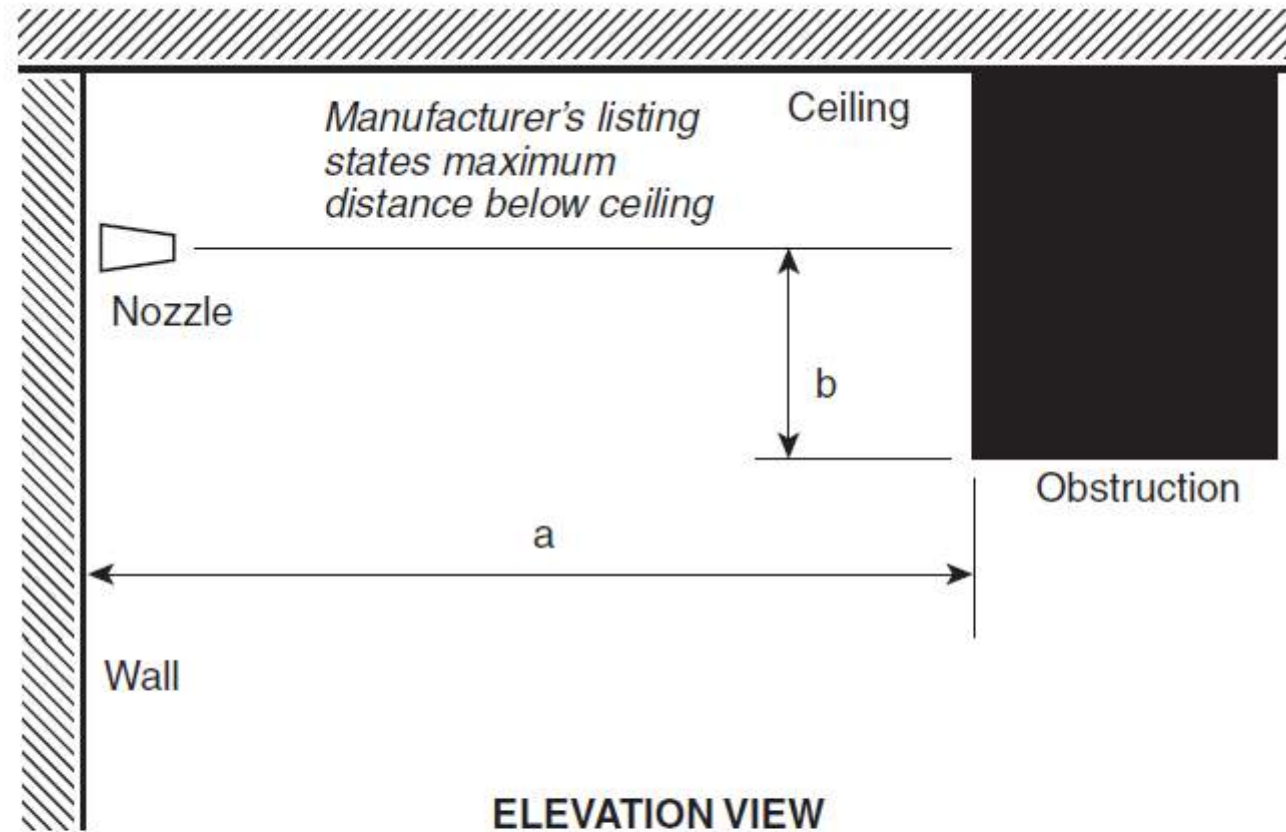
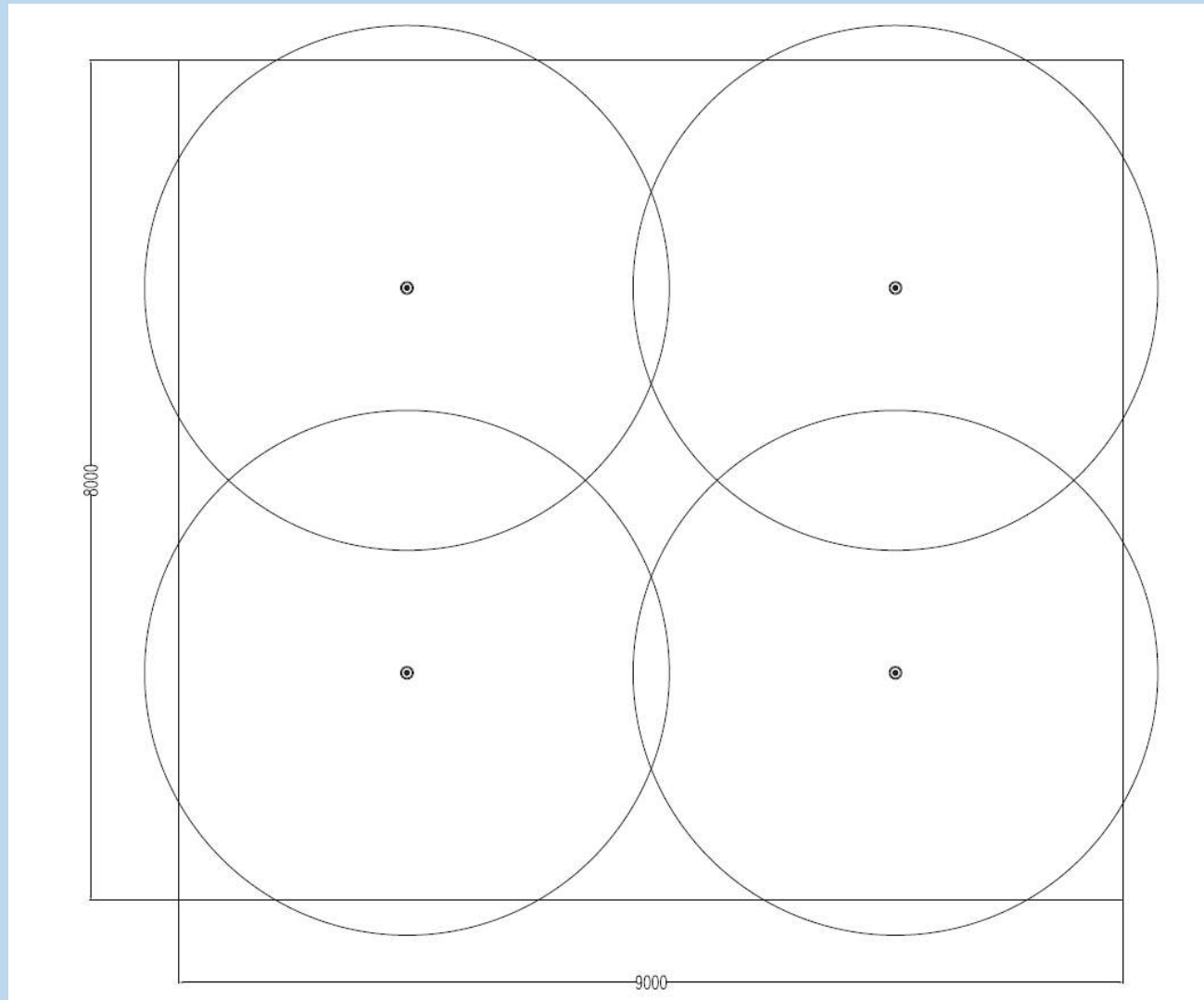


FIGURE A.8.2.5(f) Dimensional Considerations for Locating a Sidewall or Horizontally Discharging Water Mist Nozzle with Respect to the Ceiling and a Continuous Obstruction Within the Spray Path.

EXAMPLE OF COORDINATION

Four nozzles to protect an area



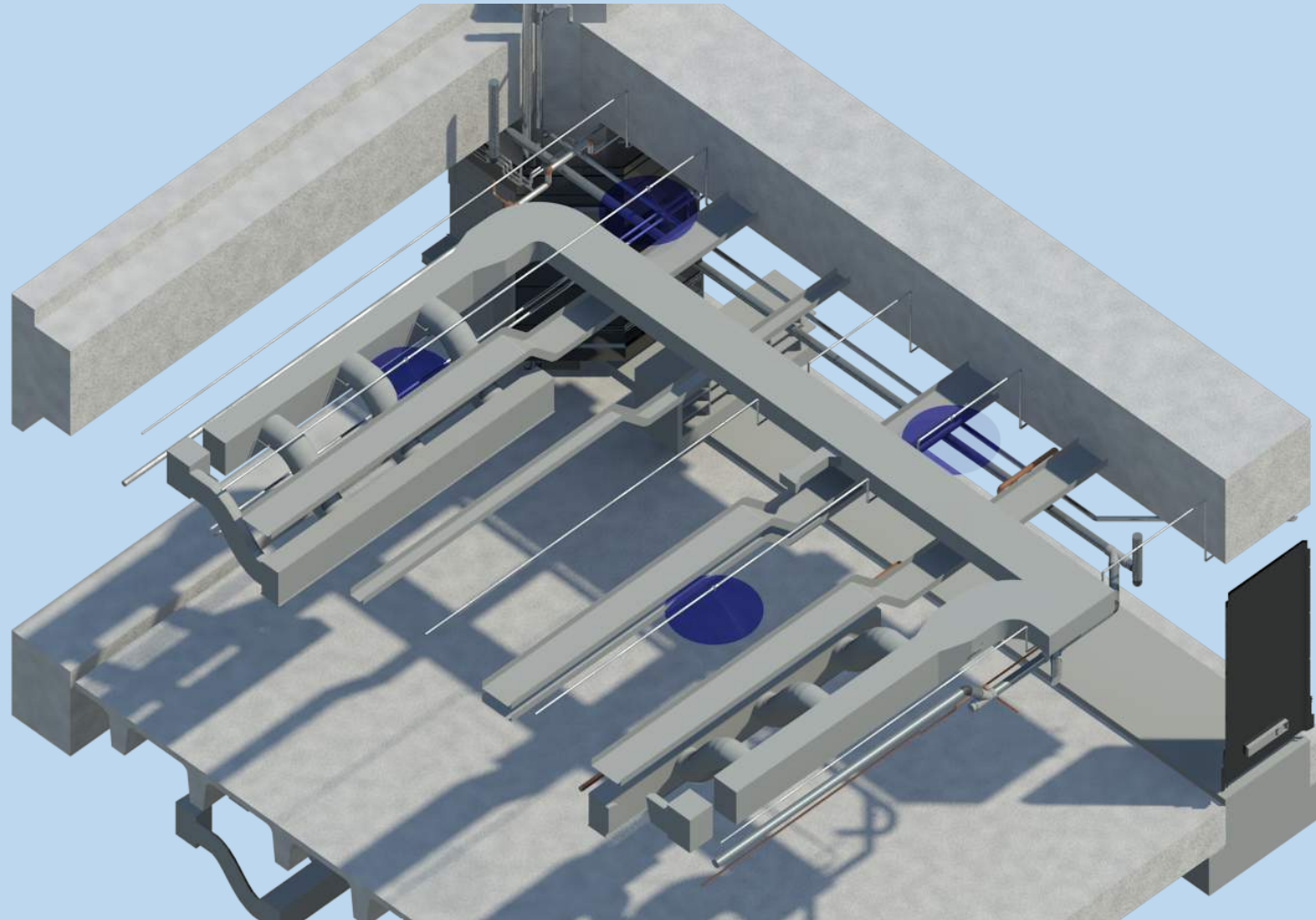
Design area (VdS 3188): 72 m²

Number of nozzles: 4

Required flow rate: x L/min

EXAMPLE OF COORDINATION

Four nozzles to protect an area



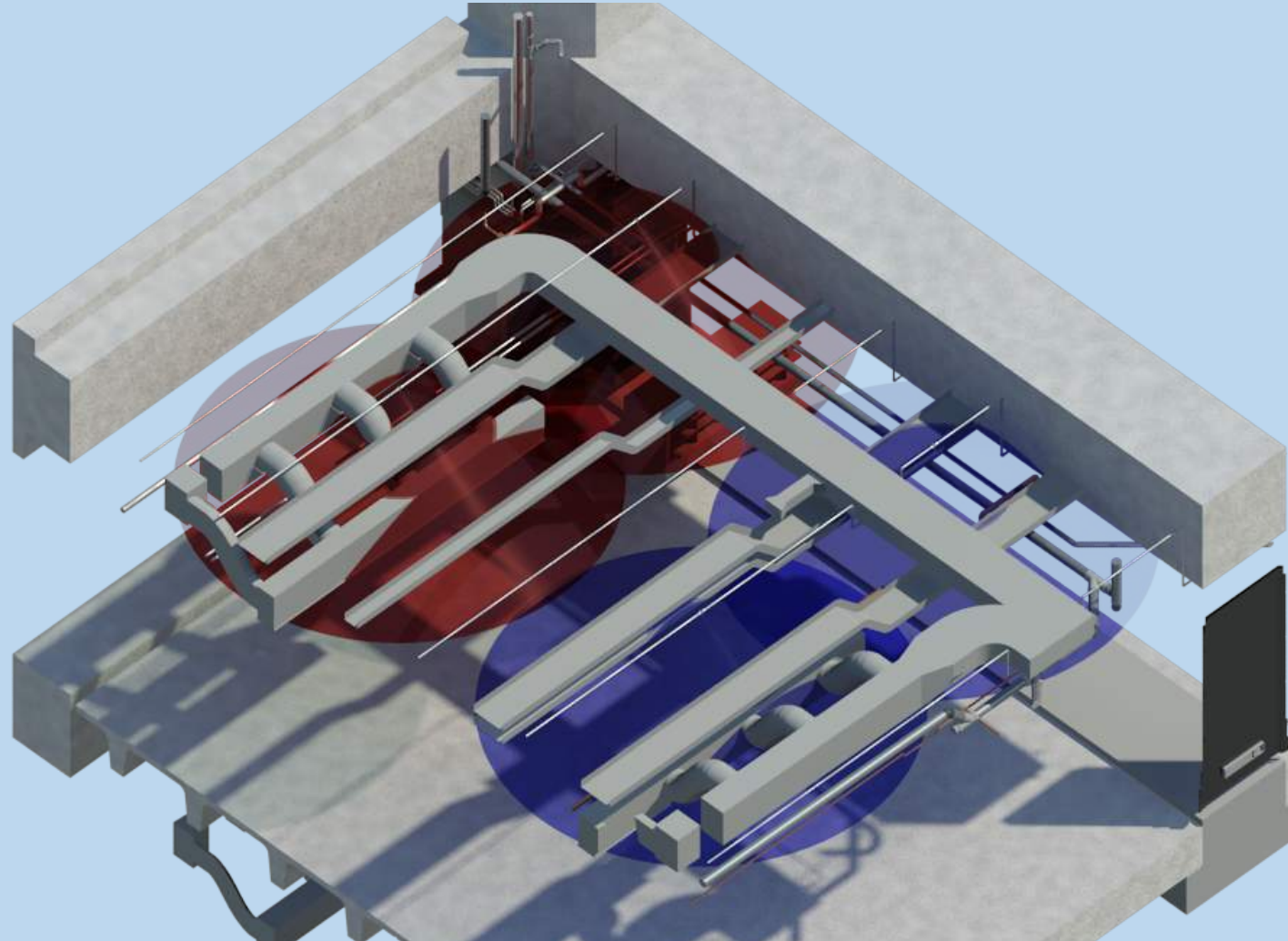
Design area (VdS 3188): 72 m²
Number of nozzles: 4
Required flow rate: x L/min



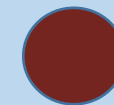
Performance according to manufacturer's listing achieved

EXAMPLE OF COORDINATION

Two nozzles obstructed with duct and cable tray



Design area (VdS 3188): 72 m²
Number of nozzles: 4
Required flow rate: x L/min



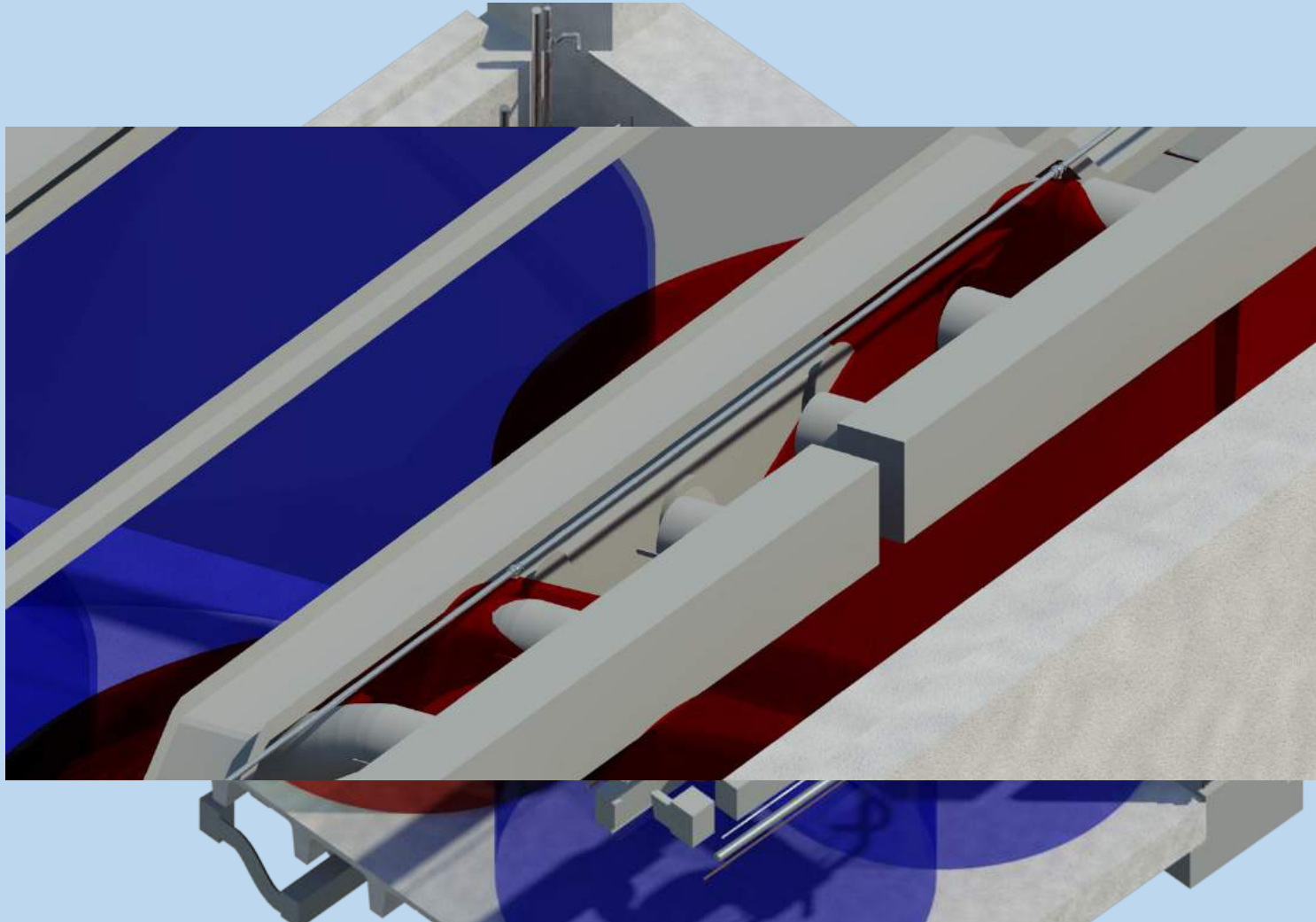
Performance not achieved



Performance according to manufacturer's listing achieved

EXAMPLE OF COORDINATION

Two nozzles obstructed with duct and cable tray



Design area (VdS 3188): 72 m²

Number of nozzles: 4

Required flow rate: x L/min



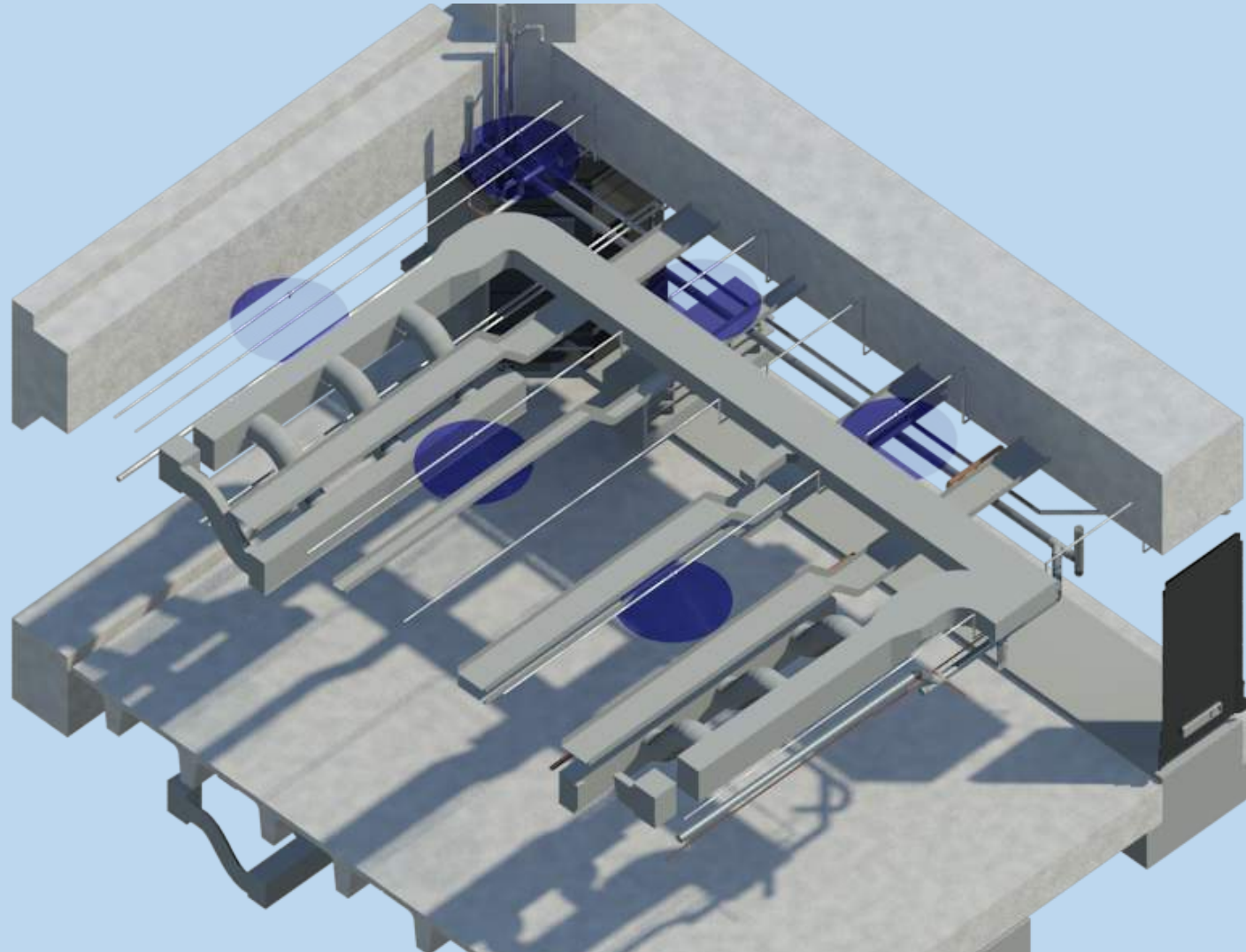
Performance not achieved




Performance according to manufacturer's listing achieved

EXAMPLE OF COORDINATION

Adding nozzles is required to achieve the required performance

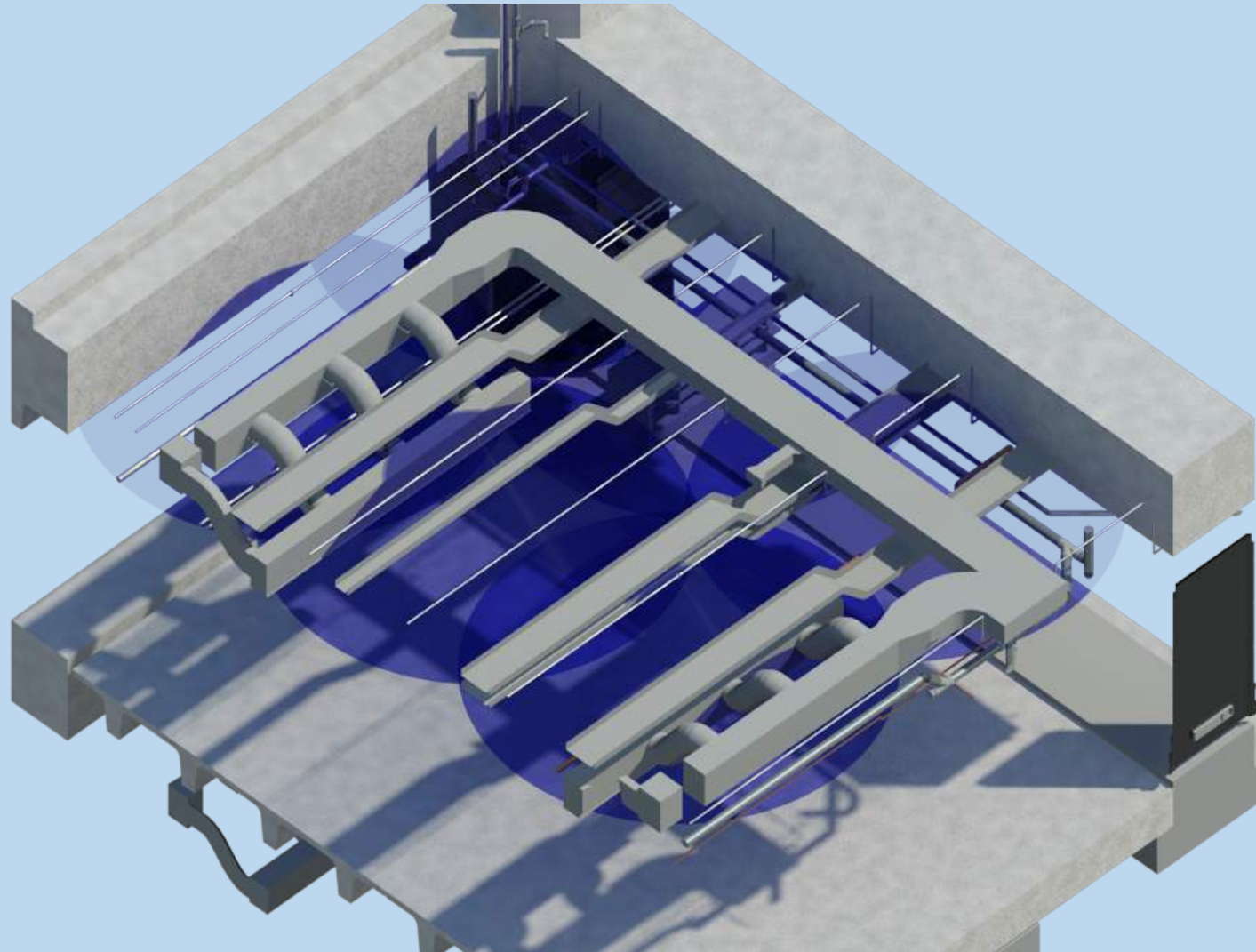


Design area (VdS 3188): 72 m²
Number of nozzles: 6
Required flow rate: 1.5x L/min

 *Performance according to manufacturer's listing achieved*

EXAMPLE OF COORDINATION

Adding nozzles is required to achieve the required performance



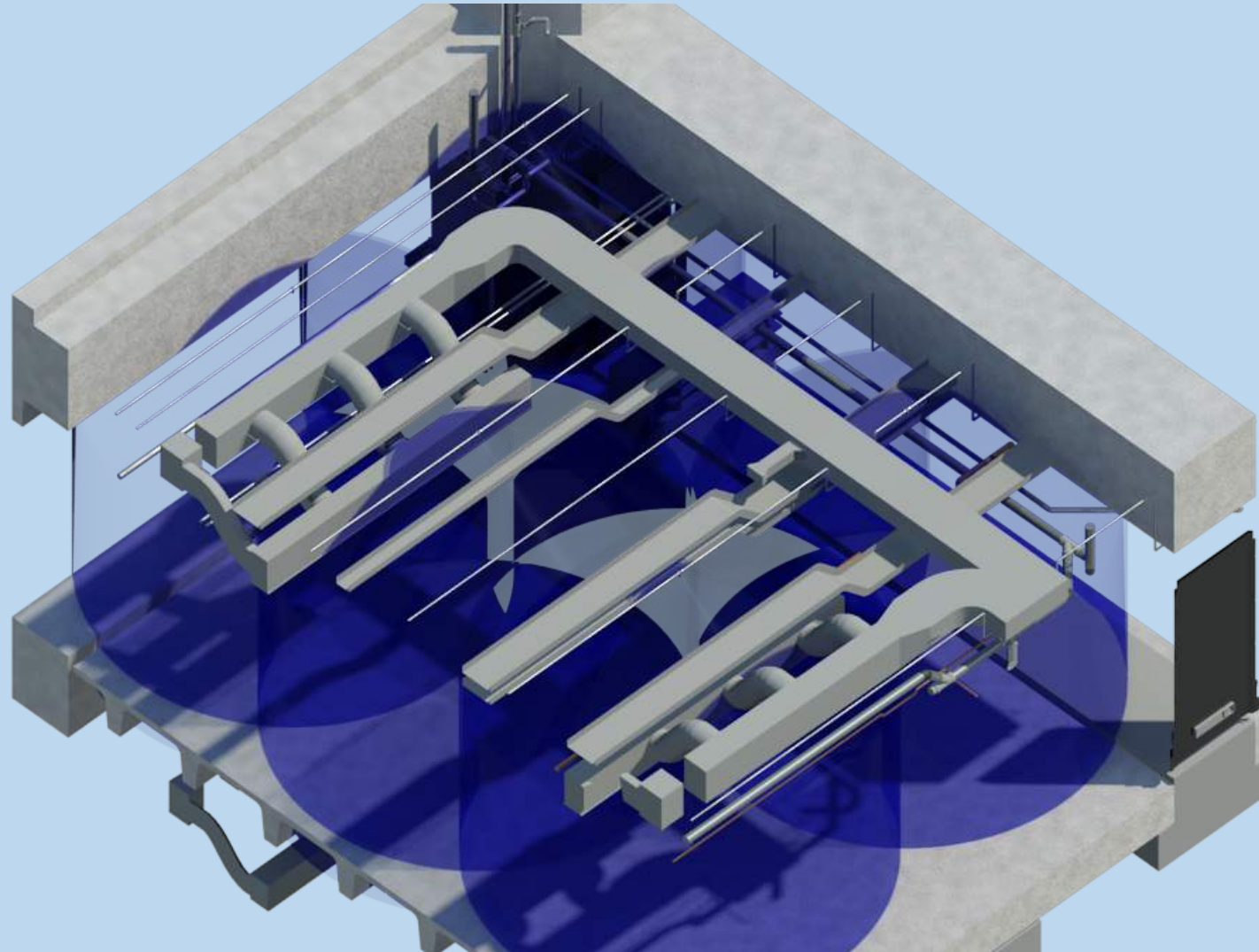
Design area (VdS 3188): 72 m²
Number of nozzles: 6
Required flow rate: 1.5x L/min



Performance according to manufacturer's listing achieved

EXAMPLE OF COORDINATION

Adding nozzles is required to achieve the required performance



Design area (VdS 3188): 72 m²
Number of nozzles: 6
Required flow rate: 1.5x L/min



Performance according to manufacturer's listing achieved

VdS Installer Approval

VdS 3188 - 1.4.1

VdS-approved systems and installers

1.4.1 VdS-approved systems and installers

Water mist systems shall be installed in compliance with these Guidelines, by VdS-approved installers, using a VdS-approved system, and on the basis of the system specific P&I manual for the corresponding application. The approved installer shall be approved for each system installed by this installer.

VdS 3188 – 3.1

General

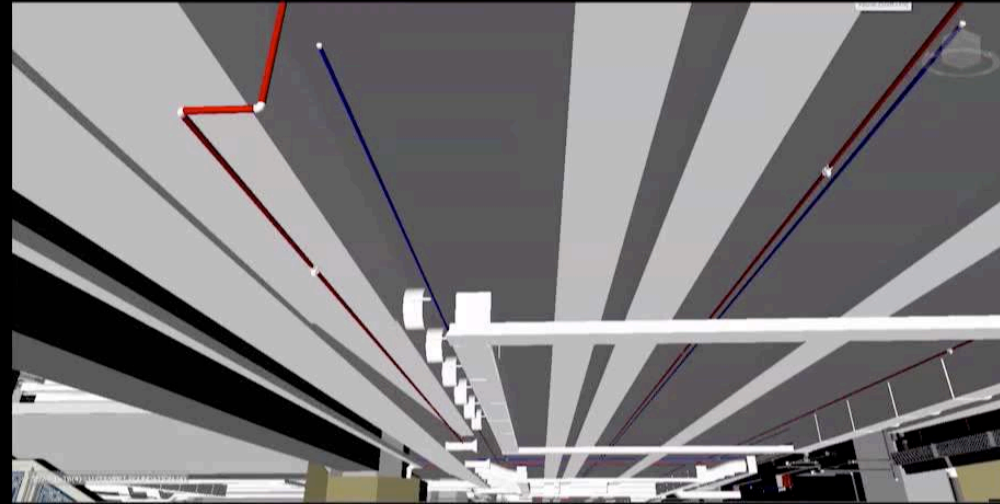
3 Contract planning and documentation

3.1 General

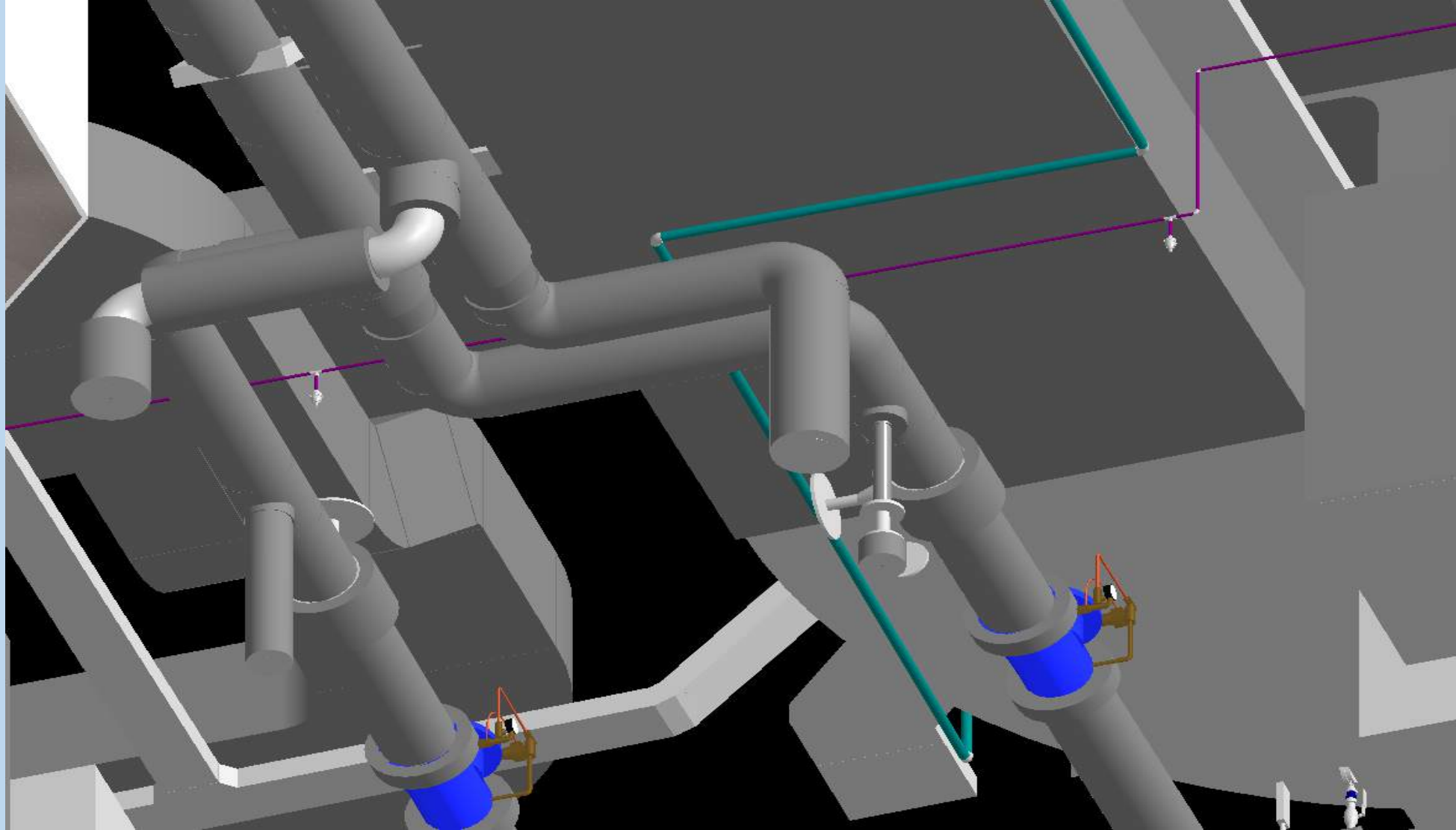
Installation, extensions, modifications, and repairs of water mist sprinkler systems shall be carried out by VdS-approved installers using VdS-approved systems.

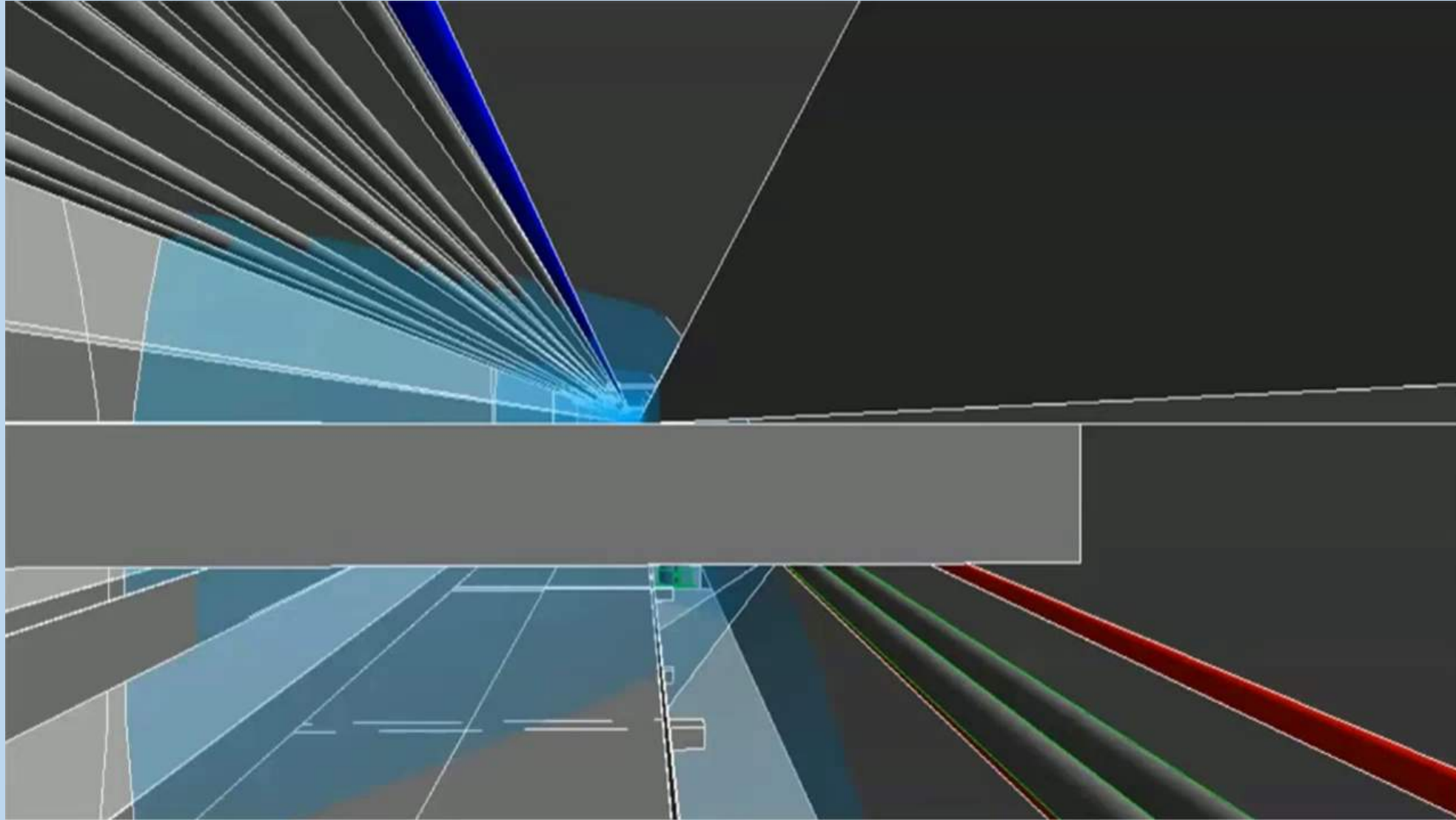


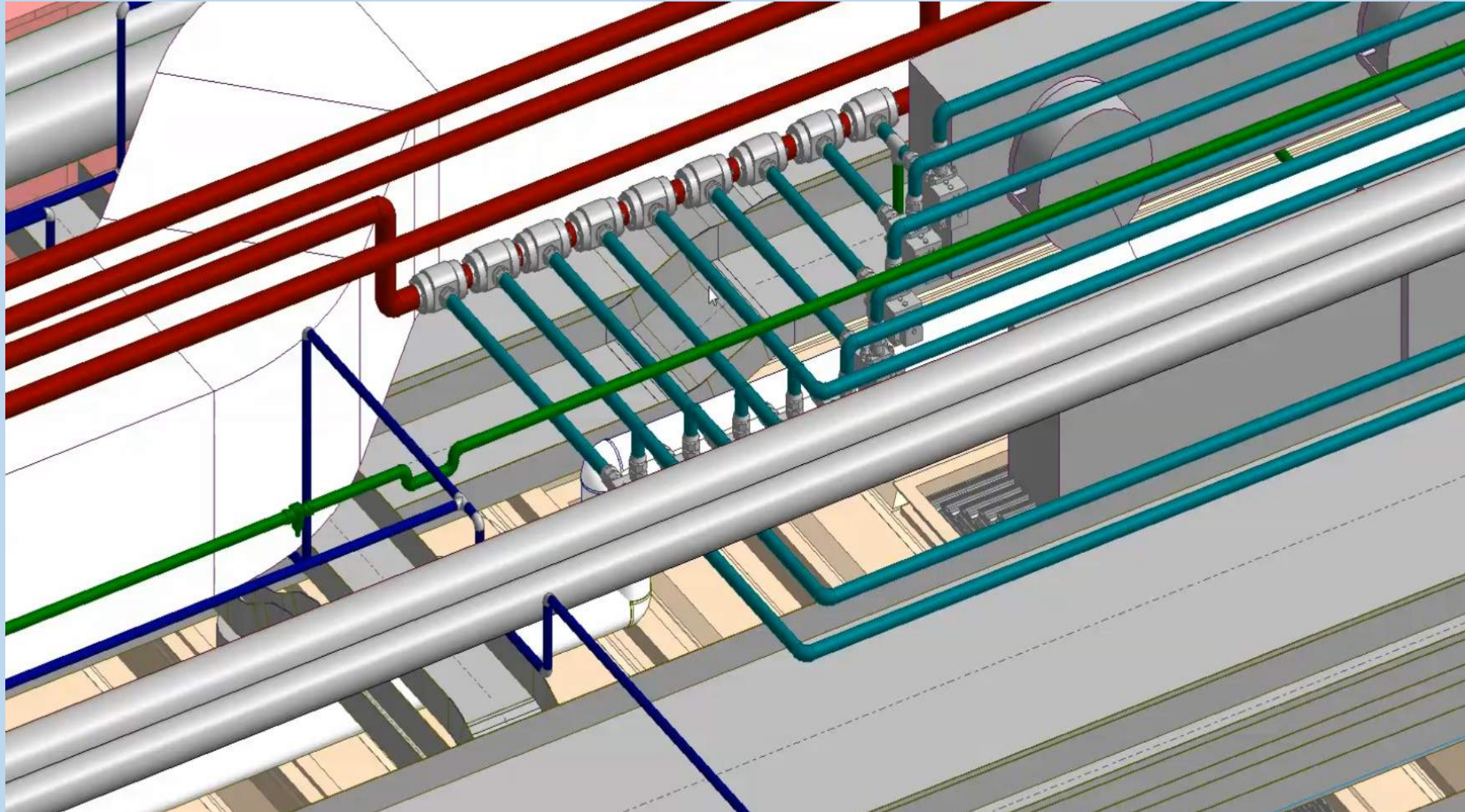
Walkthrough site

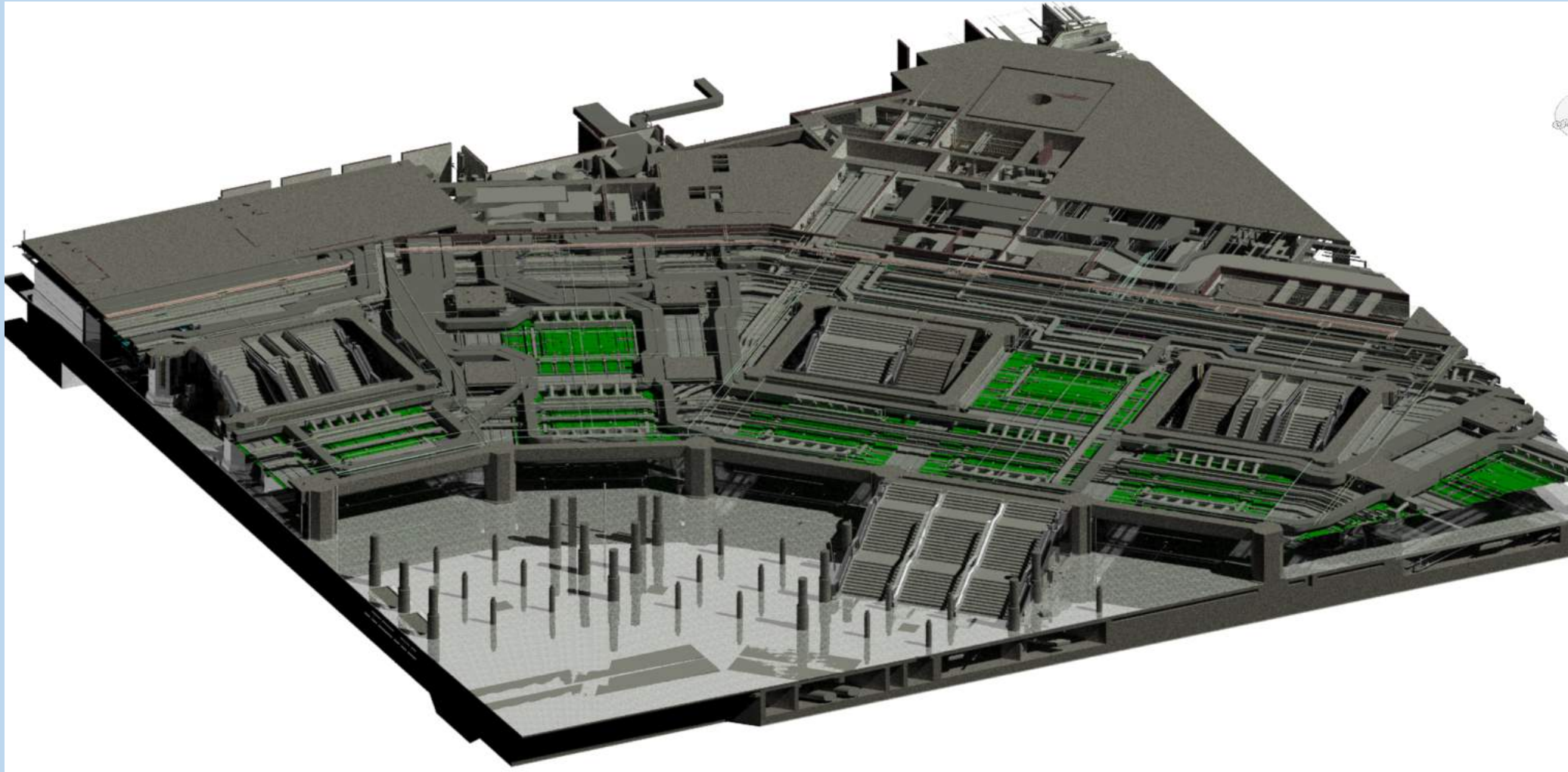


Walkthrough Revit model



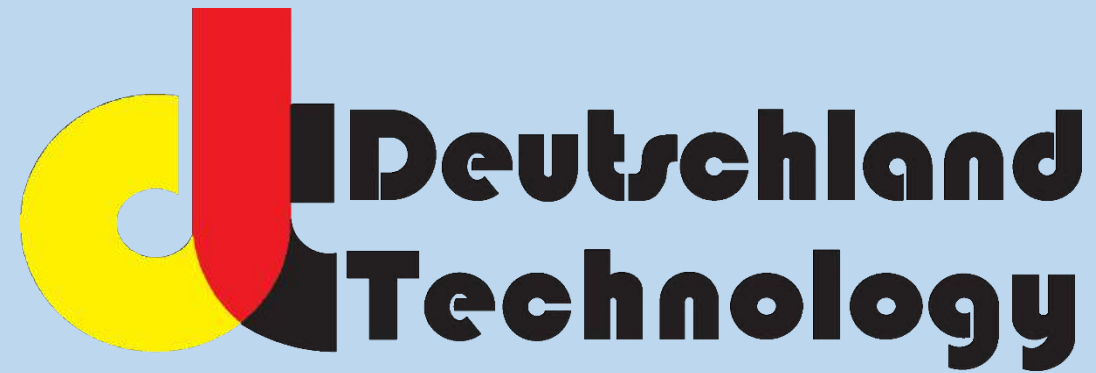






Ensuring that:

- ✓ Minimal additional cost would impact the construction phase
- ✓ Human errors are reduced
- ✓ The system is performing according to manufacturer's listing



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