



COCA-COLA WAREHOUSE DEVELOPMENT

LOCATION NORTHMEAD, NSW, AUSTRALIA

CLIENT BURNS BRIDGE

ARCHITECT MNIA ARCHITECTS

VALUE AU\$145M

Extensions to the existing Coca-Cola Amatil production facility at Northmead, NSW, were undertaken to accommodate a 32 m high, automated high bay warehouse and new production and dispatch areas. The upgraded facility can store 55,000 pallets and move them automatically from the production line into storage then onto delivery vehicles, without the need for forklifts.

To accommodate some of the unique attributes of this building, Holmes Fire provided a number of Alternative Solutions to the Building Code of Australia (BCA) Deemed-to-Satisfy Provisions, including the rationalisation of smoke exhaust rates, extended travel distances, extended fire hose reel coverage, extended fire hydrant coverage, a narrow fire brigade access road and the provision of inrack sprinklers. These solutions allowed the client to maintain the design flexibility required to accommodate equipment and machinery, minimise the business continuance impacts of fire protection and reduce overall construction cost.

To achieve the full potential and benefit of a performance based design, Holmes Fire undertook extensive CFD modelling to determine the specific smoke exhaust requirements for the building rather than adopting the generalised and over conservative smoke exhaust rates specified in the prescriptive parts of the BCA.

Not only did this result in significant construction and maintenance cost savings, it also provided extended tenability, allowing occupants to undertake emergency egress - despite extended travel distances - and improving the conditions for Fire Brigade intervention.

The project required extensive collaboration with the NSW Fire Brigades to resolve issues related to the width of the vehicle access road and the use of additional hydrant hose length to achieve coverage. Holmes Fire also aided in the development of site specific procedures for fire fighting within the automated high bay warehouse. This involved isolating the electrical power systems and utilising the storage cranes in a manual mode to fight a fire in the upper racks. With our assistance, the design team was able to satisfy all the NSW Fire Brigade's requirements.

Holmes Fire's construction monitoring role also provided advice during construction stages to help ensure the end building met design requirements.

