

Waterproofing and Watershedding

Introduction

Our guides aim to spark discussions within your scheme and encourage acceptance of fact-based information.

This guide summarises key points from a webinar on repairing water damage. It emphasises the importance of proper analysis and drainage for effective and cost-efficient solutions.

Myth Busting

Myth: All water leaks will cost millions to fix

Fact: Diagnosis is key – get this right to minimise remediation costs. Proper analysis specifies the problem and aims to remove risk (failure risk, cost risk)

Myth: Waterproofing is used to stop water

Fact: It's there to guide water to the closest outlet

Myth: A consultant / engineer report is always the right way to go

Fact: Reports are often based on non-intrusive testing, not specific water testing. Therefore, they often recommend inappropriate treatments.

A remedial consultant is likely to recommend all possible / available solutions, due to the way they are obliged to present a report. Inclusions are often a way of avoiding litigation, rather than needs-based.

Myth: The National Construction Code (and in NSW, the Designer Building Practitioners Act) mandate full remediation – no partial works.

Fact: Some construction actions fall under 'exempt development'. Check the legislation in your state for provisions aimed at streamlining the process for low-impact works and renovations.

Overview

This information was provided in a webinar held May 2025. Recordings and slides are available in the MEMBER PORTAL, [Events](#) section – i.e., you must be a member to view the recording.

Presenters: Ross Taylor, principal of specialist waterproofing consultants [Ross Taylor Associates](#)
Stan Goris, principal building consultant at [The Construction Advisor](#).

Links to training mentioned in the presentation:

- [TAFE Waterproofing Design Principles](#) (\$175)
- [TAFE Watershedding Design Principles - below ground structures](#) (\$245)

Understanding the Problem

Water penetration is a common issue in strata buildings, manifesting in various forms (interior leaks, exterior damage, balcony leaching, basement leaks).

Repairs are often costly and ineffective due to a lack of proper analysis.

The Ineffective Approach

Reports often lack thorough investigation, leading to over-specified and expensive repairs. A lack of analysis often leads to significantly higher repair costs (up to 10 times more).

The current industry norm often prioritises quick reports and large-scale repairs over detailed analysis and targeted, cost-effective solutions.

The Effective Approach

Water specialists will gather available data: drawings, reports, assessments by other professionals. This enables a testable hypothesis – 'educated guess' – to be made, based on considered assumptions and the logical methods of construction likely to apply to the property.

Conclusions drawn from tests enable a route to be established, along with a detailed design and a thorough scope of works, forming the basis of a construction contract.

- Use analysis, not guesswork – systematic inquiry and evidence-based reasoning
- Observation and questioning
- Forming a hypothesis
- Gathering data (crucially, building drawings)
- Testing, such as dye and flood tests
- Analysis and deconstruction – essential because deeper examination can reveal unexpected construction methods (a common finding)
- Conclusions, detailed design, and scope of works.
- Prototyping / staging the solution (for larger jobs).

The Importance of drawings and construction information

Drawings are vital for understanding the building's original design and identifying potential weaknesses. This includes as-built drawings, plumbers reports, assessments by other professionals who have completed work to date. "You can't fix what you can't draw" - leak flow path drawings are essential.

Process and controls

Regulatory Compliance Accuracy and awareness in creating the proposed design will take account of aspects such as development, demolition and deconstruction. Should a Development Application be required, approval time may be significant (e.g. 18 months).

Expectations – time, cost, noise, and disruption Planning, due diligence and research help stabilise cost estimates, so that levies / loans can be spread over time, with limited surprises.

Implementation of the scope of work It is important to ensure that a good contract administrator / project manager separate from the analysis phase is tasked with the contract administration phase.

The administration requires much less experience in terms of forensics, so arrange for the original analysis person to answer any technical questions and conduct spot checks for the project manager. E.g., quality hold point inspections of the membrane terminations, the flashings, the window installations.

Check that the consultant emphasises analysis such as water testing and deconstruction in their fee proposal. They should be able to provide three project references to show they successfully analysed the problem before determining the scope of work.

In some states, there is no licensing required for project management or consultants and no mandatory training. Where there is membership, it does not necessarily indicate suitability for your particular circumstance (e.g. [ACRA](#), remedial building association). It is necessary to look for signs of good conduct: are they active in the watershedding sector? Always obtain reference checks. Use word-of-mouth and reputation (for instance, the OCN Forum contributors may have recommendations).

Contractor

A proficient company contributes to stability of costs and avoidance of unexpected price increases or errors in work. This includes ensuring the people completing work are appropriately qualified, experienced, using good quality products and have the required level / type of insurance. This creates a safer working environment and reduces risk to property.

Implementation

A prototype can be implemented, particularly if urgent action is required. This involves a preliminary model of a product or system. This test version is used to evaluate the feasibility, effectiveness, and practicality of different waterproofing techniques before final installation

Staging the rollout is a way to minimise disruption. It also provides an opportunity to ensure the solution performs as expected and expanded timing may expose ways to save on costs or be more efficient.

Changes to the Building Code of Australia (BCA):

- The BCA is being updated to address water-related issues more effectively.
- Key changes include:
 - Emphasis on "collect, redirect, and drain" water (surface and subsurface).
 - Clearer definitions of "water."
 - Requirement for a 1:80 fall to floor drains on concrete balconies, roofs, and podiums.

Case Studies

Case Study 1

Due to a builder installing an incorrect membrane, along with inappropriate door frames, water leaks occurring on balconies extended down through several levels. Much was unknown in creating the scope of works, since diagnostic tests were not performed.

Avoidable costs were incurred because the initial proposed solution was inadequate and did not address all aspects. Fault of the contractor was *assumed*, and costly legal action was taken –

- litigation cost \$300k
- initial work \$700k
- resultant work with increased price and corrected scope was \$1.2M

The costs were ultimately incurred because –

- the initial proposed solution was inadequate and did not address all aspects of the issue
- there was no independent third-party supervision of the installation contractor
- lack of oversight resulted in the use of a significantly cheaper (unsuitable) waterproof membrane, which lasted a much shorter timeframe than expected.

These points reinforce that poor early decision-making and lack of oversight often escalate costs later.

Case Study 2

In this case, there was nothing wrong with the design, but it was based on logical assumptions. Unfortunately, the building was constructed in an illogical manner.

Remediation was prompted by moisture coming to the inside of the building and causing failures. Various measures were taken. None of these accounted for the poor condition of the timber frame.

If work had commenced, a stoppage part-way through the job would have occurred, resulting in a large variation and delay. A complete rethink of the design would have been necessary. Destructive investigations and water testing proved that theoretically correct design would never have worked in *practical* application.

Case Study 3

In this case, a regulated design was produced, at a cost of over \$100,000, though it may not have been required.

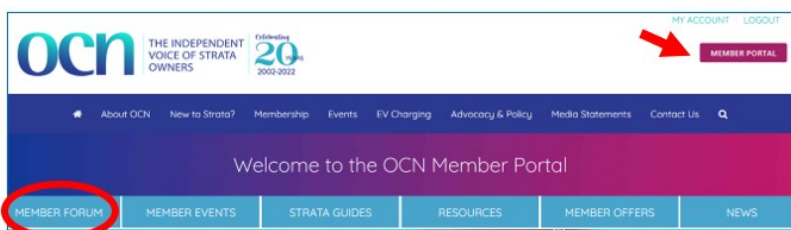
The lesson is to start with the basics, locate drains, check for overflows. Skipping this crucial step can lead to significant stress for residents. They might endure months of upheaval and an unusable property while a report is produced, only to find the leak issue unresolved.

The key to an effective waterproofing solution is keeping it simple, with clear drainage overflows and gravity helping disperse water quickly.

General recommendations for builder or contractor due diligence –

1. undertake reference checks for similar completed projects
2. undertake reference checks for similar projects currently under construction
3. conduct an internet search to confirm:
 - that the company holds an appropriate builder's licence (and where applicable, a waterproofing contractor licence)
 - for Class 2 buildings in NSW, that they are a registered Building Practitioner
 - that they hold eligibility for Home Warranty Insurance or the Home Building Compensation Fund (noting this varies in name between states)
4. consider including 'key personnel clauses' in contracts to help ensure that the builder allocates suitable and experienced staff to site, particularly as works are often undertaken in fully occupied buildings.

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