

Technical Note

Project:	Land North of Thompsons Farm (OUT/2019/0484)		
Subject:	Surface Water Outfalls		
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Introduction

This Technical Note provides further information relating to the surface water outfalls to be used by the Proposed Development on Land North of Thompsons Farm (the Site). This information is provided in response to comments received from the Lead Local Flood Authority (LLFA), Coventry City Council (CCC) and the Planning Officer during the planning consultation period for the Proposed Development.

This Note builds on information included in the Flood Risk Assessment (Atkins reference: 5155372-ATK-RPT-C-0001) that has been submitted in support of the planning application for the development proposals. It has been informed by specific site inspections to obtain further information related to the outfall locations and existing drainage arrangements.

Outfall 1

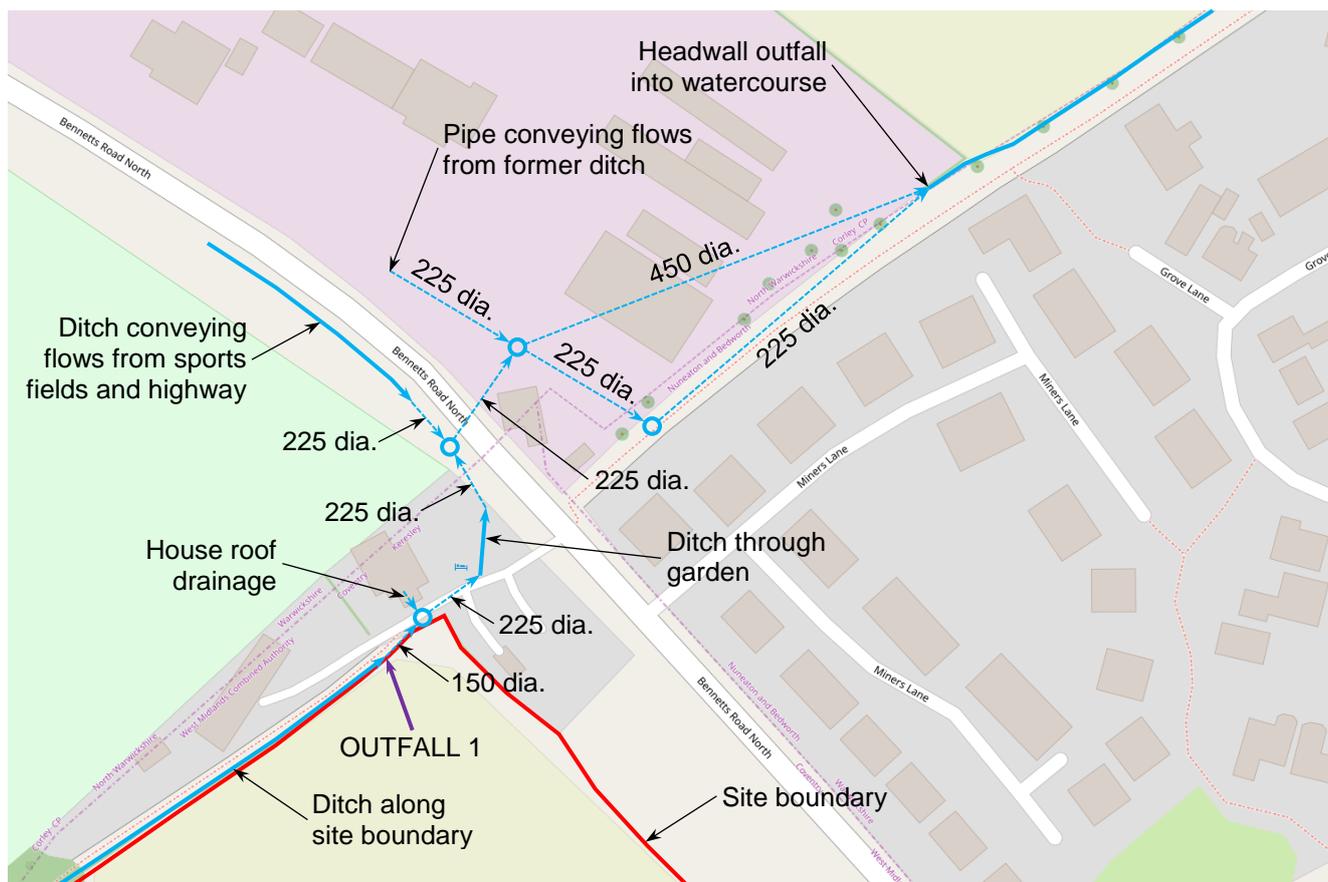
Outfall 1 is located in the northern corner of the Site and comprises a watercourse running along the northern boundary of the Site before entering a 150mm diameter culvert. The LLFA has raised the following concerns regarding this outfall:

The watercourse at the North West boundary of the site is not recorded in mapping or evident on a site visit. No details have been provided of culvert or other private drainage between the proposed outfall and a known watercourse which issues at XY point 431456 285342. The applicant will need to demonstrate how an appropriate connection can be made from the site to the known watercourse or other suitable eventual outfall; permissions from landowners will be required. If a new outfall or alterations to an existing outfall are required at XY point 431456 285342, consent will be required from Warwickshire LLFA at some stage.

The topographical survey of the Site and its immediate surroundings shows that the watercourse along the northern boundary becomes progressively less defined with distance downstream towards Bennetts Road North. Towards the northern corner of the Site, the watercourse becomes a shallow channel coincident with a public footpath also running along the boundary. At the downstream end of the watercourse, immediately adjacent to the northern corner of the Site, there is a 150mm diameter pipe which conveys water away from this area. The Proposed Development will discharge surface water to the upstream end of this pipe.

Site inspections have confirmed the presence of the 150mm diameter pipe and have determined the configuration of the pipework further downstream between the Site and a watercourse on the north-eastern side of Bennetts Road North. This is illustrated in Figure 1.

Figure 1 - Outfall 1 downstream arrangement



Source: OpenStreetMap

This shows that there is a continuous flow path from the Site to the watercourse further to the north-east. An internal inspection will need to be undertaken later in the development design process to confirm the condition of these pipes. If this identifies a requirement to upgrade any of the pipework, there are areas of highway land through which alternative drainage routes could be run. It should be noted that discussions with local residents have established that they would welcome any works to upgrade the drainage provision in this area.

Outfall 2

Outfall 2 serves the majority of the Site and comprises a natural low point on the north-eastern boundary with Bennetts Road North. Prior to the construction of Bennetts Road North, this low point would have formed part of a small valley and natural flow path to a watercourse located further downstream. The outfall from the Proposed Development will comprise a connection into the existing public surface water drainage system (300mm diameter sewer) which ultimately opens out to become the watercourse approximately 120m north-east of the Site. The LLFA has commented as follows regarding these proposed outfall arrangements:

Permission to connect is required from Severn Trent Water. Potential capacity issues given 42.9 l/s max discharge rate.

In order for surface water flows to be conveyed from the Proposed Development into the public surface water sewer within Bennetts Road North, it will be necessary for the outfall pipe to cross beneath a narrow strip of third-party land immediately adjacent to Bennetts Road North. To overcome potential issues associated with this arrangement, the intention is to requisition the surface water outfall from Severn Trent Water from a location within the Site. This will address the deliverability of this outfall. Additionally, as part of this process, Severn Trent Water will identify and address any capacity issues between the outfall and the watercourse to ensure that there are no adverse consequences as a result of the development flows.

The requisition process can only be started once planning consent for the Proposed Development has been granted. All the costs associated with the requisition will be payable by the Developer.

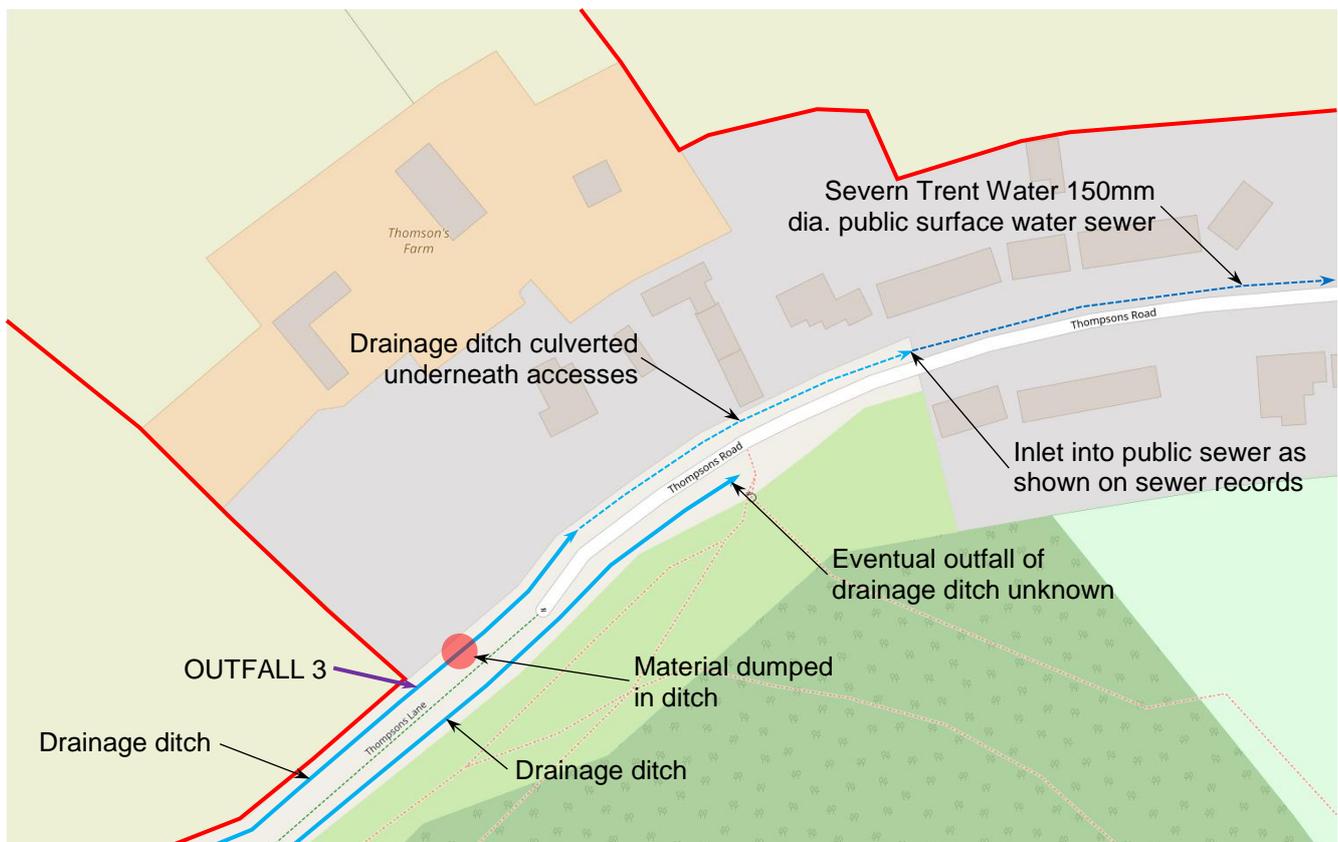
Outfall 3

Outfall 3 serves the southern section of the Site to the west of Thompsons Farm. The outfall is located in the most easterly corner of this part of the Site and comprises a ditch running in a generally easterly direction along Thompsons Road. The flows in this ditch ultimately discharge into the public surface water drainage system. The LLFA has raised the following concerns regarding the use of this outfall:

The watercourse is a ditch between the boundary of the site and a private road. An outfall will require land drainage consent from Coventry LLFA (ourselves). The ditch is likely to connect to private drainage, then a 150mm public surface water sewer; there may be capacity / permission issues with both, and therefore potentially new or upgraded infrastructure required.

A site inspection has been undertaken to establish the drainage arrangement immediately downstream of Outfall 3. The results are illustrated in Figure 2. This has shown that there are a number of differences between what is currently shown on Severn Trent Water sewer records and the physical arrangement on site.

Figure 2 - Outfall 3 downstream arrangement



Source: OpenStreetMap

A search on the Land Registry has shown that the land through which the drainage ditch and its culverted section immediately upstream of the public surface water sewer runs within either highway or unregistered land. An internal inspection of downstream pipework will need to be undertaken later in the development design process to confirm its condition. If any works need to be undertaken to upgrade the downstream drainage, this can be undertaken in land outside of private ownership. As a minimum, the material that has been dumped in the ditch immediately downstream of the proposed outfall location will need to be removed.

The Proposed Development will provide additional control to the flows that enter the drainage ditch. At present there is no limitation to the flow rates that can leave the Site and enter the ditch. Post-development, the flow rates will be controlled to a maximum of the existing annual average rate less 20% for all events up to and including the 1 in 100-year +40% (climate change) rainfall event. This reduction in flows will improve the resilience of the system downstream to manage more extreme rainfall events.

Severn Trent will assess the implications of the proposed flow rates entering their system once planning consent has been granted. At this stage they will advise whether they need to undertake any downstream upgrade works to accommodate these. The cost of these upgrade works will be covered by the Infrastructure Charge that is payable by all new developments.

Summary

Each outfall has been further investigated and the deliverability of has been confirmed. For Outfalls 1 and 3, a continuous flow path from the site boundary to a receiving water feature has been demonstrated. It will be necessary to undertake internal inspections of these flow paths to establish their condition and identify whether any remedial works are necessary.

For Outfall 2, the surface water outfall will be requisitioned from Severn Trent Water. This process can only commence once planning consent for the Proposed Development has been granted. Similarly, any downstream capacity assessments relating to Outfall 3 will only commence post-planning consent.