



Caerphilly County Borough Local Development Plan

Joint Statement of Common Ground Between Caerphilly County Borough Council and Environment Agency Wales HG1.25 - Navigation Colliery

Examination 2010

Caerphilly County Borough Council submission

Examination document reference :

ED.22

Submission date :

4 February 2010

Joint Statement of Common Ground Between Caerphilly County Borough Council and Environment Agency Wales

HG1.25 - Navigation Colliery

- S1 This statement is issued jointly by Environment Agency Wales (EA) and Caerphilly County Borough Council (CCBC) and outlines an agreement in respect of the flood risk issues that relate to LDP allocation HG1.25 – Navigation Colliery. The statement sets out the agreed position of both parties in respect of the issues of contention.
- S2 At the Exploratory Meeting held on 8 December 2009 the Inspector requested that CCBC and EA meet to try to resolve their differences in respect of the Navigation Colliery site. This meeting was held on 18 January 2010, and resulted in general agreement on the flood risk issues raised in objections by EA to the Deposit Plan allocation. This agreement builds on previous advice from EA (in particular, letter dated 10 August 2009 – included as Appendix 1) and Entec to progress a way forward for this site allocation, whilst acknowledging that a detailed site specific assessment of flooding consequences informed by hydraulic modelling, will need to inform detailed design and layout when the site is brought forward.
- S3 The issues that were discussed at the meeting related to outstanding matters emanating from the Strategic Flood Consequences Assessment for Navigation Colliery undertaken by Entec on behalf of CCBC, and the objection raised by EA. There were three principle issues that were discussed at the meeting, and these issues were:
- ❖ Discrepancies between the CCBC commissioned Entec model (CCBC Model) and the Risca Hazard Mapping Study, undertaken by JBA on behalf of EA (EA Model);
 - ❖ Downstream flooding implications of removing the existing culvert within the site ('the downstream culvert');
 - ❖ Whether sufficient land remains to cater for development need.

Discrepancies between the CCBC and EA Flood Models

Original Position

- S4 Entec produced the Strategic Flood Consequence Assessment (SFCA) for Navigation Colliery. The findings of the report were:-
- I. The site did not flood during a 1% flood event.
 - II. The site did flood when a 50% blockage of the existing culvert, which runs within the site boundary, was assessed.
 - III. A significant part of the site flooded during a 0.1% extreme flood event.
 - IV. The site was appropriate for residential development, although constrained by the 0.1% extreme flood outline and required careful design, including for access/egress.

- V. If residential development was pursued it was recommended that the culvert be removed
 - VI. If the culvert was removed it was acknowledged that there would be some impact on flood risk downstream that would need to be managed to ensure there is no increase in flooding elsewhere up to and including the 0.1% extreme flood event.
- S5 In April 2009 EAW submitted comments on the report that raised issues in respect of the accuracy of the modelling output, having compared the CCBC Model with the developing EAW Model, namely:-
- I. Concern over the dimensions of the culvert that were used;
 - II. Concern over the roughness value for the culvert that was used;
 - III. The 1 dimensional and 2 dimensional models were not dynamically linked;
 - IV. Comparison of the output of both models indicated a 1.5 metre difference in flood water levels during the 1% flood event.

Outcome of the Meeting

- S6 EAW presented output from their model that had been completed in August 2009. The flood outline for the 0.1% extreme flood from the EAW Model appeared similar to the outline shown by the CCBC Model (EAW and Entec Models flood outlines are included as Appendices 2 and 3 respectively). The site is long and narrow and is constrained by steeply rising land along the western part, which incorporates a rise of 12.5 metres at the western extent of the 0.1% extreme flood outline. Given this change in levels, Entec anticipated that flood levels would have to rise by approximately 15 metres before significant expansion of the flood extent occurred.
- S7 It was discussed that, whilst there were differences between the two models, the lateral extent of flooding would likely reflect the topography of the land. CCBC agreed that the extent of developable land was constrained by the 0.1% extreme flood outline and that the level of development would need to reflect this.
- S8 The likely implications for downstream flood risk were also discussed at the meeting.

Downstream Flood Implications Of Removing The Downstream Culvert

Original Position

- S9 The Entec report recommended that, should the site be brought forward for residential use, the existing culvert through the site should be removed and that this would not likely significantly increase flood risk downstream.
- S10 EAW advised that the Entec report did not provide sufficient detail on the implications for downstream flooding to conclude that the impact of removing the culvert could be managed and mitigated without increasing flood risk downstream in accordance with TAN15.
- S11 In response to EAW advice, CCBC and Entec confirmed their view that, whilst further work was required to address the issue, the work was more appropriately undertaken by the prospective developer who would need to confirm the downstream flooding impact with appropriate detailed modelling, and provide mitigation for this on site. This would be assessed as part of a detailed site specific

assessment of flood consequences to determine whether the risks and consequences of flooding can be acceptably managed in line with TAN15.

Outcome of the Meeting

- S12 CCBC conceded that the impact of removal of the culvert had not been assessed in the SFCA. However, it was maintained that further detailed modelling of the downstream impact and the mitigation measures consequently needed would be more appropriate for the detailed design stage. EAW suggested that due to the steepness of the site, overland flood flow routes originating from the upstream limit of the culvert may finally discharge back into the channel at the downstream limit over a very short period of time, resulting in a limited amount of upstream attenuation at the inlet to this culvert. However, this would need to be investigated further to confirm that this is the case.
- S13 It was also suggested that a further culvert upstream to the north of the site may be acting as a control, causing water to back up further upstream, which would reduce the potential impacts of removing the downstream culvert. If this was the case, EAW accepted that the likely implications for downstream flooding, if the culvert was removed, are not likely to be very significant compared to the scenario where the culvert is retained, but would need to be thoroughly assessed to ensure no impact elsewhere.
- S14 It was agreed that if the site allocation was constrained to prevent development in the 0.1% extreme flood outline, the downstream impacts and necessary mitigation could be properly assessed at a detailed planning stage. It was agreed that the most conservative 0.1% extreme flood outline is used to inform this to compensate for the differences between both models.
- S15 Following the meeting, Entec did some work to compare both models. Even though they considered that it was possible that the 1% flood event plus 50% blockage scenario to be more severe than the 0.1% extreme flood event outputs from the CCBC Model, they considered that the flood levels used in the EAW Model to be sufficiently conservative to compensate for this difference. It was concluded that the EAW modelled 0.1% extreme flood outline should be therefore be used.

Does Sufficient Land Remain To Meet Development Requirement

- S16 EAW raised concerns whether the site could accommodate the level of development that would be required to facilitate the reclamation of the site and the rehabilitation of the Listed Buildings, given the limited amount of land available for development due to flood risk constraints. EAW were particularly concerned that increased development pressure to develop in the areas indicated as being at risk from flooding would result from reclamation/regeneration aspiration for the site.
- S17 CCBC confirmed that, irrespective of the council's current position (i.e. not looking at residential development on the site) the site allocation should reflect development located on land outside the 0.1% extreme flood event outline. If in future development is proposed within the area constrained by flooding, the developer would need to satisfy CBCC and EAW that the development fully complies with TAN15.
- S18 During the meeting it was agreed that the access road to the site lay within the identified 0.1% extreme flood outline and that access would require careful design

to ensure it complied with TAN15, which could further constrain the development of the land. Due to the likely depths and velocity of flooding in this area, it is likely that mitigation will be needed as a result and that this would need to be achieved on site. It was agreed that this assessment would need to be undertaken by the proposed developer of the site.

S19 It was agreed that, if the Inspector at the LDP Examination was mindful to maintain the residential allocation on the site, that a development brief would be required to be produced that included the following:

- A. A plan showing the flood risk constraints at the site, to show the 0.1% extreme flood event outline from the EAW Model, and an explanation of how this may affect the development density.
- B. The need for more detailed hydraulic modelling to be carried out to establish flood depths and velocities at the site to inform an assessment of flood consequences (scope of model and assessment to be agreed with EAW). Any assessment would need to establish that the risk and consequences of flooding associated with a development proposal can be acceptably managed in line with TAN15.
- C. The need for a comprehensive approach to developing the site in order to facilitate any mitigation that becomes feasible following detailed assessment. Piecemeal development of this site should be avoided, as a fragmented approach to development could mean that parts of the site are developed whilst in other parts the risks and consequences of flooding cannot be managed.
- D. The need for any mitigation measures would need to be rigorously assessed to ensure that there is no impact on flood risk elsewhere, particularly downstream, for all flood events including the 0.1% extreme flood event. This would include any culvert removal. Any impact must be mitigated on site.
- E. An advisory note that if the culvert were to remain then development at the site should be limited to areas outside the 0.1% extreme flood event outline as defined by the EAW Model.
- F. The need for access and egress to and from the site to be considered and comprehensively assessed to ensure that it is designed to meet the criteria set at A1.15 of TAN15. As well as discussion with EAW, the developer should engage with other professional advisors involved with emergency planning and rescue.

The Agreements

- 1) It was agreed that the 0.1% extreme flood outline from the EAW Model is used to inform at a strategic level the amount of developable area on site. This outline is included as Appendix 2.
- 2) It was agreed that the detailed assessment of impact on flood risk elsewhere, particularly downstream, would be more appropriately addressed by the proposed developer at the detailed planning stage.
- 3) It was agreed that the site was significantly constrained by flooding and this would restrict the area of development, except where a developer was able to provide

appropriate evidence by way of an assessment that would confirm that development proposals in this areas can be acceptably managed in line with TAN15 to the satisfaction of CCBC and EAW.

- 4) It was agreed that, if the site was allocated in the LDP, a development brief would be drawn up that identified the constraints and requirements for the site.
- 5) It was agreed that the access to the site was currently located within the identified 0.1% extreme flood outline, and so will require careful design to ensure it is compliant with TAN15.
- 6) It was agreed that agreement points 1 to 5 address EAW's principle concerns over the Strategic Flood Consequences Assessment and conditionally removes the EAW objection to the principle of the use of the site for residential development.

The Agreed Positions

- 1) The Council maintains its recommendation to the Inspector that the HG1.25 – Navigation Colliery site be deleted from the LDP.
- 2) The Council maintains its position that the Navigation Colliery site remains within the identified settlement boundary.

Appendix 1

EAW Letter Dated 10 August 2009

Anne Kemlo
Entec UK Ltd
17 Angel Gate
City Road
London
EC1V 2SH

Ein cyf/Our ref: SE/2007/104324/BD-01/PD1-L09

Eich cyf/Your ref:

Dyddiad/Date: 10 August 2009

Sent by email – kemla@entec.co.uk

Annwyl Syr/Madam / Dear Sir/Madam

STRATEGIC FLOOD CONSEQUENCES ASSESSMENT - NAVIGATION COLLIERY, CRUMLIN

Thank you for email dated 20 May 2009. Attached with this email was a copy of your letter to Victoria Morgan at Caerphilly Borough Council dated 14 May 2009 (reference 23549/AK/140509).

We note that your letter to Victoria Morgan was sent as a response to our letter to the LPA dated 28 April 2009 (reference SE/2007/104324/BD-01/PD1-L06). Although there was no request for us to respond to your letter dated 14 May 2009, we felt that our comments would be helpful to the LPA when considering a way forward for this site in the context of the LDP. Our comments are not intended to address in detail the points raised in your letter.

We agree that without removal of the culvert, development should be avoided in areas shown to flood during the 1% plus climate change plus 50% blockage scenario fluvial flood event. Our advice is that there should be no built development, including built development intended for recreation and amenity, in the areas identified as the 1% plus climate change plus 50% blockage scenario fluvial flood event

During the 0.1% flood event, it is clear that a significant part of the site is flooded to considerable depths. Therefore land raising is likely to be needed to ensure that any development in these parts of the site can be within the tolerable flooding conditions (as set out at paragraph A1.15 of TAN15). However it is critical that the loss of flood storage as a result of any land raising is mitigated to ensure that there is no impact on third parties.

There are some parts of the site appear unaffected by fluvial flooding, therefore feasible for development. Development should be directed into these areas in the first instance before considering locating any development in the 0.1% flood event outline. As stated earlier, no built development should be located in the 1% plus climate change plus 50% blockage scenario flood outline.

Given the uncertainties of achieving mitigation without affecting third parties, as a way forward, we recommend that a precautionary approach is adopted whereby development is avoided (at the

Strategic/LDP stage) in the 0.1% flood outline. With more detailed study at a planning application stage, it may be that more development is possible. But given that the LDP is focussed on deliverability, at this stage, the only certainty is that development is possible outside the 0.1% flood outline. Development density should reflect this constraint, and limit development, but with recognition that more development could be possible (which would allow for flexibility in the Plan).

The issue with avoiding development in the 0.1% flood outline is which outline to use. Our JBA Study is the best available data, however flood outlines will not be available until the end of August 2009. We recommend that you use the outlines from our JBA Study as a basis to inform where development is possible at the strategic stage, or that Entec would need to undertake further work. This work would need to address the discrepancy between the JBA and Entec data. As we have identified, there is a 1.5 metre difference in levels which needs to be clarified in line with the advice from JBA in the technical review (dated May 2009 – enclosed with this letter). Alternatively, on a precautionary basis, Entec could add 1.5 metres, which would expand their flood outlines. This could then be used to inform the 0.1% flood outline.

I trust our advice is clear. Should you or the LPA wish to discuss this matter further, please do not hesitate to contact me.

Yn gywir / Yours faithfully

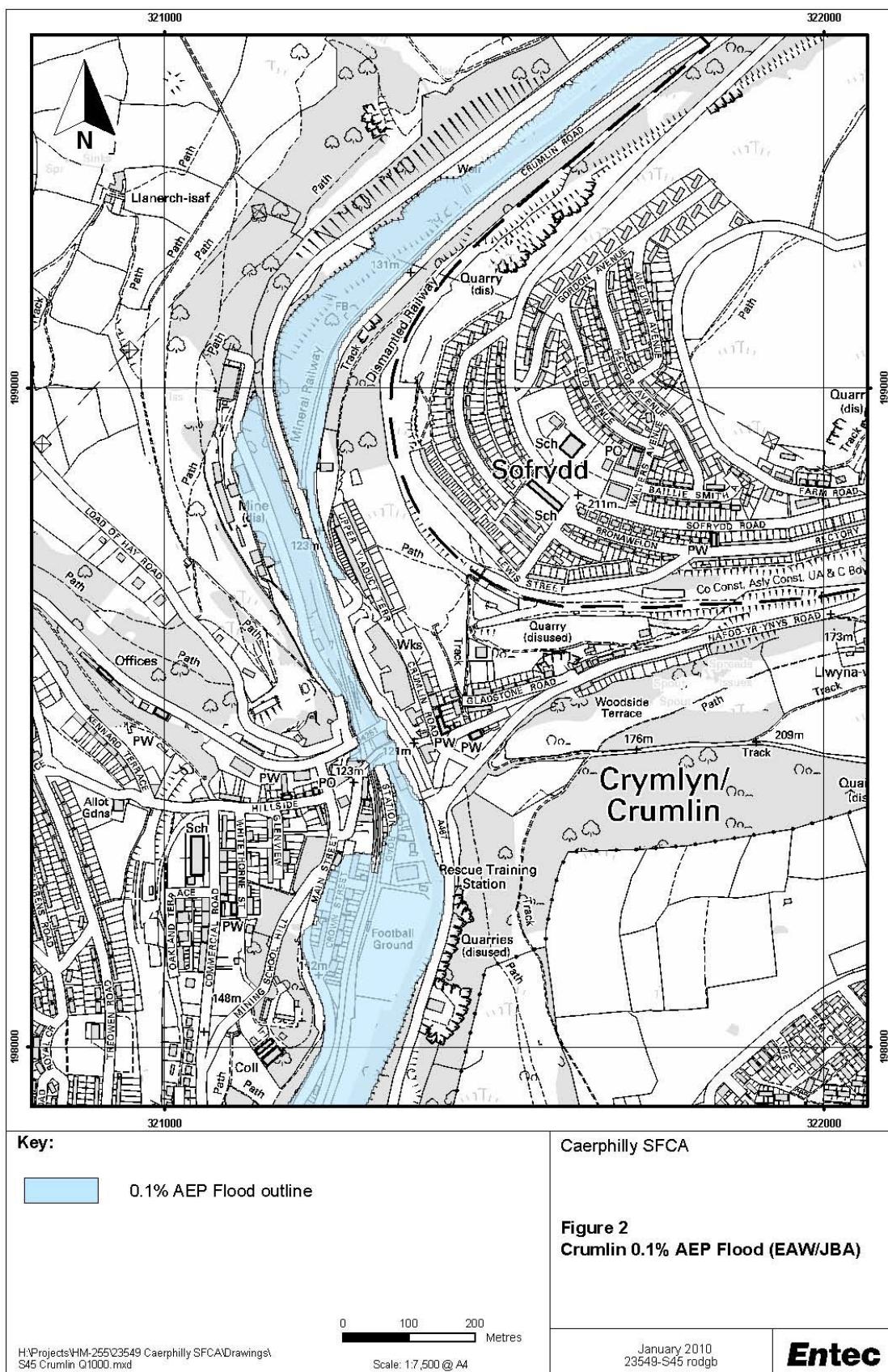
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Cc Victoria Morgan, Caerphilly County Borough Council

APPENDIX 2

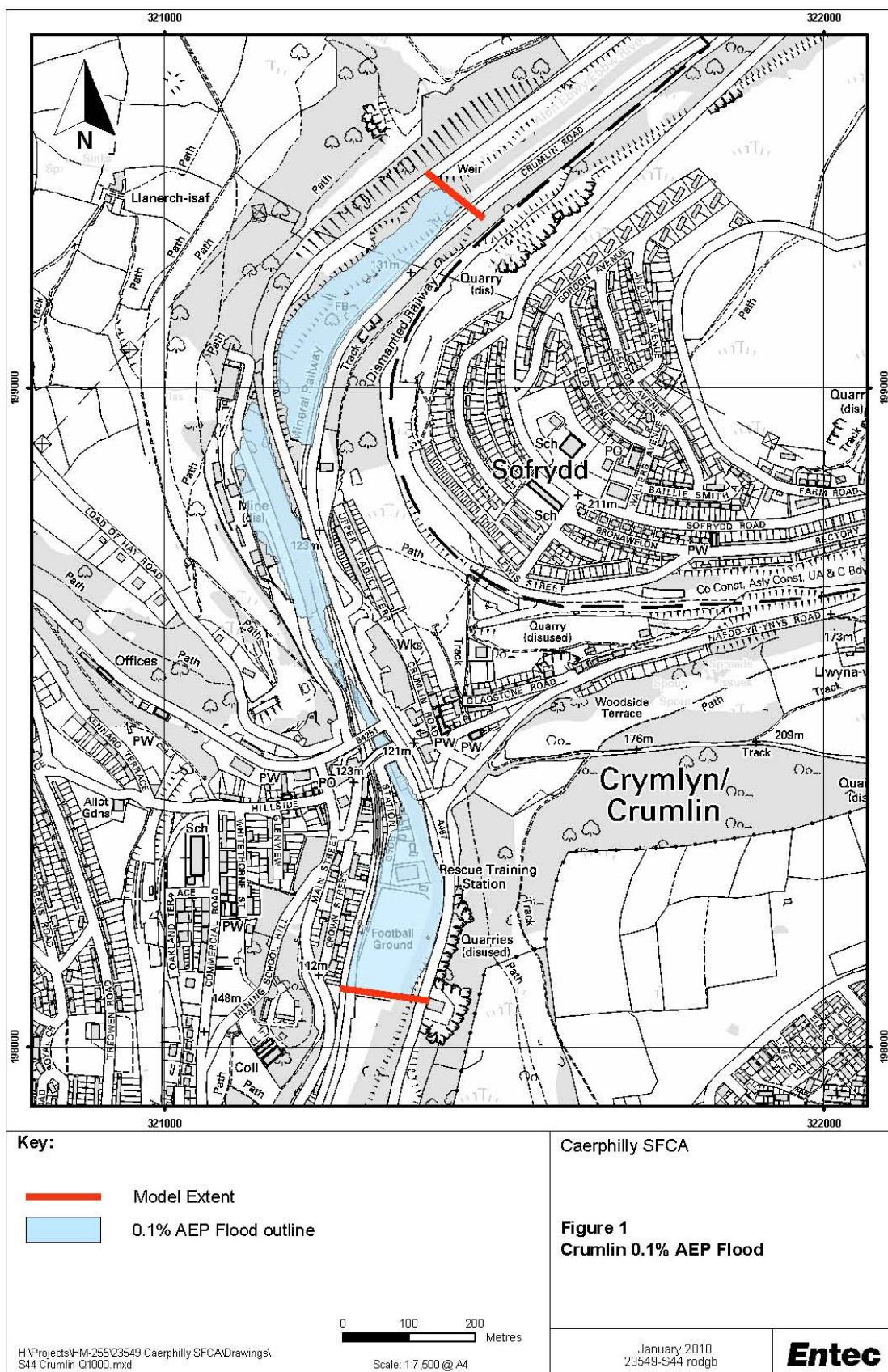
EAW Model 0.1% Flood Outline



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APPENDIX 3

CCBC Model 0.1% Flood Outline



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