

COMPLETED PROJECTS

SITE:	Aldi Distribution Centre
LOCATION:	Jandakot WA
SCOPE OF WORK:	Fire Protection – (Fire Sprinkler / Fire Detection)
COMPLETION DATE:	March 2016
VALUE:	\$3M



The Aldi Distribution Centre located in Jandakot covering 45,000 square metres of warehouse will serve as a hub for Aldi's Western Australia's stores which will operate across the state. The distribution centre will service the 70 stores in WA, with 400 people employed at the Jandakot Distribution Centre. The facility comprises a temporary storage facility that includes an ambient temperature warehouse, cool room warehouses, central amenities, office area and vehicular loading docks. The cool areas are enclosed with insulated panels that are refrigerated to maintain low temperatures.

SCOPE DETAILS

Within our scope for this project we were tasked with the design and construct contract for all the Wet Fire services and Fire Detection services which included:

- A fully compliant combined fire system to AS2118.1
- A fully compliant Hose Reel system to AS2441
- A fully compliant Hydrant System to meet AS 2941
- Compliant portable extinguishers to AS2444
- A fully compliant Fire Detection system to AS1668.1 and Emergency Warning Intercommunication system to AS1670.4
- Gas suppression systems to meet AS / ISO 14520 for the server and sensitive equipment rooms.
- Antifreeze systems for high piled storage within freezer areas.
- Triplex Fire pump system to meet AS2419.

The fire systems were required to be provided throughout the 45,000sqm property, in accordance with the projects Alternative Fire solution.



CHALLENGES & SOLUTIONS

Throughout the project there were various challenges which we had to overcome:

- Firstly, with the requirement within this project to have wet ESFR sprinklers within areas that water would freeze, a design had to be engineered to consider 2 things, compliance and constructability.

With a focus on providing the required density of ESFR sprinklers and compliance with the freezing temperatures, we at Firesafe adopted a strategy that would allow us to manufacture some pipework in a way which was unobtrusive and would still allow installation to be compliant and at all times operational.

- Secondly, the steel structure had been rationalised to minimise steel weight, towards light weight construction, this meant that the free space between the structural frameworks was constantly changing and not aligned.
- The design works had to be coordinated with the project managers and structural steel designers / engineers and/or construction team, as the steel was installed so the was the fire pipe allowing for immediate change of site coordinated pipe runs.



- Thirdly, with a large portion of the building containing freezer panels, we had to ensure that the arrangement of the sprinkler locations within the refrigeration panels was spaced to allow for the joining of the panels and joint strength.
- Firesafe spent numerous hours with the panel installers to nominate and ensure that the pipe feeds and sprinkler arrays when gridded did not fall within the 'weak point' of the panel joints. Firesafe and the panel contractor coordinated all positions that allowed for the panel contractor to pre drill the penetrations during manufacture.

Upon completion of the project, Firesafe continue to maintain and test the fire protection systems installed at this site.