



PROJECT:	Metcash Perishables Expansion Works
LOCATION:	Canning Vale
SCOPE OF WORK:	Wet/Dry Fire Protection
COMPLETION DATE:	August 2023
CONTRACT VALUE:	\$2 Million

Metcash is Australia’s leading wholesale distribution and marketing company with the widest distribution network in Australia.



Firesafe were awarded the contract to complete the fire systems install for the new Cold Storage extension complete with new MHE charging. These new alterations and additional works were to be connected to the existing chiller and freezer building to form one overall large building. A compliant sprinkler system was required as part of these works with the compartment to be fire separated from compartments within the existing chiller and freezer building.



SCOPE DETAILS

Within our scope, we were tasked with the design and installation of:

- A compliant Fire Sprinkler system in accordance with AS2118.1-2017
- A compliant Fire Hydrant system in accordance with AS2419.1-2005
- Dual Diesel Fire Pumps in accordance with AS2941-2008
- Fire Extinguishers AS2444
- A compliant Fire Detection and Occupant Warning system in accordance with AS1670.1-2018

Two type of sprinkler systems have been installed for the project, a conventional wet pipe High Hazard Storage sprinkler system and also a High Hazard Storage Dry Pre-Action system.

Both the Wet and Dry sprinkler systems are required to be designed and installed with strict design criteria relevant to the type of goods to be stored. The relevant category of commodity for goods stored is 1-3 with open frame racking storage type. The maximum storage height was required to allow 900mm clearance below any sprinkler deflector. The maximum aisle width allowable was 600mm.



COMPLETED PROJECTS

The sprinkler system installed in the cold storage area is a high hazard system designed and installed using K25.2 (Imperial)/K36.3 (Metric) standard response heads.



The Pre-Action sprinkler system was installed to serve protection the Chiller with the air pressure in the system pipework maintained by an air maintenance compressor which was housed within the MHE Charging Room.

Control Valve Sets have been installed for the wet fire sprinkler and Pre-Action sprinkler systems externally to the building within enclosures.



The water supply is combined for both the sprinklers and hydrants and is provided by 2 x 650kL capacity tanks with infill which comes from a Water Corporation connection and Double Check Valve located at the back of the Fire Pump room adjacent to the fire tanks.



Fire Hydrants have been installed in various locations around the facility to ensure there is adequate coverage. The existing feed hydrants were removed due to the system being protected with new pumps. A booster cabinet has been installed for the use of DFES



The new fire pumps installed consist of dual diesel pumps complete with a jacking pump which are housed in the Pump Room located on the Security entrance on Baile Road.



The installed Fire Detection system provided a Fire Indicator Panel which is located at the Entrance corridor within a cupboard. A red strobe light and bell has also been installed and located outside the front entrance to enable fire fighters to easily locate the FIP.

The Occupant Warning system installed provides evacuation tones throughout the building and sends an alarm signal to the DFES remote monitoring centre. There are a total of 4 OWS zones, being in the Building South, Building North, Intake Chiller and the MEH Room.



CHALLENGES & SOLUTIONS

Throughout the project we were faced with various challenges:

- The full site was operational whilst the construction project works were in progress, we had to be mindful of day to day operations whilst completing our installation works.
- A Portion of works required to be completed out of normal works hours.
- Deliveries to site needed to be coordinated as the vehicle movement and laydown areas would impact deliveries and trade works / access.
- Changes to scope of works during the project required higher level of monitoring, an additional resources & licenses for personnel to conduct works safely – eg working in Confined Spaces. These works also impacted meeting the project deadlines.