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| Minutes |
| Meeting nameLlanmaes Flood Alleviation  | SubjectNRW- Flood Model Review Meeting  | AttendeesClive Moon (CM)- VoGC Project Manager Huw Morgans (HM)- VoGC Deputy Project Manager Annabelle Evans (AE)- Development Planning Advisor at NRW Barry Cox (BC)- NRW FCA Lead Filippo Scimone (FS) -NRW Flood Risk Analysis Modelling Specialist advisorAthan Tzovaras (ATz)- AECOM Project Manager Ralph Collard (RC) - AECOM Lead Modeller  |  |  |
| Meeting date09/02/2022 | Time12:30 |
| Location Microsoft Teams | Project nameLlanmaes FAS  |
| Project number60160078 |  |
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| **Ref** | **Description of meeting notes (January 18 2022)** | **Meeting Notes (February 09 2022)** |
|  | ATz and CM introduce the scheme and current position it is. Currently at planning stage. Planning committee due on the 26/01/22. Tenders received for review and the aim is to start works on site in March 2022. |  |
|  | BC – Not reviewed the FCA yet because NRW are not happy with the model, FRAP have been submitted where outfalls into Llanmaes Brook but further review can be triggered until the hydraulic modelling is signed off by NRW Flood Risk Analysis Team |  |
|  | FS – Involved in the NAR, main concern that we do not increase hydraulically anything on Boverton Brook. NRW would like to be able have confidence that the results are proving the above and can confidently input to the FCA.  | ACM reviewed Flood Model and is to prepare a Technical Note ,to support the FCA and Flood Model , clarifying and addressing the concerns raised.  |
|  | RC – Requested clarity on the concerns raised in the model review about the representation of the culverts for the scheme, particularly at Bund 1. FS - confirmed that the Checks and Warnings had not been sufficiently documented and therefore concerned that the representation may be incorrect. Ideally, they would be removed but if not should be documented correctly with justification on why these remain and have no impact to model results. RC - has reviewed the culverts through the bunds and believes that they are functioning correctly. This will be clearly documented and justified in the next submission. **ACTION –** AECOM to fully document checks and warnings in subsequent submission. | The concerns to be addressed all in the Technical note and on the updated model files RC presented tables within the model log that record the checks and warnings from the latest model simulations. This will be presented in the Technical Note.  |
|  | RC – discussion of the representation of Boverton Brook in the model and previous correspondence with Richard Wicks in Jan 2019. FS highlighted concerns with the channel running dry and not correctly representing flows in to Boverton. The model must stand up to scrutiny and therefore it is likely that this will be questioned should that come to pass. RC – Asked for NRW for a pragmatic approach and to simulate for a reduced number of simulations. NRW agreed that this could be simulated as a sensitivity and agreed that the 1.33% AEP (1 in 75yr) event was appropriate to demonstrate that the flows on Boverton Brook have been considered. **ACTION** – AECOM to simulate Baseline and Proposed with the Boverton Brook catchment included to the 1.33% AEP event (1 in 75yr). Results will be documented in a Technical Note | RC presented the hydraulic model results for the Boverton Brook Sensitivity simulation. Hydrographs show that there remains a reduction in peak flows downstream of Boverton Brook Railway culvert and is consistent with the reporting in the FCA.  |
|  | RC – discussion of the representation of the Village Green. FS concern was making sure the modelled representation is as accurate as possible. RC has amended the incorrect cross sections and is confident it now is correctly representing the scheme at the Village Green.**ACTION** – AECOM to document changes made to the Village Green | RC presented the changes made to the Village Green cross sections to demonstrate a consistent profile and constant gradient. FS happy that this appears to have addressed NRW concerns but will be reviewed at submission.  |
|  | RC – Highlighted that the Amber comments have been considered and will be documented in the next submission. RC states that these changes have a relatively minor impact on the overall results and due to the large number of simulations AECOM request that only a select number of design events are simulated. FS and BC agreed that 75yr, 100yr, 100yrCC and 1000yr would be sufficient demonstrate the current and existing flood risk at planning. This could be presented in a technical note as an addendum to the FCA rather than re-writing the entire FCA .**ACTION** – AECOM to update the model with NRW comments and simulate for the 75yr, 100yr, 100yrCC and 1000yr events. Results will be documented in a Technical Note | RC presented comparison of the latest model results compared to those previously reviewed by NRW (Nov 2021). These show minimal difference with the previous results and therefore the results presented in the FCA remain valid. RC stated that rather than re-describe all of the results in the Technical Note this will be used to demonstrate that the results presented in the FCA remains valid. FS agreed that this was a sensible approach. BC highlighted that whilst all results did not need to be presented in the body of the Technical Note they should be included in an Appendices  |
|  | RC – A final sensitivity was raised for Frampton Ponds. The current model begins with this empty and RC accepts that a sensitivity to assess the impact of the capacity of the pond would be sensible. BC and FS state that the Baseline and Proposed model could be simulated for the 75yr event with a half full and completely full starting capacity. The results will be documented in the Technical Note. **ACTION** – Simulate 75yr sensitivity for the Frampton Ponds with a half full and completely full scenario. Both Baseline and Proposed will be simulated. Results will be documented in a Technical Note | RC described the methodology for undertaking the antecedent conditions at Frampton Ponds sensitivity. The channel begins dry as per the design events. Results were presented and show that there is minimal downstream impact. FS agreed this methodology was sensible and requested that results are presented at the Boverton Brook Railway Culvert. |
|  | FS – Raised concern about the incorrect specification of the boundary layer and code layer at the SW extent of the Llanmaes Catchment. RC stated that the model has been adjusted in this area and further documentation will be provided to demonstrate this does not impact the model results in this area. | This was now rectified in the model  |
|  | Together with the above agreed model simulations, it was agreed that all the results and responses to be combined in the Technical note, supplementary to the issued Flood model / flood model report and FCA. | RC presented a draft template for the Technical Note and described what was required. FS and BC agree that the presentation in the FCA did not need updating as they are reassured that the results indicate the previous reviewed results remain valid.   |
|  | Timescales. CM enquired on potential timescales as this review will impact the forecasted starting date of the construction, as the resolve of NRW comments will be part of the pre-commencement condition on the planning applications |  |
|  | Timescales NRW: Technical Note review – NRW Flood Risk Analysis Team - 1 weekFCA review-BC- 1 weekPreparing Planning Response to VoGC- AE- 3 days (minimum)Forecasted timescale – approx. 2.5 weeksAECOM :Forecasted timescale to issue technical note – approx. 4weeks.Agreed to look and arrange a meeting first week of Feb, to expediate any question that may come out at the next submission it would be sensible to have a pre-submission meeting.**ACTION** – AECOM to arrange a pre-meeting with NRW prior to submission of the model and Technical Note.  | Same timescales. Issue Technical Note by 21/02/22 |