



Maintenance Advice

This Maintenance Advice Report provides independent expert advice from a registered architect about the cause of an apparent building defect or defects and clear rectification recommendations.



Assessment Details

CLIENT DETAILS

Name	Fred Sample	Booking No	3584
Telephone No		Mobile No	1234 456 678
Advice Required		Service Scope	

ASSESSMENT DETAILS

Address of Property	7 Sample Road				
Suburb	Sampletown	State	VIC	Postcode	3000
Date of Assessment	28 April		Time of Assessment	11am	
Existing use of Building	Apartments				
Weather conditions	Fine				
Verbal summary to	Fred		Date	28 April	

ARCHITECT DETAILS

Name	Frank Furter	Registration No	1234
Address	8 Simple Street, Sampletown		
Email	frank@furterarchitects.com	Phone	1234 345 456

Introduction

Archicentre Australia is Australia's independent architect's advisory service.

We have been commissioned by Fred Sample to undertake a site assessment at the above property and to provide advice with respect to current maintenance needs.

We have engaged an Archicentre Australia architect to prepare this Report on our behalf. The architect is formally qualified, registered with the state Architects Registration Board and a member of the Australian Institute of Architects having been trained to undertake property assessments and to provide associated advice.

If it is decided that maintenance work should be undertaken we recommend the following approach to ensure an optimum outcome. We would be happy to provide further assistance required and ask that our office be contacted on 1300 13 45 13.

Archicentre Australia
Email: office@archicentreaustralia.com.au

SAMPLE

The Scope of Assessment

Report Standard

Your Report is prepared by Archicentre Australia – a division of ArchiAdvisory Pty Ltd – in accordance with Australian Standard 4349.0-2007-Inspection of Buildings Part 0: General Requirements and to any other Australian Standards cited in these Terms and Conditions.

The architect can only assess the reasonably and safely accessible parts of the property. It is your responsibility to ensure that any inaccessible parts of the property that can be made reasonably accessible for an assessment, where appropriate for the scope of advice sought, are made so, prior to the assessment. Areas which are not reasonably and safely accessible cannot be assessed.

What is included in this Report

The Report is limited to a visual investigation of the property, item, area or matter of your concern. Where this relates to a defect or problem with a building or property element the architect will, where appropriate:

- Investigate and advise on the cause of the defect;
- Provide advice on the repair or maintenance of the defect;
- Recommend the appropriate trades, profession or technical expert to undertake further investigation and/or the repair or rectification.

What is not included in this Report

The Report will not contain advice on any matters beyond the scope of the advice sought.

- The Report is based on the condition of the property and the prevailing structural, soil and weather conditions at the time of the inspection. Prolonged periods of wet or dry weather will cause structural changes to the property as described in Archicentre Australia's Property Maintenance Guide which can be downloaded from the Archicentre Australia Supplementary Documents web page.
- Unless specifically and explicitly agreed in writing with the owner prior to the inspection the Report is based on a visual assessment of reasonably accessible parts of the property and does not cover enquiries of councils or other authorities.
- The Report will not disclose defects in inaccessible areas, defects that are not reasonably visible, defects which may be apparent in other weather conditions or defects which have not yet arisen.

- This Report does not include a pest inspection. Clients wishing to have a full timber pest infestation check should advise Archicentre Australia who will arrange for a separate timber pest inspection.
- Unless specifically and explicitly agreed in writing with the owner prior to the assessment, the Report does not cover the identification in the Property of:

1. Asbestos related products;
2. Condition or operation of swimming pools, spas and similar facilities;
3. Condition or adequacy of underground pipes or drainage systems;
4. Condition, adequacy or compliance of electrical, gas and plumbing systems including adequacy of roof plumbing;
5. Operation, adequacy or compliance of security and communications systems, smoke detectors, building services, building automation, automatic garage door mechanisms, plant, equipment and mechanical or electrical appliances or fittings;
6. Footings below ground or soil conditions;
7. Compliance with BCA, planning, sustainability or environmental matters including but not limited to the adequacy or safety of insulation, waterproof membranes and/or other installations, or BAL assessments;
8. Timber, metal or other framing sizes and adequacy;
9. Compliance with planning/building regulations for Occupational Health and Safety legislation requirements. Compliance should be verified with the relevant authorities or specialist consultants as required.

- The Report assumes that the existing use of the property will continue, and unless the advice is sought in respect of a change of use, the Report will not assess the fitness of the Property for any intended purpose. Any proposed change in use of the Property should be verified with the relevant authorities.

It is not a certificate of compliance for the Property within the requirements of any Act, regulation, ordinance or local by-law.

Defect definitions

	DEFINITION
Minor Defect/ Maintenance Item	Any items of repair which are common to well maintained properties of similar age or type of construction and as described in the Property Maintenance Guide, including decorative features and finishes.
Major Defect	A defect of sufficient magnitude where rectification has to be carried out without undue delay to avoid: • unsafe conditions, posing a threat to life or serious injury; or, • loss of utility whereby the defect is such that the whole of the relevant part of the property can no longer serve its intended function; or, • further substantial deterioration of the property.
Serious Structural Defect	A major defect in any internal or external primary load bearing component of the building which seriously affects the structural integrity of the building requiring rectification to be carried out without undue delay to avoid: • unsafe conditions, posing a threat to life or serious injury; or, • loss of utility, whereby the defect is such that the whole of the relevant part of the building can no longer serve its intended function; or, • further substantial deterioration of the building. In the case of cracking, a serious structural defect denotes severe cracking as defined by Category 4, Appendix C – Australian Standard AS 2870-2011.

Assessment Access

The architect can only assess the reasonably accessible parts of the property. It is your responsibility to ensure that any inaccessible parts of the property that can be made reasonably accessible for an assessment are made so, prior to the assessment. If parts of the property have been noted as being inaccessible during the assessment, it is important that you contact Archicentre Australia and arrange for a second assessment when access to restricted areas has been made available. Inaccessible areas cannot be assessed.

Reasonably and Safely Accessible – Accessible areas which can be accessed by a 3.6 metre ladder or those which have at least 600mm unimpeded vertical and horizontal clearance without the removal of any fixed or unfixed furniture, fittings, stored items, cladding or lining materials, plants or soil.

Reasonable Access may not be possible due to physical obstructions or conditions that may be hazardous or unsafe to the architect. Access restrictions will be noted where appropriate.

Archicentre Australia architects are unable to access areas where there is a risk of adverse disturbance or damage to the property, including garden or external areas of the site.

Workplace Health and Safety access conditions apply subject to relevant State and Territory regulations. Areas in excess of 3.0 m above ground level can only be visually assessed where safe balustrading or fall prevention barriers are permanently installed. High level access equipment may provide access where this has been explicitly requested and agreed in writing prior to the assessment.

Reasonable Access may not be possible due to physical obstructions or conditions that may be hazardous or unsafe to the architect. The inspecting architect will determine the extent of accessible areas at the time of the assessment.

Access restrictions will be noted where appropriate.

Attachments

The following selected attachments are an important part of this Report. These can be downloaded from the Archicentre Australia Supplementary Documents page – http://www.archicentreaustralia.com.au/report_downloads/ - or by referring to the Report cover email for downloading instructions. If you have difficulty downloading the following ticked attachments, please contact Archicentre Australia on 1300 13 45 13 immediately.

ITEM		ITEM		ITEM	
Property Maintenance Guide	✓	Cracking in Masonry	✓	Treatment of Dampness	✓
Health & Safety Warning	✓	Roofing & Guttering	✓	Re-stumping	NA
Termites & Borers	✓			Cost Guide	NA

General Advice

- This is not a pest inspection report. Archicentre Australia recommends pre- purchase and ongoing timber pest inspection in all mainland states and territories.
- Smoke detectors must be installed in accordance with current regulations. Archicentre Australia suggests that you regularly check these to ensure proper operation.
- Drought conditions can cause buildings to crack literally overnight. Please note the precautions advised in the referred Property Maintenance Guide and any specific recommendations made in your Report.
- The condition of timber- framed or concrete decks and balconies deteriorates over time – annual assessments should be undertaken to verify their safety.
- In the interests of safety, Archicentre Australia recommends all property owners should have an electrical safety assessment undertaken by a suitably qualified specialist.

- This assessment does not include an assessment of essential safety measures and prospective purchasers/ leasers should make their own enquiries in this regard.
- If you are purchasing the property, Archicentre Australia recommends a review of all door and window locks and security systems, appliance and equipment at settlement.

For Strata, Stratum and Company Title Properties

The Assessment is limited to the nominated individual property including associated private open space. It is not the scope of this assessment to include all common or other adjacent property. Legal advice should be obtained as to the liability to contribute to the cost of repairs in respect of any common property.

Terms & Conditions

The Report has been prepared by Archicentre Australia – a division of ArchiAdvisory Pty Ltd – and the named architect and is supplied to you (the named client) on the basis of and subject to the Scope of Advice and these Terms and Conditions. Archicentre Australia accepts no responsibility to other persons relying on the Report.

The Report has been prepared in accordance with Australian Standard 4349.0-2007 Inspection of Buildings Part 0: General Requirements and to any other Australian Standards and definitions cited in the Terms and Conditions.

The Report should be read in conjunction with any other Archicentre Australia Reports issued concurrently for the Property.

The Terms and Conditions take precedence over any verbal or written representations by or on behalf of Archicentre Australia.

1. After making the booking, the client is deemed to have accepted these Terms and Conditions and the Scope of Report upon the architect arriving on site.
2. The Report is not a guarantee but is an opinion of the condition of the assessed property.
3. Archicentre Australia accepts no liability with respect to work carried out by other trades, consultants or practitioners referred by Archicentre Australia. It is your responsibility to make appropriate contractual arrangements with such persons.
4. The Report is not a certificate of compliance for the property within the requirements of any Act, regulation, ordinance or local by-law.
5. Archicentre Australia does not accept responsibility for services other than those provided in this Report.
6. Archicentre Australia's liability shall be limited to the provision of a new assessment and report or the payment of the cost of a new assessment and report, at the election of Archicentre Australia.
7. The Property Maintenance Guide and any other selected attachments referred to in this Report are a vital part of the recommendations and failure to observe the recommendations in the Report, the Property Maintenance Guide or such other referred attachments could lead to premature deterioration of the property.
8. The Health and Safety Warnings constitutes a vital part of Archicentre Australia's recommendation to you. Failure to observe the provisions of the warning sheet could jeopardise the safety of the occupants.
9. The Report and its appendices and attachments, as issued by Archicentre Australia, takes precedence over any oral advice or draft reports, to the extent of any inconsistencies, and only the Report and its appendices and attachments, which form a vital part of the architect's recommendations, shall be relied upon by you.
10. If you are dissatisfied with the Report you agree to promptly give Archicentre Australia written notice specifying the matters about which you are dissatisfied and allow Archicentre Australia to attempt to resolve the matters with you within 28 days of receipt by Archicentre Australia of such written notice before taking any remedial action or incurring any costs.
11. Reference to Archicentre Australia in this Report and any other documentation includes, where the context permits, its agents and representatives authorised to act on its behalf.
12. These Terms and Conditions are in addition to and do not replace or remove any implied guarantees or warranties conferred by the Competition and Consumer Act or any other consumer protection legislation.

Maintenance Advice Summary

PROPERTY SUMMARY - Primary construction materials and site conditions			
Sub-Structure	Reinforced Concrete	Floors	Concrete
Roof	Metal Deck	Walls	Various sheet cladding
Windows	Metal deck	No of Storeys	1
Site Grade	Flat	Furnished	Yes
Extension / Renovations	Likely original plan	Tree Coverage	Moderate
Estimated Age / Period	1990's		

1. Executive Summary

The following summarizes our advice with respect to particular concerns identified at the property:

Matters of concern raised for consideration include:

- Initial Works - focusing on immediate amenity and safety (electrical) shortcomings. This will be based on further assessment followed by a bundling of works to achieve order and accountability. Cost Range - \$18,000 - \$30,000.
- Longer Term Works - focusing on improved cladding and glazing systems. This will include detailed architectural/services assessment and design followed by a bundling of works to achieve order and accountability. Cost Range - \$290,000-\$340,000.

Further detail can be found within the body of this report and queries may be directed to the named architect or Archicentre Australia.

Consequences:

Significant risk or cost consequences of not proceeding with this advice are as follows:

- Initial Works - Matters of amenity and personal safety will continue to be compromised if water ingress cannot be prevented as a short term measure.
- Longer Term Strategies - By allowing these matters to fester, building & services conditions will continue to deteriorate, compromising amenity and rental return "incurring additional cost when remedial works occur."

Recommendations:

Under the circumstances our recommendations are as follows:

- Detailed assessment of staged works should be prepared by an architect - aiming at development of specifications, sketches and scope - then forming the basis for quoting and project delivery.
- Concurrently, a glazing specialist and services engineers should be engaged under the guidance of an architect to assess and develop a whole of building strategy for future works and services - either staged or carried out as a single effort.
- If client funds can extend into a single stage, cost saving can be achieved arising out of process efficiency.

2. Introduction

The property comprises:

The property comprises a 1980's industrial building with a two storey office component - being part of a complex.

Construction appears to include precast concrete panels, steel framing, compressed cement sheet fascias and large aluminium framed window systems. Where concrete panels are not evident, some external walls may include concrete blockwork with 10-15mm render forming a wear coat to a high build acrylic finish. Roofing is apparently metal decking. Floors appear to be reinforced concrete and timber/steel framed.

The site is at the south west corner of Federation Circuit - with a fall from the rear down to the front.

Vehicular access is achieved at north, south west and south east sides.

Client Motivation for this report:

Client motivation for this report centre around concerns of ongoing water ingress at and around windows.

This includes leaks into a suspended ceiling at the curtain wall of which the front door is a part, east side of the front entrance, west side ground floor offices - at window sills and high at walls. As well, leakage is evident into the ceiling of the upper floor male toilet.

Site investigations occurred on 28 April, in the presence of Fred Sample (building owner) and Kevin Burger (tenant). These were restricted to ground floor office areas at west and south sides, and at the upper floor male toilet.

Weather conditions were overcast.

Externally:

Western and South Western office building elements appear to be more directly exposed to weather - the eastern side being set back more under a canopy over first floor level (items 1 & 2).

Penetrations and missing sealant are evident externally at west side intersections of steel columns and adjacent masonry/concrete panels and at window frames - jambs and sills. Rust is evident to some exposed steel elements. Some sealant at expansion joints is also missing (items 3 & 4).

Loose and cracked high build finish and render is evident at horizontal joints - particularly at western and south western curved wall intersections with ground and upper floor structure (items 4 & 5).

Aluminium window frames exhibit efforts to patch glazing compound. Sub-sills are not in evidence the effort of controlling water ingress left to sealant including to frame joints at sills. Damaged glass is apparent at the west. The entrance curtain wall leaks over front doors suggesting some frame deflection and deterioration of silicone glazing compound (items 6, 7 & 8).

Compressed cement sheet fascias appear to have deflected at joints - with attempts having been made to seal over and apply high build finish. Some gaps between fascia cladding and soffit lining are also evident - suggesting that fascias or the roof system are not water tight (item 9).

Internally:

High wall dampness is evident at western and south western offices (item 10). This accords with external penetrations and cracks.

Water ingress at window frames has caused adjacent carpeted floor finishes to require removal, also causing electrical services set in skirting conduits to become unsafe (items 11, 12, 13).

Front entrance inundation apparently causes water to flow into a mat well and towards carpeted areas (item 14).

Carpet stains synonymous with water ingress from leaking jambs are evident at a window east of the entrance (item 15).

A number of pre-existing stains are evident to suspended ceiling panels. Of these, badly deflected and moisture affected ceiling panels are apparent at the upper floor male toilet (item 16) - reportedly caused by a current roof leak.

3. Advice

Document Retrieval:

The building owner made available an array of construction documents.

It is recommended that additional structural & services documents associated with the building development be sourced.

Priorities:

It is understood that matters of safety and immediate amenity are uppermost in the prioritisation of remedial works.

Accordingly, a basket of temporary remedial works attempting to prevent further water ingress at wall penetrations, cladding cracks and to/around glazing appears appropriate.

Longer term strategies for remedial works could be considered along side a range of maintenance and functional improvements.

Observations and Analysis:

In this instance, Observations and their Analysis is discussed as a part of the forthcoming sections on Recommendations - both Initial and Longer term considerations.

As discussed, improved value and accountability can be achieved from the building industry by bundling works that become the responsibility of a single contractor.

As well, improved value can be achieved by an increased scope of works thereby providing motivation for a single stage effort.

Recommendations – Initial Scope:

In an attempt to provide immediate amenity and electrical safety a range of measures could be undertaken:

- Flaky texture coat/render and loose sealants/caulking should be raked out and removed, leaving a clean circumstance that allows patching of render, recoating of texture finish, re-sealing/re-caulking at window frames and adjacent to steel columns.
- Steel column elements that display signs of deterioration should be cleaned and anti-rust paint applied ahead of being re-coated.
- Cursory repairs to glazing sealants should be attempted where such have shrunk and become frayed. It is likely that this will be of limited efficacy.
- Internal moisture testing of water affected elements should occur prior to the re-laying of carpet, repainting of damp affected walls and ceiling panels. Undertaking repairs to structure and finishes before such are dry enough can result in protraction of the current circumstance - poor adhesion causing additional blistering of finishes and possible additional mould growth potentially causing health problems. Any wet and mouldy carpet, plasterboard, internal render or mineral fibre ceiling tiles should be demolished.

Mould should be thoroughly treated in remaining fixed elements and all loose mouldy elements removed.

Dry heat should be applied to retained elements as soon as possible. All such elements should be moisture tested progressively. Timbers should include no more than 12-15% moisture. Concrete floors should be less than 5% moisture.

It is likely that concrete floors will require some time to become dry - depending on the extent of saturation.

- An assessment should be made as to the condition of any electrical installations that have been affected by dampness and appropriate repairs carried out.
- If roof leaks at the upper floor toilet compartment are the result of trades - people causing damage at the roof access hatch, a localised effort can be made to repair the roof system at this point.
- In providing cost advice associated with the abovementioned works, matters requiring consideration include consultant fees, potential authorities fees, demolition, temporary services, external & internal building works, associated services works (electrical and the like), floor coverings. Given that some pragmatic solutions can temper costs it is not inconceivable that these costs could be in the range of \$18,000-\$30,000.

Recommendations – Long Term Strategies:

If original documentation is not forthcoming, it is recommended that existing conditions be documented by an architect - comprising floor plans, ceiling plans, roof plan, elevations and any salient details that describe constructional togetherness. On

this basis, services should be described - typically comprising mechanical, electrical, hydraulic/fire services.

With the assistance of original or "as-built" documentation, further detailed architectural assessment, services engineers' assessments and possibly an amount of destructive testing, a range of defects can be comprehensively understood – then forming the basis for works to be scoped into a bundle.

As discussed, the western side of the office wing is the most exposed to the influences of weather - including stability of founding conditions supporting footings - and this may explain the propensity for increased indications of deterioration. As well, the south and west sides of the office wing are less recessive than the eastern aspect, being more immediately affected by rain and sun.

Current circumstances appear to over rely on the use of caulking, sealants, and texture coat systems to prevent water ingress at intersections of disparate materials such as steelwork, concrete panels and possibly concrete blockwork. Deterioration of steelwork includes fraying and expansion of steel - which further compromises caulking systems.

The effect of UV on 30-40 year old caulking and glazing compounds is to cause shrinkage and failure.

Inclusion of a new cladding/window system sitting in front of the current structural system would enable these issues to be avoided. Improved shading devices and thermal performance of glazing systems can be woven into this re-consideration.

As a precursor to this approach, a range of current window related defects should be investigated by a commercial glazing specialist with a view to recommending whether frame systems should be upgraded and whether reglazing is appropriate.

The following items are amongst matters to be investigated:

- no sub-sills have been used to windows placing reliance on caulking to prevent water ingress into the building.
- can pitted silicone glazing compound can be repaired or should reglazing be considered?
- the efficacy of the front entrance curtain wall window frame system with a view to possible upgrade, including a canopy roof at the entrance door head to break the action of wind driven rain into the door opening.
- In providing cost advice associated with the abovementioned works, matters requiring consideration include consultant fees, potential authorities fees, demolition, temporary services, building works, partial services improvements. Depending whether some pragmatic solutions can temper costs it is not inconceivable that across the site/building these costs could be in the range of \$290,000-\$340,000.

Consequences:

Significant risk or cost consequences of not proceeding with this advice are as follows:

- Initial Works - Matters of amenity and personal safety will continue to be compromised if water ingress cannot be prevented as a short term measure.
- Longer Term Strategies - By allowing these matters to fester, building & services conditions will continue to deteriorate, compromising amenity and rental return - incurring additional cost when remedial works occur.

Summary:

The building appears to have offered reasonable amenity given its construction in the 1980's.

Maintenance improvements could give consideration to:

- Assessment and treatment of rust based deterioration to steelwork and plate connections at concrete panels.
- Strategy for Safety associated with ongoing Maintenance. Given emerging requirements for consideration of occupational health and safety for building and maintenance works, it appears necessary to seek an audit from a safety consultant with respect to the inclusion of hooks, harnessing points and access ladders that may be required for access purposes to walls, roofs and roof/ceiling mounted services.

Ongoing design improvements should look beyond current faults and give consideration to emerging efforts in energy efficiency within the broad agenda of sustainability.

Areas for consideration include:

- External shading devices to some windows.
- Reduced extent of glazing and use of double glazing including low-e coatings to inner surfaces.
- Improved thermal performance by use of bulk insulation.
- Photovoltaic cells – electricity harvesting.
- Improved efficiency of air conditioning systems.
- Improved efficiency of lighting systems.

Photographs

Address: 7 Sample Road Sampletown



IMG 1



IMG 2



IMG 3