

HS2 – Impacts on historic and natural environment

Map 4: Hyde Lane – Mantle's Wood

In this section the HS2 route would pass through a predominantly wooded landscape.

- The route leaves the Little Missenden tunnel portal and enters Mantles Wood in retained wall cutting before cutting a wider swathe through Farthings Wood. Both Mantles Wood and Farthings Wood are ancient woodlands.
- The route continues through another wood, Hedgemoor Wood, before passing, in deep cutting, through the listed Hyde Farm buildings, dissecting Hyde Lane and demolishing Chapel Farm.
- Deep, wide cutting continues across farm land, slicing through 2 archaeological notification sites and pre-1840's species rich hedgerows before the route enters a cut and fill 'green tunnel' just before the Chesham Road.
- Construction of the 'green tunnel' in this section will see removal of further pre-1840's hedgerows and in-field oak trees
- Issues to consider in this section include:
 - Impacts on the chalk aquifer and changes in hydrology
 - Vibrations from trains in tunnels
 - Risk of subsidence
 - Noise disturbance and dust during the construction phase
 - Visual intrusion of the cuttings, tunnel portals and new bridges.
 - Congestion and other traffic related impacts resulting from construction traffic, materials movement, spoil removal.
 - Loss of ancient woodland.
 - Fragmentation of habitats and habitat corridors.
 - Destruction of listed buildings and archaeological notification sites.

Impacts on historic and natural environment – section summary

Potential direct impacts:

- Grade 2 listed buildings at Hyde Farm (barns and outbuildings) will be destroyed.
- 2 Archaeological Notification Areas at Hyde Farm and Cudsdon Farm partially destroyed.
- Pre-18th century routeway – Chesham Road directly impacted.
- 2 ancient woodlands, Farthings Wood and Mantle's Wood, and a further wood, Hedgemoor Wood (local wildlife site), will be partially destroyed. The remaining areas of woodland will be fragmented and separated by cutting which is likely to negatively affect species presence and distribution.
- 1.8km pre-1840s / pre-1870s species rich hedgerow destroyed
- 8 significant ('potentially interesting', 'truly ancient' or 'valuable') trees destroyed

Potential indirect impacts:

- Castle Tower, a Scheduled Monument Medieval motte and bailey lies only 100m away from the Little Missenden Tunnel.
- The Castle in Wendover Woods, a Scheduled Monument Medieval moated castle, is 550m away from deep cutting.
- A further Archaeological Notification Area off Hyde Heath Road, only 550m away, is a further indication of the historical richness of this area.
- 1 x Grade 2 listed building, Granary at Cudsdon Farm, only 70m away from the 'Green Tunnel'
- The Great Missenden Abbey conservation area lies 450m away down the valley side.

- Another ancient woodland and local wildlife site, Rook Wood, and two further woodland biological notification sites, are all less than 1km from the construction corridor.
- The River Misbourne and three biological notification sites: Hyde Lane Verge, The Doctor's Meadow and Deep Mill Lane Pond, may all be impacted by changes in soil hydrology and pollution from construction traffic.

For further details see tables below.

Records are recorded with reference to the profile maps.

NATURAL ENVIRONMENT

Record type	Name	Description	Distance from construction corridor		Nature of impact	Aspects of the development to consider
			Within	Distance from		
Biological Notification Site	The Doctor's Meadow (Ref 99E05) Grid reference SU998991	Wet meadow beside River Misbourne		600m	Indirect impacts may include <ul style="list-style-type: none"> ▪ Changes to the hydrology ▪ Noise disturbance, dust and air pollution from the Construction traffic along the northern boundary (A413) ▪ visual 	On completion, the line would be in the Little Missenden Tunnel when closest to this site
Biological Notification Site	Deep Mill Lane Pond (Ref 99E04)	Pond situated adjacent to the Highway. Local historic and wildlife interest. No public access but visible as a feature from the road. Within Chilterns		1.2 km	Indirect impacts may include <ul style="list-style-type: none"> • Changes to the hydrology. Although this site is some distance from the line of HS2, the habitats are 	

	Grid reference SP906996	AONB.			dependent on the River Misbourne. Indirect impacts to the site are therefore possible if the line affects the hydrology of the river.	
BAP Priority Habitat	River Misbourne	Chalk stream. Chalk streams are a globally rare and vulnerable habitat supporting some of our most threatened species.		650m – 1.2km	Indirect impacts may include <ul style="list-style-type: none"> • Contamination of groundwater sources • Change in groundwater flow patterns. Tunnels and cuttings may intercept lines of preferential groundwater flow which could change groundwater drainage routes altering: the groundwater catchment & reducing flow in the river. • Mains diversion – the route will cross major mains and sewers <ul style="list-style-type: none"> ▪ Noise disturbance, dust and air pollution. ▪ visual 	The River Misbourne runs parallel to the construction corridor.
Local Wildlife Site	Mantle's Wood (Ref 90F03) Grid reference SU921999	Ancient semi-natural woodland The site contains a variety of semi-natural and plantation woodland. Much of the wood formerly consisted of mature and mid-mature plantations of Corsican pine, larch and spruce interspersed with frequent broadleaved species. Most of the conifers have been removed recently throughout much of the site to create predominantly	Yes		130m of this wood will be destroyed during the creation of a cutting. A minimum of 0.4 ha will be lost, with a further 20-30m either side of the cutting felled for 'vegetation management'. Indirect impacts are likely to include <ul style="list-style-type: none"> ▪ Habitat fragmentation ▪ Changes in hydrology ▪ Changes in air flows (due both to passing of trains and structural change in woodland canopy) could have an impact on species presence/ distribution ▪ Noise disturbance, dust and air pollution from the cutting. ▪ Construction traffic ▪ Visual 	The route enters Mantles Wood in retained wall cutting from the Little Missenden Tunnel increasing the disturbance caused by noise and changes in air flows. The route then passes into

		<p>broadleaved stands with occasional conifers retained among them.</p> <p>The understorey contains mixed broadleaved species and further broad-leaved trees along the margins, especially hornbeam, ash and beech. Yew is locally frequent along the western edge of the wood near its southern end. Old hedgerows dominated by hazel and hornbeam with occasional old standards of oak are also present along some boundaries, including old laid specimens of hornbeam. The ground flora is species rich and 29 plants particularly indicative of ancient woodlands have been recorded, including moschatel which is rare to Bucks.</p> <p>Both Common Pipistrelle and Soprano Pipistrelle Bats are present.</p>				deep, wide cuttings.
Local Wildlife Site	Hedgemoor & Farthings Wood (Ref 90A03)	<p><u>Farthings Wood</u></p> <p>Farthings Wood is ancient replanted woodland. Most of it consists of mature plantations of Corsican Pine</p>	Yes		<p><u>Farthings Wood</u></p> <p>100m in cutting - 0.2 ha lost for track alone, with a further 20-30m either side of the cutting felled for 'vegetation management'.</p>	The route passes through both Farthing's and Hedgemoor

	<p>Grid reference SP917003</p>	<p>often underplanted with beech and occasional ash, wild cherry, rowan, silver and downy birch and sycamore. The southern half of the wood contains areas of ash and sycamore woodland with occasional Corsican and Scots pine. There is a mixed species understorey and hedgerows and belts of trees containing hornbeam, oak, ash, beech and hawthorn are also present along the boundaries, including old laid specimens. A range of ancient woodland indicators are present.</p> <p>Both Common Pipistrelle and Soprano Pipistrelle Bats are present.</p> <p><u>Hedgemoor Wood</u> Hedgemoor consists mostly of mature beech woodland with beech the dominant tree; frequent ash and wild cherry; and occasional hornbeam, oak, field maple, birch and sycamore. A number of old trees are present including pollards and stubbs with frequent</p>			<p><u>Hedgemoor Wood</u> 290m in cutting and ground level line – 1.1ha of the wood will be destroyed for line alone, with a further 20-30m either side of the cutting felled for 'vegetation management'.</p> <p>Indirect impacts are likely to include</p> <ul style="list-style-type: none"> ▪ Habitat fragmentation ▪ Changes in hydrology ▪ Changes in air flows (due both to passing of trains and structural change in woodland canopy) could have an impact on species presence/ distribution ▪ Noise disturbance, dust and air pollution from the cutting. ▪ Construction traffic ▪ Visual 	<p>Woods in deep, wide cuttings.</p>

		<p>standing deadwood. Holly is locally frequent in the understorey with occasional hazel, hawthorn, elder, box and yew. The field layer is often sparse due to the dense shade, though bluebell and dog's mercury are locally dominant with other locally frequent ancient woodland indicator plant species.</p> <p>A woodbank that runs between the two woods is a parish boundary of historical interest. Another woodbank with mature sycamores on it is present along the western boundary of Hedgemoor.</p> <p>Both Common Pipistrelle and Soprano Pipistrelle Bats are present.</p>				
Biological Notification Site	Hyde Lane Verge (Ref 90A01) Grid reference SP914003	This narrow lane is bounded on both sides by holly hedges c.6m high with occasional hazel. There are two oaks at the south end.		100m	<p>Indirect impacts are likely to include</p> <ul style="list-style-type: none"> ▪ Noise disturbance, dust and air pollution from the cutting. ▪ Construction traffic may have a particular impact, particularly when a new Hyde Lane road bridge is constructed to cross the cutting. ▪ Visual 	The route crosses Hyde Lane in deep, wide cutting.
Local Wildlife	Rook Wood (Ref 90A09)	The majority of the site consists of mature broad-		450m	<p>Indirect impacts are likely to include</p> <ul style="list-style-type: none"> ▪ Changes in hydrology 	The route lies in deep, wide

Site	Grid reference SP905006	<p>leaved woodland dominated by beech and sycamore with occasional ash, wild cherry, oak, hornbeam, silver birch, rowan, lime and horse chestnut. The understorey contains hazel, field maple, hawthorn, elder, holly and wych elm. Box is locally abundant in old pits at the site. Hedgerows border the wood containing frequent hazel and hornbeam, including old laid specimens of the latter. Conifers including larch, spruce and Corsican and Scots pines are scattered throughout the site and there is a wide spaced Corsican pine plantation in the southeast of the wood, though part has been recently felled.</p> <p>Bluebell and dogs' mercury are locally dominant in the field layer with locally frequent yellow archangel and woodruff. 15 ancient woodland indicator plants have been recorded.</p> <p>As well as the old pits and numerous boundary and</p>			<ul style="list-style-type: none"> ▪ Noise disturbance, dust and air pollution from the cutting, particularly during construction. ▪ Visual 	cutting to the north.
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		wood banks, the earthworks of a prehistoric hill fort scheduled as an ancient monument are present near the southeast edge of the wood.				
Biological Notification Site	Hyde House (Ref 90F05) Grid reference SP925010	Broad-leaved woodland		970m	Indirect impacts are likely to include <ul style="list-style-type: none"> Noise disturbance, dust and air pollution from the cutting, particularly during construction. 	The route lies in cutting to the south west.
Biological Notification Site	Hyde House Wood (Ref 90F04) Grid reference SP927008	Broad-leaved woodland		850m	Indirect impacts are likely to include <ul style="list-style-type: none"> Noise disturbance, dust and air pollution from the cutting, particularly during construction. 	The route lies in cutting to the south west.
Hedgerows		Includes several locations within the construction corridor where there is a coincidence of historic hedgerows and ancient woodland or pre-C18 th track ways/sunken lanes.	Yes		Over 2.75km within the construction corridor would be destroyed . These include 1.84km of pre-1840 specie rich hedgerow. Hedgerows form important wildlife corridors for a wide variety of wildlife (from invertebrates though to mammals – large and small; butterflies to bats). Each hedge that is sliced through links to other hedges crossing the wider landscape (49 within this section). Severing this network will have a significant impact on wildlife movement, important for feeding and breeding.	
Ancient and valuable trees	Truly ancient trees/valuable	7 truly ancient and/or valuable trees lie within the construction corridor in this section.	Yes		Within the construction corridor and would be destroyed .	

	trees Potentially interesting trees	7 Potentially interesting trees lie within the construction corridor in this section.				
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HISTORIC ENVIRONMENT

Record type	Name	Description	Distance from construction corridor		Nature of impact	Aspects of the development to consider
			Within	Distance from		
Scheduled Monument Arch. Notification Area	Castle Tower (Ref: 0168800000)	<p>Medieval motte and bailey (100m north of Hill House)</p> <p>The monument includes a small motte and bailey castle situated above the north slope of a shallow valley, sited to overlook the natural valley routeway which is today followed by the course of the A413. The motte survives as a mound 27m in diameter with an average height of 1.7m. The bailey lies on the south side of the mound and is enclosed by an earthen bank. Though slight, the monument is a very complete example of a motte</p>		100m	<p>Indirect impacts may include</p> <ul style="list-style-type: none"> • Vibrations from trains • Increased risk of subsidence with potential changes in soil hydrology 	The motte lies up hill from the Little Missenden Tunnel.

		and bailey castle probably built as part of a military campaign and occupied for only a short time.				
Arch. Notification Area	Worked flints (Ref: 0468000000)	Neolithic to Bronze Age artefact scatter found in field walking survey south of Hyde Heath Rd.		550m	Indirect impacts may include: <ul style="list-style-type: none"> • Vibrations from trains 	The site lies up hill from cutting.
Scheduled Monument Arch. Notification Area	The Castle, Oaken Corner (Ref 0174000000, 0468800000)	The Castle, a moated site at Oaken Corner in Wendover Woods The monument includes the remains of a moated enclosure orientated north-west to south-east and situated immediately above the northern side of a shallow valley overlooking the A413. The moat is square with rounded corners and has sides some 80m long. It comprises a well-defined bank and outer ditch of varying dimensions. The size, condition, situation and limited finds of 12th century pottery, indicate that the site is of a medieval date, possibly the site of an early manorial house or hunting lodge.		550m	Indirect impacts may include <ul style="list-style-type: none"> • Vibrations • Increased risk of subsidence with potential changes in soil hydrology. 	The route is on the same contour level but in deep cutting.
Listed buildings	Farmhouse, barns and outhouses at	Grade 2 listed buildings	Yes		Destroyed. (Although not listed, Chapel Farm, opposite, is a fine example of brick and flint	The farmhouse and barns are directly inline

	Hyde Farmhouse (Ref: 44908)				construction – will also be destroyed).	with the route.
Arch. Notification Area	Hyde Farm artefacts (Ref: 0468100000)	Neolithic to medieval artefacts found in fieldwalking survey at Hyde Farm	Yes		Most of the site will be destroyed	The line (in a cutting) passes directly through the site.
Arch. Notification Area	Cudsden Farm artefacts (Refs: 0447800000, 0458300000, 0448100000)	Prehistoric flints and medieval artefacts found in fieldwalking survey near Barley Mow Neolithic to medieval artefacts found in fieldwalking survey at Cudsden's Farm	Yes		A large part of this site will be destroyed .	The line (in a cutting) passes directly through the site.
Listed buildings	Granary at Cudsden Farm (Ref: 44839)	1 x Grade 2 listed building		70m	Indirect impacts may include <ul style="list-style-type: none"> • Vibrations from trains • Increased risk of subsidence 	Possible road re-alignment will be required for nearby road bridge over HS2 which could impact on the granary.
Consvtn. Area	Great Missenden Abbey	2 x Grade 2 listed buildings within this Conservation Area – two flint bridges and the western boundary wall		450m		The route is up the valley side, the Abbey in the valley bottom.
Historic routes	Chesham Road (Hyde Lane is a similar ancient route up from the valley)	Axial droveway, pre-18 th century, winding, wide verge. Historical associations with Chalkdell Moat, Hundridge Manor and C16 th – 18 th houses alongside. Currently B road.	Yes		A minimum length of 25m will be removed for the cut and fill tunnel then replacement road 'bridge'. In practise, construction is likely to remove a far greater length, including hedgerows that border the road. (A new road bridge over 100m long would	Chesham Road crosses HS2 route over cut and fill tunnel on new road bridge.

	bottom).				be required to span the cutting through Hyde Lane).	
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