



Photo: State Registered Place known as *Pymont*, Albany

INTRODUCTION

A highly visible, steep, or large roof is an important element of a heritage place and can form part of its cultural heritage significance. In these instances, the roof contributes to the aesthetic significance and setting of a place, as well as indicating its age and architectural style.

Many early Australian buildings featured corrugated galvanised iron roof sheeting, which was originally only available in short sheets. Rows of short sheets create a unique aesthetic that cannot be replicated with long sheets or modern materials, such as aluminium/zinc alloy-coated steel (ie. Zinalume®) and baked enamel-coated steel (ie. Colorbond™). These materials have a shiny or streamline appearance inconsistent with galvanised iron.

Roof maintenance, which can sometimes involve full roof sheeting replacement, is an essential part of heritage conservation. However, it must be undertaken carefully to maintain cultural heritage significance.

Aim

To provide guidance on acceptable approaches to corrugated metal roof replacement to avoid or minimise adverse impacts on the cultural heritage significance of heritage places.

Application

This guideline is applicable to all proposals for corrugated metal roof replacement affecting State registered places, including precincts. The Heritage Council will use this guideline when assessing proposals

but it can also be used by decision-makers for proposals affecting heritage protected places¹.

This guideline should be read in conjunction with the Heritage Council's Corrugated Roofing Maintenance Series Information Sheet, which details materials, and the history and approach to roof repairs and maintenance

Objectives

- To provide guidance on acceptable approaches to corrugated metal replacement for heritage places.
- To improve the consistency of advice for roof replacement proposals through the:
 - identification of the key issues
 - consideration of the Heritage Council's Development Principles
 - setting of guiding principles

Terms used

In this Guideline –

- **place** is a readily identifiable area of land listed in the State Register of Heritage Places and can include buildings, structures, other built forms and their surrounds, gardens, cemeteries, memorials, landscapes and archaeological sites.
- **precinct** is where the combination of landscapes, buildings, streets and spaces of an area has State significance because of their grouping and relationship to each other. In the context of the State Register of Heritage Places, a precinct is a place.

Key Issues

The key issues associated with roof replacements on heritage places are:

- the physical impact on significant fabric
- the condition of the fabric
- the visibility of the roof
- external factors, such as the environment and material availability.

For proposals within precincts, additional consideration should be given to the:

- impact on the significance of the precinct, including aesthetic qualities and setting, and any important views and vistas within the precinct
- impact on elements of individual buildings that contribute positively to the significance of the precinct
- cumulative effect of proposals in the precinct.

Guiding Principles

The principles of the ICOMOS *Burra Charter, 2013* inform the Heritage Council's *Development Principles for State Registered Places*, which guides consideration of proposals that affect places included in the State Register.

¹ Heritage protected place, as defined in clause 1A, Schedule 2 of the Planning & Development (Local Planning Scheme) Regulations 2015

Guidelines for Corrugated Metal Roofs

Heritage Council Development Principles

Principle 1 – Understanding cultural heritage significance is vital in preparing appropriate development

Proposals for roof works should be based on an understanding of the cultural heritage significance of a place, which is outlined in the Statement of Significance. Conservation Management Plans can further clarify significance and provide guidance on managing change.

Many early structures in Western Australia were roofed in corrugated galvanised roofing. The traditional appearance of a corrugated galvanised roof is often an important part of the aesthetic values of a heritage place. The key qualities of this type of roof are:

- a dull, unpainted appearance
- the profile, depth and shape of the corrugations, which were deeper and wider than contemporary profiles
- in the case of short sheets, the distinctive horizontal line produced by overlapping sheets and the joint nails.

In developing proposals for roof works, the following questions should be considered:

- Is the existing roof material original or is there evidence of the original material?
- In the absence of any specific evidence, is the building type generally the same as neighbouring buildings, or are there any intact examples to guide the current works?
- If the roof material is original, can it be repaired by replacing single sheets or sections, rather than full replacement?
- Is reinstatement of the original roof necessary to maintain or enhance cultural heritage significance? For example, if the roof was originally corrugated galvanised iron it was likely constructed using short sheets (about 3 metres long), and secured with nails rather than screws. These details could be important if they contribute to the appearance of the roof.

Principle 2 – Appropriate development respects the cultural heritage significance of the place

Good conservation practice advocates for roof work to match the original where possible. This includes roof material, length, profiles fixings, and other associated elements including ridge capping, flashings, barge board, fascias, gutters, downpipes, vents, and skylights.

Where the colour of a galvanised roof is deemed significant to the heritage values of the place, any replacement fabric should match the original roof sheeting material and be finished with a paint to best match the historical painted finish. This should only occur if the process does not void any warranties with the supplier.

Modern fixings may be used to improve the performance of the roof; however, new fixings should maintain the traditional appearance of the roof by following the traditional horizontal layout of the sheeting.

There are several acceptable approaches to roof work, which should be determined by the condition of the roof sheeting:

- minor repair work and maintenance, such as patching or replacing single sheets or rearranging existing sheeting with some new sheeting
- part roof replacement to address damage or budget requirements
- total replacement where the roof is demonstrably failing, and repair is not feasible.

Principle 3 – New work should respect the heritage place and its elements

For full roof replacement, alternatives to the original roof material may be considered in circumstances where:

- the roof is demonstrably failing; and
- repair or part roof replacement is not feasible: and
- the adverse impact on heritage values is minimal or is mitigated by overall positive conservation outcomes.

The following circumstances provide justification for consideration of such proposals:

- There is documentary or physical evidence that the existing material is not original. For example, corrugated galvanised iron may not be appropriate if the roof was originally timber shingles, slates or tiles or corrugated asbestos. In this case, the significance of the place may be best served with an alternative based on the evidence.
- The roof form is not a prominent feature of the building, or the roof is not in public view. For example, the roof is not visible from the principal elevations and/or that sit behind parapet walls may not be affected by a change in material.
- The roof has previously been painted for a significant span of its life, and the colour is deemed significant to the heritage values of the place.
- The building is not part of a precinct with many galvanised roofs.
- The place is in an extremely corrosive environment (for example near the ocean or certain industrial area) and a new roof material will provide demonstrated superior resistance to deterioration.
- The proposal is essential to the long-term conservation of the place.

When considering new materials, the appearance of new roofing material should always try to match the appearance of the traditional material and finish. It is also important to note that contemporary aluminium/zinc alloy-coated steel (such as Zinalume®) or baked enamel-coated steel (such as Colorbond™) do not match the profile or reflective qualities of a paint finished galvanised corrugated roof sheet.

Replacement of existing slate or terracotta, or asbestos roof sheeting with new galvanised corrugated cladding, or products such as Zinalume® or Colorbond™ is generally only acceptable:

- in roof planes that do not contribute to the formal presentation of the place and are concealed from view; and
- where it is proposed to replace corrugated asbestos cement. In this instance it is important to match the profile size, as well as finish/colour of the original asbestos sheets as closely as possible.

When determining the appropriate sheet length for new roofs, consider the following:

- Galvanised sheeting in short length sheets is the preferred roof material for places that were originally constructed, or have been covered for most of their life, with corrugated galvanised short sheets.
- Sheet profiles have differed over time and between manufacturers, and while some traditional profiles are available, exact matches may not be achievable in all instances. It is accepted that these constraints may guide some decisions.
- The use of long sheets of galvanised sheeting could be considered for shallow pitched sections of roofs where utilising long lengths of galvanised sheeting will improve watertightness.
- Where material supply issues are reported, this is often related to a stock shortage rather than product availability. Most traditional roofing materials, including 21-22 millimetre deep Z600 grade corrugated galvanised iron sheets and rainwater goods are usually available upon request to suppliers. Project managers are recommended to liaise with suppliers early in their project to avoid unnecessary delays.

Principle 4 – The visual setting of a place is often an important part of its cultural heritage significance

Replacement roof sheeting material should retain the visual setting of the place. This is particularly important for prominent and highly visible roofs, and when considering proposed changes within precincts.

Where the roof is an important part of the visual setting of a place, the original roofing material, profile and sheet length should match the original. This will assist in maintaining the character of the original building and/or any precinct it sits within.

Heavy grade modern galvanised sheeting dulls quickly and can regain the aesthetic and quality of a traditional galvanised finish. The profile, shape and depth of the corrugations are also part of the important aesthetic and should be matched where possible.

The shiny appearance of products such as Zinalume® and the consistent neat appearance of Colorbond™ does not reflect the traditional appearance of corrugated galvanised iron sheeting and may visually detract from the aesthetic values and setting of a place.

Principle 5 – Compatible use of a heritage place is essential to conserving its cultural heritage significance

Ongoing roof maintenance is an essential component of ensuring that a heritage building is conserved and used.

Additional considerations for proposals in precincts

It is common that roof forms and materials are strong visual elements and can create visual harmony within precincts. For this reason, the selection of appropriate materials can be critical in the conservation of the individual building and the setting and cultural heritage significance of the precinct as a whole.

Roof material, profile, fixings and other elements are important and contribute to the appearance of the roof. In the context of a precinct, these details can be even more important as one roof can be readily compared to another.

Re-cladding a roof provides opportunities to conserve an existing significant roof type or to reinstate an original or significant earlier roof material which can positively contribute to the precinct's authenticity and integrity.

It is unlikely that products such as Zinalume™ or Colorbond™ will be appropriate materials, unless the significance of the building is relatively low, the roof is wholly or largely hidden from view, or the environmental conditions make galvanised sheeting unsuitable.

Where renewable energy system installations are proposed in a heritage precinct, additional consideration needs to be given to the potential for incremental (cumulative) change as systems are installed on multiple places and the impact of this on the cultural heritage values of the precinct.

Additional notes

The following materials and construction issues need to be considered for all roof repair and replacement proposals:

- If new materials are introduced, care should be taken to avoid mixing dissimilar metals which can result in accelerated corrosion due to galvanic reaction.
- The increased strength of modern fixings can have structural implications that may require additional action to ensure compliance with current codes and Australian Standards.
- When considering painting new roofs, ensure that the process does not void the warranty. Note that the protective resin coating on galvanised produces needs to wear off before applying any painted finish. It takes at least six months to wear away naturally, and manufacturers do not recommend attempting to remove the resin coating manually.

- Environmentally responsible upgrades, such as the introduction of renewable energy systems, are encouraged in heritage properties, but care is required to minimise the impact of these installations on the cultural heritage values of the place. Refer to the Heritage Council Guideline: Renewable Energy Systems in State Registered Places.
 - Roof replacement projects funded under the Heritage Council's Heritage Grants Program should be undertaken in accordance with best conservation practice and use traditional materials.
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The Heritage Council acknowledges the traditional owners and custodians of land and waterways across Western Australia. The Council is committed to reconciliation to improve outcomes for Aboriginal and Torres Strait Islander peoples and to work together to provide a culturally-safe and inclusive environment.

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Contact us

Heritage Council of WA
Locked Bag 2506
Perth WA 6001

Tel: (08) 6551 8002
FREECALL (regional): 1800 524 000
E: info@dplh.wa.gov.au
W: www.dplh.wa.gov.au

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