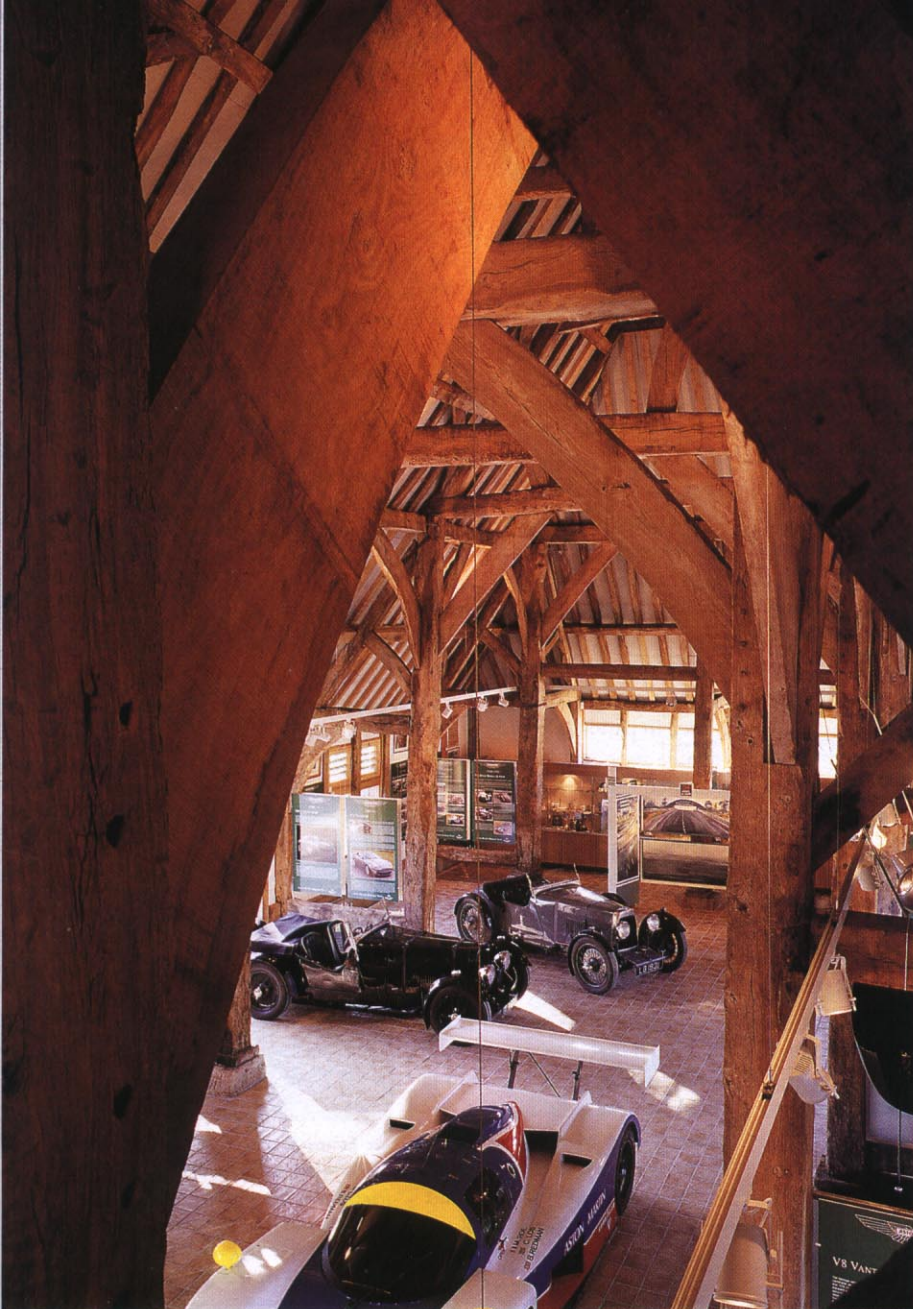




Wheels of Fortune

architecture plb in **Oxfordshire**

**Aston Martin Owners Club +
Aston Martin Heritage Trust • HQ**



RESTORATION ■ Wheels of fortune: Architecture PLB in Oxfordshire

A fourteenth-century tithe barn has been renovated for office and exhibition use. Critique: Rosamund Diamond. Photos: Jonathan Moore.

The Aston Martin Owners' Club has constructed its new premises in the Oxfordshire village of Drayton St Leonard – a far cry from the racetrack or chic urban display. It is not a factory nor is it a showroom. The choice of building and its location have been calculated, thorough, precise and discreet – as one would expect perhaps from such a famous marque. The outcome is the restoration of a fine fourteenth-century barn and simultaneously the creation of a new building for use as exhibition, office and archive space. The strategy of finding a significant yet endangered structure and adapting it through careful restoration and new additions is consistent with the ethos of a car manufacturer that depends

alike on craftsmanship and technology.

The Haseley barn, as it was known, is big, with an area of 360 square metres under an 8.5 metre high roof. The timber frame consists of a queen strut roof supported on aisle posts in the external walls and massive arcade posts, all originally of elm. The renovation project, conceived and executed by Winchester-based Architecture PLB, was split into three building phases: the repair and restoration of the barn; the construction of the offices inside it with a new pod addition; and the internal fitting of the shell. One third of the building is occupied by the offices, with a mezzanine floor inserted above them to hold the historic Aston Martin archives. The attachment of an



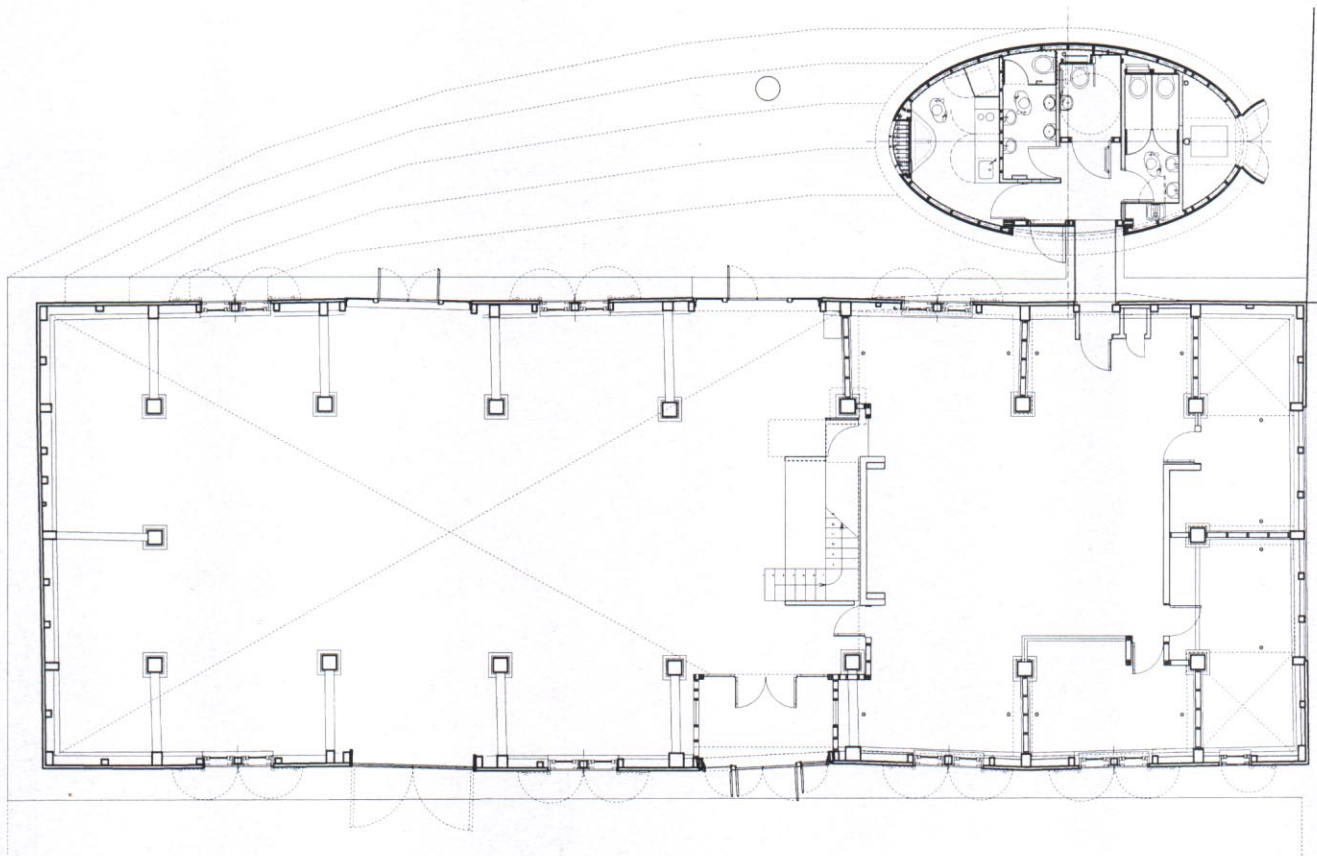
independent elliptical structure to contain wet functions re-forms the whole as a new, yet recognisable, architectural form. The barn is a symbol of an obsolete but romanticised picture of village life sustained by local cultural dependencies.

Above/below *The £500,000 project includes construction of an elliptical pod containing services services, which allows the interior of the historic barn (left) to remain unencumbered.*

The Aston Martin project offers a new and meritorious solution to the problem of what is to be done with our numerous redundant barns – huge volumes, often equivalent to churches, yet discarded and mute residues of once great estates.

The Haseley building has a monolithic architectural presence resulting from its scale, so large compared to most contemporary timber construction. In remarking the envelope and adding window openings, the architects have preserved the simplicity of the barn's original form, which surpasses time or function. They have reconciled the barn typology to its new use through both construction methodology and treatment of scale. The magnitude of the overall structure is maintained in the new use, with up to seven cars exhibited in the main space plus cases displaying small artefacts. The barn has adopted the function of a small motor museum or a large pavilion, with a form that does not have to follow its contents. In this sense it inverts a project





Rupert Cook writes

Formed in 1935, the Aston Martin Owners Club is a limited company owned by its members. Sixty years on, its offices in Ely had become too cramped and the premises committee, which included former Architecture PLB director John Browning, was asked to search for a new headquarters building. After detailed studies of a number of buildings, the fourteenth century elm-framed barn at Drayton St Leonard was secured for the club. The barn, which figured on English Heritage's list of the 100 most endangered buildings, sits of the southern edge of the village. In 1998 planning permission was secured to convert the building to B1 (office use group), containing an office, archive, museum and display area, and associated service spaces. At the same time the Aston Martin Heritage Trust, a charitable body, was set up to maintain the archive and artefacts associated with Aston Martin and it now utilises the display space and archive areas.

Following the planning consent, a detailed survey of the structure was commissioned to establish the extent of the repairs required to the seven-bay structure. A lean-to construction added to the north side of the building had caused considerable damage as a result of the differential movement between its structure and the main frame of

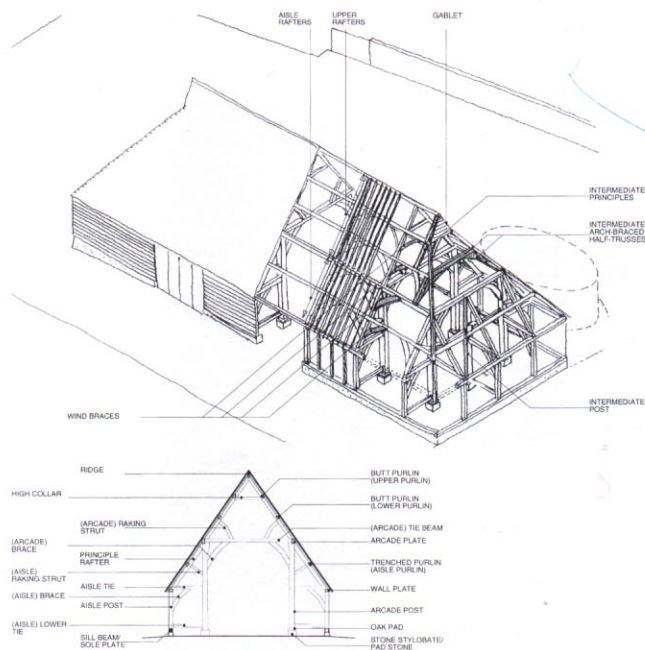
the barn, allowing water to penetrate. Rather than recreate this problem, it was decided that all the service spaces (kitchen, wc's, cleaner's cupboard, boiler room) should be provided in a separate building, which would also allow the simple outline of the barn to be re-established.

Repairs to the barn required specialist skills and so we split the works into two phases, repair and new build/insertions. The building was stripped back to its primary members and the outer aisles completely removed to

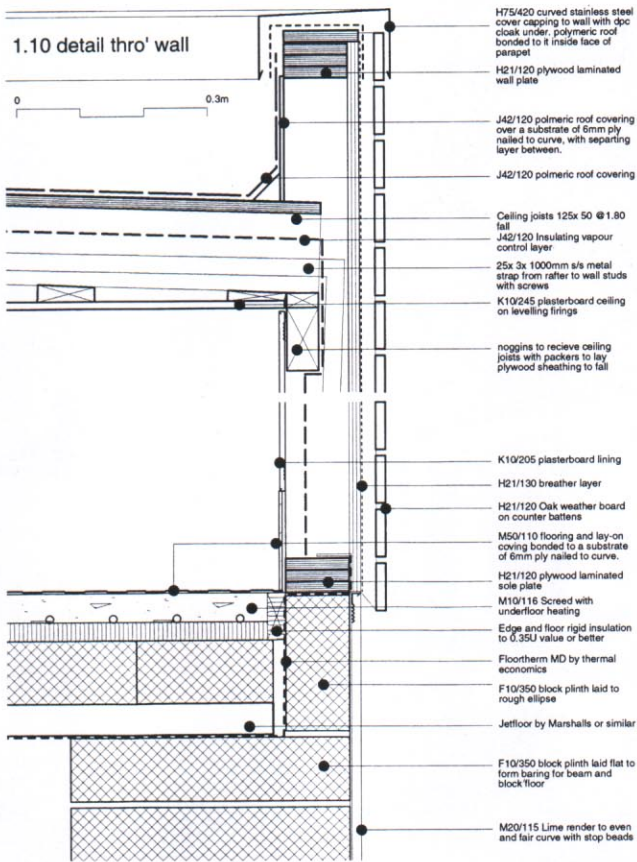
allow the plinth wall to be rebuilt. The plinth wall had suffered from subsidence and so, as the aisles were rebuilt, they were raised by up to 200mm, allowing all the dislocated joints to be reassembled. Rotten and broken timbers were replaced with green oak of a similar profile (there was not sufficient elm available at viable rates), mainly for the sole and wall plates and lower purlins. Many common rafters were replaced but as a whole the barn was in remarkably good condition. Damage had occurred

to the stone plinth pads under the main aisle posts, both through impact in use as an agricultural barn and because the most recent use of the barn had been to make seaweed-based fertiliser – the salts had eaten into the limestone pads. New external weatherboarding comprised large seasoned square-edge oak boards with simple openings, allowing large doors in a similar location to those prior to restoration. The windows were designed to retain the simple appearance of an agricultural building – although actually they were protected with remotely activated shutters and opened at the touch of a button.

To differentiate it from the barn, the new building is elliptical in plan, but is built using similar principles. It sits in the courtyard to the rear of the barn, to which it is joined with only a structural glass link. For the curved cladding, a number of techniques were investigated, including kerfing, steaming and clinker boat building, but in the end it was decided to use simple 12mm green (fence grade) oak boards, which could be easily bent due to their inherent pliability.



Above Ground floor plan. **Left** Isometric and section of barn structure. As part of the repair the plinth wall was replaced and the aisles raised by 200mm.



like David Chipperfield's nearby Rowing Museum in Henley, where the form of the building invokes the activity it houses.

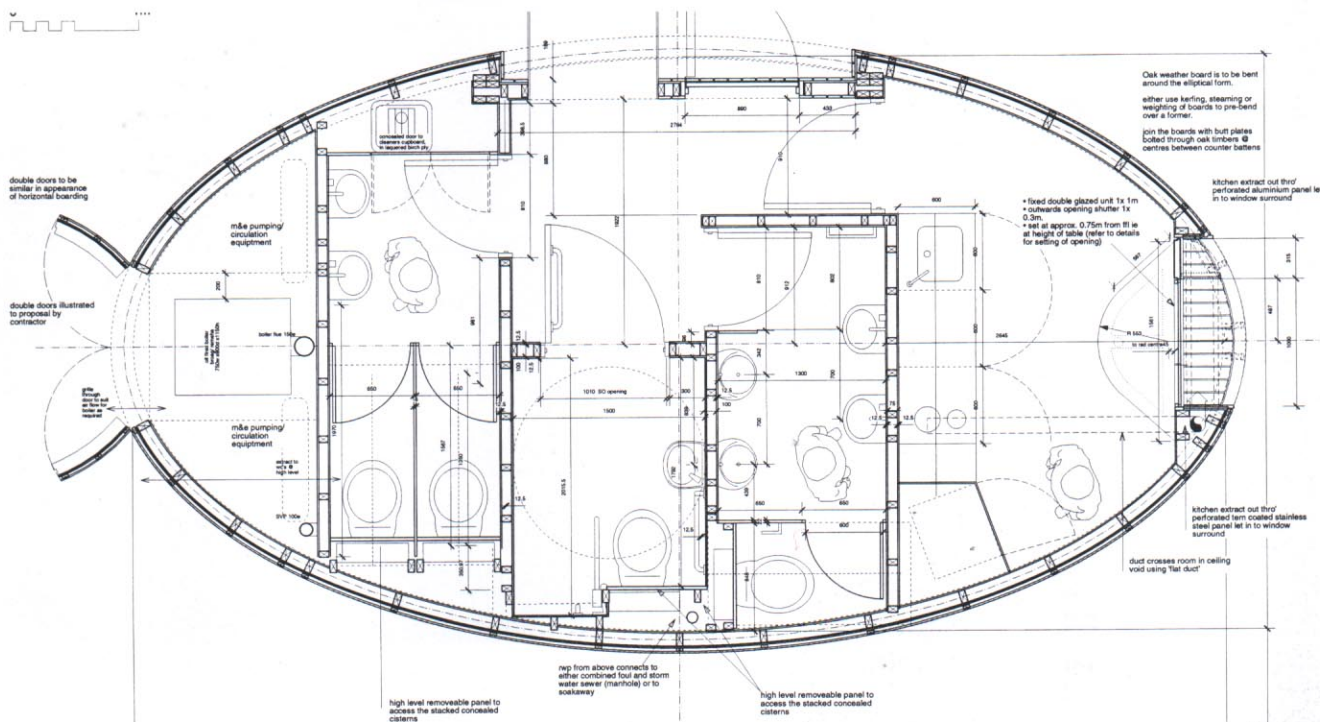
The restoration of the barn appears to have generated a fervour in everyone involved. Between 15 and 20 per cent of the original roof structure and a few of the outer aisle posts were renewed with green oak, while approximately half of the common rafters which had rotted were replaced with softwood. Green oak weatherboarding was used as cladding

Above Pod wall detail; glazed link to pod.

Below Service elements such as kitchen, wc's and boiler room are provided in the new-build pod.

and windows were made of seasoned oak to reduce movement problems between the glazing and frames. Rainwater gutters with stainless steel downpipes were installed only above the doors, to protect users, with the remaining roof draining into the gravel.

The methodical treatment of the restoration has been matched by the approach to its alteration. Clear yet subtle distinctions are drawn, for example, between the original cladding, whose task





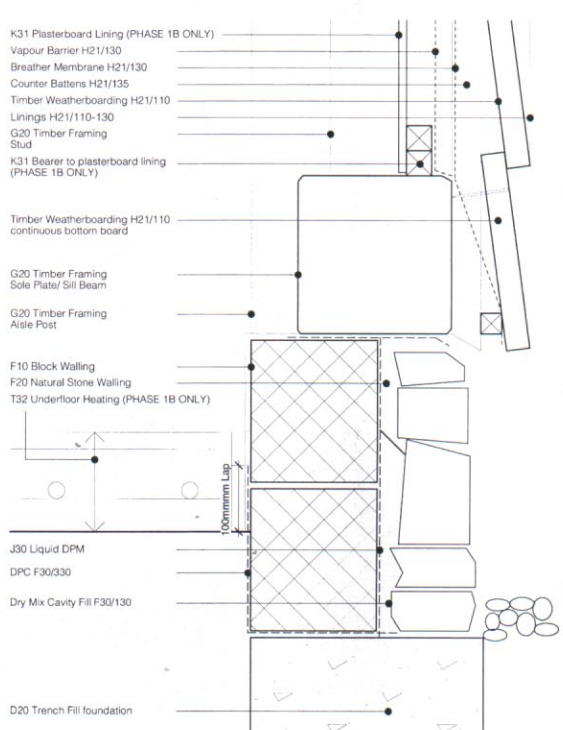
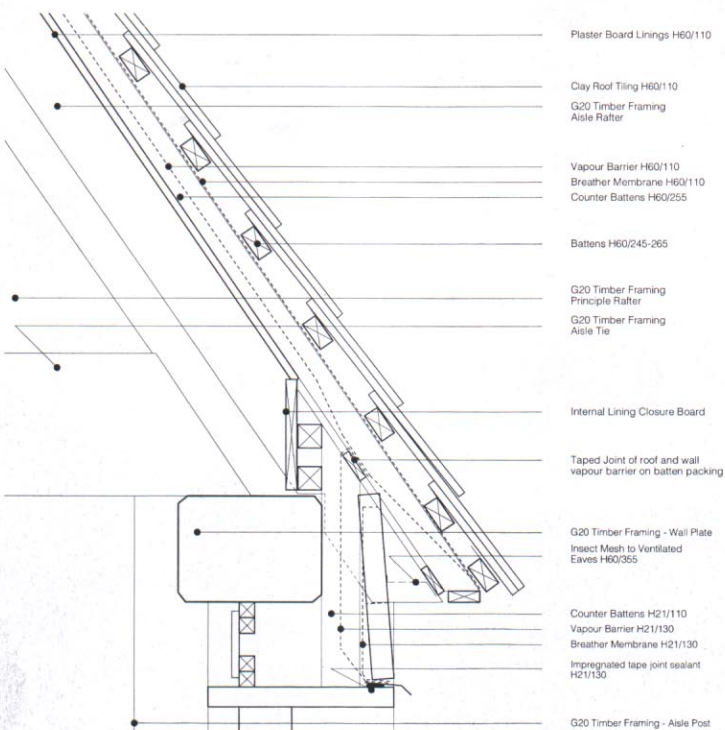
was probably to protect grain, and the more environmentally sophisticated demands befitting its new use. In this way the new work reveals more about the original lying beneath.

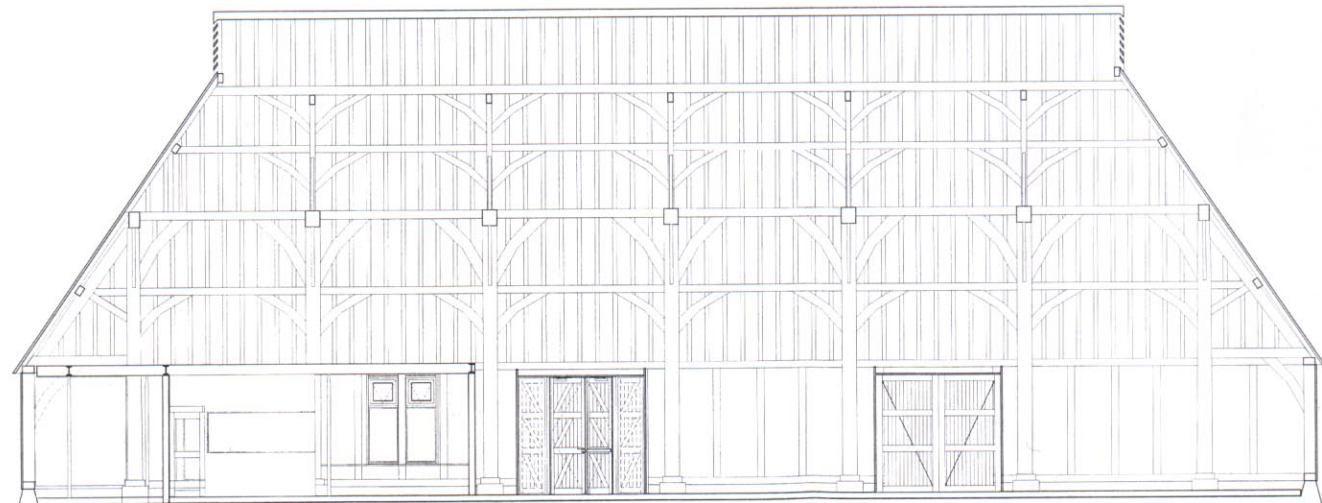
The four double-door openings, each within a single bay, were adapted from the originals, leaving only one pair fully opening to accommodate a car. The double casement window openings are all new, set into the wall frame but overlain onto

Above Full-height doors give separate access to the display area and offices.

Below Sectional details of eaves and plinth wall to barn.

the grid of its aisle posts, flattening the conjunction of new with old by means of a syncopated hierarchy. The lower parts of the seasoned oak windows are fixed and shuttered for security, the upper parts open with fixed louvres in the same plane as the oak cladding. Both the window and door elements went through several versions in refining the strategy, which feels as if it would be applicable elsewhere yet is unique to this barn.





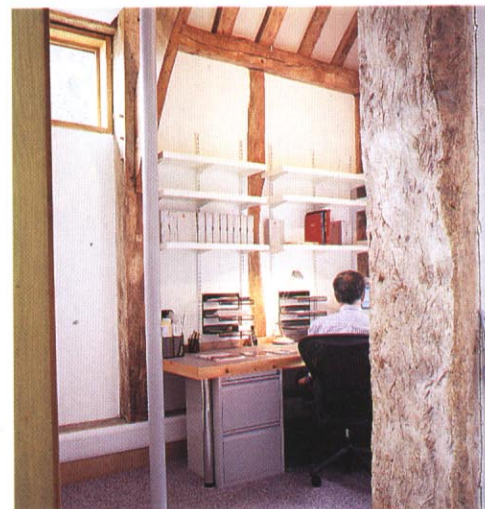
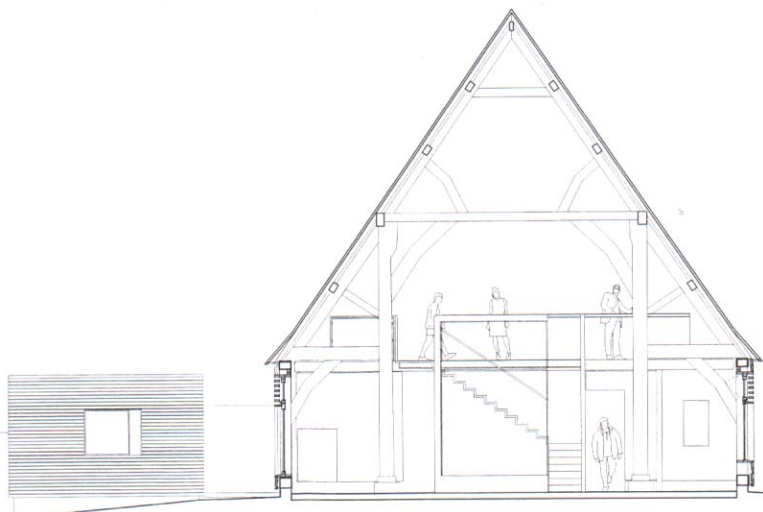
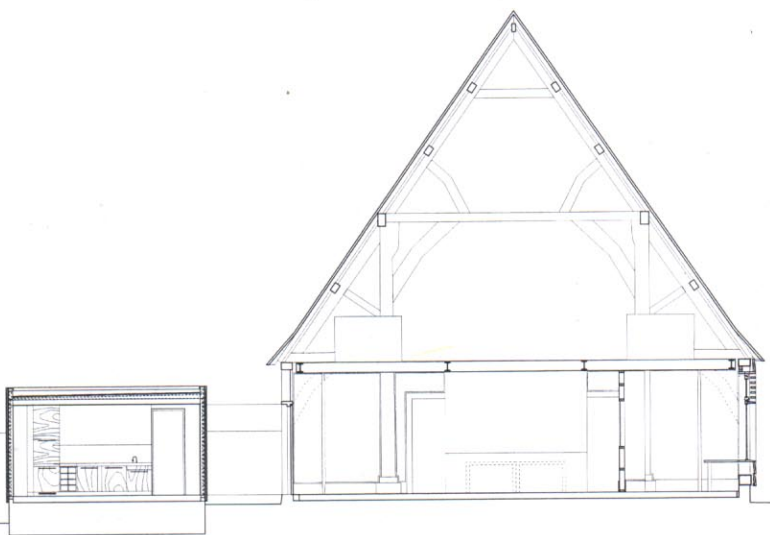
A 4.3 metre high frameless glazed cabinet stands at the end of the main space, shielding the mezzanine staircase. The meticulous glass box appears clamped by the C-shape of the powder-coated aluminium frame, its height corresponding to the balustrade opposite. It is an independent tectonic piece celebrating both the scale of the barn and Aston Martin's achievements. It represents the building's new function and allows small but significant artefacts to be displayed

Above Long section facing south.
Below Sequential cross sections through the barn and pod, facing east.

Below right Side bay on the south side incorporating windows and display panels; offices and a central meeting area occupy the west end of the restored barn.

without being lost in the space.

The timber pod that stands in the courtyard is much smaller in height than the display cabinet. Yet it is the right size, large or small depending on the standpoint, establishing a tension with the barn. Its construction is more modest and familiar, with a loadbearing frame and a stressed skin of horizontal green oak boards, with wide joints replacing the shadowing of the lapped weatherboards on the main building. The skin-like use of

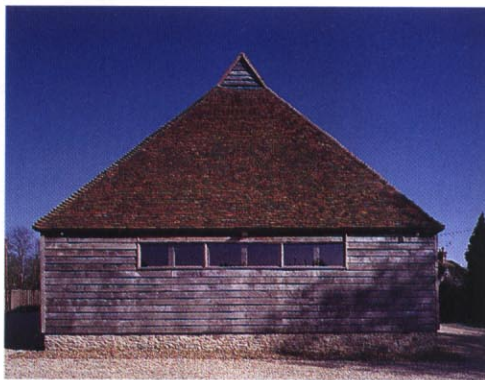




the cladding constitutes a vocabulary in which the material and the form have become interdependent, defying the complexity of setting-out the ellipse. Unlike the barn it recalls nothing but itself, converting a symbolic to a natural grammar of construction. The two elements, barn and pod, are interdependent yet distinct, a new architectural whole made of discrete parts.

With its concern for means of assembly and material technology, this approach has reinvigorated a dialogue with the craftsman-builder. Notwithstanding the general uniformity of domestic conversions, redundant barns do not automatically offer obvious solutions for their conversion. In this case, the legacy of the original construction has not prevented the architects from applying modern techniques to make a new architectural work. These range from the ironmongery and operating systems of the doors and windows to the method of bending and securing the timber cladding on the pod. The result is more than a finely executed restoration; rather, the architects have exploited the existing material qualities to create a grammar of construction which respects the order of assembly and gives full range to the old, whilst allowing the new its independence. It invests the original barn with new meaning, without recourse to symbolism or rhetoric.

Rosamund Diamond is an architect, writer and teacher based in Oxford and London.



Project team

Architect: architecture plb; design team: Rupert Cook (project architect), John Browning, Tosca Salinas; qs: Ridge & Partners; structural engineer: Whitby Bird Special Projects; m&e engineer: Chris Reading Assoc; main contractors: Boshers (barn repair), Latimer Contracts (new build/insertions); client: Aston Martin Owners Club, Aston Martin Heritage Trust.

Selected subcontractors and suppliers

Ironmongery: Allgood; trophy cabinet: Profile Glass; screed: Isocrete, Adrex; exhibition structural glass: Solaglas; worktop linoleum: Forbo Nairn; carpet tiles: Heckmondwike; rubber floor: Dalsouple; sanitaryware: Twyfords; blocks: Lignacite; insulation: Dow, Thermal Economics; single ply membrane: Trocal; ss handrails: Malcolm Cole; boiler: Broag Remeha; gypsum board: Fermacell; stair strip: Gradus; lime mortar: St Astier; intumescent paint: International PC; kitchen units: Caple; furniture accessories: Hafele; pin-up board: Sundeala; drainage: Hepworth; manhole: Glynwed Brickhouse; geotextile: Terram; water heaters: Stiebel Eltron; electrical distribution: MEM; lighting: Erco (exhibition), Concord Marlin (general/escape).