

Meeting notes

of meeting with HS2 Community Engagement Team

On Monday 12th December at Mill House, Little Missenden

1. Those present: ...John Naylor-Smith

John Gladwin, Chiltern Society

Luke Nipen, HS2 Community Engagement Manager

David McCann, Senior Project Manager

Terry Payne.

2. Asked for a detailed explanation and response to the points raised in the letter sent to the Prime Minister, on the 27th July 2016, by Mr John Naylor-Smith, headed, '*Pollution of our Water Supply*', highlighting the dangers of the proposed HS2 civil engineering works on our water supply and the indemnity to AF that appears to be unlimited.

David McCann addressed the issues raised by John and stressed that the question of possible pollution was highest on their agenda at all times and monitoring of the ground around all AF boreholes, from 5 or 6 points around every extraction point, was a permanent and ongoing activity. He did not believe the proposed works raised any extra risk.

3. To ask for a detailed response to the dangers raised by John Naylor-Smith in his letter of the 3rd November 2016 to Lord Walker of Gestingthorpe, on the risk imposed on our environment, from the effect of the tunnel passing through live aquifers resulting in the mud slurry and chalk washing over the tunnel core, leading to the long-term possibility of subsidence or collapse.

DM said that approx. 95% of tunnels passed through water bearing soils and he considered the experience they had, proved the engineering practices were sound.

JG raised concerns that he had heard that Coombe Hill was believed to be unstable, and that this could threaten the 'green tunnel' proposed at Wendover. He had also had a report that the farmer at Shardeloes Farm, when drilling a bore hole 6 years ago, had hit a 200ft deep underground lake. DM said he was not aware of these issues, but would look into them.

4. To receive the Report from HS2 on "Bore-hole evidence"

There is no Report available, and the earliest will be March 2017

5. To request location of Boreholes under review

These will be in the Report as above.

6. Further questions tabled on Borehole progress

7. At the HoL SC hearing on the 7th November 2016, we were told that of the 270 boreholes to be done, only 40 remained to be completed. Please can we have an update on that situation? How many have now been completed and how many are left to be done?

Neither DM nor LN had figures available but it was anticipated that ground investigations would continue well into the New Year

8. We were also told at the meeting that HS2 had been stopped from drilling at Chalfont St Giles since they did not have permission. Has this now been resolved, since that was in a very sensitive location?

DM advised that discussions are still ongoing and that in general terms BCC had not given permission for any boreholes to be drilled

on their land. If agreement is not reached, they will have to wait until after Royal Assent to complete the ground investigations.

9. We note the Ground Investigation Team have spent some considerable time at the Little Missenden Vent Shaft site. Do they have any results yet? If not when will we receive them?

DM said it would be March 2017 before we have them. If BCC have not given permission for the remainder of the boreholes, there would probably be an interim Report in March followed by a full Report in June 2017 assuming they get Royal Assent on time in January.

10. There were some large water tankers on the LM site during drilling. Does this mean they encountered ground water? Bearing in mind, autumn gives the lowest level for groundwater, what are the implications of this?

DM stated that it was accepted that LM had probably the highest water table of all the area. They anticipated that all boreholes would probably show they had met the water table. The tankers were used to lubricate the drilling. Permanent monitoring points will be installed at our Vent Shaft site to report on the ground water level.

11. Is there a full location map available of where all the bore holes have been drilled?

This will be in the Report

12. When the boreholes were drilled at Shardeloes, how close were they to the actual lake and is David McCann able to explain the likely effect on the lake, due to the vibrations set up by the TBM's and their effect on the base of the lake, with regard to the likelihood of opening up cracks and fissures in the base of the man-made lake? How will the 18th century dam be protected?

The nearest borehole was approx. 25m from the lake. DM said that HS2 were well aware of our concerns regarding the integrity of the lake and river, but he said, in his experience, he did not think the river or lake would be lost as we feared.

13. Have further boreholes been completed between Shardeloes and the Chalfont's, and have these shown the extent of settlement likely to occur over the route of the tunnel, as pointed out by Mr Tim Smart in his evidence to the HoC SC in July 2015?

Awaiting the Report in March, but DM agreed that settlement was likely, but could not anticipate what this would be, but it was probably in the region of 10cm by up to 60m wide

14. In his evidence to the HoC SC, replying to the Chiltern Society, on the 14th July 2015 (para187) Mr Smart said, '*By monitoring the ground as you move forward (the tunnelling) you can see the relationship between what the machine is doing and the face loss and the settlement that you get at the surface so that if you to – and I should also add, **we'll have better geotechnical information**, so we'll be identifying in advance and we'll have boreholes, where we have been monitoring.....*' Para's 188 to 195 also apply, concerning the involvement of the EA and the effect on Affinity Water. Have these authorities now been consulted and have they approved your proposals, in view of the many expert opinions from Dr Bailey and the experts from Chalfont St Giles who gave evidence to the HoL SC, warning of the dangers of the tunnel not being deep enough, to go beneath the rubbly chalk upper layers and asking for it to go 10m deeper?

15. In his evidence to the SC Mr Smart said, (para 247) '*In the event of some really difficult ground, it may be that **we will just lower the alignment slightly by a metre or something if we had to.***' Has that decision yet been taken?

DM said he could not comment on this, but fully accepted that everything depended on the publication of the Report. If the Report showed they had to go 10m deeper, then that would happen. If it meant that to achieve the max 3% gradient up to the north portal, then the portal would have to be moved possibly as far as Leather Lane. It all hinged on the Report of all the ground investigations.

16. We have previously been advised that you will inject chemicals ahead of the TBM's to 'stabilise' the ground, in advance of the tunnel boring. Is this so, and if so, what chemicals are used and do you have laboratory tests to prove that these will not be harmful to the water supplies?
17. When I gave evidence to the HoL SC, I was asked by the Chairman, Lord Walker, if I had any knowledge of the use of 'Bentonite' in the tunnel excavations and vent shaft works and did I know if this may cause a pollution problem? I said I had no direct knowledge. But has any laboratory work been carried out on the long term effects of Bentonite on the aquifers?

DM said that Bentonite would not be used, since it may have an effect on potable water. DM said considerable advances had been made in recent years in various polymers and silicates and chemicals had been established that would not affect our water supplies. Laboratory testing was ongoing and suitable materials would be used.

18. In giving evidence, I was asked by one of the panel, did I know the location of the Affinity Water boreholes? I said I did not know but can these locations please be identified?
19. Can we have a schedule of the depth of the ground water table at each of these boreholes, from which Affinity Water extract their supplies?

We should apply to Affinity Water

20. How does the information being gathered now on bore holes, compare to the 100 year old records from the British Geological

Surveys, referred to by Mr Smart in his evidence to the HoC SC in July 2015?

Wait for the Report!

21. Do you have the results yet on the Coombe Hill boreholes and their effect on the Wendover aquifers? We understand the line of the rail track has had to be moved as a result. Can we have details?

No knowledge of this

22. Returning to the LM Vent Shaft site, what arrangements have been made for the location of wheel-washers to be installed, to the entrance and exit to the site, to prevent mud and chalk slurry being taken on to the A413 which is currently evident at the present time?
23. How will the mud and chalk slurry from the wheel-washer plant, be disposed of?
24. Where will the waste-water from the wheel-washers arrangements, be taken to?

DM said he would be taking a keen interest in this activity and this would be an important detail to be developed by the nominated contractor

- 25 I would suggest that a permanent **Water Treatment Plant** be constructed adjacent to the top of Mop End Lane, so that all waste water can be routed across the A413 and be so treated, to remove pollutants, before being discharged into the River Misbourne. This will include rainfall from the eventual surface water 'run-offs' from the car park /hardstanding's in the long term, when the vent shaft is in use.

DM said this would be considered. However, DM stressed, that no waste water of any kind, will be pumped into the river unless it has been properly treated to remove all contaminants and possible causes of pollution. This is despite what the CoCP may say or imply.

26 Mr Smart has said in correspondence, that excavated chalk from the deep vent shaft excavations, will be 'pressed and dried' before being removed from site. If so;

- a) What area will be taken up for this activity?
- b) How will the water that is extracted, be disposed of?

27 Can the HS2 team, please explain the term 'Roadhead' and what is its purpose?

The roadhead will be used for so treating excavated material and removing the water content and later for the storage of materials.

28 To what area will the Works Compound be restricted and how will the risk of accidental diesel spills etc, be dealt with?

As indicated on the plans of the LM Vent site and details of vehicle storage and re-fuelling will be in accordance with CoCP regulations

29 What is meant by 're-charging' the groundwater wells? And how will such water be de-contaminated?

30. Will 'de-watering' be necessary?

This is currently still under discussion as to how to 'balance' water removed in de-watering and re-introduced, to as not to disturb the aquifer operation. However, all contaminants will be removed before re-charging any of the groundwater wells.

31. How will the footpath that runs alongside the A413, past the vent shaft site entrance, be diverted?

The entrance to the site will be a single-track road, so the footpath will not be affected, DM was not aware of a footpath on that side of road.

32. Will temporary traffic lights be used? Will there be any traffic diversions or temporary roadworks? Whose responsibility is it, will it be BCC or HS2?

Too early to say

33. As a matter of interest, how will the two TBM's be moved into position at West Hyde/Chalfont Lane, bearing in mind that they are approx. 6 times the width and height of a family car?

The 2 TBM's, will be 'built' on site at West Hyde taking 6 months to build. When in operation, the TBM's will travel 3 weeks behind one another boring the two tunnels at a rate of approx. 100 m a week

34. On the 13th November 2015, the Director of Hybrid Bill Delivery, wrote to me on behalf of the Secretary of State, giving certain assurances regarding the development and protection of the Little Missenden Vent Shaft site. Has there been any update or further movement on these assurances?

DM was fully aware of the assurances and undertakings and said these are enshrined in the 'Schedule of Assurances' and it was his responsibility to make sure they were complied with in every respect.

35. All the documentation refers to the '**monitoring**' of the River Misbourne and Shardeloes Lake. Have any parameters been set for this monitoring and have base lines been set for measuring water quality?
36. We have called for the appointment of an independent Water Specialist to carry out a **Risk Assessment** on the River and Lake and identify all potential risks to the river and lake from HS2 activities and to set out what measures should be taken to prevent any possible damage and what remedial measures should be taken if any such damage occurred. Have HS2 considered this request and what is the way forward?

DM says HS2 and the EA are currently involved in carrying out such a Risk Assessment and establishing water purity levels and other parameters. DM says it will take approx. 12 to 15 months to complete the work.

37. If an accidental spill did occur of pollution, what plans and measures have HS2 made to eliminate and remove any such pollution?

Still under discussion

38. We have been advised that the Enabling Works Contractor will be 'Fusion JV', do you have a telephone number and contact there for our use?

David McCann said he will be our main point of contact throughout the 10-year project and can always be contacted through Luke Nipen at luke.nipen@hs2.org.uk. The other individual will be David Davey.

39. Bearing in mind the importance of the Assurances from the Secretary of State relating to the Little Missenden Vent Shaft site, given to me by Mr Roger Hargreaves, Director of HS2, on the 13th November 2015, which states the 'Nominated undertaker' will be responsible for implementing those undertakings, how do we ensure that these are followed, particularly with regard to the protection of the site and further tree planting as envisaged by the SoS? Can we set up Liaison Committee's and a 'chain of command' to ensure these undertakings are met?

DM said it will be his responsibility to ensure that the Nominated Contractor observes all the Assurances and undertakings given, and they will be implemented 'to the letter'!

40. Do you have an update on the latest time table of activities for this area?

The detailed designs are due to commence in June 2017 and will these will take approx. 12 months to complete. DM considers it will probably be July 2019 to see the start of tunnel boring and he believes it will be June 2020 to see commencement of the Vent shaft work.

DM said there are no details available as yet as to the appearance of the Auto-Transformer Station but he agreed, it would probably look like an electricity sub-station 8 m high. DM said that every effort would be taken to provide effective screening

41. Do you have the results yet, on the traffic surveys carried out by Atkins on behalf of HS2 between the 25/10/16 and the 9/11/16 in this particular area?

No.

One small item of extra news however, is that a solid concrete track will be used throughout instead of a ballasted track. This may be more noisy but is more stable.