

LAND AT PADGE HALL FARM, HINCKLEY A5 LOWERING - DRAINAGE OUTFALL STATEMENT

1. This statement is provided in response to the Environment Agency letter dated 16 May 2024 regarding the application to discharge planning condition 19 (planning application 21/01191/HYB).
2. The Environment Agency has requested additional details in relation to fluvial flood risk mitigation measures that may be required at the end of the outfall pipe on the drainage system from the A5 highway. Details of the proposed fluvial flood risk mitigation measures are provided in this drainage statement.
3. Additionally, it is acknowledged that a Flood Risk Activity permit will be required for any works in proximity to the Sketchley Brook. A permit application will be submitted in due course once the construction details, programme and methodology for the works has been determined.

Fluvial flood modelling of the Sketchley Brook

4. The outfall of the A5 highway drainage system is to a drainage ditch that outfalls to the Sketchley Brook. The fluvial flood risk to the highway drainage outfall would be via backing up of flows from the Sketchley Brook along the drainage ditch to the outfall structure.
5. The fluvial flood extents from the hydraulic modelling study of the Sketchley Brook are shown in **Figure 1**. The flood extents for the 1 in 100 year plus 30% climate change event indicate that some backing up of flood water along the drainage ditch would occur.

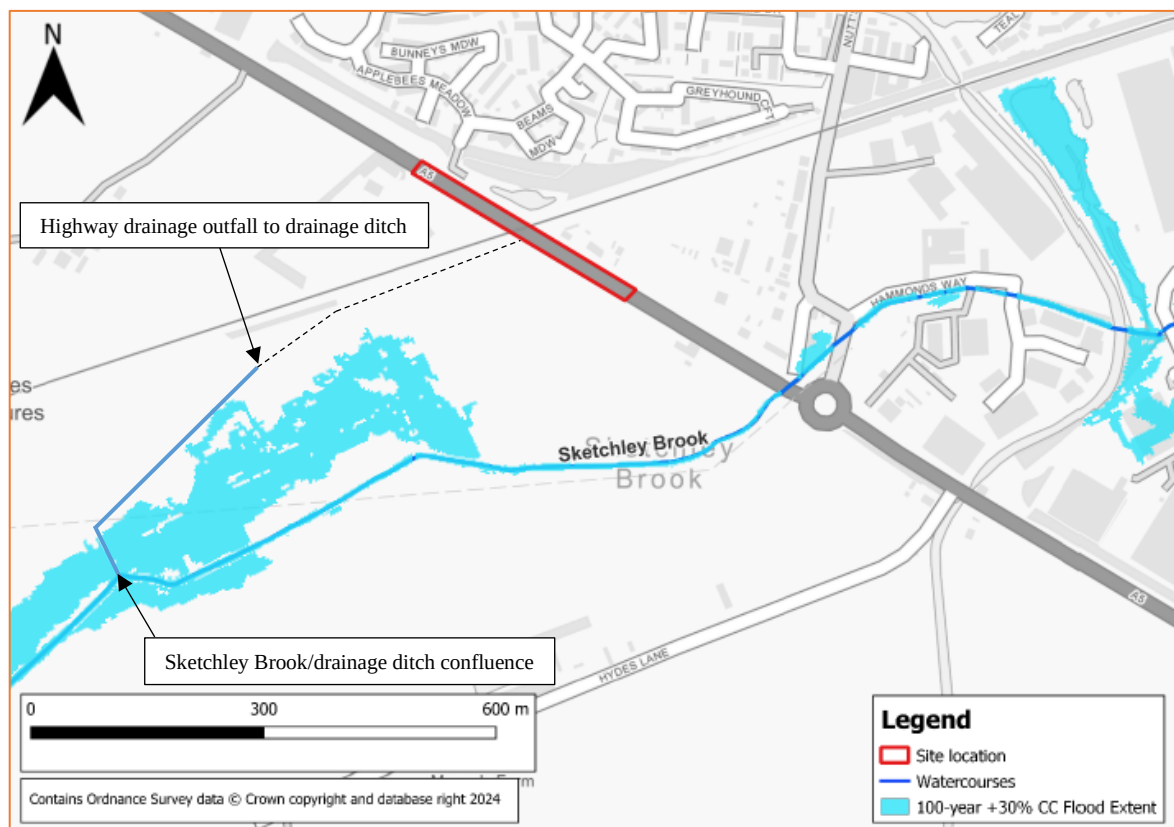


Figure 1: Sketchley Brook fluvial flood extents

6. The predicted 100year+30%CC flood level at the confluence of the drainage ditch and Sketchley Brook is 87.08m AOD. The general average ground level at the confluence is approximately 87.0m AOD, therefore under flood conditions for the 100year+CC event the Sketchley Brook and drainage ditch would experience water levels to the top of bank with some minor overtopping to the surrounding field areas (as indicated by the flood extents in Figure 1).

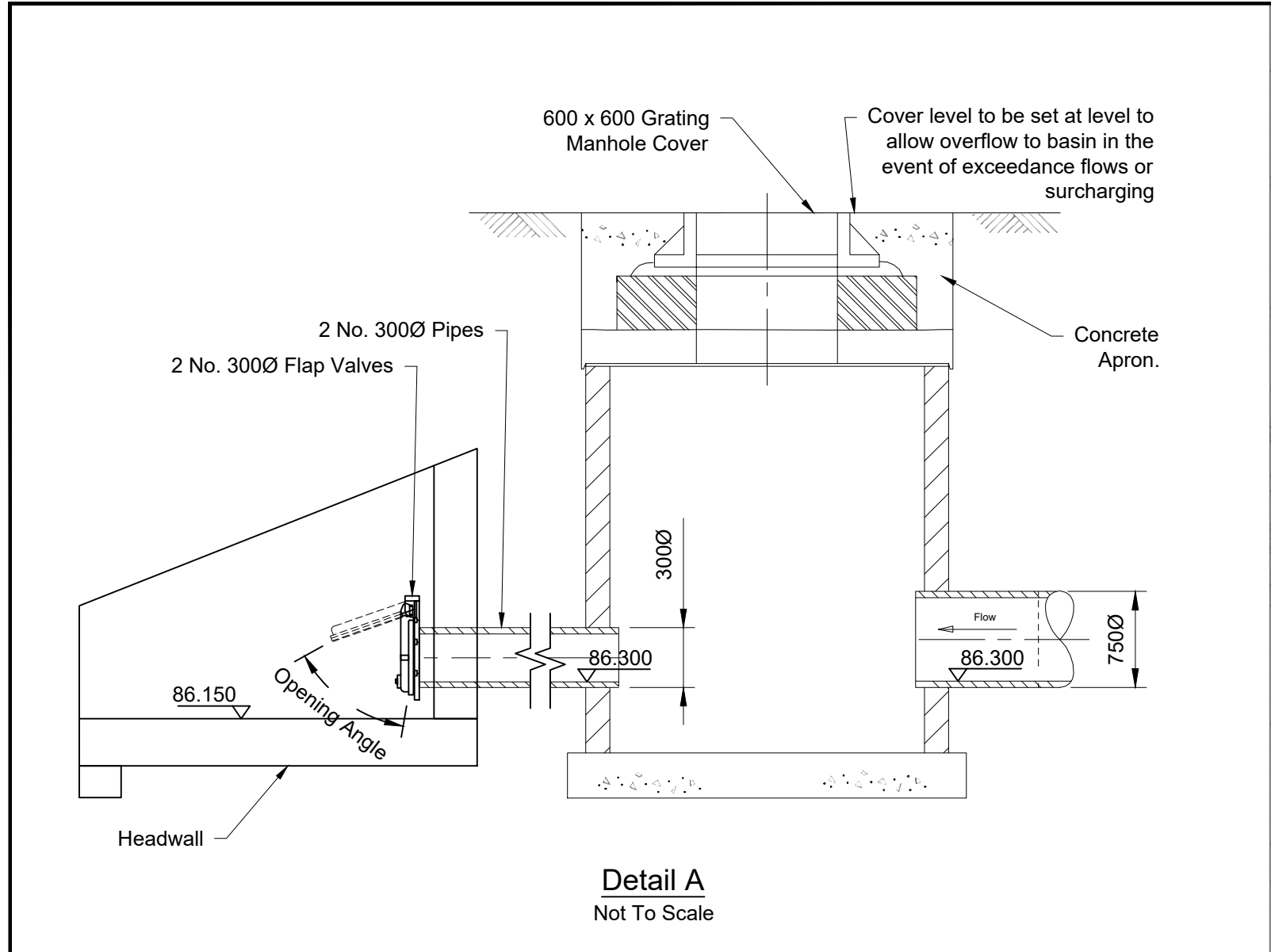
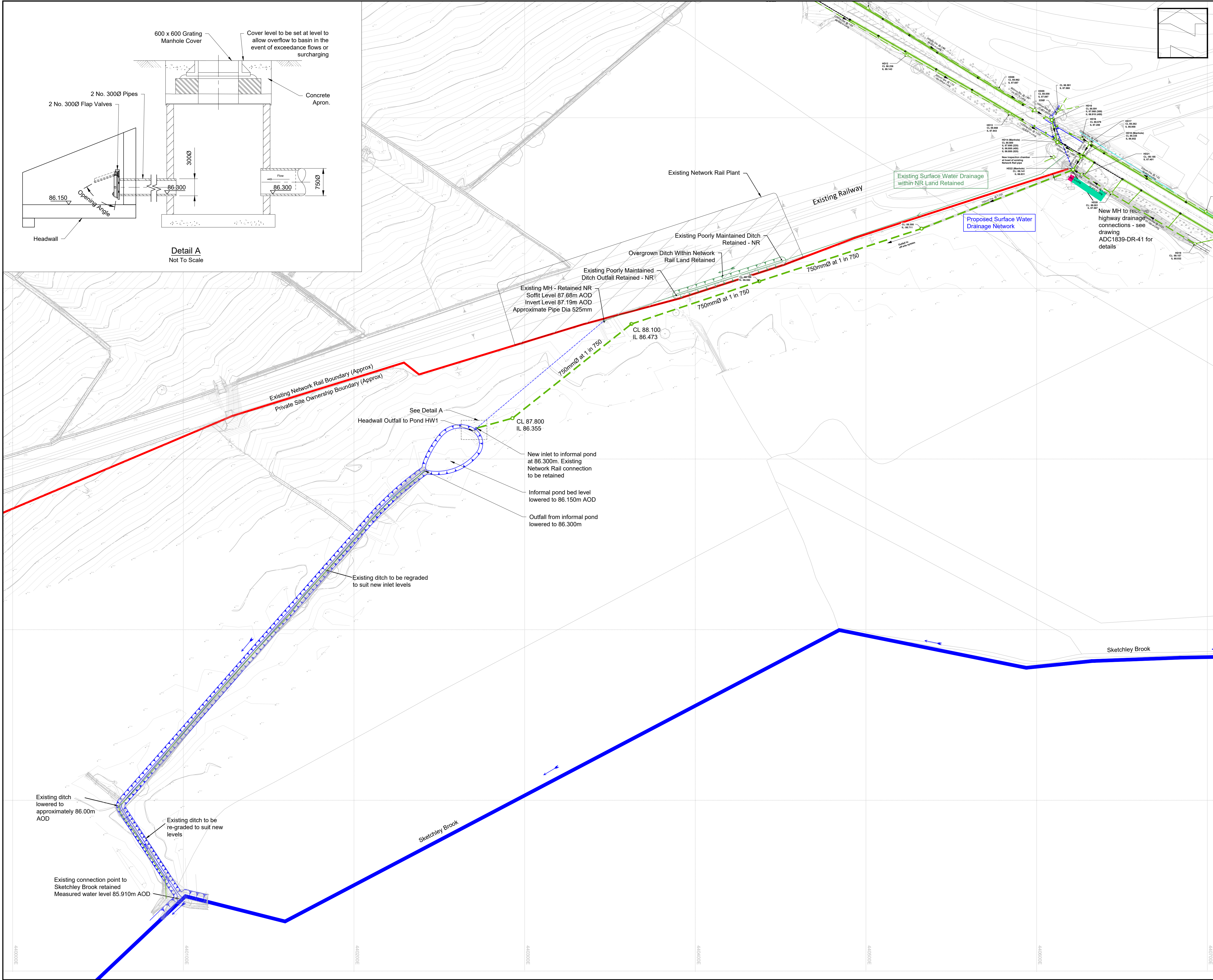
Drainage outfall mitigation

7. The outfall from the highway drainage system to the drainage ditch is approximately 350m upstream of the confluence with the Sketchley Brook. The invert level of the new highway drainage outfall is at 86.3m AOD, therefore the backing up of flood water from the Sketchley Brook along the drainage ditch would potentially reach the highway drainage outfall.
8. The proposed mitigation measures to prevent backing up of fluvial flood water into the highway drainage system are via flap valves on the piped outfall. A detail for the outfall structure is provided on drawing ADC1839/DR/043 in **Appendix A**. The concrete outfall structure will comprise a minimum of two 300mm diameter pipes that discharge to the drainage ditch.
9. The twin 300mm pipe arrangement reflects the existing drainage network at the A5 which comprises twin 300mm pipes, thereby maintaining the capacity of the existing system. A new 750mm pipe is provided from the A5 highway to the drainage outfall due to the flat gradient, and the increased pipe diameter will provide storage capacity within the pipe system in the event of a submerged outfall.
10. The drainage outfall structure will incorporate a grated manhole cover that will allow drainage flows to overflow to the wider land drainage system in the event of exceedance flows or surcharging of the drainage system. The cover level will be set a minimum of 600mm above the 100year+CC flood level in order to achieve a sufficient freeboard above the fluvial flood level.

ADC Infrastructure Ltd
05/06/2024

APPENDIX A

DRAWING ADC1839/DR/043



Drainage Notes

1. All adoptable surface and foul water drainage works to be carried out in accordance with 'Design and Construction Guidance for Foul and Surface Water Sewers' and any specific requirements of the adopting authority/sewerage undertaker.
2. All adoptable highway drainage works to be carried out in accordance with the Local Highway Authority / Highways England requirements and the DTT MCHW specification for highway works.
3. All private drainage works are to be carried out in accordance with Building Regulations Part H, BS EN 752, the Civil Engineering Specification for the Water Industry.
4. Where applicable the contractor shall allow free and full access to the drainage works for the local/highway authority, drainage authority or the overseeing organisation.
5. The exact position, level, line, size and use of existing drainage is to be confirmed on site. Any discrepancies to be reported to the engineer prior to the commencement of works.
6. All temporary works associated with the construction of the drainage works shall be the responsibility of the contractor, including the protection of any uncovered/shallow pipework against construction traffic.
7. The Contractor is responsible for obtaining and paying for all necessary permissions to enable construction of the works to be undertaken, including but not limited to licences for street works and connections to existing sewers. This includes Section 106 applications when connecting directly or indirectly to the public sewerage network (complete application to be made at least 3 weeks prior to the planned outfall construction works).
8. All proposed chamber covers are to be marked permanently with "SWS" (or equiv.) on surface water sewers and "FWS" (or equiv.) on foul sewers. all covers to be in accordance with BS EN 124.
9. Works in proximity to the watercourse will be subject to gaining the necessary consent and approval from the Lead Local Flood Authority / Environment Agency.

P4	Outfall Headwall & Manhole details added	03/06/24
P3	Amendments in line with General Arrangement changes	19/07/23
P2	Topographical survey added	14/07/21
Rev	Description	Date

Client:

Project:

Hinckley South, A5

Title:

Indicative Drainage Gravity Layout with Outfall to Sketchley Brook

ADC

INFRASTRUCTURE

Drg Size: A1

Scale: 1:1000

Date: 17/07/2020

Drg No: ADC1839/DR/043

Rev: P4