

**Land at Junction 22 of the M1,
Cliffe Hill Farm**

Response to LLFA

DOCUMENT CONTROL SHEET

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Client: Caddick Developments

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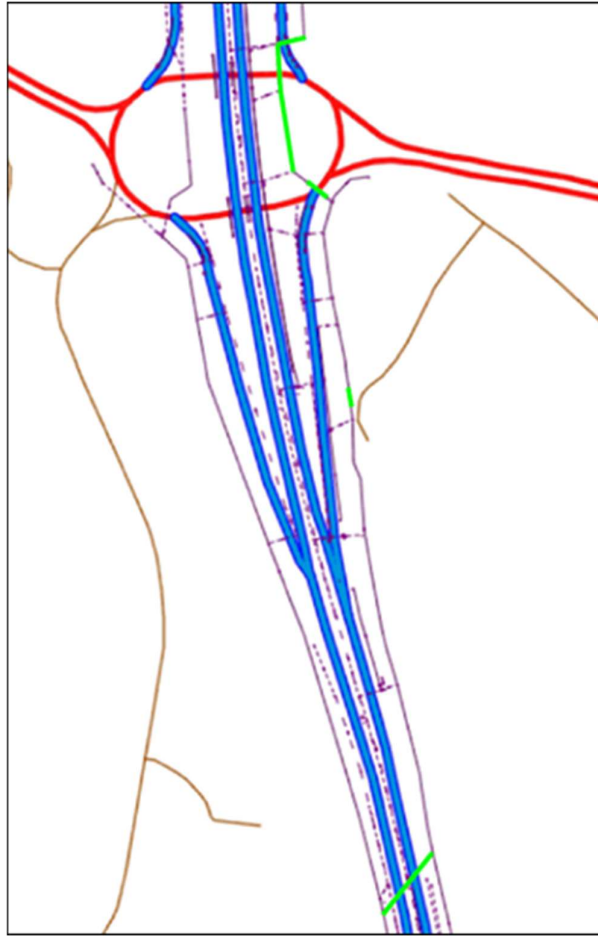
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P01	04/11/2025	First Issue
P02	05/11/2025	Updated to suit client team comments
P03	07/11/2025	Updated to suit client comments
P04	19/11/2025	Updated to suit client comments

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Introduction

The following technical note has been prepared by Burrows Graham on behalf of their client 'Caddick Developments' in response to the LLFA comments dated 3rd November 2025 for application ref. 25/00931/FUL.

LLFA Comment (dated 03/11/2025)	Burrows Graham Response
<i>No source control SuDS has been provided. Options for source control SuDS to be investigated and implemented where practicable.</i>	The SuDS hierarchy has been considered and followed in the preparation of the drainage design, given the large areas of hardstanding it is not feasible to include large areas of permeable surfacing for most of the development, however, source control has been utilised as appropriate as noted below; - Areas of roof drainage to be re used as rainwater harvesting. Reducing overall runoff. - Tree pits will be incorporated into the landscape design as required Infiltration is not feasible which is confirmed by the phase 2 site investigation. As such, the strategy for the surface water is to discharge to a watercourse in line with the SuDS hierarchy. Runoff from the impermeable areas will be collected and directed to the below ground drainage channels, kerb drains and pipes and discharge to strategically located attenuation ponds. There will be some degree of infiltration through the ponds, albeit they aren't designed for this purpose. Given the feasibility for infiltration is low and due to the considerable level difference across the plots permeable paving would provide limited benefit for the scheme and will constrain the car park gradients, leading to less sustainable construction methods such as retaining walls or export of material from site.
<i>An existing catchment plan showing site contours, overland flow routing directions, surface water drainage features on-site, receptors, routing of receptors off-site, flow direction of ditches and pipes, culvert and their sizes etc.</i>	The existing drainage catchments are shown on Burrows Graham drawing ref. SK-00012. This shows all the existing known ditches and their current flow paths. As shown on drawing SK-00012 the site is split into two primary catchments (Eastern and Western) which both form part of the wider Soar River Catchment and both reflect very small overall percentages of their wider catchment. - The Eastern Catchment discharges via a series of field ditches into a 900dia culvert under Whitwick Rd to the east of the site. - The Western Catchment discharges via a series of field ditches to three culverts which all discharge into National Highways M1 drainage network as shown below with the purple lines denoting NH drainage assets.



With this in mind, and noting from experience that National Highways generally look to remove new and existing third party connections to their SRN network where possible, we are proposing to all runoff from the proposed development to the eastern outfall which is shown on the proposed catchment plan drawing ref. SK-00013.

It is the intention to provide a betterment based solely on the existing catchment and therefore the proposed rate of discharge will be limited to 24.9l/s for all storm events, as shown in the table below. As noted above, this represents a betterment compared to the existing discharge rate from the eastern part of the site only in all storm events, significantly in the more extreme events, and therefore we are significantly over attenuating in providing this solution.

Table 5 – Proposed betterment to greenfield runoff rates

	Existing	Proposed	Betterment
QBAR	31.1 l/s	24.9 l/s	20%
Q(1)	25.8 l/s	24.9 l/s	3.6%
Q(30)	62.3 l/s	24.9 l/s	60%
Q(100)	80 l/s	24.9 l/s	69%

This eastern ditch is ultimately culverted offsite under Whitwick Road via a 900dia culvert as shown below. The proposed site represents a significant percentage of the catchment and therefore we consider that the proposed discharge rate reduction will represent a significant betterment to the flows down the 900dia pipe.



Node Ref	INFALL 3		
MH Number			
Location	JUNCTION WHITWICK ROAD & COTTAGE LANE MARKFIELD		Job No. P20110134
COORDS	X= 44852906	Y= 311212.27	Survey Date 08/12/2020
Invert Level	188.210m	Datum Level Used: OSGB	Gas Test OK

Downstream Asset	Shape	Pipe Size (height / diameter) mm	Pipe Size (width) mm	Material	Lining Material	Invert Level (m)
OF 3	C	900		CO		188.210

Remarks -



Based on the information provided above and the current information within the FRA we consider that there is sufficient information provided to the LLFA for a determination.