



# TRILOGY TOWER 1

## CAIRNS

### HVAC Upgrade

Client: Trilogy Tower One Body Corp, Cairns

Value: \$4.5M

Completion: 2024



#### Overview

**Trilogy Tower One** faced significant issues with aging mechanical systems, far beyond a simple chiller replacement. Due to the complex Body Corporate structure consisting of residents, tenants and short-term rentals the project required a unified approach under a single contractor to ensure a timely and seamless execution.

Through a competitive tender process VAE were awarded the project based on a set of key criteria. This included the need for a Cairns based contractor, Queensland Builders license, project management abilities, previous major projects outcomes along with a reputation of excellence in the Cairns Market. VAE shone through with the key criteria along with offering competitive tender value and demonstrating keen interest in this opportunity. A one stop solution which consisted of 80% mechanical, 20% building and roof waterproofing works was a highly desired option for the Body Corporate and VAE delivered on that.

#### Key Challenges & Solutions

- **Stakeholder Complexity and Communication:** was efficiently dealt with by the VAE Project leaders with excellent, consistent communication and a “Customer First” attitude from the beginning of the tender process to project completion. The VAE team became educators and partners with the Body Corporate HVAC/Roof Waterproofing Sub Committee along with the Strata Manager & dedicated Project Manager attending fortnightly meetings with all key stakeholders and always provided full availability during the project.
- **Live Building Works** were always going to challenge the Body Corporate, the owners and VAE. A carefully considered construction plan was developed six months out from commencement of the project works allowing all Trilogy owners to plan well ahead for the required three-to-four-week absence from their units.



## Scope of Works

### Electrical & Switchboard Upgrades

- Upgrade of existing electrical submains to accommodate increased current demand.
- Installation of a new mechanical board in the main switch room, splitting supply to two new rooftop chillers.

### Rooftop Chillers & Waterproofing

- Replacement of one existing Chiller with 2 Carrier Chillers (providing back up for the building should one chiller fail).
- Installation of (2) new CHW pumps + new BMS plant control.
- Installation of preconditioner AHU + run-around coils.
- Replacement of the main toilet exhaust fan.
- Demolition of redundant plant, crange, & logistics management.
- Waterproofing of the roof deck post-installation.

### Apartment Air Conditioning Upgrades

- Installation of new EC fan coil units with PICV control valves.
- Filters - replaced room air grills & installation of new access panels for future maintenance.
- Upgraded controllers with modern BMS networked controllers for better diagnostics and control.
- Conducted a dilapidation report on fire dampers for compliance assessment.

## Key Successes

- Developed a carefully considered construction plan in consultation with all stakeholders to ensure the successful full HVAC system upgrade within a fully operational building with limited space for construction operations.
- Project ran to the expected program and finished on time despite an extremely rainy wet season
- Successfully completed 2 crane lifts from the front of the Trilogy building which had many variables to consider including: Public access in & out the building, underground services, crane and delivery logistics, and CASA approval to lift in Cairns's airport flight path air space.
- Undertaking very intrusive works through 133 apartments which were a mixture of residents, tenants and short term rental with minimal defects or issues.
- Staging of the rooftop HVAC change over in a way that allowed for only one singular 4hr shutdown of the AC & AX systems to minimise disruption to the building.



*The project operated as a well-oiled machine, with all key stakeholders working collaboratively. Effective, efficient and regular communication created a "one team culture" which was a key factor in the mutual success of the project. Trilogy 1 is now providing a high-quality product to its owners, residents and guests, which is being recognised throughout the Cairns Region.*

**~ Trilogy T1 BC Committee**



## Outcomes

Building HVAC Asset Upgrades and Maintenance, where there are multiple owner stakeholders, are often avoided due to the inability to finance or the resistance to disruption of business. This project not only illustrates the possibilities when financial resolutions are carefully thought out with a win-win solution in mind and key stakeholders understand the long term importance of asset management. This significant upgrade has provided security to Trilogy One owners for many years to come.

Through strategic planning and communications, stakeholder collaboration, and expert-led mechanical services, the Trilogy Tower One HVAC upgrade was executed with the least possible disruption, ensuring improved system efficiency, compliance, and enhanced comfort for residents and guests. This project's success highlights VAE Group's ability to lead complex mechanical projects while managing multi-layered stakeholder engagement effectively.