



The Hoad family of Parsonage Farm, and the Trustees and Executors of the Noel de Quincey Estate and Mrs Emma Ainslie of Moat Farm

ROTHER VALLEY RAILWAY

Transport and Works Act 1992 (TWA):
Application for the Rother Valley Railway
(Bodium to Robertsbridge Junction) Order

Proof of Evidence: Flood Risk - Summary

Chris Patmore CEnv, BEng, DIP EIA, MEnvSci, MCIHT, MCIWEM, MICRS
Reference: TWA/18/APP/02/OBJ/1002



- 1.1.1. This proof of evidence has been prepared to review the flooding and drainage matters in relation to the Rother Valley Railway's (RVR) application to reinstate the railway to Robertsbridge.
- 1.1.2. I am Chris Patmore, a Chartered Environmentalist, Member of the Institution of Environmental Sciences, Member of the Institution of Highways and Transportation and a Member of the Chartered Institution of Water and Environmental Management. I have a Bachelor of Engineering (BEng) degree in civil engineering and a Diploma (DIP) in environmental impact assessment.
- 1.1.3. I am a Technical Director of WSP UK Limited and have been engaged in the planning, assessment and detailed design of drainage and flood risk infrastructure for over thirty years. This has extended to appearing as Expert Witness on a large number of projects in respect of flood risk and drainage.
- 1.1.4. I have visited the site and am familiar with the watercourses, rivers and drainage in and around Robertsbridge.
- 1.1.5. The proposed railway route can be clearly defined as "less vulnerable" development and, as shown on EA mapping, is located fully within Flood Zone 3b, the "functional flood plain". Thus, in my opinion, as clearly stated in the NPPF and as questioned by the Inspector: "Development should not be permitted". This is, fundamentally, an inappropriate development in Flood Zone 3b.
- 1.1.6. I have made a number of key conclusions in relation to flooding, drainage and water quality matters. I do not feel these matters have been adequately addressed and as a result not only leave unanswered questions as to the suitability of the design as a whole but also lead to residual risks that are not resolved and potential mitigation measures and land take that has not been considered satisfactorily.
- 1.1.7. These conclusions are:
 - Fundamentally, the proposals fail the NPPF sequential test has not been fully justified as requested by the Inspector. The railway route is defined as "less vulnerable" and, as shown on EA mapping, is located fully within Flood Zone 3b. Thus, "Development should not be permitted";
 - The flood mapping produced is showing areas that will experience deeper water depths that will also ultimately lead to longer periods of flooding and although located within areas identified in the FRA as "only" agricultural land (i.e immediately adjacent to Moat Farm), are immediately adjacent to properties and essential infrastructure. This coupled with the increased depth of predicted flooding across High Street / Northbridge Street raises deep concerns over the sensitivity of the impacts that are not addressed in the modelling or reporting.
 - Whilst I do not consider the NPPF Exception Test to be relevant, if it were to be applied, this evidence is only showing minor areas of betterment and some of these are also within the "only" agricultural area. The application would not satisfying the Exception Test Part a) as the development will not provide wider sustainability benefits to the community that outweigh the flood risk and in respect of Part b) it has not been conclusively demonstrated "the development will be safe for its lifetime taking account of the

vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.”;

- Although a new model has been developed in response to the Inspector’s concerns, this only directly addresses the concerns raised and does not include sensitivity testing of; inflow hydrology, topography, roughness characteristics, calibration against flood events and blockages;
- The accuracy of the model is dependent upon topography of the site. In this case there are large areas of tree cover close to the route and around the watercourses. Any LiDAR model used for this kind of analysis is usually “smoothed” of features such as trees (illustrated in Photo 6.1) and buildings. This creates increased inaccuracies in the levels, possibly in excess of +/- 150mm to +/-300mm. This casts doubt the predicted flood levels in the modelling results. It may be that the predicted benefits have been overstated;
- There is no explanation of the application of any sort of allowance or uncertainties to the calculations and thus allow the impact on existing and future adjacent structures, foundations of structures and infrastructure to be determined;
- Following the redesign of the track levels to suite the predicted flooding there has not been any discussion or assessment of the impact of the movement and mobilisation of the track ballast and other materials during a flood event. Allowing overtopping of the embankment by flood waters will increase the risk of structural failure of the track and its embankments. This also has the potential to lead to blockages, pollution and disruption to the watercourse flows as the materials are washed downstream;
- Although the proposed route is within a valley subject to regular flood events and it is proposed to elevate the track on embankment above the existing site levels, there are no areas within the proposed temporary or permanent land take (as proposed within the Order) that would allow for the compensation on a level for level basis. Additional land may therefore be required that could be remote from the rail route and not subject to the Order as currently proposed;
- There is no discussion regarding additional waterlogging due to standing water or rising groundwater that could be detrimental to the integrity of the existing flood defence structures as well as the river morphology and hence, ultimately the ecology etc. of the watercourses. This is contrary to the aims of Policy EN5 of the Rother Local Plan Core Strategy and local River Basin Management Plans. This needs to be addressed to satisfy Planning Conditions 4 and 10;
- Planning Condition 4 requires that the 8m buffer strip is maintained (although the wording is incorrect). The alignment of the route impinges on this buffer strip at a number of locations and thereby inhibits maintenance access as well as the provision of the ecological off-set required by the EA; and
- There are a number of mitigation matters required to discharge the planning conditions requested by the EA. These relate to maintenance, operation, and management of critical features such as culverts, bridge structures and the railway embankment itself that all have significant roles to play in controlling flood risk, drainage and pollution control. There is no indication of how and by whom the environmental mitigation measures are actually going to be implemented and monitored. This is a specific requirement to address Planning Condition 10 and, to date, no evidence has been provided as to how this would be achieved.

1.1.8. In addition, even if the Order is permitted, I have no evidence to conclude that the EA has accepted the flood modelling, or the details provided to date as a means to discharge the



planning conditions attached to the Planning Permission. I do not believe that these conditions can be discharged within the Order application land. There are fundamental design issues that will require a larger area than the Order currently allows for, specifically:

- Any additional area outside the red line required to provide flood compensation;
- Any alternative locations required to provide the construction compounds and storage areas that are outside flood zones (particularly Flood Zone 3b); and
- Working areas and access to maintain the embankment, railway and its structures either for routine work or in response to an emergency.

1.1.9. The evidence which I have prepared for this Inquiry is true and has been prepared and is given in accordance with the guidance of my professional institutions.

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