

Drainage Strategy – Existing Ditch Information Note for the site at Leicester Road, Earl Shilton (24/00496/REM)

Comments extracted from an email from Dave Harris of Mucklow and Harris Ltd to Andrew Smallwood of Leicestershire Lead Flood Authority.

Date: 28/11/2024

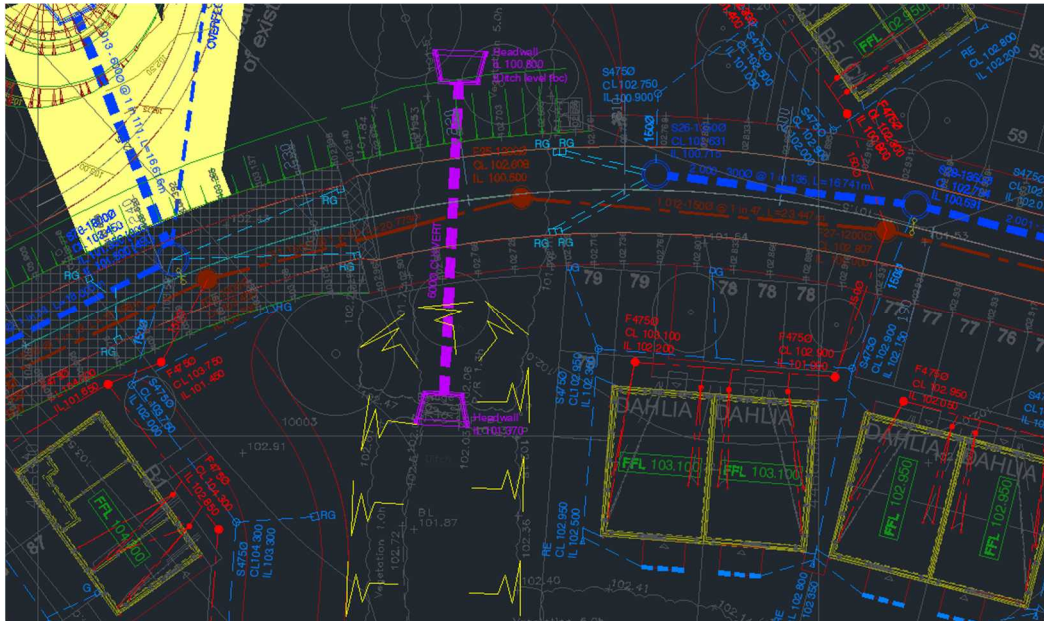
With regard to the ditch course in question the only flows into the this ditch are associated with the fields adjacent to it from the FRA and a site walkover our understanding this ditch only takes flows from an adjacent field to the south west which was part of the same farm that is also being developed. Vistry have informed us that surface water from this development outfalls to the ditch but at greenfield runoff rates so would match the previous flows. The only other area that any runoff comes from is the existing pond to the south. This apparently has no formal connection but overflows periodically into the ditch during wetter periods and Vistry are to undertake some improvement works and install an overflow as part of their work.

Our development also discharges in two locations again this will be at greenfield runoff rates and has an allowance for climate change and urban creep as you will see from our strategy.

With regard to the footpath crossings discussed we have highlighted with the client that LCC has a no culverting policy so would expect these crossings to be in the form of a footbridge.

Further comments extracted from an email from Dave Harris and Andrew Smallwood. Comments in back are from Andrew Smallwood, comments in Green are from Dave Harris.

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- In terms of the upstream drainage. I appreciate it is a relatively limited catchment (historical maps show there was connectivity between the fields that are now West Street, and the watercourses that enter your proposed site). You also mention that there is a pond that overflows into the watercourse.
 - Presumably these older connections from further south are no longer present (seems very likely to me that the former ditches along West Street would have been incorporated into the road drainage) but wanted to clarify? – from the information we have including the RSK Flood Risk Assessment we don't believe there is any drainage from the south it appears as you say all highways and properties drain via drainage within Keats Lane and West Street.
 - Has any calculation of the catchment been done? 600mm diameter culvert is sizeable, but if you have an estimate of what is expected to be in the ditch in say a 100yr event with Climate change that will be useful in demonstrating suitability. – no modelling has been done given the only flows are from the adjacent site which is limited to greenfield runoff and the existing pond which is fed by a spring so flows are likely to be negligible. We have based the 600mm diameter culvert on the estimated cross sectional capacity of the existing ditch and then gone a pipe size up.
- There are some existing levels on the plan, are the current ditch levels being maintained? There is only circa 560mm difference between the base of the existing ditch and the finished floor of the proposed houses. You also show a 150mm dia foul sewer going through the road. Are you going to have enough cover for a 600mm dia culvert? Appreciate that this is only REM stage and detailed levels haven't been confirmed. But we need to ensure that the appropriate sized culvert can be installed. If 600mm is deemed appropriate, we would not accept a future consent application for a 300mm on the grounds of that being all you can fit. – the existing ditch levels are to be maintained (the FRA does highlight some remedial works and clearing of the ditch which will be undertaken). We have approximately 1-1.2m of cover to the highway levels (see above exert from the drainage plan – we are currently doing the

detailed design) . The proposed foul also drains under the culvert (again see extract above). With regard to the FFL as levels fall steeply away to the north it is assumed this FFL shouldn't be an issue as any surface water would fall away to the north and the proposed driveway/parking is also designed to fall away from the property towards the ditch.

- In terms of the road culvert, in a blockage or exceedance event, we would expect to see surcharged water re-entering the watercourse at the earliest opportunity and not endangering adjacent properties. Looking at existing ground levels, the eastern side is slightly lower and thus be at higher risk. I appreciate this is possibly an extremely unlikely event (unless there's additional inlets upstream) and can be easily rectified by altering site levels to encourage water to flow either over the carriageway, be picked up by road drainage or flow into the POS to the west. But if you do have any thoughts on this it would be appreciated. – as you've noted the risk of flooding is unlikely given we are proposing a 600mm diameter pipe. In the event the culvert was blocked we would expect the ditch to overtop the road and fall back into the ditch the other side as the low point. Falls to the plots to the north side of the highway are higher than the ditch levels and levels are designed to fall away from plots back towards the ditch meaning any surface water flooding are directed back towards the ditch and away from properties.