

HS2 reveals design for Amersham vent shaft headhouse

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HS2 has revealed the design for the Amersham vent shaft headhouse – one of five structures that will be built to provide ventilation and emergency access to the high-speed rail line's 10 mile-long Chiltern tunnel.

Set in the middle of a road junction just outside the town, the circular single-storey building will be surrounded by a spiral shaped weathered steel wall designed to echo the shape of the site and the natural tones of the surrounding landscape.

Robust and durable, weathered steel fades naturally over time to a dark brown colour. In order to let light through, the upper parts of the wall will be lightly perforated with a pattern inspired by woodland foliage.

On top of the building, a crown of aluminium fins will help disguise the shape of the building and soften views when viewed from further away.

Below ground level, a 18 metre deep ventilation shaft will reach down to the twin tunnels below, with fans and other equipment designed to regulate air quality and temperature, remove smoke in the event of a fire and provide access for the emergency services.

HS2 engaged with the Chilterns AONB Review Group and Buckinghamshire Council during the development of the designs and this week launched an online virtual engagement site to gather views from the local community.

Kay Hughes, HS2 Ltd's Design Director said: "Today's reveal of the latest designs for the Amersham vent shaft and headhouse is an important milestone for the project.

"Inspired by the location and the form of the shaft beneath, the headhouse will be one of the few parts of the Chiltern tunnel visible to residents living nearby so it was important that we get the design right.

"Align and their design partners have put an incredible amount of work into these proposals and I hope the design will be welcomed by the local community."

The plans have been drawn up by HS2 Ltd's main works contractor Align JV – a team made up of Bouygues Travaux Publics, Sir Robert McAlpine, and VolkerFitzpatrick – working with its design partners Jacobs and Ingerop-Rendel, architects Grimshaw and landscape designers, LDA Design.

Daniel Altier, Align Project Director said: "We are excited to be revealing our early designs for the Amersham vent shaft headhouse. Our designers have worked closely with stakeholders to design something that reduces local construction impacts as far as practicable during the build. We now look forward to giving the local community their opportunity to provide their thoughts on the design."

Since the passing of the HS2 Act, the Align team has worked to significantly reduce the scale and visual impact of the structure. By reducing the width of the shaft, the new designs require less land for construction and fewer lorry movements on local roads.

Once construction is complete, new tree planting will be added to frame views of the headhouse and areas will be set aside for chalk grassland to help create valuable new wildlife habitats. The new planting will focus on native species typically found across the Chilterns, such as wild cherry, buckthorn and crab apple.

Chris Patience, Associate at Grimshaw, said: "Sited in the Chilterns, this head house is designed to be a local landmark on the western edge of Amersham. Its expressive architecture exploits its unique context, surrounded by roads, and its function, ventilating the high-speed rail tunnels below.

"Flint-filled gabions form retaining walls within a site that will be extensively landscaped. Retained mature trees, supplemented with new planting, will frame views of the new structures. The site compound is wrapped in a weathering steel wall which follows the curvature and topography of the site. The higher parts of the wall are perforated with varying triangular patterns, derived from the surrounding tree foliage, allowing light to filter through.

"Behind the screen, the conical headhouse shows the shape and location of the circular ventilation shaft below. The top of the building is crowned by an array of anodised aluminium fins, set out to respond to the shape of the surrounding valley and longer distance views.

"These proposals are the result of integrated work across the design team, alongside collaborative

engagement with the Chilterns AONB Review Group.”

The plans for the headhouse went on public display today, with local residents invited to attend a month-long virtual exhibition where they will be able to learn more about the design and construction of the vent shaft and headhouse.

Photo credit: HS2 Ltd

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