

# Factsheet



## Balconies and Balustrades

For strata buildings, balconies and balustrades are often building elements that require remedial works for a variety of reasons. Whether the building is large or small, a balcony project is ultimately a relatively expensive essential maintenance issue that faces individual lot owners and as such it is important for owners to have a sound understanding of all the issues at hand.

This fact sheet aims to assist Owners Corporations in understanding the individual components that make up the balcony and balustrade structure, when balconies and balustrades require an upgrade and key issues that should be considered prior to and during a balcony remediation project.

### Balcony & balustrade components

When contemplating a balcony or balustrade upgrade, it is vital that all the components that make up the structure are understood. It is never as simple to simply change the balustrade, replace the tiles or fix the concrete.

Undertaking works to one component ultimately affects another. The key components of a balustrade structure are outlined below and identified in **Error! Reference source not found..**

- **Concrete slab** – The concrete slab forms the main structural component of the balcony. Occasionally balconies in residential buildings will be constructed using timber or other light framed material however more often than not, the floor structure is constructed out of reinforced concrete. Slabs can either be cantilevered or supported by columns or walls, with each support mechanism having different implications with regards to remedial works.
- **Columns/Walls** – Balconies can be supported on their outer edge by columns and or walls in lieu of the balconies being cantilevered. These types of balconies are referred to as being simply supported. Simply supported balconies are more forgiving on the concrete slab and it could be argued that simply supported balconies are less prone to long term structural issues and are also easier to remediate if required.
- **Waterproof Membrane** – The waterproof membrane is installed directly onto the slab and is used to prevent moisture ingress to the interior of the unit and to protect the concrete slab from absorbing excessive moisture which can lead to concrete cancer.

### Who are SPMA?

SPMA are a company of professional consultants who offer our services in client side project management across the construction industry and related fields. SPMA have a long history of successfully delivering our clients projects with a high level of professionalism and technical expertise.

SPMA specialise in the management of complex projects involving remedial works, alterations and additions and works involving large strata schemes. SPMA also have extensive experience in the management of the defect and litigation process on behalf of our clients.

Our services include:

- Project Management
- Remedial Works
- Tender Review
- Feasibility Studies
- Site Inspection & Reporting
- Contract Advice / Admin
- Civil Works
- Litigation
- Diagnostic Investigations
- Defect Reporting
- Fitout Management

If you have a project, you think we can help with call us on (02) 9319 6366



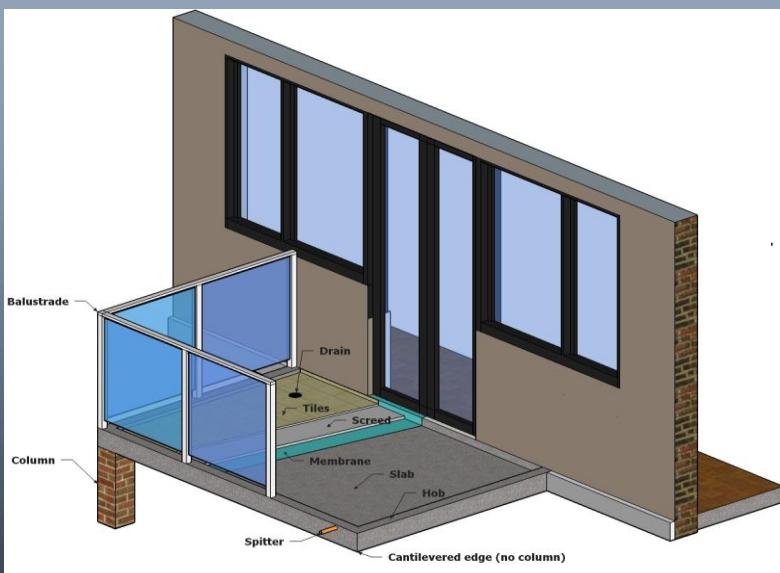
- **Screed and tiles** – Tiles are installed on a bed of screed with incorporated falls to allow the balcony to drain adequately to the appropriate outlet.
- **Hob** – A hob relates to a solid upturn around the perimeter of the balcony. Hobs assist with controlling stormwater runoff by preventing water from simply falling over the edge.
- **Drainage** – Balconies have one of the following drainage mechanisms installed:
  - Drain connected to a downpipe.
  - Drain connected to a downpipe with spitters installed in a hob as secondary drainage.
  - Spitters only installed in a hob as primary drainage.
  - No downpipe or spitters (no hob).

It is recommended that drains are incorporated into balconies to control stormwater runoff. Spitters literally spit or disperse the water away from the balcony edge via a small pipe built into the hob. Spitters are often incorporated as secondary drainage if a drain connected to a downpipe is installed. If no downpipe installed the spitter is considered the primary drainage. If there is no hob or drain connected to a downpipe, stormwater simply pours off the side of the balcony.

- **Balustrades** – Balustrades prevent occupants from falling from balconies and as such must comply with several stringent requirements as outlined in the Building Code of Australia. The notable requirements include:
  - Height must be greater than 1000mm.
  - Must be able to withstand loads in accordance with Australian Standards (AS1170).
  - Must not allow a 125mm diameter sphere to pass through any portion. Think about the size of a child or baby's head.
  - Must not have horizontal elements that facilitate climbing between 150mm and 760mm if protecting a fall of 4m or greater.

Typically, balustrades in strata buildings are constructed from painted or stainless steel, aluminium and glass. The material chosen will depend on the environment in which it's installed and the budget.

Figure 1 - Balcony & balustrade components



## SPMA'S

### Feature Project

Wunulla Rd,

Point Piper NSW



Remedial – Alterations & Additions

This challenging and rewarding project comprising of seven (7) existing luxury units encompassed many technical challenges including:

- ❖ Construction of a new underground car park abutting Sydney Harbour.
- ❖ Underpinning/shoring to the existing structure whilst tanking the new underground car park.
- ❖ Construction of a new luxury unit on existing ground level.
- ❖ Removal of building core and installation of a new underground to top floor lift.
- ❖ Construction of new front of building glass façade.
- ❖ Construction of a new in-ground swimming pool and landscaping to all grounds.
- ❖ Remediation of the existing balconies including remove and replace all tiles and waterproofing membrane.

Winner of the 2012 Master Builders Association - Excellence in Housing Awards for home unit renovation \$5 Million & Over



## When are works required?

- **Concrete Cancer** – Balcony structures are typically exposed to the elements (rain, atmospheric salts etc) and as a result tend to be one of the first regions on the building to experience Concrete Cancer (refer SPMA factsheet on concrete cancer for more information). Remediation of Concrete Cancer is a very destructive process and will probably result in the destruction of the tiles, screed and membrane and often the balustrade will require replacement. When a building starts presenting concrete cancer in the balcony slabs, it is likely that the balustrade will also have reached its design life and requires replacement.
- **Balustrade BCA / Safety Upgrade** – Older buildings were not required to be built in accordance with today's standards and as such balustrades were often built to a standard that is no longer safe (too low, large openings, climbable etc). Prudent Owners Corporations voluntarily upgrade their balustrades to comply with current codes to ensure the safety of the residents especially children.
- **Dilapidated Structure** – Like any other building element, balustrades will have a certain design life. In order to maintain the safety of residents, Owners Corporations should be replacing balustrades if they are showing signs of dilapidation.
- **Aesthetic / Amenity Upgrade** – Balconies and balustrades are very visible elements on a building. A simple desire to modernise the building and perhaps add value by upgrading the balcony and balustrade elements is a common reason for undertaking a project.

## Key issues when undertaking balcony/balustrade works

Owners Corporations should be aware of the key issues relating to balcony and balustrade projects. It's the worst nightmare for an Owners Corporation to outlay significant funds to undertake a project such as replacing the balustrades and incurring a major cost blow out due to unrealised problems associated with another component such as the slab or waterproofing. It is even worse for the project to be completed only to discover a problem a few months later with a different component that requires a contractor coming back to site to undertake another remedial project incurring all the mobilisation and access costs for a second time. Below are some key issues that should be considered by Owners Corporations when considering a balcony/balustrade remediation project.

SPMA'S

## Feature Project

Hastings Pde,  
Nth Bondi NSW



Remedial – Alterations & Additions

204 and 206 Hastings Pde consist of two separate strata buildings of a matching age and construction located on North Bondi headland. SPMA were engaged by both schemes to tender and oversee structural repairs and building upgrades including the replacement of the building roof slabs which had become badly spalled along with general building and fire upgrades. Due to their urgent nature these works were conducted under Structural and Fire Orders from Waverley Council.

<b>Client:</b>	Owners Corporations
<b>Contractor:</b>	Charas Constructions
<b>Construction Value:</b>	Combined Projects value \$2.6m
<b>Contract Type:</b>	ABIC MW-2008 H
<b>Completion Date:</b>	Last site completed March 2014
<b>Duration:</b>	13 Months



# SPMA

## On Social Media

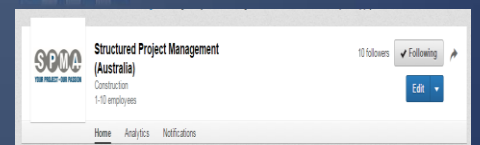
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- **Investigations / Due Diligence** – Understand all of your issues relating to the balcony. That means investigating all components mentioned above (slab, balustrade, waterproofing etc). This should be done by engaging the appropriately qualified consultants to undertake investigations. Undertaking adequate due diligence will reduce the risk of latent conditions and variations and will also ensure that all required works are undertaken in one single project.
- **Scope of Works** – Prepare a detailed scope of works prior to going out to tender. Do not let a contractor prepare their own scope of works. This will ensure that variations to contract works are kept to a minimum and accurate and comparable prices can be obtained from contractors.
- **Consider Other Building Works** – It is more than likely a balcony remediation project will require the erection of scaffolding which is a very costly portion of the works. While scaffolding is on site it is economical to undertake any other works that may be required to other areas of your building. This may include:
  - Painting
  - Window replacement
  - Brick tie repairs
  - Plumbing repairs
- **Contractor Selection** – It is very important to pick the right contractor for your project. In picking the right contractor consider the following:
  - License – Are they suitably licensed to undertake the works
  - Insurance – Do they have the correct insurances in place
  - Reputation – Has the company got a good record of completing similar works?
- **Client Representation** – As demonstrated in this fact sheet there are many factors to consider when undertaking a project relating to balconies and balustrades. In reality Owners Corporations and Strata Managers are not equipped to adequately address all of the issues relating to a project and as such should engage appropriately qualified Project Managers to oversee the works and represent the Client's best interests.

## Summary

SPMA have assisted many Clients through the process of Balconies and Balustrades to achieve the correct orders for their building and in then managing the completion of the works in a timely and cost effective manner. If you have any queries and or need assistance, please call us on (02) 9319 6366

