



DEMEX

Demolition | Excavation | Remediation

TURBOT ST. BRISBANE

OCTOBER 2021 - MAY 2022

CLIENT: MIRVAC

CONTRACT VALUE: \$4.2 M

A demolition undertaken in the heart of Brisbane's CBD, 200 Turbot Street involved deconstruction of two adjoining buildings situated on a rock substructure located over a live rail corridor between Roma Street Station and Central Station, the city's two busiest train stations. DEMEX was engaged as principal contractor by the site developer, Mirvac. Works included asbestos removal and strip out, mechanical demolition, waste disposal, and rectification of a heritage building originally connected to the dental hospital. The project, which was completed without any health, safety, or environmental incidents, involved night works; required an innovative methodology for removal of the contaminated ring beam; had challenging security issues; and involved management of multiple subcontractors. The project's location on a steep gradient of the site on a busy inner city road added to the project's complexity.

- Successfully managed security challenges arising from vagrancy and site break ins with onsite security measures (24/7 cameras, patrols, pre-start security checks)
- Achieved zero health, safety, and environmental incidents, including significant sediment control as part of environmental management plan
- Undertook all authority and engineering responsibilities relating to Brisbane City Council (BCC) and Queensland Rail
- Managed vibration from works and avoided disturbance to surrounding buildings
- Managed significant traffic control requirements, which were a function of the site's location on a main inner city thoroughfare
- Project conducted over live rail corridor between two busy inner city train stations

PROJECT METHODOLOGY

The methodology reflected the discrete stages of this project. Works commenced with scaffolding of the building as a protection measure to the public using the Turbot Street footpath, as well as set up of a hooded gantry for pedestrian protection. Following the set up of scaffolding (as a protection measure), hazmat removal and strip out was completed in both buildings, a process which included asbestos, lead, and biological waste removal.

PROJECT HIGHLIGHTS

- Successfully delivered project as an all risk contract
- Completed as a union project, demonstrating our capacity to meet union site set up and operational requirements
- Principal contractor responsible for managing nearly 20 subcontractors



100%
Local business

285
Tonnes asbestos removed

- 50 tonne high reach excavator
- 30, 35, 50 tonne excavators
- 1.6 mini excavator
- 5 tonne excavator
- 2 mini bobcats for internal works

90%
Project waste recycled



All waste was sent to the appropriate waste disposal locations in accordance with the waste management classification. A preliminary dilapidation assessment was required on the site and any rock faces had to be assessed, protected, and a control put in place to prevent any risk or hazard to Turbot Street vehicle and pedestrian traffic.

The roof presented a unique challenge in terms of asbestos removal. A ring beam structure at the top of the building effectively 'held' the structure in place. This steel ring beam roof needed to be 'peeled' back; a process for which engineering was undertaken to calculate beam weights to develop a lift plan for crane capabilities and requirements.

A concrete cutter subcontractor was commissioned to prepare core hole lifting points in the beam sections. The clean beam was then precisely separated from the asbestos contaminated section and removed by a 130 tonne crane, allowing the clean concrete to be crushed and recycled, and the contaminated concrete to be removed and disposed of safely.

The balance of non-structural works was completed by small machines inside the building performing mechanical demolition. These small machines stockpiled the non-structural concrete in the building, a process which was sequenced from furthest point back towards the exit (that is, from the inside out). Single side access to the building meant deconstruction could only occur from one side, rather than multiple sides as is typically the case with similar structures.

During structural demolition, the nature of the building design whereby the first floor of the building was suspended off steel hangers joined to the second floor, prevented demolition being undertaken from the top down. This meant the demolition methodology needed to be adjusted to strategically remove first and second floors simultaneously.

Two key highlights at project completion involved the make good on a heritage building and completion of a tree planting program. In terms of the heritage building rectification, a hole left in the building was rectified under guidelines from the heritage consultant. This was achieved and accepted by consultant and building owner. Additionally, a tree protection program was conducted for the site.