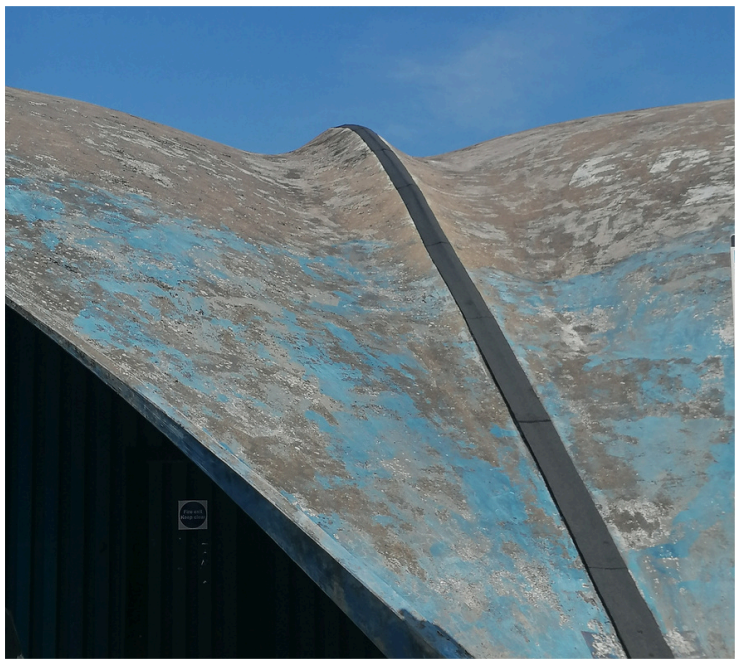

The concrete shell of the ice rink at Norwich Sports Village

Expressions in concrete

The Listing of Norwich Sports Village

Avalon Planning and Heritage supported the owners of the site during the listing process. We provided an assessment of significance, liaised with Historic England, supported a site visit with the Historic England officer and provided feedback on the draft listing report. Our analysis of the site agreed with Historic England that the concrete shells met the criteria for inclusion on the list. The list entry can be found here: https://historicengland.org.uk/listing/the-list/list-entry/1493666

This case shows that even recently constructed buildings with a short history can sometimes be listable because of architectural or engineering interest. Where buildings are eligible for listing, there is an opportunity for Historic England to define very clearly which parts of a building or site are of special interest, as modern listing descriptions are very detailed compared with older examples that most people are familiar with. Our representations to Historic England helped to ensure that the listing was scoped as tightly as possible to protect significance, but also allow for flexibility in future development.

Adding a building to the statutory list of course has implications for the owners. Permission for demolition is rare and comprehensive redevelopment becomes more challenging. However, at Avalon we are well positioned to assist our clients with advising on development proposals and assessing the impact of potential new uses.

Detail of the concrete shells

The complex is made up of ten “shell” roofs, developed from studies of natural forms and from experiments with small-scale structural models

When considering sports and leisure buildings for listing Historic England listing criteria states that it is important to understand whether the building was designed as architectural statements that projected a private institution’s prestige or a public authority’s commitment to health and welfare. A *very lavish architectural or engineering display* is required for listing post-war pools, as is a functional relationship between groups of structures or buildings. By understanding the fabric of the building, and history of construction, we can understand why Norwich Sports Village meets the criteria for listing.

Norwich Sports Village was constructed in the late 1980s for Broadlands District Council to provide state of the art leisure facilities for the city of Norwich and the surrounding area. The architect was Tony Copeland of the Swiss-based architectural firm of Haus and Herd. However, the design for the roof was provided by Heinz Isler (1926–2009). Isler was an internationally renowned engineer, known for his experimental methods which led to expressive, thin-walled, concrete shell structures.

The design technique was new to the UK, but it was one that has been utilised successfully throughout Europe for over 30 years. The press release for the opening of the building explains the reasons for choosing this technique: *The project is exciting, functional and attractive. The striking concrete shell design…avoids the usual “aircraft hangar” appearance of many sports halls as well as being economic in terms of maintenance requirements and creates and attractive atmosphere for leisure use.*

Whilst the technique perfected by Heinz Isler was structurally effective and used materials efficiently, it was a labour intensive process. At Norwich, Isler utilised a new technique which allowed the expensive formwork to be reused, thus reducing labour costs. Further innovation was achieved by applying insulating layers of wood-wool slabs and sprayed polyurethane insulation and vapour barriers directly to the inside of the concrete structure.

The concrete shell roofs are architecturally impactful and are made up of distinctive and consistent forms.

A view of the ice rink

The roof form made it possible to have a large plan building with a minimal surface area, which reduced heat loss, and a low internal volume, which reduced the amount of air needing to be heated. The design also allowed for large expanses of glazing so that the internal spaces enjoy significant amounts of natural light. The wood-wool thermal insulation absorbs sound to moderate the high noise level often found in swimming pools and sports halls.

The historic interest of Norwich Sports Village is primarily related to the rarity of such structures in the UK. Whilst Heinz Isler was probably the most prolific shell builder in the world, the Norwich Sports Village is his only surviving work in England. Isler is one of the most internationally renowned Swiss engineers of the second half of the twentieth century. He belonged to a generation of civil engineers who played a decisive role in the design of technical and infrastructure buildings, particularly at the interface between architecture and civil engineering.

Heinz Isler's concrete shell technique was used more widely in Europe, particularly in his home country of Switzerland. Celebrated examples of his work include the two 31.6 metre (104ft) span triangular plan canopies of the filling station roof near Bern, constructed in 1968 and still in use today.

Heinz Isler's filling station roof at Deitingen, near Bern, Switzerland, 1968

Inside the vaulted sports hall

The design allowed for large expanses of glazing allowing the internal space to enjoy significant natural light.

The buildings that are in use demonstrate how well they are designed to fulfil their original purpose. The introduction of the gym and mezzanine floor demonstrates they ability to adapt the spaces to modern needs. The swimming pool has also clearly been altered and modernised, however the roof structure remains intact and readable.

Externally, the concrete has weathered in the way in which Heinz Isler preferred – i.e. there is moss and lichen growth, and the colour of the concrete is a brownish grey. Internally, the roof structure is visible and has a direct architectural relationship with the external structure.

The detailed listing description for Norwich Sports Village clearly demonstrates how the concrete shell roofs, but not other elements, meet the criteria for listing. Following the 2013 Enterprise and Regulatory Reform Act Historic England can specify which parts of a site aren't of special interest, which can often be helpful in facilitating alterations and change that might support reuse. In the case of Norwich Sports Village the listing identifies the shells as being of primary significance and individual elements, such as the walls, windows and internal partitions have been specifically excluded from the listing. The busy Holiday Inn hotel at the heart of the complex is of no architectural or engineering interest and is outside the listed area.

Today, the aquapark (minus the original flumes) and sports complex are utilised by David Lloyd Clubs as an extremely popular sport and gym complex. The large sports hall to the south west of the central hotel was converted to an ice rink in 2009 which closed in 2015. It has remained closed and unused since that time.

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