

Mitigation re HS2

Central Chilterns Community Forum

Including Chalfonts, Amersham, and Central Chilterns* from West Hyde to Wendover Dean

* Little Missenden, Hyde Heath, Hyde End, South Heath, Ballinger, Great Missenden, Prestwood, Little Kingshill, Holmer Green, Potter Row, Lee Common, The Lee, Kings Ash

Why this area requires the highest levels of Mitigation

Introduction

The purpose of this document is to set out the approach the communities wish HS2 to undertake when evaluating, planning and constructing mitigation measures along the HS2 route through this area.

The mitigation items detailed in pages 3-8 shall help inform the process of preparation of the Hybrid Bill and also ensure HS2 Limited and the Department of Transport discharge its obligations under the Aarhus Convention.

The need for extensive mitigation as detailed in this document shall in no way be deemed to represent approval, agreement or endorsement of HS2.

Area Overview

This area, covering the Misbourne Valley, currently offers high amenity, biodiversity and historic value. It is located in the centre of the Chilterns Area of Outstanding Natural Beauty (AONB). Designation as an Area of Outstanding Natural Beauty is restricted to areas of the highest quality English landscape.

The Misbourne Valley is the least spoilt of the five major troughs that cross the Chilterns. Despite previous claims by the DfT and HS2 Limited otherwise, it is not a main transport corridor. The low trafficked A413 that runs along it connects villages such as Wendover and Great Missenden to towns such as Amersham and Aylesbury. Chiltern Railways run a relatively unobtrusive, low frequency, local branch line that terminates in Aylesbury. The most intrusive feature is a national grid power line. The area of the valley is crossed by a series of small unclassified roads, which are lightly used and blend in well with the rural character of the area.

The proposed HS2 line traverses the link between Great Missenden and Chesham. Routes beyond Chesham provide road connections to the M25, M1 and north London. This part of the Misbourne Valley functions as a readily accessible tourist amenity, containing a number of nationally strategic transport networks including the Ridgeway National Trail, the Icknield Way, Route 57 of the National Cycle Network and the regionally significant Chilterns Cycleway and Chilterns Way. It is estimated there are 53 million visits to the Chiltern AONB each year generating about £350 million of income for the area.

The area is marked by scenic views and tranquillity and is focused around the following five villages: Hyde Heath, Great Missenden, South Heath, The Lee and Little Missenden. The area is primarily agricultural in character although there are several business clusters and many businesses operated from residential premises.

The area has an important legacy of heritage and cultural assets, including listed buildings, parks and gardens and a wide and rich range of archaeological features. These assets make a significant contribution to the identity of the locality in which they are set, helping to create a sense of place.

Proposed Route

The Government's announcement of 10th January 2012 that it had decided to proceed with HS2 included details of a revised route for this area.

The route proposed as part of the February 2011 consultation proposed that HS2 would exit a deep tunnel in Old Amersham and then continue above ground to South Heath, where a "green tunnel" was proposed. The route would then run parallel with Potter Row and across open country to Wendover Dean. The depth of the cutting proposed by HS2 for this consultation meant that that neither gantries nor trains would be visible and the depth of the cutting would serve to partially mitigate noise pollution. At Wendover Dean a new viaduct would be constructed as the route passes Wendover.

The January 2012 announcement set out some significant revisions to these plans which increased impacts on landform, increased loss of landscape features and added to the potential noise impacts on visitors and residents. The tunnelling has now been extended past Amersham and emerges in Mantles Wood near Little Missenden where it will severely degrade this ancient irreplaceable woodland. A longer green tunnel past South Heath was announced, reducing the visual impact of HS2 but destroying even more of the ancient woodland at Sibley's Coppice. The green tunnel depth has been substantially reduced with the increased likelihood of a raised mound through the Coppice and increased noise and vibration. Much of an ancient lane (Leather Lane) north of South Heath will be destroyed as it is diverted over the HS2 line. The 2km cutting between South Heath and Wendover Dean is now seven metres shallower on average - this means that the overhead gantries and possibly the trains themselves will now be visible and the noise pollution will be significantly increased.

As a result these changes led to:

- increased proposed land-take including for bund building.
- an elevated road-bridge over HS2 when previously all bridges had been at grade.
- increased visual and aural impacts: a more than 40% increase in the mean height of the 1km long embankment between the viaducts. The mean embankment height increased from 4.9m to 6.9m (maximum embankment height increased from 7.2m to 9.8m).
- increased visual and aural impacts: a 50% increase in the height of Wendover Viaduct (viaduct now up to 12m high).
- the grubbing up of historic sunken lane landscape feature at Leather Lane.
- greater impact of bund building on Grim's Ditch Scheduled Monument.
- increased impact on ecological networks caused by extensive loss of bio-diverse rich hedgerows.
- greater construction impact on South Heath, particularly Sibley's Coppice.
- increased impact on Ancient Woodland in Mantles Wood

If implemented, HS2's proposals will radically alter the Misbourne Valley north of Amersham by the construction of two 500m viaducts, nine tunnel portals, nearly 8km of deep and very deep cuttings, a fully retained wall section and lines raised on embankment.

These detrimental impacts are particularly striking since they all occur in the AONB. The 9km route section between Little Missenden and Wendover travels through scenic parts of the AONB easily accessible by public transport, cycle and public rights of way, the method of access to AONBs favoured by the Government.

Twenty five rights of way will be severed by HS2 in the AONB. Many more will be affected permanently due to loss of tranquillity and detrimental impacts on views. Therefore, HS2 will have a severe impact on the use of the Misbourne Valley as a rural amenity for walkers, cyclists, horse-riders and for those simply seeking tranquillity away from urban life. The increase in noise and vibration will have permanent detrimental effects on the communities along the proposed line.

Mitigation

HS2 shall undertake to work closely with local stakeholders and agree how it intends to deal with the particular issues raised below.

- HS2 shall identify as soon as possible a list of matters arising from the construction and the operation of the new line which will impact the local community's ability to function.
- Once this list is agreed with the local community, each identified issue shall be the subject of a mitigation strategy, which shall be dealt with by comprehensive plans for the construction phase and operation phase.
- HS2 shall identify what vulnerable groups live close to the proposed construction zone and develop plans to address any issues relevant to those groups. Its approach shall be to ensure such groups experience no diminution to their physical or mental health during the construction process.
- HS2 shall use the Environmental Impact Assessment process to build up a comprehensive, balanced and robust picture of the natural features of the Misbourne Valley. This work shall be used as the basis of the assessment process to determine which environmental mitigation measures shall be adopted.
- In light of applicable legislative and planning requirements concerning the importance of AONBs, HS2 shall commit clearly to delivering a mitigation plan which reflects the fact the area under consideration in this report is exclusively sited in an AONB.
- HS2 shall provide details of how it intends to comply with the requirements under section 85 of the CROW Act.
- HS2 shall identify, as early as possible, what elements of its mitigation approach it will recommend to the Secretary of State for inclusion in the hybrid bill.
- HS2 shall work with local communities to set out what kind of oversight process it will put in place to ensure whatever mitigation strategy is agreed is actually implemented.

The following general principles apply to all areas affected by the construction of HS2.

All mitigation actions must be included in the hybrid bill such that they are enforceable in law and contravention will result in prosecution and severe penalties being applied.

Until drawings defining the scope of the works and an indicative programme are available, the implications and impact cannot be fully understood. Therefore, issues identified below cannot be exhaustive and may be supplemented when an appropriate level of information is available.

In addition, until the Environmental Impact Assessment and Code of Construction Practice are available, defining the environmental impact and proposed mitigations, the schedule of issues below must be considered incomplete and due time allowed to consult further when this essential information is available.

1. The contractors must work under the "Considerate Contractors Scheme" whereby the hours of work and other environmental limitations are specified.
2. Chilterns Building Design and Highways Guidance to be used for all structures, highways etc.

3. Work in the vicinity of residential properties must be limited to 08:00h to 18:00h and only Monday to Friday. There shall be no working on Bank Holidays.
4. Vehicle ingress and egress to/from site during set hours, rush hour, school run etc. must be restricted. Construction traffic to be restricted generally to the confines of the site haul roads and will only access the public highway at limited and agreed locations, which will generally exclude all but major roads. At site access/egress points traffic control methods are to be agreed with the consultation group and site vehicles generally restricted to access outside peak traffic periods. Particular attention must be paid to school bus routes using the narrow country lanes in this area.
5. Speed restrictions for construction traffic must be set and adhered to.
6. Traffic routes shall be published at least three months before the work starts. They shall ensure the local traffic movement is not disrupted.
7. No major road widening/dualling schemes shall be applied to any part of the local road network.
8. All affected sites, road etc. require a restoration plan before work starts; this must include all minor roads and lanes.
9. Road cleaning and dust reduction measures must be in place and enforced by a third party.
10. Houses at risk in any way from construction, disturbance, pollution, vibration or tunnelling must have a government funded survey carried out before work starts and after completion
11. Proper waste management procedures and secure storage of toxic chemicals must put in place as it is common place to store highly dangerous and toxic chemicals during infrastructure construction of this type.
12. Provision must be made to reduce the impact of work sites (camps) as these will be semi-permanent installation that will adversely affect the AONB landscape.
13. Construction noise shall be limited to acceptable EU limits and monitoring stations and put in place and administered by a third party
14. Assurances must be given that monitoring the quality of imported spoil is undertaken. Moving large amounts of excavated spoil from one location to bunds elsewhere create the risk of moving contamination into a previously clean area; leading to the change in a local ecosystem if soil types are not compatible. Construction to be phased so as to minimise retention of large temporary stockpiles of excavated material to be used as backfill and the location of stockpiles must be agreed with the consultation body.
15. The Environmental Impact Assessment must be carried out by an independent authority and cover the whole route. It must include the wildlife, ancient woodland and traditional orchard habitat, water bodies (including groundwater and surface water), listed buildings and all endangered protected and notable species.
16. Trees and hedges must be fenced off to prevent damage such as construction vehicles compacting soil the trunk or crown and roots which must not be smothered by deposits from extracted soil
17. Trees with preservation orders must be preserved and must be physically protected with fencing.
18. Tree planting and landscaping to preserve or reduce the impact on the environment shall be undertaken in advance of any construction work.
19. Unless otherwise agreed all replanting to use locally appropriate native species.
20. All historic landscape features to be protected (restoration means little as they shall not be damaged in the first place- e.g. parch banks, saw pits, ancient sunken lanes etc.).
21. All footpaths must be re-instated and where appropriate green bridges shall be used.
22. Workers camps must be located where their sizes will not inconvenience or swamp local communities. Location of the camp, temporary office establishment, welfare facilities, car parks, materials storage areas, plant parking & maintenance areas to be pre-agreed with the consultative body and impact on the local community reduced to an absolute minimum.
23. All designated and locally important sites shall be protected from construction.
24. Money for additional policing must be forthcoming, construction sites often attract criminals and local communities can suffer collateral damage as a result. In addition a construction camp

- site will bring an increase in numbers of temporary residents putting demands on local facilities and with resulting stress on local policing, emergency services, schools, doctors etc.
25. A simple no fault system of claiming for damage caused by construction work needs to be put in place, to cover structural and vehicle damage. This shall not be insurance based and must offer quick resolutions.
 26. Formal monthly meetings shall be held with local residents to review progress, complaints and safety issues. Each site shall have a dedicated community liaison officer
 27. Effective complaints and monitoring procedures to be in place with specially appointed monitoring officers who have responsibility for enforcing compliance - local people shall not have to fight directly with contractors, this shall be the responsibility of HS2 Ltd.

Detailed mitigation issues

Pre-construction phase

Route re-alignment/design

28. The proposed route is unacceptable to all the communities covered by this document. The whole route through the Chilterns AONB shall be in deep bored tunnel. Only this approach will achieve satisfactory mitigation. Additionally a tunnel would reduce the engineering challenges of the presently proposed tunnel emerging in the heart of the AONB, halfway up a hill in ancient woodlands, involving the significant descents and ascents within the current proposal and the construction of a large ventilation shaft adjacent to Piper's Wood.
29. The impact on ancient woodland would be reduced to a minimum. The AONB's rights of way and Grim's Ditch Scheduled Monument would be undisturbed. The AONB's high level of tranquillity will continue. The socio-economic functions of the AONB described in the Natural Environment White Paper will continue and grow.
30. The design must not alter the natural landform i.e. cuttings shall be deep and not require artificial bunds to hide them.
31. The width of the corridor needed for working shall be as narrow as possible.
32. The impact of construction on the Chilterns aquifer and the river Misbourne, local water tables, flood plains and the risk of flooding due to water run offs must be assessed before work commences and the necessary ameliorative measure put in place.
33. Raising the vertical alignment of the track (between consultation and 10th Jan 2012 routes) as it exits the South Heath green tunnel and runs alongside Potter Row has a huge negative impact on both the visual aspect and the potential noise. If bunds are used along this section of the route this will require additional land-take. Route re-alignment (sinking to a greater depth, changing the horizontal alignment or placing in a deep bored tunnel) shall be considered.
34. Noise amelioration as trains power up the steep incline from Little Missenden is required. Noise amelioration to preserve the tranquillity of the Chiltern AONB is required from the exit of the South Heath green tunnel to the north border of the AONB. If international best in class noise absorption techniques will not achieve this then the track cuttings shall be deepened so that they are achieved or the South Heath green tunnel shall be extended through to the Wendover Green Tunnel. **N. B. All noise barriers must be designed and tested to the highest International standard and made of absorbing and not reflective materials.**
35. Sunken lanes – such as Leather Lane – often indicate centuries-old parish boundaries. The parish boundary still follows Leather Lane. This long history provides sunken lanes with a rich biodiversity. In addition, such lanes play an important role in the Chilterns historic landscape. The current plan for Leather Lane is for it to be diverted. It is to be embanked for 600m. Lowering the alignment of the 3km cutting would allow Leather Lane to be kept at its present level.

Environmental impact

36. The findings and recommendations from the Environmental Impact Assessment, including impacts on wildlife, ancient woodland, and the potential for subsidence of listed buildings must

be addressed and a specific plan for mitigation must be agreed prior to construction. Houses at risk in any way from construction, disturbance, pollution, noise¹, vibration or tunnelling must have a government funded survey carried out before work starts and after completion. (list for all properties involved).

37. A plan to reduce the noise and visual impact of the tunnel entrance at Mantle's farm, which will adversely affect ~50% of the population of Little Missenden. The plan must be put in place prior to construction.
38. If the current route is implemented a specific plan for the reinstatement of Sibley's Coppice with semi-mature deciduous native species MUST be agreed prior to construction.
39. ALL construction phase and post-construction phase mitigation plans MUST be approved and agreed in writing, prior to beginning construction, at a high level by the main contractor/sponsor.
40. Confirmation must be given that no equipment store or work camp with living accommodation will be within the AONB. As a principle, all land take for temporary camps, offices, welfare facilities, car parks, materials storage areas, plant parking and maintenance areas etc. must be agreed with the local council.

Construction phase

41. No construction vehicles or equipment shall be allowed in any of the villages or towns during the construction phase. Notices of vehicle movement must be placed at all entrances to all villages and on any identified access roads, to this effect and the compliance with this restriction, it must be monitored.
42. No spoil shall be transported away from the tunnelling area at Mantles Wood, in other words, ONLY the spoil required to develop embankments and bunds adjacent to the tunnel entrance at Mantles Wood shall be excavated at the Little Missenden end of the tunnel. ALL other spoil shall be removed at the West Hyde (M25) end of the tunnel. This will involve the tunnelling being performed asymmetrically, rather than the 'meeting in the middle' approach.
43. Disruption to farming, local businesses and the impact on tourism MUST be minimised during the whole construction phase.
44. Each major construction site shall have a dedicated community liaison officer and formal monthly meetings shall be held with local residents to review progress, complaints and safety issues

Local concerns during the construction including the building of the tunnel exit at West Hyde, the tunnel emergency access shafts and the Green Tunnel

45. Construction noise shall be limited to acceptable UK and EU limits^{2,3,4,5} and monitoring stations administered and put in place by a third party. Background noise surveys must be carried out before construction works commence at all dwellings and premises affected and these background noise levels not exceeded under a Section 61 (Control of Pollution Act) Agreement with the local authority.
46. Light pollution - together with noise and dust pollution must be addressed and returned to their current status. The villages in Chilterns AONB covered by this document, have no artificial lighting i.e. no street lights and at present no light pollution, minimal noise, only local traffic and negligible dust pollution. A comprehensive independent study of all these aspects must be

¹ British Standards (BS), 1997, 4142 *Method for rating industrial noise affecting mixed residential and industrial areas*, BSi

² *Noise and Statutory Nuisance Act 199*

³ *British Standards Institution, 2009, British Standards (BS), 2009, 5228-1 Code of Practice for Noise and Vibration Control on Open Construction Sites - Part 1: Noise, BSi*

⁴ *BS 5228-2 Code of Practice for Noise and Vibration Control on Open Construction Sites - Part 2: Vibration, BSi*

⁵ *Land Compensation Act 1973* (including the Noise Insulation Regulations 1996) and *the European Communities Act 1972* (including the Environmental Noise (England) Regulations 2006) all as amended

funded by HS2 Ltd both pre and post HS2. Adverse indications shall automatically attract compensation.

47. The considerable impacts of the prolonged construction period of the Amersham Tunnel must be addressed sympathetically. At the West Hyde end this could be fourteen years if a Heathrow spur is added in phase 2.
48. There will potentially be 6 million tons of spoil to be removed from the Amersham tunnel which could amount to in excess of 700,000 lorry movements. Full detail of the spoil removal plan must be made available. The impact on local roads e.g., the A413 and the B485 must be given high priority. No contractor movement or spoil removal shall be allowed on minor roads/lanes.
49. A waste transfer station is proposed at the Bucks CC depot on the A413 in Amersham. This will result in considerable increase in HGV traffic. Traffic flow on the already congested A413 must be maintained.
50. The impact of construction of the emergency access shafts is unknown. Details of the plan for their construction including spoil removal must be made available to local communities. This includes any plans to road alterations and new (temporary) service roads.
51. Construction of the South Heath green tunnel will involve lorry movements with spoil to construct the bunds near Potter Row. Neither Potter Row, The Lee or Ballinger shall be used by any construction traffic and alternative temporary tracks next to the route shall be used. Specific lorry routes on existing roads need to be identified and returned to their original state after construction. No spoil shall be transported away from the green tunnelling area at South Heath or from the cuttings between South Heath and the Wendover Viaduct through South Heath, Potter Row, The Lee or Ballinger. This principle shall apply to all villages along the line⁶
52. The green tunnel shall be constructed in such a way that roof is level with the existing ground and provides total sound and vibration proofing.
53. The portal of at both ends of the South Heath green tunnel must be fitted with absorbing acoustic material to reduce the boom from the train on exit from the tunnel.
54. Guarantees of re-instatement of all footpaths⁷. In general footpaths shall be retained or temporarily re-aligned during the construction phase and fully reinstated on completion.
55. Speed limits and weigh limitations of construction vehicles that travel through the village must be put in place and adhered to.
56. Impact on power supply to the village and the re-routing of pylons crossed by HS2 needed to be addressed and transparent plans given, assurances were given at the consultation road show that power lines would be put underground.
57. Access at all times needs to be provided to and from South Heath (a village with no amenities itself). Assurances must be given that neither Frith Hill nor the Chesham Road B485 together with Kings Lane [marked on map 8 as 'to be reinstated over green tunnel'] will be closed at the same time.
58. Ensure that access at all times for lorries to deliver to South Heath Garden Centre and domestic heating oil to all homes.
59. Access to Great Missenden having the village's local station, shops, schools, healthcare facilities must be maintained. The A431 is widely use locally and also by emergency service as their access route into and out of the village which must be maintained at all times. This requirement is especially vital at rush hour and school exit times.
60. A clear and concise schedule of works (to include cutting off Kings Lane/A413 T- junction and Frith Hill reference above) shall be given and adhered to.
61. Full information must be given as to access of all other local routes.
62. Access to farm land must be assured so that loss of earnings will not occur. Where farm land is cut/divided by the route permanent bridges or tunnels crossing the line must be provided.

⁶ Little Missenden, Hyde Heath, Hyde End, South Heath, Ballinger, Great Missenden, Prestwood, Little Kingshill, Holmer Green, Potter Row, Lee Common, The Lee, Kings Ash

⁷ Footpaths LM17, LM21, GM27, GM33a, GM33b, GM28, GM79, GM80, GM13, GM12, GM2, W38, W37, W36, W39. (total 15) according to the The Chiltern Society are crossed by the HS2 route.

63. A local safety and emergency plan shall be put in place with local residents in the case of an emergency caused during the construction phase. A responsible person must be available at all time to deal with emergencies.
64. Badly affected properties must be offered additional mitigation and compensation for example Orchard Cottage and Chiltern Cottage Frith Hill S. Heath leg Meadow Ley and Kings Road cottage Chesham Road (B485).
65. Concerns over potential spoil and construction traffic routes including Rocky Lane, Bowood Lane, Leather Lane and the unnamed lane leading from Potter Row onto A413. Potter Row, King's Lane, Rignall Road, Ellesborough Road, Chesham Road and Frith Hill should not be used for spoil and construction traffic
66. HS2 Ltd says a haul road will be used for construction traffic and the removal of spoil. This will need to access the A413, not least because the route crosses this road.
67. Roads through villages shall not be used by construction by traffic that is aiming to avoid any hold-ups on the A413. Including: traffic from Wendover using Hale Lane to Chartridge; traffic using Rocky Lane, then Chesham Lane, and through the Lee and Potter Row to access Chesham and Amersham.

Post-construction phase

The date of completion of construction to be agreed with local representatives e.g. district council.

68. There must be a final agreement that all mitigation measures have been carried out as planned, prior to the construction being 'signed-off' by the local residents.
69. All previously agreed mitigation measures to reduce the long term impacts (visual, environmental, noise) that are not completed during the construction phase must be implemented within 1 year of the completion of construction. For re-instatement of Sibley's Coppice trees lost must be replanted with local hardwood species; such as birch and beech not non-indigenous quick growing conifers.
70. All disrupted footpaths must be re-instated. Preferably via a 'rolling' process of re-instatement during the construction phase but definitely within 1 year of the completion of construction. Where appropriate green bridges shall be used to allow rights of way users and wildlife to cross the line. Other means of wildlife crossing the route must be provided.
71. Mantle's Wood, Farthing's Wood, Hedgemoor Wood, Jones Hill Wood and Sibley's Coppice must be re-planted with semi-mature native hardwood deciduous trees.
72. Sibley's Coppice and Jenkins Wood are habitat friendly for wildlife such as bats and need to be preserved.
73. The visual impact of the tunnel exit at West Hyde must be minimised by the sympathetic landscaping and replanting with semi-mature native hardwood deciduous trees.
74. The visual impact of the tunnel emergency access shafts exit must be minimised by sympathetic design and construction. Semi-mature native hardwood deciduous trees to be planted to enhance the visual aspect.
75. The visual impact of the entrance and exit of the South Heath green tunnel must be minimised by the sympathetic landscaping and replanting with semi-mature native hardwood deciduous trees.
76. The visual impact of the tunnel exit at Mantles Wood must be minimised by the sympathetic construction of embankments and bunds and their replanting with semi-mature native hardwood deciduous trees.