

OMEGA ZONE 8**Application No, P/2020/0061/HYBR****Response to Environment Agency letter from Dawn Hewitt (Ref. SO/2020/120013/01-L01) dated 31 March 2020**

Ref	Environment Agency comment	Applicant response
1	The submitted planning application and associated documents indicate that: Channel realignment of Whittle Brook may be inappropriately sited and result in a deterioration in hydromorphology and biological quality elements	<p>Channel design principles are proposed within Section 2, Table 2-1 of the preliminary Water Framework Directive (WFD) Assessment report (OPP DOC.9). These design principles demonstrate that the design would incorporate appropriate hydromorphological and aquatic habitat design features so as not to cause deterioration in WFD status. See also paragraphs 2.3.1 to 2.3.5 inclusive.</p> <p>The preliminary WFD Assessment report states (in Section 1, paragraph 1.1.4; Section 2, paragraph 2.3.4 and Table 2-1; Section 4, Table 4-2, paragraph 4.4.2, Table 4-3, paragraph 4.4.4; and, Section 5, Table 5-1) that the channel will be designed to function geomorphologically and provide good quality aquatic and riparian habitat as well as the intention to improve the condition of the watercourse over the existing condition. Thus, the channel will be designed to avoid deterioration in hydromorphological and biological quality elements. 2D modelling will be run to ensure appropriate fluvial form and functioning of the channel and provide both long sections and cross sections. At this stage of the planning and design process, this level of detail is not available, and it will be worked up during detailed design.</p>
2	Significant loss of riparian semi-natural habitat and lack of buffer (unit 1 does not include a sufficient buffer between the development and Whittle Brook)	It is unclear why the Environment Agency's view is that there would be a significant loss of riparian habitat when it is proposed to improve the current degraded riparian zone through much of the study reach (see Section 2, Table 2-1; Section 4, Table 4-2 and Table 4-3 of the preliminary WFD Assessment report).

<p>3</p>	<p>The flood risk activity permit under the Environmental Permitting (England and Wales) Regulations 2016 is unlikely to be granted for the current proposal. We therefore object to the proposed development, due to its impacts on nature conservation and physical habitats. We recommend that planning permission is refused.</p> <p>Reason(s): In determining the flood risk activity permit for this development, we will assess its compliance with the North West River Basin Management Plan (RBMP). We'll also consider how the development will affect water Biodiversity and the wetland environment. The RBMP states that the water environment should be protected and enhanced to prevent deterioration and promote the recovery of water bodies.</p> <p>Based on the information submitted with this application, there is a significant risk that the development may cause deterioration of water body status.</p>	<p>The channel design would take on board the objectives set out in the North West RBMP. In addition, the preliminary WFD Assessment report states that best practice channel design principles would be applied, subject to agreement of these principles with the Environment Agency; these principles are set out in Section 2, Table 2-1 of the preliminary WFD Assessment report. These design principles demonstrate that the design would incorporate appropriate hydromorphological and aquatic habitat features so as to function as naturally as possible, and avoiding a deterioration in WFD status. See also paragraphs 2.3.1 to 2.3.5 inclusive.</p> <p>The preliminary WFD Assessment report states (in Section 1, paragraph 1.1.4; Section 2, paragraph 2.3.4 and Table 2-1; Section 4, Table 4-2, paragraph 4.4.2, Table 4-3, paragraph 4.4.4; and, Section 5, Table 5-1) that the channel will be designed to function geomorphologically and provide good quality aquatic and riparian habitat as well as the intention to improve the condition of the watercourse over the existing condition. Thus, the channel will be designed to avoid deterioration in hydromorphological and biological quality elements. 2D modelling will be run to ensure appropriate fluvial form and functioning of the channel and provide both long sections and cross sections. At this stage of the planning and design process, this level of detail is not available, and it will be worked up during detailed design. The channel would be designed to ensure no deterioration in status and, ideally, an improvement on its current very modified condition. The design would seek to make overall net gain in riffle pool sequences compared with the baseline.</p>
----------	--	--

4	<p>This assessment is based on Route Option 3, the preferred option selected for the watercourse diversion. Whilst it is understood, that the current channel is over-deep and heavily modified, the proposed planform should be an improvement on baseline conditions and where possible aim to mimic reference channel conditions. The assessment states that the current channel alignment predates formal mapping and there is little evidence that indicates the channel's former course. However, a review of Ordnance Survey Outdoor mapping suggests that the current alignment follows the low-point in the land, demonstrating a more natural planform than the Route Option 3 proposed.</p>	<p>A route options assessment was undertaken and is briefly presented in the preliminary WFD Assessment report (see Appendix A). We had requested discussing the route options with the Environment Agency, but this discussion was not achieved within the programme. WSP geomorphologists were actively involved in defining the route options and were influential in informing what was considered the most environmentally preferred solution given that retaining the channel in its current location, or only localised alterations to the watercourse, was not feasible.</p> <p>Experienced fluvial geomorphologists will be informing the environmental channel design aspects to ensure appropriate geomorphological functioning, incorporating natural fluvial processes with diverse channel morphology and appropriate aquatic habitats based upon a reference reach. The design will seek to deliver an overall net gain in aquatic habitat features in the form of riffles and pools compared with the baseline.</p> <p>The Environment Agency states, 'the proposed planform should be an improvement on baseline conditions and where possible aim to mimic reference channel conditions'. The preliminary WFD Assessment report clearly states this will happen (refer to Section 2, Table 2-1; Section 4, Table 4-2, paragraph 4.4.2, and Table 4-3). The reference site upon which to base the channel design for the diversion has already been defined (Reaches 1 and 3 as discussed within the report; a further site visit will be undertaken to further refine the reference site and to collect detailed survey data to inform the channel design).</p>
---	--	---

5	<p>Furthermore, there is insufficient design information on the proposed diversion to assess the impacts on the hydromorphology and biological quality elements of this water body. Specifically a baseline and proposed long-section is required to assess the change in gradient and whether the proposed mitigation features are likely to be sustainable. It is interesting to note that in Table A:1 'Channel diversion route optioning' it is stated that <i>Route option 2 would probably not function properly in terms of hydromorphology and ecology. The essentially right-angle bends would create flow conveyance issues and, due to an increase in channel length, may readily become silted at lower flow.</i> For this Option 2, WFD compliance is assessed as <i>unlikely</i>. The same assessment could be made for Route Option 3 (the preferred option), which also appears to possess a right-angle bend (south-west corner of the site) and an overall increase in channel length. Following the same line of logic and based on the information provided there is a risk of deterioration to hydromorphology and associated biological quality elements.</p>	<p>This area of the Proposed Development is currently at outline planning only. Thus, the detailed design work requested has not yet been undertaken. It is clearly stated in Section 1, paragraph 1.1.1 of the preliminary WFD Assessment report that this work will be undertaken at detailed design and that the report will be updated accordingly. This is still the case.</p> <p>Due to this area of the Proposed Development being currently at outline planning only, the design detail has not been developed at outline design. Given that the outline planning application was packaged up with the full planning application (thus forming a hybrid planning application), a much more detailed preliminary WFD Assessment report than would normally be proportionate for outline planning has been submitted.</p> <p>The development of long-sections and cross-sections will be a key deliverable for the next phase of scheme development, i.e. detailed design. Mitigation will not only be embedded within the detailed design to incorporate fluvial processes and morphological diversity within the channel, but also additional mitigation to both neutralise the impacts of the Proposed Development along with net gain will be provided.</p> <p>The preferred option (Route 3) does not include a right-angled bend, like the Environment Agency suggests. There is a tight bend, but it is not a right-angled bend. The actual drawings of the Route 2 option have not been shared externally; those drawings show a clear trapezoidal arrangement for this option, which is not evident in Figure A-1 in Appendix A of the preliminary WFD Assessment report. Again, we had intended to discuss these options with the Environment Agency at a consultation meeting prior to planning submission. However, a meeting is yet to be arranged.</p>
6	<p>Based on the explanation provided above the Scheme may not meet the requirements of the Water Framework Directive unless the provisions of Article 4.7 of the Water Framework Directive could be met.</p>	<p>We will work with the Environment Agency to ensure WFD compliance and to avoid the Article 4.7 route. In addition, we do not consider that the Proposed Development would qualify for provisions made in Article 4.7 of the WFD legislation.</p>

7	<p>To overcome our objection, an 8-metre-wide buffer zone (from the top of the bank) alongside the <i>watercourse</i> shall be submitted to and agreed in writing by the local planning authority. The buffer zone scheme shall be free from built development including lighting, domestic gardens and formal landscaping; and could form a vital part of green infrastructure provision.</p> <p>The schemes shall include:</p> <ul style="list-style-type: none"> - plans showing the extent and layout of the buffer zone. - details of any proposed planting scheme (for example, native species). - details demonstrating how the buffer zone will be protected during development and managed/maintained over the longer term including adequate financial provision and named body responsible for management plus production of detailed management plan. 	<p>Riparian planting will be incorporated into the design of the proposed watercourse diversion. A native species mix will be used. Details of the proposed planting will be provided as a deliverable for the detailed design. As mentioned previously, the watercourse diversion is currently at outline design, and therefore this level of detail was not developed for outline design due to the high risk of abortive work.</p>
8	<p>The proposed Scheme does not demonstrate that natural processes have been adequately considered and therefore the proposed channel alignment is likely to be inappropriately sited. We would welcome a design which prioritises the natural functioning of the watercourse and considers integrating the watercourse within the proposed development site. To overcome our objection the developer will need to provide a more detailed design for the proposed realignment of Whittle Brook and adjoining riparian corridor, which provides sufficient evidence to demonstrate an improvement in hydromorphology.</p>	<p>This will be updated in the detailed WFD Assessment report, which will be prepared to support the detailed design phase and will be submitted in support of the full planning application for the current outline planning application area.</p>

9	<p>Specifically:</p> <ul style="list-style-type: none"> - A channel longsection showing existing and proposed bed levels. This should indicate change in channel length and associated gradient, any change should be assessed with regard to hydromorphology and biological quality elements in the WFD assessment. - Indicative channel cross-sections to represent all design proposals (i.e. 2-stage channel, inset berms and any changes at proposed meanders). 	<p>As mentioned above, providing this information for outline design was not feasible as it would be a disproportionate amount of work for outline design. Channel long-sections and cross-sections will be developed and provided as one of the deliverables of the detailed design phase.</p> <p>Experienced fluvial geomorphologists will be influencing the development of both the channel long-sections and cross-sections to ensure appropriate fluvial form and functioning along with morphological diversity to provide suitable habitats for the aquatic environment. The development of the channel design will be iterative and each design fix will be assessed in terms of WFD compliance and recommendations made for design revisions to ensure the design fix would be WFD compliant. We would seek to have a series of consultation meetings with the Environment Agency's fisheries, biodiversity and geomorphology officers throughout this process.</p>
10	<p>Ponds and wetlands should be retained, where a pond is lost the Environment Agency would seek 2 for 1 mitigation as newly built ponds have less ecological potential compared to mature ponds.</p>	<p>Six ponds are to be lost as part of the detailed planning application site, which will be replaced with nine ponds and a wetland habitat/pond in the Unit 1 mitigation western triangle and two further ponds as part of the infrastructure landscaping. There will be two further large attenuation features on-plot with large areas of wetland habitat. The Proposed Development is therefore compliant with the Environment Agency's request for the full planning application area.</p> <p>Similar mitigation will be applied to the outline planning area as that element of the Proposed Development is progressed. Until we have designed this area, and the brook diversion corridor, that package cannot be quantified. However, the Environment Agency's mitigation requirements have been noted.</p> <p>Overall biodiversity net gain, including ponds, is being calculated by the use of the Defra Biodiversity Metric published in December 2019 and any compensation required will be included in the Section 106 submission.</p>
11	<p>Specific comments to be amended in the WFD Assessment:</p>	

12	Figure 1.1 – Key is incomplete. Location of watercourse unclear.	This will be updated in the detailed WFD Assessment report, which will be prepared to support the detailed design phase and will be submitted in support of the full planning application for the current outline planning application area.
13	Section 1.2. It would be useful to add a description of how survey reaches have been delineated	This will be updated in the detailed WFD Assessment report, which will be prepared to support the detailed design phase and will be submitted in support of the full planning application for the current outline planning application area.
14	Table 3-1: Suggest the construction of all outfalls should be screened into the WFD Assessment (two fall within outline planning and two within detailed planning) as will physically impact two watercourses and require a bespoke Flood Risk Activity Permit. While the justification states that embedded mitigation will be in place, this mitigation requires review to ensure appropriate and should mean less for the EA to comment when the works are submitted as a FRAP.	<p>This can be covered in the detailed WFD Assessment report, which will be prepared to support the detailed design phase and will be submitted in support of the full planning application for the current outline planning application area and the FRAP.</p> <p>However, outfalls were excluded from detailed assessment based upon Environment Agency guidance lookup table B - morphological impacts of schemes - in this document it states that outfalls require a detailed assessment only if they occupy greater than 3% of the bank or bed impacted within the water body. The proposed outfalls occupy less than 3% of the bank length of the water body, therefore they were scoped out of detailed assessment. However, it is stated in the preliminary WFD Assessment report that mitigation measures would be in place to neutralise the impacts of the structures and that these mitigation measures would form part of the embedded design and would be detailed within the Construction Environmental Management Plan (see Table 3-1).</p>
15	Table 4-1: Physico chemical quality elements should include: - Ammonia - Dissolved Oxygen - pH - Phosphate - Temperature	These will be added to the detailed WFD Assessment report, which will be prepared to support the detailed design phase and will be submitted in support of the full planning application for the current outline planning application area.
16	Figure 4.5: Add reach numbers to description.	This will be updated in the detailed WFD Assessment report, which will be prepared to support the detailed design phase and will be submitted in support of the full planning application for the current outline planning application area.

17	Table 4.4 States: Ability to contribute to the delivery of the WFD objectives – Yes. Please expand.	This will be updated in the detailed WFD Assessment report, which will be prepared to support the detailed design phase and will be submitted in support of the full planning application for the current outline planning application area.
18	Figure A.1: Key requires amending to include existing watercourse. Currently unclear.	This will be updated in the detailed WFD Assessment report, which will be prepared to support the detailed design phase and will be submitted in support of the full planning application for the current outline planning application area.