

INSPECTION CHECKLIST FOR HERITAGE BUILDINGS



**A guide for owners of heritage
buildings who are planning a
maintenance programme**

Owning a heritage building

Keeping an eye on your building's problems and dealing with faults early avoids the need to do expensive, intrusive repairs, as well as giving you time to plan and budget for the work.

This checklist is a guide for owners of heritage buildings who are planning a maintenance programme. Since all buildings are different, the checklist is general and can be adapted to fit each property.

The checklist is not intended to take the place of an evaluation by a professional building inspector, surveyor, architect, engineer, or contractor. If building faults are identified, we recommend you ask professionals for advice and help.

When choosing a builder or tradesperson, look for someone who has experience and knowledge of working with heritage buildings – the right person can give you good advice on appropriate materials and building techniques.

Looking after yourself

Inspecting buildings can expose you to potential harm – such as working at height, possible exposure to diseases associated with bird/rodent infestations and mould or contact with hazardous substances like lead paint or asbestos fibres. When dealing with these hazards employ safe, competent, and qualified professionals.

Looking after your building: maintenance inspections

Take a good look at your building. The best thing to do is to inspect the building to judge and record its likely maintenance needs over the next 10 years and then review and update what needs done 5 years on. Roofs, gutters, and downpipes should be checked at least twice a year.

Inspect a building during heavy rains and wind to see where the water goes and how well your roof and gutters are performing.

Get professional help if you do not feel competent to inspect your building.

CHECKLIST

Here is a simple checklist for a maintenance plan inspection. It is not exhaustive, but it covers the basics for a typical heritage building.

Roofing

A building's roof is the first line of defence against the weather, so it is important to look after it. There are many roofing types (corrugated iron/steel, other sheet metals, corrugated fibre cement sheeting, membranes, tiles, and slates); each has its own specific issues and defects. Water can enter your building if materials, fixings, or flashings fail. It is not uncommon to find that alterations to the roof, such as penetrations for heat pumps and other services, are the source of problems.

Are there signs of fallen roofing materials?

Generally, does the shape and form of the roof look correct or are there areas that sag or are no longer in the right plane?

Are the edges of corrugate sheets buckled or lifting?

Are there missing or slipping slates and tiles?

Are there holes or heavily rusted areas in the corrugate?

Are fixing nails lifting or missing?

Are the external surfaces of slates or tiles breaking up or growing a lot of moss or algae?

In the case of flat roofs, does water pond on the roof or are there bubbles, splits, or cracks in the covering? Does water stand in the parapet/internal gutters?

ADVICE: Chimneys and eaves are common sources of leaks. It's best to look during or soon after a good rain to see where the water's coming from. If you notice any of the problems described above, you should try to understand the problems and ways to fix them. Seek professional advice if you haven't the skill or experience to fix them.

NOTE: Often access to old roofs is very difficult and hence they are forgotten and poorly maintained. Sometimes they can be seen from neighbouring buildings, but in many instances, they can only be properly and safely inspected by a crane platform or 'cherry-picker'. It is likely that a roof inspection should be carried out by a suitably qualified and experienced professional.



Chimneys, Parapets and Roof Level Ornamentation

Parapets and chimneys are important architectural features of historic buildings. They are often decorative and define a building's appearance from the street, but both can create problems for buildings when they are not properly maintained. Chimneys and flues are a common source of water getting into roofs.

ADVICE: Securing parapets and chimneys is a good first step in earthquake strengthening.

Is the chimney straight or does it lean?

Is vegetation growing from the chimney?

Are there bird droppings on the chimney or other signs of birds accessing or living in it?

Are there open joints or cracks in the chimney?

Is the chimney stained (indicating water problems)?

Are chimney/flue flashings in good condition or loose/missing?

Like roofing, parapets and decorative features at roof level are often 'out of sight and out of mind' and not well maintained. Lack of maintenance makes them vulnerable to failure because of strong winds or earthquakes. Failure is a particular concern because these structures are high above the ground so the consequences of failure could be serious.

Do the parapets or architectural ornaments show any signs of cracking or movement?

Are they water-stained or are finishes flaking or peeling?

Is there a lot of moss or algae growth on the parapets or signs of vegetation growth?

Is there a secure and well-fitted coping (capping or covering of a wall) to the parapet and are the flashings in place?

Are there signs of leaks, discolouring or water staining around the scuppers (outlets in the parapet through which water drains to the downpipes)?

ADVICE: Installing metal flashing on parapets can be an inexpensive way of preventing water getting in and damaging the parapet.

Flashings

In heritage buildings, original flashings may be made of lead, copper, or galvanised iron/steel. More recent flashings may have been added, such as membranes or pre-finished steel.

Are flashings in good condition and firmly in place?

Are there signs of other flashings being added or the use of mastics/sealants to fill in gaps?

ADVICE: The design/detailing of flashings requires specialist input so if in doubt, consult a qualified and experienced roofer or builder with heritage experience. When in good condition, historic flashing materials (such as lead and copper) perform well and last a long time. They may be expensive to replace like-for-like but will outperform more modern materials.



Gutters

Gutters on heritage buildings come in many different shapes and materials and they can be an important feature of a building. They add to a place's character and that character that can be compromised by replacing historic gutters with modern ones. Effective, free-running gutters are of critical importance to buildings. Often, gutters are easily blocked causing them to overflow and saturate the adjacent wall.

Are there signs of leaves or debris in the gutters or vegetation growing in them?

Can you see water in them?

Do the gutters look to be aligned or have they become loose, broken, or displaced?

Are there rusty joints in the gutters or does water drip from joints during/after rain?

Is the surface of the wall below a gutter very wet or running with water? Sometimes, water overflows from the back of the gutter under the eaves and is not as easy to identify as water pouring over the outer lip.

ADVICE: Clean out gutters after autumn leaves have fallen before the wet winter weather.



Downpipes, spoutings, and surface water drains

Poorly connected downpipes often result in water discharging onto the ground near the walls of your building. The water can then seep into the walls or beneath the building, causing damp problems that can even affect the integrity of the building's foundations. All water should be discharged well away from buildings, preferably to a proper sewer or soak pit.

Another problem is that blocked downpipes can cause water to stand or overflow from gutters.

Is water being forced from joints in the downpipes?

Is there damp ground around the base of a downpipe, including around the feet of verandah posts (which often double as a downpipe)?

Are the downpipe joints rusted or stained?

Is the join down the back of the downpipe split open?

Is there water staining or decayed/washed out mortar joints on the wall behind the downpipe?

Is there staining behind downpipes (green or black moss or mould)?

NOTE: It may be that the discharge capacity needs to be increased, as the downpipes may be too small or few for the size and pitch of the roof. Also, it may be necessary to employ a plumber or drainlayer to clear the surface water drains periodically of blockages, particularly if the drains have been laid at a poor gradient and do not run efficiently.

ADVICE: Fix problems these problems early to prevent water damage that is expensive to repair.

Verandahs

Waitaki has some highly ornamental verandahs on both domestic and commercial buildings, which are important heritage features of those buildings. Keeping them in good repair maintains the character of the building.

Have the means of support and/or suspension from the building facade been checked periodically by a structural engineer?

Where there are ceiling/soffit linings, have you noticed any signs of detachment from the structure, such as bulges and sagging, water damage (indicating roof leaks), cracks or loose sections?

ADVICE: Maintenance to ensure ceilings and soffits are well-secured will be much more cost-effective than having to replace fallen sections (let alone the risk to anyone below).

Windows, doors, and other external joinery

Waitaki has many buildings with historic joinery, such as windows and doors, that are important heritage features. They would be expensive to match and replace if maintenance is not kept up. Some of the buildings have valuable old glass in their windows and fanlights, including lead lights, coloured glass, and pressed pattern glasses.

Are there gaps around window and door frames where water can get in?

Do timber windows and doors have open joints, splits or pockets of decay?

Are windows or doors difficult to open/close or appear crooked in their frames?

Are sash cords broken or glass panes cracked?

Are fascia boards missing or loose?

Are boards deformed, cupped, or split?

Are there patches of bare timber on the external joinery or is the paint peeling?

Is the putty holding glass panes in place cracked or missing?

Are lead light panels misshapen or buckled?

Is the lead in good condition or is it thin/bent with the glass panes beginning to rattle?

ADVICE: Regularly checking and attending to windows and doors when they start to stick, warp or crack is an easy way to head off more extensive and costly repairs.

External walls

While walls are the dominant feature of any building, they are often overlooked for maintenance. Particularly in older buildings, the walls provide much of the structural integrity of the building. Are there areas of staining or discolouration on a wall indicating a damp problem (sometimes areas of peeling or bubbling paint)?

Are there eroded, decayed or washed-out mortar joints or sandy/crumbling mortar?

Are there salts ('efflorescence') or white-ish material leaching from the wall?

Are there rotten weatherboards and other timber claddings?

Is fungi or mycelium (masses of threads often white in colour) visible?

Are there decayed bricks or stones?

Are there blown or hollow areas of plaster/render?

Are there cracks in masonry or plaster/render?

Are there bulges, leaning walls or other signs of structural movement?

ADVICE: Often the cause of defects is not clear, so it is worth seeking professional advice. Hairline and horizontal cracks usually do not represent a problem. Vertical cracks through masonry units and mortar joints or diagonal cracks signal problems and should be checked by a structural engineer.

ADVICE: Removing vegetation should always be a priority, especially from the base of walls where they can hold damp. Roots can dislodge mortar and pointing, creating spaces for water to seep in and weaken the structure.



External pavement/ground levels

Resurfacing of roads, pavements and paths can raise ground levels around a building. Unfortunately, this can reduce the difference in level between the internal ground floors of your building and external ground, bridge over dampproof courses, and cover ventilation grilles. Soil build up, flowerbeds and other landscaping can also cause this to happen. The risk is that damp levels in walls can be increased, and combined with a lack of ventilation, can result in timber and masonry decay, plaster and finishes deterioration, and borer infestation.

Do the raised external ground levels and external surfaces slope back towards the walls of the building instead of away (and therefore take water into the building)?

Are the ventilation grilles and airbricks blocked or partially covered?

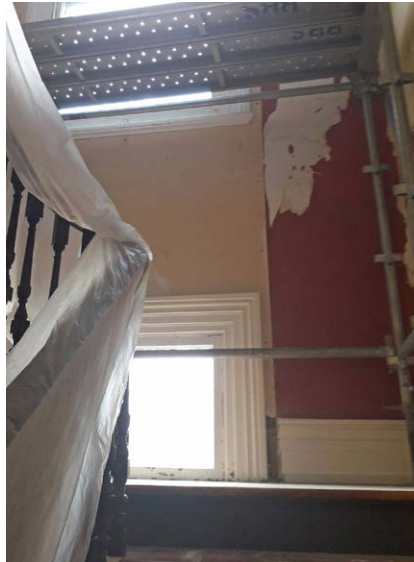
Is there damp, timber decay and/or borer internally at the base of external walls?

Are there signs of blocked surface water or foul drains?

Is there water pooling on the ground close to the building?

ADVICE: Clearing vegetation increases the air flow around buildings and helps to keep building drier. Excessive moisture can speed up decay.

ADVICE: When the ground level has built up around the building, lowering it can help solve damp problems.



Building interior

Keeping a regular eye on the interior condition of heritage buildings can help identify problems with the outside of the building.

Is there evidence of birds or rodents inside the building, particularly roof spaces, indicating that there may be holes through which they are getting in?

Are walls or ceilings discoloured, delaminated, or decayed? This may indicate water ingress through the external walls.

Are there signs of fungi and mould or musty/damp smells?

Is there water or damp in basements?

Are there sagging ceilings/floors, cracked plaster or other signs of structural movement?

NOTE: You should also undertake regular maintenance to building services to prevent leaks from items like hot/cold water tanks, plumbing pipework and sinks.

ADVICE: Jamming windows and doors may indicate uneven settling in walls or floors, or pressure being exerted on interior walls from the roof. In old buildings, some permanent change in shape (called deflection) is common, but significant or ongoing changes can indicate a bigger problem and should be checked by a structural engineer.



Cleaning, painting, and repointing

These three items are where well-intended maintenance works can go seriously wrong for heritage buildings. Before embarking on any of these tasks, seek advice from a qualified and experienced heritage professional.

If you are considering this work, here are several tips:

- Before cleaning be sure that it is really necessary. Cleaning can result in removal of the 'patina' of a building that is part of its heritage and streetscape value.
- If cleaning is really necessary always undertake a cleaning trial first. This should be in an inconspicuous place and should start with simple washing with clean water and a soft brush. Cleaning techniques need to be specific to the particular building material (wood, limestone, bluestone, sandstone, brick, etc.) and the particular type of soiling (moss/algae growth, bird droppings, atmospheric pollution, etc.).
- Be aware that more aggressive forms of cleaning can cause problems, for example: medium or high pressure water blasting is likely to remove mortar, force water into the building and can cause problems with soluble salts inside old stone and brick masonry;
- Abrasive cleaning of stone or brickwork (for example, by sand-blasting or heavy wire-brushing) will remove fine detailing from the building and may cause accelerated decay; and
- Different chemicals can make a building deteriorate faster.
- Painting previously unpainted stone or brick masonry can have serious adverse effects: most modern paints don't allow heritage buildings to 'breathe', causing damp retention in masonry. Painting also changes the character of the building. Modern paints are also likely to be impossible to remove in the future without stripping the face of the masonry.
- Be very wary of masonry sealants and waterproofers. If wrongly chosen or incorrectly applied, they may cause decay of stone or brick in the long-term and can result in 'ghosting' (faint white blemishing across the face of a wall) to masonry walls.
- The architectural and aesthetic value of a heritage building can be damaged by inappropriate repointing of brick and stonework. As closely as possible, repointing should follow the building's original scheme and materials.
- Modern Portland Cement-based repointing, plasters and renders are not the same as the original materials from 100 or so years ago. Their use may contribute to accelerated stone/brick decay and damp problems in a building.



Organisations that are qualified to give maintenance advice for heritage buildings

Heritage New Zealand Pouhere Taonga:
www.heritage.org.nz

International Council on Monuments and Sites (ICOMOS NZ):
www.icomos.org.nz

New Zealand Institute of Architects:
www.nzia.co.nz

New Zealand Institute of Building Surveyors:
www.buildingsurveyors.co.nz

Funding and support for heritage

Owning and looking after a heritage building can seem daunting! But you're doing important work preserving Waitaki's history and culture.

We support owners of heritage sites by offering advice and assistance through our Heritage Advisor, through the Waitaki Heritage Fund, and through our Heritage Resource Consent Fee Waiver.

Get in touch by emailing heritage@waitaki.govt.nz or phone for an appointment to speak to our Heritage Advisor.