Project: Yvonne Arnaud Theatre

Theatre Green Book Case Study

Venue Details and History

Yvonne Arnaud Theatre is a performance venue operated by Yvonne Arnaud Theatre Management based in Guildford, Surrey.

Constructed in 1965 the Yvonne Arnaud Theatre is a popular regional performance venue. The theatre was named after the much-loved French actress who had made her home in Effingham Common and dominated the English stage for nearly fifty years. It presents a series of locally produced and national touring productions, including opera, ballet and pantomime. The theatre has two performance venues, the main auditorium, and the smaller Mill Studio.

The Mill Studio opened its doors in 1993 in the historic Old Town Mill dating back to the 18th century, previously used as the theatre's scenery workshop.

In 1997 the Mill Studio was rewarded with a Lottery grant to upgrade its facilities, and since then it has continued to expand, becoming a lively venue in its own right, providing a great space for small-scale work by professional companies.

With the accommodation housing a main house, foyer/restaurant/café space alongside traditional back of house facilities and the adjacent Mill Studio, the Grade II listed theatre boasts a unique riverside location in the heart of Guildford and is actively supported by Guildford Borough Council.

The theatre was designed to be as adaptable as possible to allow for the staging of every kind of performance. There is no proscenium arch allowing the full width of the stage to be utilised if wanted. It has a fly tower and a permanent curved cyclorama.

A significant constraint the Yvonne Arnaud theatre is facing is its listed status and unique appearance. Integrating sustainable and low energy enhancements into such a unique venue will be a challenging process requiring close engagement with the relevant planning departments. This aside, as noted previously, the location and construction of the building provide a range of potential enhancements with differing levels of intervention and viability.

Home Survey Tool Output

The Yvonne Arnaud facilities team deployed the digital Home Survey Tool by inputting information associated with the key features of the venue in order to detect appropriate "lean, clean, and green" improvements. In the case of the Yvonne Arnaud Theatre, based on the venue's location, existing construction, and age amongst a range of potential carbon & energy improvement measures the Home Survey Tool identified the following key fabric and services' upgrade opportunities:

- Addition of draught proofing
- Lighting control improvements
- Additional pipe & duct insulation
- Addition of secondary glazing
- Addition of CO2 Controls
- Addition of heat recovery
- Replacement of existing boilers and cooling with heat pumps for heating & cooling

Following the initial application of the Home Survey Tool, Buro Happold's team visited the Yvonne Arnaud Theatre on Friday 18 March 2022. The team spent the day on site reviewing all aspects of the venue to gain a first-hand understanding of its construction, operation, and condition. Although the visit coincided with a quiet Friday afternoon, the café and box office were both open and the venue was operational.

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Physical Site Survey

In addition to visually inspecting the building and engineering systems the Buro Happold team spent time with the facilities and operational teams. This allowed the engineers to understand the subtle nuances of the building's operation from different perspectives which added to the insight given in the resulting report.

This included considering what was working well, what needed improving, and what key opportunities there were in any future aspirations for the venue. This first-hand feedback fed into the report and resulted in a series of further recommendations and constraints for the venue including:

- Riverside location and opportunities for water source heat pumps
- Potential improvements to intake air path
- Opportunity to improve foyers via the use of natural ventilation and draft lobbies
- Listed external shading not identified in Home Survey review
- Opportunities to repurpose existing plant locations i.e. replace boilers with water source heat pumps

The roofs, walls, floors, and windows of the building all help constitute the fabric that encompasses a venue's individual parts. Improving the performance of a building's fabric can often prove to be the biggest challenge due to the inherent disruption caused by the refurbishment works; the same physical elements often end up being the most challenging aspects of an energy saving strategy for an existing building.

In the case of the Yvonne Arnaud the listed status of the venue also adds a further complication to this because the type of alterations associated with making improvements to these elements could alter the buildings appearance which may not be acceptable.

In addition to the energy and emissions focused review, in the case of the Yvonne Arnaud the visit also provided the venue with input on Planned Preventative Maintenance. This helped identify some minor potential issues before any plant failure occurred helping mitigate potential operational disruption.

Conclusions/Recommendations

The common theme across both digital and physical analysis appears to be the **Building Fabric**.

Following the "lean, clean and green" principles set out in the Theatre Green Book, the digital Home Survey Tool, and the site survey of the Yvonne Arnaud theatre, Buro Happold's team identified a range of opportunities to reduce energy consumption and improve energy performance including improvements to the building fabric.

The identified options included but were not limited to the following:

- Addition of draft lobbies
- Upgrading existing glazing
- Increase of external roof and wall insulation
- Renewal of existing door and window draught proofing

Measures such as the above are fairly typical for venues of a similar era. However, depending on the condition of the existing building fabric, the proposals can also offer a tiered scale of intervention to suit budget constraints.

The Yvonne Arnaud theatre boasts unique architectural features such as full height glazing panels and solar shading fins, which are both elements of the overall listed exterior of the building. It is important to consider factors such as retaining the appearance of listed external elements and obtaining relevant consents when reviewing options for alterations and improvements of a building's fabric.

The above recommendations are valid for both the systems and infrastructure in their current state as well as for a large-scale refurbishment if one will be considered for future implementation. However, the scope of any refurbishment will need to be analysed further as it will inform the scope of improvement that can be achieved under the available budget.

In addition to the existing conservation management plan, further feasibility studies may be required for each of the proposed improvements to allow informed decisions to be made by the theatres' management and operational teams. It is recommended that any further feasibility studies should include cost reviews against every option to assist the theatre management team in deciding which options to pursue further.

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