



Above: Swing stages over hoardings for investigation, and repairs Below: Crane lowers pavers



PRESERVATION TECHNOLOGIES

CASEFILE

'Giving your assets a new lease on life'

Renew heritage facades, towers, statues and roof areas in CBD building despite city confines

The problem

Restore heritage facades, restore statues and sandstone, and in the process deal with a massive materials handling task inhibited by the bustling, narrow conides of a crowded city site at Martin Place.

Renew failed roof membrane and repair concrete window mullions to full length of the north elevation of a heritage building.

The constraints

The facades were very difficult to access. The roof's load capacity was limited. Additionally, protection of the public at ground level had to be assured while tonnes of materials was being removed from the building and work undertaken on the facades and towers.

The building was occupied throughout the project duration of 18 months. Noise restrictions were also in place, particularly at night. Some elements of the project were unknown until encountered, when they affected progress. Sandstone had to sourced from a particular area

and the amount needed was not fully known.

The solution

The solution was to undertake the project in three stages with some major demolition and hoarding erection done over weekends. Also a 130 tonne crane was set up in Castlereagh Street to deal with the materials handling demands.

To avoid overloading the roof during preparatory works, the team used small skips for partially filling, lowering and dropping rubble into large tip trucks parked below.

All sandstone repair work was undertaken by skilled master stonemasons. Project management and supervision was paramount to keep to program, ensure safe operation and maintain a good working environment for the occupants.

The methodology

Stage 1 called for the team to crane down 2200 large concrete pavers (100 tonnes) from the roof. Also to remove old steelwork, planters and furniture.



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Stage 2 began with setting up roof access points into swing stages to allow repair teams firstly to investigate the reinforced concrete mullions using a cover meter survey, carbonation testing, chloride testing, a photographic record and documenting of observations made, in part requiring rope access.

Based on this, the workteam mapped out the repair strategy for reinstating the reinforced concrete and rendered window mullions running the full height of the facade. The team also fixed and sealed windows and protective coated the mullions.

To the cleared roof, a two layer torch-on membrane was installed, including detailing to walls, plant areas and drains.

Stage 3 comprised the main works to the Martin Place and Castlereagh Street facades as well as the large tower of the building.

Structural hoardings were erected to support the large scaffold for the facades and tower.

After a condition review of sandstone elements, most of the Level 10 sandstone lintels were demolished and prepared for new 400 kg sandstone lintels to be moved and fitted into place. This included preparation and fireproofing the rear of each lintel.

The team also removed sandstone blocks in the



Left: As magnificent as it was, the statue, including its surrounding stonework, had lost its grandeur due to the ravages of time and weathering

Above: this statue, as others on the building after being repaired and treated— including lead weathering— were returned to their former glory



southeast corner, again fireproofing steel elements prior to the installation of new stone blocks.

The stonemasons removed and replaced other deteriorated sandstone to the facade and “combed back” fretted stonework.

Before the workteam repointed all the Level 10 sandstone, they used special OH&S removal protocols on the bedding mortar, which was contaminated with asbestos.

Grand statues on each tower face were repaired, repointed and sealed against environmental damage. The parapets and all of Level 10 were cleaned prior to the parapets being capped in detailed lead weathering.

Other roof works involved getting all new furniture, plants and equipment put in place for a separate contract to create a fantastic roof garden and entertainment area for the main tenant.

The results

To deliver a project of this size, complexity and heritage significance in the heart of the CBD required skilfull management, supervision and a good working relationship between the team, project managers, owners and tenants. The building facades are now ready for the next 100 years, and stand testament to the foresight of the owners investing for the long term repair and protection of this prime asset.

Project manager: TR Group

Contact: Steve Thompson 02 8289 5500

Completed: October 2010

Client references: *here*



Removal of contaminated mortar



Roof membrane applied to roof



Installing new stonework



Asbestos removal encapsulation



Typical mullion repair detail



Pavers prepared and removed



Parapet badly environmentally stained (left) has been repaired, repointed and cleaned with Juliet type balconies waterproofed and protected (right)



Cleaning stonework to all of the parapet and Level 10



14 February 2011

To whom it may concern,

**Reference for Preservation Technologies Pty Ltd
44 Martin Place Sydney**

TR Group are engaged as Project Managers for all refurbishment and capital expenditure works at 44 Martin Place, Sydney. Part of this program has been an extensive refurbishment of the heritage façade; Preservation Technologies were contracted to undertake this project. The works broadly encompassed the following:

- Design and installation of a structural grade Class B hoarding to three elevations and the erection of a fixed scaffold system over two elevations.
- Concrete repairs and protective coatings to reinforced concrete mullions running the full 10 levels of the North elevation.
- Removal and replacement of sandstone window lintels to Martin Place and Castlereagh Street elevations.
- Controlled removal and replacement of asbestos contaminated mortar to sandstone elements.
- Major repairs to other sandstone elements of the Level 10, parapet and tower of the building.
- Specialist cleaning of all sandstone elements to the above areas.

Throughout the somewhat difficult and unique circumstances of this project Preservation Technologies maintained a diligent and professional approach to the management and execution of the works. The day-to-day challenges of this project included:

- Limited working hours and constraints on work activities due to a continually occupied building and neighbourhood limitations.
- Working within the constraints of the local authority demands (and their inconsistent application) in relation to public domain activity.

Preservation Technologies exhibited a flexible and positive approach to a continually evolving, variable and substantially expanded scope of works.

The project concluded with a most acceptable outcome in terms of quality, appearance and longevity; and a high level of building occupant satisfaction (and therefore owner satisfaction), in terms of communication / liaison and minimisation of disruption to their normal course of business activity.

TR Group has no hesitation in providing a reference for Preservation Technologies for specialist remedial contracting works; and particularly heritage refurbishment; in this regard please contact the undersigned.

Yours faithfully

Steve Thompson
TR Group Pty Limited