SEPTEMBER 2024

HERITAGE IMPACT STATEMENT

HEPBURN BATHHOUSE AND SPA

PAVILION FLOORING PROPOSAL

PREPARED BY ANDRONAS CONSERVATION ARCHITECTURE

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REVISIONS:		
No.	**Date**	**Description**
HV1	03/09/2024	Original Heritage Issue

CONTENTS

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1.0 INTRODUCTION

1.1 Overview

Andronas Conservation Architecture was engaged by the Hepburn Shire Council to prepare a Heritage Impact Statement (HIS) to accompany their Heritage Permit Application for the Pavilion Flooring Proposal to the interior of the Hepburn Bathhouse and Spa Pavilion.

The Hepburn Shire Council aims to achieve a built outcome that ensures the continued use and viability of the space while preserving the original fabric and the inherent systems of ventilation and moisture diffusion that have enabled the building to endure in a highly moisture-saturated environment.

1.2 Project Details

HERITAGE IMPACT STATEMENT FOR:
Hepburn Bathhouse and Spa, Hepburn Springs, VIC

This Heritage Impact Statement forms part of a permit application for:
Pavilion Flooring Proposal

DATE:
September 2024

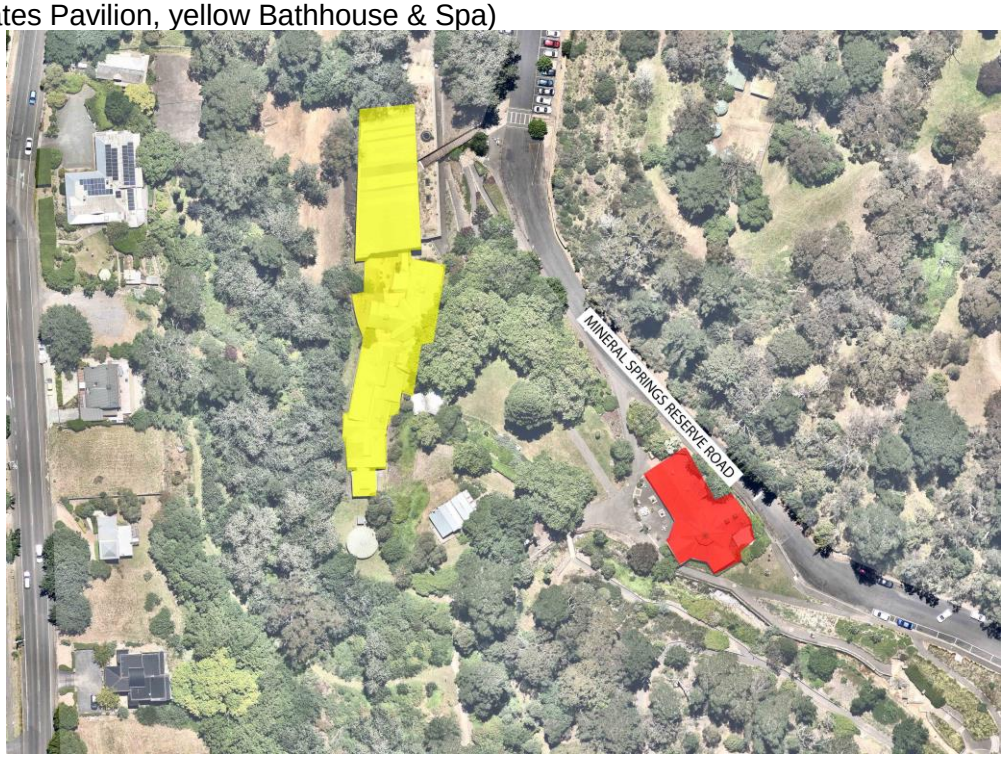
VICTORIAN HERITAGE REGISTER NUMBER:
VHR No H2098

ADDRESS AND LOCATION DESCRIPTION:
Mineral Springs Reserve Rd, Hepburn Springs, VIC, 3461

PREPARED BY:
Andronas Conservation Architecture,
1 Green Place
East Melbourne, Victoria, 3002
T: 9416 2437 M: 0412 379 278
E: aa@andronas.com.au

FOR:
Hepburn Shire Council

LOCATION PLAN:
(Red indicates Pavilion, yellow Bathhouse & Spa)



2.0 SIGNIFICANCE OF THE PLACE

2.1 Cultural Significance

The cultural heritage significance of the place or object, including setting and any archaeological values or potential (relates to s.73(1)(a) of the Heritage Act)

Hepburn Mineral Springs Reserve is listed on the Victorian Heritage Register and attributed the following Statement of Significance:

> *Hepburn Mineral Springs Reserve is of historical significance as an intact and authentic expression of 19th and early 20th century nature and health tourism in Victoria, made popular through the development of the country rail network and also reflected in the construction of the Mount Buffalo Chalet in 1910 (H0901) and development of the Buchan Caves Reserve in the first decades of the 20th century (H1978). The rapid rise in the popularity of the Hepburn Springs Mineral Reserve in the late 19th century was specifically related to the then popular belief in the recuperative and invigorating powers of 'taking the waters'.*
>
> *The Hepburn Mineral Springs Reserve is of historic significance as the best known and most popular of Victoria's mineral springs, in continuous use since at least the 1870s. Hepburn Springs is the only mineral spa development with a surviving 19th century bath house.*
>
> *Hepburn Mineral Springs Reserve is of scientific significance for the geological feature of the mineral springs themselves, each of which has a unique chemical composition, and for the Reserve's association with the establishment of the network of Mineral Reserves in Victoria in the early 20th century through the Geological Survey of Victoria and its Director E. J Dunn (1904 - 1912).*
>
> *The Hepburn Mineral Springs Reserve is of aesthetic significance as a constructed picturesque and evocative cultural landscape combining exotic, European, plantings with indigenous vegetation, exhibiting a high degree of authenticity especially in the largely intact pavilion and surviving fabric of the 19th century bath house set amid the garden landscape.*
>
> *Hepburn Springs Mineral Reserve is of social significance to the people of Victoria as a highly popular place of recreation and source of mineral water for public use.*
> *Hepburn Springs Mineral Reserve is of social significance for its association with European migrant communities in Victoria, in particular the Swiss-Italian community who recognised the therapeutic value of the springs in the 19th century, who continue to have a strong attachment to the place and who contribute to the conservation of the springs through community action.*

2.2 Existing Condition of the Registered Place

The Hepburn Springs Mineral Reserve Pavilion is generally in fair condition. However, it faces several moisture-related issues due to its location in a highly saturated creekside (riparian) environment, compounded by its position at the base of an embankment and the bottom of a small hill.

Constructed in 1909, the Pavilion is a red brick structure with a distinctive design featuring a Greek cross layout over an octagonal base. The octagon boasts a broad-hipped roof with unglazed terracotta tiles, topped by a louvred lantern and a conical turret with a wrought iron finial. The cross's wings form short transepts with gabled roofs, each containing large half-round and smaller circular windows adorned with Art Nouveau-style leadlight glazing. Wide entrances with half-glazed timber doors and rectangular windows distinguish the west and north sides of the octagon.

The adjoining kiosk, added in 1939, is a single-storey red brick building with a rectangular plan extending from the Pavilion's northern transept. It features a transverse gabled roof of unglazed terracotta tiles in the Marseilles pattern, a roughcast-rendered gable end, and a timber slat screen. Externally, both buildings appear sound and in good condition.

Internally, the Pavilion comprises a spacious, sunken, unpartitioned octagonal area with short transepts on four diagonal sides. The timber ceiling, supported by exposed rafters and radial metal tie-rods, remains in good condition as surveyed from floor level. The exposed red brick walls, some of which are bagged, are complemented by timber-framed bench seating around the perimeter. The internal fabric is in fair condition; however, many areas of the masonry walls in the sunken space exhibit signs of penetrating dampness, resulting in efflorescence and deterioration of the sacrificial mortar. This results from the internal space being below ground within a moisture-saturated environment.

The internal flooring is mainly original, comprised of square red encaustic terracotta tiles accented by smaller white buff tiles at the intersections. The original, intact encaustic flooring has experienced severe differential settlement, resulting in significant undulations of up to 200 mm across the internal space. The original flooring was laid over a 20 mm gravel bed atop 350 mm of sand and gravel. While this system does not meet modern structural standards, it allowed subterranean moisture to diffuse and evaporate through the louvred apse, contributing to the structure's longevity. The covering of the open louvres has further disrupted this moisture diffusion system to accommodate heating for user comfort. The significant undulation of the flooring poses serious accessibility and safety concerns and limits the space's use and ongoing viability.

The internal eastern transept features a non-original brick fireplace with a steel flue, two large timber posts, an exposed truss ceiling, and a marble foundation stone. The encaustic tiles in this area are of a later date, and the corresponding masonry fabrics exhibit more pronounced rising dampness and efflorescence. This suggests that the newer tiles were laid over a slab or mortar bed that impedes moisture diffusion, leading to hydrostatic pressure and accelerated deterioration of the original brickwork.

Access to the Pavilion's interior is provided by masonry stairways at all entrances and a non-compliant ramp at the main entrance, all later additions.

2.3 Current Use of the Registered Place

Hepburn Bathhouse and Spa remains in use as a public bathhouse and has done so since the 1870s.

The area of the proposed works in the Pavilion is currently being used as ancillary seating for the abutting kiosk cafe.

2.4 Constraints and opportunities resulting from the significance of the place or object

Hepburn Shire aspires to achieve an outcome that respects The Hepburn Mineral Springs Reserve's architectural, aesthetic, historical, and social significance and continues to allow the Bathhouse and Spa Precinct to act responsibly and safely.

Given that the area has undergone multiple alterations and functions throughout the site's history, the opportunities and constraints in the proposed works lie in balancing the economic viability and

functionality of the proposed area of works with the retention of the cultural and historical significance of the original building.

3.0 PROPOSAL

3.1 Background

The proposal aims to resolve the building's accessibility challenges and restore the civic space to its original function. The space is underutilised due to the significant undulation of the original sunken encaustic tiled floor. Further, accessibility issues exist at the interface of the raised external ground levels and the sunken interior floor level. Access requires navigation of multiple steps or a non-compliant ramp.

Core samples taken to investigate the flooring revealed that the original tiles were laid on a 20mm thick mortar bed over a 350mm sand and gravel subbase, resting on an 800mm layer of silty clay, clay, and gravel infill. This construction method, typical for buildings of this era, provides limited structural integrity and has contributed to differential settlement. However, it has also likely played a crucial role in preserving the building's overall structural health and longevity by allowing the transfer of subterranean moisture into the atmosphere.

The challenge lies in balancing accessibility improvements with preserving the building's proven moisture diffusion system and minimal disruption to the conditions that have allowed it to endure in such a highly moisture-saturated environment. Various remediation options were explored in consultation with Heritage Engineering Consultants at Quatrefoil, as detailed in Section 3.4 - Options Considered. After assessing the potential impacts of these alternatives, the proposed adjustable pedestal system was identified as the most suitable solution.

3.2 Proposed Conservation Works (Encaustic Tiled Flooring)

As noted previously, the condition of the in situ encaustic tiled flooring is of concern, and the structural integrity of the mortar substrate has failed due to differential settlement. Whilst the options to remove the flooring and reapply over a new bed of mortar or slab were explored, we believe that there is a significant risk of causing further damage to the original tiles throughout the process and also a significant risk in altering the proven system of moisture diffusion to the building and impacting the structure as a whole.

Therefore, before new works commence, we propose thoroughly documenting the original flooring through drawings and photographs. Additionally, the existing encaustic tiled flooring would be thoroughly inspected, and areas of loose, lifted, or damaged tiles would be consolidated to the existing 20mm mortar substrate with a lime mortar adhesive.

3.3 Proposed Works (New)

The proposed works involve installing a new raised, reversible, low-impact floating floor in the Hepburn Pavilion's interior sunken space, please refer to Appendix A for details. This new floor is proposed to be installed over the existing encaustic tile flooring using adjustable polypropylene pedestal, there are two options for the resting of the pedestals;

Option A: The pedestal bases will rest unfixed on the original tiles;

Option B: The flooring will be covered in a layer of permeable geotextile, on to which a layer of levelling bedding sand will be applied, and then a layer of perforated waterproof ply or similar board to cover and protect the encaustic tiles. This system will level the space and minimise any point loading concerns.

Whilst altering the volume and original intent, raising the interior floor level to align with the exterior ground level within the octagonal space will address current accessibility and safety issues. The existing stairs and ramps, later additions, do not meet current code requirements. Installing a compliant ramp would require nearly eight meters of length within the confined space. Existing stairs and ramps would be retained in situ and used as structural support for the proposed flooring.

The proposed polypropylene pedestal system (see Image 7) will be installed in a grid-like pattern over the original encaustic tiles, distributing the load evenly without point loading on the original flooring. Key benefits of this system include:

- There is no need to remove the original floor;
- No fixing to the original flooring is required;
- Existing ventilation principles are maintained;
- Even transfer of loading;
- Allows for subfloor ventilation;
- Adjustable footings for floor undulations;
- Fireproof, flood, and corrosion-proof;
- No irreversible connections to existing masonry;
- Cost-effective and readily available off-the-shelf;
- Addresses DDA and accessibility issues;
- Accommodates various underfloor and flooring finishes.

The system will be secured laterally to a perimeter angle fixed with stainless steel fasteners into the mortar joints of the original masonry. Steel C-Channel joists will be attached to the pedestals, supporting a waterproof board, which will, in turn, support the new flooring. The floor level to the eastern transept (fireplace) would remain as is, accessible via a proposed floating staircase, retaining a sense of the place as intended. The flooring to this area is of a later date, and does not pose an accessibility issue, further; this would allow the continued monitoring of the masonry fabric where the most significant efflorescence and penetrating damp is occurring (Image X).

A new subfloor ventilation system is also proposed to manage moisture within the interior and subfloor space. This system will include a central subfloor plenum that mechanically draws air from the interior to the building's exterior through a single penetration in the original fabric. The proposed penetration will be on the southeastern elevation at the base of an existing embankment, below the external ground level. The ventilation will be facilitated by an exhaust fan (plenum) fixed centrally under the new flooring, drawing air and moisture from the pavilion to the subfloor through grates along each of the eight interior walls (see Appendix A – Proposed Floor Plan). The expelled air will exit through a small opening on the southeastern elevation.

The perimeter timber bench seating will be carefully removed, repaired and repainted to match original then reinstalled to the new floor level.

The existing ten wall-mounted gas tile heaters are proposed to be replaced with an equivalent number of hanging infrared spot heaters.

3.4 Options Considered

Multiple options were considered for the proposed works in consultation with Heritage Engineering Consultants at Quatrafoil, including;

a. The careful removal and reinstatement of the original encaustic tiles over a new subgrade and infill slab.
It was determined that this approach would inevitably and irreversibly damage large sections of the

original tiles during removal. Further, a new slab would disrupt the proven moisture desorption process, forcing hydrostatic pressure into the masonry walls and proposed slab, which could be detrimental to the structure**.** Whilst the existing construction method offers little structural integrity by modern standards, it was not uncommon for the era and has likely contributed to the building's structural health and longevity. It allows subterranean moisture to freely move through the floor, evaporate, and exit the building through the open louvred lantern at the apse. Minimising disruption to the existing system would be most beneficial to the integrity of the building.

b. Structural interventions to support new flooring

Alternative solutions to raise the flooring by providing a structural subfloor were considered. However, all options involved irreversible interventions to the original fabric, such as penetrating the original flooring to install posts or laying beams across it. All options would detrimentally impact the original fabric.

4.0 INFORMATION TO SUPPORT AN ASSESSMENT AGAINST SECTIONS 101(2) AND 101(3) OF THE HERITAGE ACT 2017

4.1 Impact of the proposal on the cultural heritage significance of the place or object

4.1.1 What will be the effect on the cultural heritage significance of the registered place or object if the proposal were to be approved [s101(2)(a)]? List the impacts, positive and/or negative of the various aspects of the proposal on the cultural heritage significance of the place or object as set out above. If the proposal will result in negative impacts, outline the options that were considered, why more sympathetic options were not feasible, justification for the impacts, and mitigation measures proposed. Where adverse impacts cannot be avoided, set out the recommended mitigation, safeguards or other management measures necessary to retain the values of the place as much as possible. If there are detrimental impacts on the cultural heritage significance of the place or object, provide reasons why the proposal should be permitted.

As noted in the place's statement of significance, the Hepburn Mineral Springs Reserve holds significant historical, social, aesthetic, and scientific value to the State of Victoria. The site has undergone numerous changes throughout its history, including notable expansion in the 1980s and a more recent major extension that increased the bathing facilities and modernised amenities.

The proposed works to the Pavilion primarily involve revitalising the space to its original intent with minimal impact on the original fabric. The 2003 Conservation Management Plan stated that the Pavilion was used for concerts, dances, and social events following its erection in 1908. Currently, the space is mainly unused and unable to be safely accessed due to movement to the original flooring and ramps and stairs of a later date, not to the current code; the project outcome will return the building to its original function, enhancing the space.

A negative aspect of the proposal is that the original flooring and the unique sunken nature of the internal space will be covered to raise the floor level. This alteration impacts the building’s original design intent, affecting the internal volume of the space. However, when compared to other options previously outlined, we believe this reversible solution is the most feasible. It minimises further impact on the structure and original fabric while allowing the building’s continued use. Additionally, the proposal preserves a portion of the original floor where the later encaustic tiles remain level, thereby partially retaining and referencing the building's original sense of place and space.

The proposed works will not adversely affect the place's cultural or heritage significance. On the contrary, they are expected to enhance accessibility and presentation while restoring the building to its intended function as a civic centre in keeping with its historical context and significance.

4.2 Provide reasons why the proposed works should be supported. Reasons must address the matters which the Executive Director is to consider under s101(2) including:

4.2.1 What will be the effect on the reasonable or economic use of the registered place or object if the proposal were to be refused [s101(2)(b)]? Refer to Heritage Victoria's policy Reasonable or economic use: Relevant matters for the consideration of section 101(2)(b) of the Heritage Act 2017 when providing reasons for support of the proposal.

The refusal of the application would significantly impact the reasonable use of the place, as the proposed works directly address the ongoing viability of the original Pavilion as a commercial venue. Due to the flooring situation, this historic structure is underutilised within the Hepburn Springs site. The proposed interventions are essential for the Pavilion's ongoing viability, unlocking a long-dormant civic space to the public and ensuring continued use, economic sustainability, and funds for ongoing maintenance and future conservation works.

4.2.2 If the applicant is a public authority what will be the effect on the ability of the public authority to perform a statutory duty specified in the application if the proposal were to be refused [s101(2)(d)].

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4.2.3 What other matters relating to the protection and conservation of the registered place or object may be relevant [s101(2)(f)]?

As mentioned, the proposed works will protect and conserve the existing encaustic tiled flooring in situ. Ensuring the commercial viability of the space is crucial to justify future conservation works.

4.2.4 Is there registered place or object located within a World Heritage Environs Area? If yes, how does the proposal affect the world heritage values of the listed place or any relevant Approved World Heritage Strategy Plan [s101(2)(e)]?

Not applicable. Hepburn Mineral Springs is not located within a World Heritage Environs Area.

4.3 Reasons may address the matters which the Executive Director may consider under s101(3) including:

4.3.1 Impacts on adjacent or neighbouring heritage places, or any other relevant matter. This should include assessment of the application against local government heritage policy.

Not applicable. Given that the proposed works are internal, there are no impacts on adjacent or neighbouring heritage places.

5.0 CONCLUSION

In summary, the objectives of the proposed pavilion flooring are as follows;

- Repair and stabilise the existing original encaustic tile floor as required;
- Install new raised reversible low-impact flooring system;
- Install a new subfloor ventilation system with a single external outlet penetration through the original fabric
- Replace the wall mounted gas tile heaters with hanging infrared spot heaters

The adjustable pedestal system is the best solution for this proposal due to its reversible nature, minimal impact on the original fabric, and the accessibility opportunities it provides. This system offers an opportunity to enhance the site and ensure the continued use of the building. When compared to the detrimental impacts of other explored options or the continued underutilisation of the space, this proposal is the best solution.

6.0 IMAGES

Image 1 *The Pavilion& abutting Kiosk from the direction of the bathhouse*

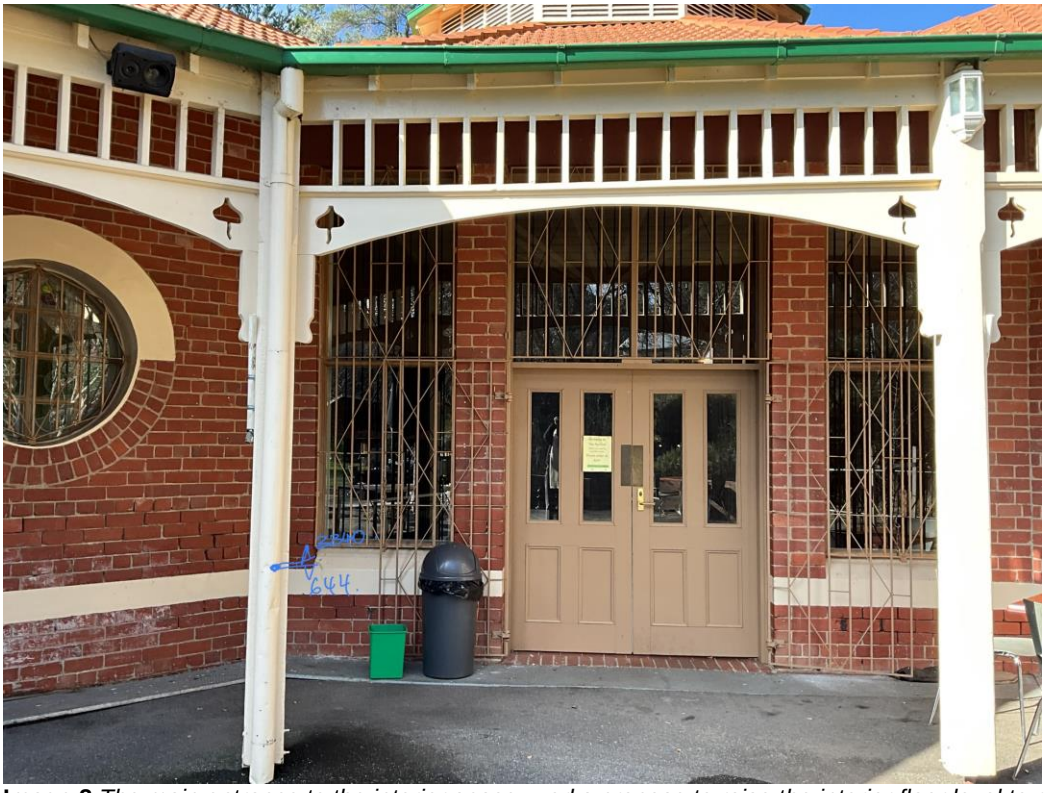

Image 2 *The main entrance to the interior space, works propose to raise the interior floor level to reach exterior ground level*

Image 3 *The view from the foot of the entrance stairs to the eastern transept*

Image 4 *Interior image looking back towards the main entrance., the height of the existing masonry thresholds to stairs and ramps of later date indicate the new proposed floor levels*

Image 5 *Example of more significant settlement and undulation to original encaustic tiles at the base of the stairs adjourning the eastern transept*

Image 6 *View of the eastern transept with tiles and fireplace of later date, note the significant efflorescence and evidence of penetrating damp in this area*

Image 7 *South-west elevation of proposed penetration to masonry*

Image 9 *South-west elevation of proposed penetration to masonry*

Image 10 *Proposed pedestal system*

7.0 APPENDICES

Appendix A – Architectural Drawings A.00 to A.04 (inclusive) by Andronas Conservation Architecture

Appendix B – 2021 Pavilion floor-level survey