Heritage Impact Statement - Castlemaine Market Building

Heritage Impact Statement for:

CASTLEMAINE MARKET

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

INSTALLATION OF A SOLAR PHOTOVOLTAIC ENERGY SYSTEM

Date: 14.06.2017

Victorian Heritage Register Number:

VHR HO130

Address and location description:

The Castlemaine Market is located at 44 Mostyn Street, Castlemaine VIC 3450.

How is it significant?
The Castlemaine Market is of historical, architectural, technical and social, significance to the State of Victoria.

Why is it significant?
The Castlemaine Market is of exceptional architectural significance as a rare surviving early colonial market building. Completed in 1862, displaying a mixture of Australian colonial Greek and Roman Classical Revival styles, the building is dedicated to Ceres, the Roman goddess of harvest.

The Castlemaine Market is of historical and social importance for its association with the prosperity and growth of Castlemaine, a major gold rush town in the Central Goldfields of Victoria.

The Castlemaine Market has technical significance for its use of curved horizontally laminated wooden ribs in its roof construction, rare in building usage at the time.  
- See more at:  

The Castlemaine Market is located in an area subject to Heritage Overlay HO646 Castlemaine Market, 44 Mostyn Street Castlemaine

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For:

Mount Alexander Shire Council
**Existing condition of the registered place**

The building is in a generally good condition, due to programs of conservation works undertaken in the 1970s and the late 1990s which effectively addressed serious structural issues and fabric deterioration.

The main challenges facing the Castlemaine Market Building into the future are its use and useability, presentation and interpretation.

**Current use of the registered place**

Visitor information centre and temporary exhibition space.

**The proposed works**

The proposed work is the installation of an inconspicuous solar photovoltaic system, hidden from street views by an existing parapet, to provide renewable energy and cost savings. The project will ultimately contribute towards improved thermal comfort and building use, and Council’s target of zero net carbon emissions.

The initial concept was to install a circa 36kW system, consisting of two rows of panels on each of the eastern and western sides of the building in portrait orientation (total of 144 panels of 250 watts).

**Figure one: Initial concept for 36kW system - analysed for sight lines**

Detailed site analysis by Crosby Architects has demonstrated that the proposed 36kW design, if developed in portrait orientation, would result in the top portion of the upper row, of each of the two rows of panels on each aisle being slightly visible from some sight lines (see figure two).
Figure two: Schematic showing the very slight visibility (blue) of the upper row of the proposed 36kW system.

As a principal project objective of Council is for the PV system to not be visible it is proposed that the panels be installed in portrait orientation in one row (23 panels on each side) on both the east and west aisles. This will provide a smaller capacity system of 14.56kW (total of 56 panels of 260 watts). This system would not in any way be visible from the analysed sight lines.

From here on the ‘proposed installation’ for the purpose of this permit application is for a 14.56kW portrait orientated solar system.

Figure three: Schematic showing the layout of the proposed installation

Electricity consumption at the site is typically in the range of 40-50,000kWh per year costing Council approximately $10,000 each year.
The main volume of the building is not heated or cooled effectively and this project is part of an overall project to provide thermal comfort in the building to enable greater utilisation of this significant public asset.

Power demands, especially in summer will increase as thermal comfort is addressed. Temperatures inside the building regularly reach beyond 35 degrees Celsius in summer creating discomfort for the Castlemaine visitor centre volunteers, staff, and visitors.

In addition, a new computer server room with a required 24/7 split system cooling system has added at least 20% to the current power demand of the building. This server room is required to backup all Council operations, and in the event of an emergency at the Civic Centre and Town Hall, Council will relocate their operations to the Market Building.

The proposed 14.56kW PV system will produce approximately 22,000kWh of electricity. This production is expected to be well utilised onsite, given that the building is occupied almost every day of the year.

The proposed installation will not be visible from the street due to an existing parapet. Two pre-application site meetings were held with staff from Heritage Victoria.

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)

The significance of the Castlemaine Market Building has been reviewed against the criteria for cultural significance, established by the Heritage Council of Victoria.

It has been confirmed that it is of State significance primarily for the following reasons:

- Its continuity of use as a market over a 105 year period, 1862-1967. No other regional market in Victoria had such longevity. It is a rare as a substantial, early market building in Victoria, and more broadly Australia.
- Association with the early development of Castlemaine during the period when the initial gold rush town became an established and permanent settlement. It is the principal remnant of the early development of Market Square, which from the outset has been the commercial and social epicentre of the township.
- Reflection of the early prosperity and great expectations for Castlemaine (mid-19th century) to become the major inland city of Victoria.
- Association with the heritage movement as a landmark instance during the 1950s + 1960s of a broad campaign to conserve a historic building, prior to any legislative framework being in place and likely to have been a galvanising factor in the creation of the National Trust of Australia [Victoria].
- The high degree of intactness of its original form and fabric.
- As an unusually elaborate example of the Regency style. The design is based on European precedents, and the treatment of the façade has limited, if any, comparison with other buildings in Australia. It is a landmark building in Castlemaine.
- The use of horizontally laminated timber roof ribs, thought to be the only 19th century example of this technology for a roof structure in Australia.
What physical and/or visual impacts will result from the proposed works? i.e. what will be the affect on the cultural heritage significance of the place (relates to s.73(1)(a) of the Heritage Act)

Positive impacts:

- Providing a source of renewable power to enable additional thermal comfort measures that will enable volunteers, staff and visitors to better enjoy the volume of the building and for use to occur over a much greater part of the year.
- Enable the building to respond to climate change and demonstrate to the community the compatibility of the thoughtful best practice installation of renewable energy on heritage buildings.
- Reduced operating costs for Council.
- No visual impact at street level.

Negative impacts:

- Fitting of screws to secure the rails for the panels. Panels will be connected to the rails not to the roof.
- Single small entry point to enable conduit to run down an internal wall to the rear of the switchboard.
- Single conduit run from the east to the west of the building to be concealed behind the north-facing façade.
- Able to see the panels on the roof from higher elevation hill areas of the town, such as the Old gaol and Burke and Wills memorial.

Is the registered place or object in 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? (relates to s.73(1)(ab) of the Heritage Act)?

The site is not in a World Heritage Environs Area.

If there are detrimental impacts on the cultural heritage significance of the place or object, provide reasons why the proposal should be permitted (relates to s.73(1)(b), (e) and (f) and s.73(1A) of the Heritage Act)

Overall the very minimal detrimental impacts will enable for the better future use of the building. The project is part of a holistic effort to improve the thermal comfort through active heating and cooling and through small improvements to the building envelope such as improving the thermal quality of the glass windows and addressing draughts and openings.

If there are detrimental impacts on the cultural heritage significance of the place or object, detail alternative proposals that were considered and reasons why these were dismissed (relates to s.73(1)(b), (e) and (f) and s.73(1A) of the Heritage Act)

Alternative solar panel arrangements have been considered. The final design is considered optimal as it ensures that the solar system cannot be seen whilst still delivering a good amount of energy benefits.
Energy efficiency measures such as addressing draughts and the thermal performance of the building will enable cost savings and a more comfortable environment in the building. However, due to the design of the building, mechanical heating and cooling will be required in the future. In addition, a new server room has been installed in the building with a significant power requirement including a 24/7 cooling system.

If the business case to improve the thermal comfort of the building is able to rest upon the significant utilisation of sustainable low cost renewable energy then it has a significantly improved likelihood of support.

What measures are being proposed to avoid, limit or manage the detrimental impacts?

- The visual impact will be minimised as all the physical elements of the PV system will be obscured by the existing parapets.

- All built elements will be removable.

- The corrugated roof material is not original and so the screw holes will not diminish an original roof. It is unknown if the new roof replaced or covered the original roof or subsequent layers.

Has the proposal been influenced by, or does it address any Local Planning Scheme or Building Act 1993 requirements? (relates to s.73(1)(f) and s.73(1A) of the Heritage Act)

The proposal does not relate to the Local Planning Scheme or Building Act but does relate to Council’s Environment Strategy 2015-2025 that includes a direction for Council to become carbon neutral.

The surrounding buildings in the Heritage Overlay, namely the Ray Bradfield rooms and the RSL both have solar PV systems in place that are visible. The proposed new installation will not be visible.

Conclusion

The installation of an inconspicuous solar photovoltaic system on the Castlemaine Market will enable the future sustainable use of the building including likely upgrades to its thermal comfort. It will also save on operating costs and help Council to achieve its target of zero net emissions.

Attachments:

- Conservation Management Plan (HV already has a copy of this document)
- Site Plan
- Elevations