



The ventilation shaft headhouse features a zinc roof and areas for local wildlife | Photo source [HS2 in Bucks & Oxfordshire](#)

[Innovation](#) > [Architecture & Design](#) > [HS2 rail ventilation shaft disguised as a barn](#)

## HS2 RAIL VENTILATION SHAFT DISGUISED AS A BARN

 ARCHITECTURE & DESIGN

### An architecture firm has worked with local residents to design a ventilation shaft that blends in with the local environment

**Spotted:** When it is completed, the UK's new high-speed rail line (HS2) will connect London, the West Midlands, Manchester and Leeds. The huge infrastructure project has seen a number of objections, including from those who oppose running rails lines through areas of nature. However, architecture firm Grimshaw is doing its part to mitigate this with designs for the Chalfont St Peter Ventilation Shaft, which would disguise the top of the shaft as a barn.

The Chalfont St Peter Ventilation Shaft, or headhouse, will provide 60 metres of ventilation and emergency access to a 10-mile-long HS2 tunnel through the Chilterns. Located to the northwest of London, the Chilterns are designated as an Area of Outstanding Natural Beauty and there has been much concern about destroying this with ugly HS2 infrastructure.

To design the headhouse, Grimshaw consulted with residents and local groups. The final design mimics local agricultural buildings, with a simple pitched roof made from pre-weathered grey-zinc, with dark bronze doors and vent openings and a blue brick base. Features such as reptile basking banks, a grass snake laying heap, bird boxes and a hibernaculum – an underground chamber for amphibians and reptiles to use throughout the winter – will encourage local wildlife to move in.

To minimise disruption during construction, the barn will be set back from the main road and mature trees around the perimeter will be preserved. The area will also be re-landscaped using material created from excavating the shaft, so residents will be spared the disruption of lorries removing the debris. Grimshaw associate principal Diane Metcalfe has [pointed out that](#), “Chalfont St Peter Ventilation Shaft has been sensitively designed to complement the rural character of the Chilterns.”

We often think of architecture as designing grand buildings that stick out, but many modern architects are more concerned with designing projects that blend in with their environment. At Springwise, we have seen this in designs such as a [tea plantation](#) converted to a museum and a school that incorporates traditional [Indian brickwork](#) for passive cooling.

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### **Takeaway:**

Grimshaw deliberately designed the position and orientation of the headhouse buildings to blend in with the landscape, forming a courtyard similar to local farmyards. This has not only helped HS2 overcome some objections from local residents, but more importantly helps to preserve the natural beauty and character of the area. More than just a clever design, the headhouse is a demonstration of the way that architects can work with both locals and nature, to create designs that blend in rather than stick out and thus cause less harm.