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Your ref: TR010016

Date: 18 May 2019

Dear Sir/Madam

ENVIRONMENT AGENCY – WRITTEN REPRESENTATION

As requested, our written representation on the above proposal is as follows:

Since the submission of our Relevant Representation (RR-018), we have continued to attend a number of meetings with the applicant to discuss ways of addressing the matters raised within our representation. In a meeting in August 2018, before the submission of the Development Consent Order (DCO) application (TR010016), the applicant had confirmed to us that they would not have time to address all outstanding matters prior to submission and that they would therefore be seeking to address our outstanding concerns via a technical note, to be submitted to the Examining Authority (ExA) at a later date. We are not aware, to date, that this has been included within the submission. Although we appreciate that it is the applicant who will determine if or when this document is submitted, we have made reference to the latest version of the Flood Risk Information Technical Note (referenced HE514508-MMSJV-EWE-S0-RP-ZH-000001, V2.0, dated 1 March 2018) provided to us, to give some context to our Written Representation (WR) and to ensure our representation reflects our more recent position. We have therefore enclosed a copy for your information.

Some of our concerns have been satisfied, but a number remain, even following production of the Technical Note. For this reason, it should be noted that the draft Statement of Common Ground (SoCG) submitted by the applicant is no by no means final or agreed and will not be signed off by either party at this stage.

1. Compliance with National Policy Statement for National Networks

    1.1 As stated in RR-018, the applicant should provide evidence to demonstrate that the development will be safe for its proposed lifetime

and will not increase flood risk to others, in line with paragraph 160 of the National Policy Statement for National Networks (NPS NN). The applicant has confirmed that they do not consider it possible to prevent flooding of the underpass, without significantly increasing flood risk to others. The scheme therefore offers limited mitigation opportunities and must be managed predominantly through emergency planning procedures.

1.2 The Flood Risk Information Technical Note confirms that there will already be some transfer of risk to the surrounding area resulting from the scheme's current design. In this respect, we consider that the scheme cannot comply with the NPS NN. However, we are aware that the applicant is undertaking some analysis of the offsite impacts in relation to threshold levels, to determine how significant the offsite impacts will be. This will likely be the basis for discussion relating to the second part of ExQ1.10.3.

2. Climate Change

2.1 Our previous concern regarding the use of the climate change allowance for the north east of England, instead of the east of England allowance, has been resolved in discussion with the applicant. The applicant has confirmed to us that the reference to the north east allowance within the flood risk modelling report (APP-053) was a typographical error and that the eastern allowances had in fact been used correctly.

2.2 The UK Climate Change Projections 18 (UKCP18) were published in November 2018, although the climate change allowances have not yet been updated by the Environment Agency to reflect these revised projections. Due to the application's acceptance by the Planning Inspectorate on 18th October 2018, the applicant considered that there had been insufficient time for them to re-run their modelling to include these projections, or to consider the H++ scenario. In lieu of any modelled outputs, the applicant has proposed to undertake a qualitative assessment of climate change effects using UKCP18 projections and the H++ scenario. We understand that the applicant intends to address this within their response to RR-018.

2.3 The applicant has indicated that it would be unfeasible to mitigate the effects of climate change through design of the scheme. However, the outputs of the assessment remain important for the ExA in understanding the risk to the development over its lifetime. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

3. Lifetime of the Development

    3.1 Since we requested clarity on the proposed lifetime of the development, the applicant has confirmed to us in writing that the lifetime of the development is considered to be 60 years. Section 4.2.5 of the submitted flood risk assessment (APP-052) states that 'a uniform increase in peak sea level of 1.125m [was applied] to allow for the effects of climate change through the lifetime of the Scheme (2010 to 2115)'. Should the lifetime of the development be confirmed as 60 years (to the year 2085), the FRA is potentially misleading, as it discusses the flood risk to the development beyond its lifetime, up to the year 2115. However, should the lifetime be considered to be longer, the assessment to 2115 may still be relevant.

    3.2 We note that ExQ1.0.4 seeks confirmation on this matter, given that no decommissioning stage has been planned, and look forward to receiving final clarification on this matter. The uncertainty around this issue is reflected within the SoCG.

4. Breach Assessment

    4.1 The applicant indicated to us in January 2019 that a qualitative assessment of breach was being undertaken. In addition, we understand that the applicant has recently obtained modelling information undertaken for Hull City Council's Strategic Flood Risk Assessment, which includes consideration of a breach in the defences both now and in the future, and is currently deciding how this might be used within the evidence base for their flood risk assessment. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

    4.2 In RR-018, we also requested that the applicant seeks to determine how the impact of a breach might be altered with the project in place, for example the risk to surrounding areas, and how any increased risk might be mitigated or managed. Given the offsite flood risk resulting from the scheme in its current form, identified within sections 2.1, 2.2 and 2.3 of the above referenced Technical Note, it is not likely that this assessment of breach will affect the design of the scheme, because the applicant has indicated that the raising of roads, to a level that would prevent flooding of the underpass, is likely to significantly increase the transfer of flood risk to nearby receptors. We expect that this will be explored further by the applicant, as it links to the first part of ExQ1.10.3. Any agreements reached will be confirmed within the SoCG in due course.

4.3 Even if further mitigation is found to be unfeasible, the assessment of breach is still vital to enable the ExA to understand the risks from a breach over the development's proposed lifetime. This will be key in determining whether the measures proposed within the Flood Emergency and Evacuation Plan (FEEP; Appendix B of APP-052) are sufficient to ensure the safety of road users during such an event, and how the project might affect flood risk to adjacent receptors.

4.4 We have recently provided the applicant with modelling information gathered for our proposed Humber Hull Frontages scheme. We understand that the applicant is still reviewing this information. The scheme has now been signed off by the Secretary of State and therefore has full planning permission, with the exception of the Victoria Pier works, which have outline permission. Should the Humber Hull Frontages scheme be implemented, it will provide this project with the same level of protection as currently until 2040, which will remove the risk of flooding from overtopping until beyond this period. However, it should be noted that the scheme cannot remove the risk of a breach.

5. Inundation Times

5.1 In a meeting with the applicant in January 2019, the applicant confirmed that the flood inundation times for a wave overtopping event are nearer to 1.5 - 2 hours, rather than the 2.5 - 3 hours quoted in section 10.3.19 of the FRA.

5.2 The concerns raised in RR-018 regarding the speed of onset of flooding in a breach event remain, as inundation is likely to be much more rapid in a breach than due to overtopping. We understand that the applicant intends to address breach inundation times within their response to our RR.

5.3 The applicant has also confirmed to us that the inundation times would be clarified and updated within the FEEP. The applicant has agreed to provide an explanation of why their suggested inundation times are much greater than local reports of inundation time during the tidal surge in 2013. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

6. Offsite Flood Risk

6.1 Section 2.1 – 2.3 of the Flood Risk Information Technical Note provides some discussion around the changes to offsite flood risk, including comparison of extent, depths and hazard for pre- and post-scheme. It was agreed in a meeting with the applicant, on 18 December 2018, that further analysis would be undertaken relating to threshold levels of

surrounding properties. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

6.2 Following the concerns we raised in our RR regarding the potential effects on Hull City Council's allocated development sites, the applicant confirmed to us in January 2019 that they had conducted an analysis of the flood risk changes to the allocated sites. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

7. Evacuation Plan

7.1 As the applicant considers it unfeasible to design the scheme in such a way that the underpass can remain dry, the project relies heavily on emergency procedures. In addition, the FEEP is clear that the evacuation procedures outlined on pages 9 - 12 rely heavily on the Environment Agency Flood Warning System.

7.2 The FEEP does also includes a section titled 'Flood Event with no warning'. However, this identifies emergency procedures based on wave overtopping of the flood defences. This section will need to be updated to show that it is informed by the accurate inundation times for both overtopping and breach events. It is much more likely that a breach would occur without warning, than overtopping, so this should be the focus for this section of the FEEP. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

7.3 The FEEP outlines a number of possible technological solutions to aid in monitoring and closure of the underpass in a flood. These include CCTV, LED above road signals and the Variable Message Signs on approaches to the underpass. The applicant has confirmed to us that fixed barriers or raising bollards have been discounted as a means of underpass closure, due to maintenance and safety issues. While it is not our role to assess the suitability of emergency procedures, it is our view that a physical barrier would be much more effective at preventing vehicles from entering the underpass during a flood event, than the use of signs advising road users of the closure. We would also like to have better of understanding of how the proposed technology may be impacted during a power failure.

7.4 During our meeting in January 2019, the applicant informed us that the technologies proposed within the FEEP were subject to detailed design of the scheme. We consider that appropriate measures to prevent vehicles entering the underpass in a flood event could be secured

through an additional requirement within the DCO. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

7.5 Upon closure of the underpass, A63 traffic will be diverted along alternative routes. The applicant has confirmed that they will undertake analysis of flood risk to the proposed diversion routes to demonstrate that, if successfully diverted away from the underpass, road users will not be put at additional risk to that experienced now. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

7.6 We understand that this will also include consideration for local traffic during the construction period. In relation to part 3 of ExQ1.10.3, the ExA should note that evacuation plans will be prepared for the construction phase, according to section 2.6 of the Technical Note. We would once again recommend that this measure is secured through a flood risk requirement and that consultation takes place with emergency planners as required. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

8. Underpass Pumps

8.1 The applicant has confirmed to us that the high volume pumps would only be deployed during the recovery phase following the flood, to remove water quickly from the flooded underpass. We understand that the applicant intends to clarify this within a revised FEEP. We consider that this will address our previous concerns in relation to safety of personnel and effectiveness at keeping the underpass dry if combined with a pluvial event.

8.2 However, the applicant has confirmed that there is uncertainty at this stage around where this floodwater may be discharged too. Given that sewers in Hull may already be at capacity during such an event, a temporary discharge to the Humber estuary may be required. We consider that a requirement may be needed for production of a recovery plan, to include details of discharge location, and any consents that may be required. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

9. Surface Water Pumping Station

9.1 The applicant has confirmed to us that detailed design of the pumping station is not yet complete and that details of any resilience measures will be confirmed at the detailed design stage. We would therefore

recommend that these resilience measures be secured by requirement to an agreed level, with additional details to follow. Discussions around this matter are ongoing and any agreements reached will be confirmed within the SoCG in due course.

9.2 We understand that Yorkshire Water have confirmed that they will accept the drainage discharge to their sewer. Should this be confirmed through the Examination then this can be a matter agreed within the SoCG.

We are happy to provide clarification of any of the points above if this is required. We look forward to continuing to work with the applicant to resolve any outstanding matters and to ensure the best environmental outcome for this project.

Yours faithfully

Miss Lizzie Griffiths
Sustainable Places - Planning Specialist

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