

Response to the Environment Agency's Comments on the Discharge of Condition
Application Reference: 242838 pursuant to Planning Permission Reference: 192928.**Construction of the South Wokingham Distributor Road ('SWDR') at Land South of**
Wokingham, East of Finchampstead Road and West of Waterloo Road, Wokingham**Lanpro Project No: 4977/P****April 2025**

The purpose of this letter is to respond to the Environment Agency's ('EA') comments received on 16th January 2025 in respect of the Discharge of Condition Application submitted in November 2024, to re-discharge Condition 5 (Levels) and Condition 6 (Detailed Design of Roads) pursuant to planning permission reference 192928.

A meeting with the EA was held on 7th April 2025 to discuss their comments, during which some design changes were agreed to address the points raised, as set out below. Amendments to the relevant drawings and information will follow shortly, once the updates have been made.

Table 1 below sets out the EA's comments in respect of Condition 5, together with the Applicant's response.

Environment Agency's Comment	Applicant's Response
With regard to Condition 5, the drawings do not appear to give a clear indication of the existing and proposed ground levels, particularly with regard to: 1.i. the formation of the diverted course of the Luckley Brook, 1.ii. the formation of various drainage channels/ditches, 1.iii. the design of the balancing ponds or 1.iv. the proposed backwater areas adjacent to the Emm Brook in the vicinity of the two bridge crossings.	1.i. The diverted watercourse has been designed in line with the mitigations/recommendations set out in the Water Framework Directive Assessment. A section could be provided for clarity. 1.ii. The design of drainage channels and ditches have been designed in line with the mitigations/ recommendations set out in the Water Framework Directive Assessment. Indicative section could be provided for clarity. 1.iii. Sections of basins are provided on drawings 571, 577 and 578. To be provided as additional for condition 5. 1.iv. Provided on details 3021 to 3027. To be provided as additional for information against condition 5.
Furthermore, no indication appears to have been provided to show the relationship of the proposed mounding to existing vegetation.	The arboricultural drawing package (drawings WMHP-TG-SRWG1-DR-LS-3041-3044 'Highways Tree Protection Plan') illustrate the existing retained tree constraints alongside

	the project proposals including the earthworks required for the backwaters, scrapes and SUDS.
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Table 1: Condition 5 Response

Table 2 below sets out the EA's comments in respect of Condition 6, together with the Applicant's response.

Environment Agency's Comment	Applicant's Response
In relation to condition 6, there are a number of issues regarding culvert design and ecological permeability measures, particularly mammal passage through the embankments.	Addressed individually below.
Additionally, point d of condition 6 refers to a drawing that does not appear to have been provided.	Drawing 9102 was a planning application drawing which has since been superseded. Arrangement now shown on drawing WMHP-TG-SRWG1-DR-HI-0103.
No details appear to have been provided with regard to proposed landscaping, so it is not possible to check that this is consistent with landscaping pursuant to condition 12 as noted in point q of the condition wording.	The proposed landscaping information has been provided under Discharge of Condition Application reference: 250213.
There also appear to be issues with the levels of light falling onto watercourses and their riparian corridors.	Shields have been provided on lighting columns along the scheme where identified to be required by the local planning officer for ecology. Provision of shields is shown in WMHP-TG-SRWG1-SH-LI-1301. The contours do not reflect the provision of shields as these cannot be included within the calculation model. Further reduction of light spill to be explored with the local planning officers to potentially include dimming on columns around the Emm Brook.
<u>Highways Drainage Plan Layout Sheet 1 (Drg no. WMHP-TG-SRWG1-DR-DD-0501 Rev P06)</u> - The diverted Luckley Brook appears to be in a very trapezoidal channel with little or no opportunity for the establishment of marginal vegetation. Although there does appear to be a 'bench' on either side, it is not clear what level that sits relative to the bed level and the water level. No levels are shown for this. Additionally, the width of the low flow channel appears to be narrower on the downstream end of the channel as it exists the culvert under the roundabout. - There appears to be a reliance on the use of Erosamat Type 3 turf reinforcement matting on the bed and banks for this and several other drainage channels; this introduces plastics and micro plastics into the water environment which is undesirable, and can cause a risk to wildlife if animals/fish etc. become entrapped.	- The diverted watercourse has been designed in line with the mitigations/recommendations set out in the Water Framework Directive Assessment. A section could be provided for clarity. The diverted channel is a two-stage channel with a 1 in 3.5 slope for each stage. The total channel width is approximately 12m. The low flow channel is 0.5m deep 4m wide, for the conveyance of regular flows. The bench either side of the low flow channel is 2.5m wide During all modelled flood events the channel will be fully submerged. - Provision of Erosamat was reviewed in call with EA officers 24/03/2025. Alternative solutions are being developed to remove Erosamat from design, looking at alternative solutions (coir mat, rip rap, gabion rock mattress). Updated drawings to be provided.

<u>Highways Mammal Tunnels Sheet 1 (Drg no. WMHP-TG-SRWG1-DR-DD-0527 Rev P01)</u> 1. This covers the road bridge crossing of the Emm Brook. It is not clear on this drawing if any otter/badger fencing is proposed to direct wildlife to the mammal tunnels and prevent them going onto the road at times of high water levels. This applies to all watercourse/ditch crossings. 2. It should be noted that the proposed mammal tunnel through the embankment to the west of the channel exits on the southern side of the road into an area which is then enclosed by dog-proof fencing and the boardwalk/footbridge; this will prevent mammals from moving freely along the channel and thus does not meet the requirements of point r of condition 6 for ecological permeability.	1. The location of mammal fencing has been provided on drawings WMHP-TG-SRWG1-DR-HI-0301 to 309 and has been agreed with the local planning officer for ecology. Additional dead hedging to be provided around back water areas as agreed in meeting with EA and LPA 07/04/2025. 2. The location of mammal fencing has been provided on drawings WMHP-TG-SRWG1-DR-HI-0301 to 309 and has been agreed with local planning officer for ecology.
<u>Highways Mammal Tunnels Sheet 2 (Drg no. WMHP-TG-SRWG1-DR-DD-0528 Rev P01)</u> 1. Again, it is not clear on this drawing if any otter/badger fencing is proposed to direct wildlife to the mammal tunnels and prevent them going onto the road at times of high water levels. 2. Additionally, there is only one mammal crossing under one of the four exits from the roundabout, and only on one side of the Luckley Brook diverted channel. This may not be sufficient to ensure safe mammal passage along the Luckley Brook.	1. The location of mammal fencing has been provided on drawings WMHP-TG-SRWG1-DR-HI-0301 to 309 and has been agreed with the local planning officer for ecology. 2. Mammal crossings at this location have been designed following previous consultation with the local planning officer for ecology and provision included in line with their recommendations.
<u>Pipe Culvert A – Upper Emm Tributary Ditch Diversion (Drg no. WMHP-TG-SRWG1-DR-DD-0535 Rev P02)</u> 1. This drawing shows a proposed crossing with four pipe culverts rather than the usual good practice of installing either a clear span bridge or, if necessary, an over-sized box culvert. Additionally, Details 1 and 2 appear to show the bed level being sloped down by 150mm down to the level of the base of the culvert; this would cause a sump which may well cause issues with maintenance in future. Should a box culvert be deemed acceptable, this should be installed so that the invert level is at least 150mm below the current bed level, with natural bed material placed through the bed of the culvert to bring this back up to the original bed level to match with levels upstream and downstream of the structure. 2. While a mammal tunnel is proposed here, this appears to be shown as being only 300mm in diameter, much smaller than the usually required minimum of 600mm diameter. This would not be used by most species and is therefore	1. While a box culvert was considered for this location, the restricted headroom would have resulted in a structure that was unsafe and impractical to maintain. In contrast, installing HDPE pipes presented a reduced construction risk due to their significantly lighter weight compared to concrete box equivalents and their lower levels of embodied carbon. On balance, the combination of parallel pipes was deemed the most practical solution for conveying this habitually dry ditch. 2. Provision in line with ES which states “road culverts will contain wildlife passages approximately 300mm in diameter to allow passage of groups such as small mammals,

inappropriate. Added to this, it appears that the mammal pipe would be partly inundated, thus failing to provide dry access for wildlife. 3. Again, there is an over-use of plastic erosion control matting on the bed and banks. Any mammals would have to pass over this is they were to try to use a mammal pipe here. 4. It is not clear on this drawing if any otter/badger fencing is proposed to direct wildlife to the mammal tunnels and prevent them going onto the road at times of high water levels.	amphibians and reptiles.” The ditches in this location are habitually dry. The tunnel has been set at the highest level possible within the embankment and will remain dry for the 1 in 5 and 1 in 20 year fluvial events. For the 1 in 100 year event it will have a maximum water depth of 60mm. For the 1 in 100yr + 70%cc event it will have a maximum water depth of 220mm. CIRIA C786 states “The position of the invert of the dry culvert should be based above the high water level and, if possible, a 100-year flood level, but a lower level is acceptable provided access through the culvert is available most of the time” 3. See response to previous comment. 4. The location of mammal fencing has been provided on drawings WMHP-TG-SRWG1-DR-HI-0301 to 309 and has been set out under the guidance of the local planning officer for ecology.
<u>Pipe Culvert B – Upper Emm Tributary Ditch Diversion (Drg no. WMHP-TG-SRWG1-DR-DD-0536 Rev P02)</u> See comments for Pipe Culvert A, above, although we do note that the proposed mammal pipe here would have its base above the flood level although it is smaller than the required 600mm diameter.	See responses to Culvert A.
<u>Culvert Location Plan (Drg no. WMHP-TG-SRWG1-DR-DD-0534 Rev P04)</u> 1. With regard to Culverts A and B, there is an existing channel to the north of the road that the new channel does not appear to connect with. It would appear more logical for culvert A to pass beneath the spur road that runs to the south and then connect in downstream of culvert B. The channel above culvert B could then be positioned to pick up the flow from the channel(s) to the north in this location. 2. It is not clear if dry mammal passage is proposed at culverts C, D and Q where they pass beneath roads.	1. The route identified in the comment was considered by the design team however the land was not available when considered against the wider development masterplans. Although not evident on drawing WMHP-TG-SRWG1-DR-DD-0534 the channel above culvert B is picked up when reviewing the topographical survey, which was not shown on the location plan for overall clarity of the drawing. 2. Passage for small mammals, amphibians and reptiles is shown for Culvert C on drawing WMHP-TG-SRWG1-DR-SE-0597, provision for a 900mm diam. mammal tunnel is shown at culvert D on drawing WMHP-TG-SRWG1-DR-SE-0591. Culvert Q is a 300mm diam pipe to convey an edge of carriageway ditch that is frequently culverted along its length, there is no mammal provision in this location.
<u>Highways Drainage Design Culverts F and H (Drg nos. WMHP-TG-SRWG1-DR-DD-0537Rev P01 and 0538 Rev P01)</u>	Culverts F and H perform as flow controls to encourage back flooding of the SANG basin area, as part of the storm water management strategy.

These proposed culverts appear to be smaller than the width of the channels above and below them and are set with the invert level at the level of the bed upstream and downstream. Good practice would be to install over-sized box culverts with the invert level of the base set at least 150mm below existing bed level and then brought up to match the bed level using natural materials through the culvert base such as gravels.	
<u>Detention basins</u> It is not clear from the drawings if these are designed to hold water at all times, rather than at high flows or whether they have been designed to be of maximum ecological value which fulfilling their drainage function. Good practice Sustainable Drainage Systems should be designed to be multi functional.	The three basins at the west end of the scheme are dry basins, these have been designed to consider public amenity on the request of the local authority as well as provide required storm water attenuation volume in the available space, while considering the wider development masterplans. The large Holme Park SANG basin at the southeast of the scheme has been designed with over dig areas to hold water pockets of water in line with recommendations from the local planning officer for ecology. Updated plan to be provided.
<u>Highways Lighting Plan Layout – Sheets 1 & 2 (Drgs nos. WMHP-TG-SRWG1-DR-LI-1301Rev P06 and 1302 Rev P04)</u> Light levels falling onto watercourses and their riparian corridors can impact wildlife using these at night. In order to keep the river/river corridor dark, this should not exceed the equivalent of bright moonlight - <2 lux. For Sheet 1 (Luckley Brook diversion channel), it appears that the lux levels would be at around 4 lux just upstream of the culvert, and may be above 2 lux for a few metres. Levels appear high on either side of the Emm Brook bridge crossing. Lighting in these areas should be directional and baffled to prevent light spilling onto these wildlife corridors. This applies to all watercourse crossings	Shields have been provided on lighting columns along the scheme where identified to be required by the local planning officer for ecology. Provision of shields is shown in WMHP-TG-SRWG1-SH-LI-1301. The contours do not reflect the provision of shields as these cannot be included within the calculation model. Further reduction of light spill to be explored with the local planning officers to potentially include dimming on columns around the Emm Brook.
<u>SANG Culvert D General Arrangement and SANG Culvert E General Arrangement (Drg nos. WMHP-TG-SRWG1-DR-SE-0591 Rev P04 and 0593 Rev P04)</u> The levels of the base of the culverts is again set below the bed level upstream and downstream which will act as a sump if the level is not brought up through the culvert using natural bed material. This principle applies to all watercourse crossings along the length of the road, although the preference would be to have clear spanning bridges in all cases.	Bed levels have been set below the bed level upstream and downstream based on guidance in CIRIA 786 “The designer also needs to consider how best to design the culvert [...] to work with the natural processes in the river in particular: Allowing a natural bed throughout (eg for a culvert this could be achieved by depressing the culvert below watercourse bed level to allow river sediment to accumulate in the invert), which has the benefit of providing some habitat and continuing the hyporheic zone throughout the culvert” however if this is not preferential the design could be updated to include a granular fill material, or backfill of local spoil from excavations to provide a constant bed.
<u>New Gypsy Lane Footbridge/Boardwalk – General Arrangement (Drg no. WMHP-TG-SRWG1-DR-SE-5101 Rev P03)</u> It appears that dog-proof fencing is proposed along both sides of the path in continuity with the boardwalk parapets; at times of high flows/water levels this may mean that this section of channel is made impassable to wildlife which may be unable to cross the path or cross the boardwalk/bridge due to the spacings of the vertical elements of the handrails (as shown on	Dog proof fencing shown on drawing 5101 is shown in error. Please refer to drawings WMHP-TG-SRWG1-DR-HI-0301 to 309 for latest fencing layouts. Updated drawing 5101 to be provided showing fencing removed. Dead hedging to be provided as discussed in call with EA/LPA 07/04/2025.

the Elevations drawing (Drg no. WMHP-SRWG1-DR-SE-5105 Rev P04). Clarification is required with regard to how this will be made ecologically permeable as required by point r of Condition 6. 2. As previously mentioned, further details are required with regard to the design and levels of the two backwater areas shown on this general arrangements drawing. The notes on the drawing refer to landscaping drawings for details, but these have not been provided with this application. It is not clear how these would relate to the bed levels or water levels of the watercourse and the limited size, particularly of the upstream/southern area, would limit the ecological value, particularly, their value as fish habitat. It is usually preferable for the inlets to these to point downstream rather than shown, if indeed they are to act as a habitat for fish. Without the details requested, it is not possible to assess if this would provide the ecologically valuable habitat that is stated.	2. Full details of the backwaters and scrapes was submitted under condition 12. Backwater areas were discussed in meeting held 07/04/2025. The agreed changes to the features are: • Opening angled more upstream • Backwaters to have steeper inlets, to increase depth from the river channel more quickly to reduce the risk of cut off from the watercourse due to sedimentation. • Neighbouring backwaters and scrapes within the floodplain to be combined into single features to ensure connectivity to watercourse following flood events. • Wetland margins around backwaters to be of varying width and slope to encourage variety of vegetation and habitat • Dead hedging to be incorporated between backwaters and paths to discourage dogs.
Flood Risk It appears that the design of the scheme has changed since the original flood risk modelling was carried out. The applicant will need to update the flood risk information and modelling to reflect this and submit it so that we can review it. Or, if they don't consider it is necessary to update the modelling the applicant should provide us with an explanation as to why that is not necessary.	Changes have been assessed by the flood model team and either provide betterment or no change to the flood risk assessment. There is no intention to produce a new flood model.

Table 2: Condition 6 Response

We trust that the above, along with the forthcoming amendments, appropriately addresses the EA's comments. Should you have any further queries or require any additional information, please do not hesitate to get in touch.

Yours Sincerely



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Associate Planner

