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Proposed Residential Development
Withington Street
Sutton Bridge

Surface Water Drainage Maintenance Plan

R – 1886S - 001

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Client	Lincoln Jack
Project	Proposed Development , Withington Street, Sutton Bridge
Title	Surface Water Drainage Maintenance Plan

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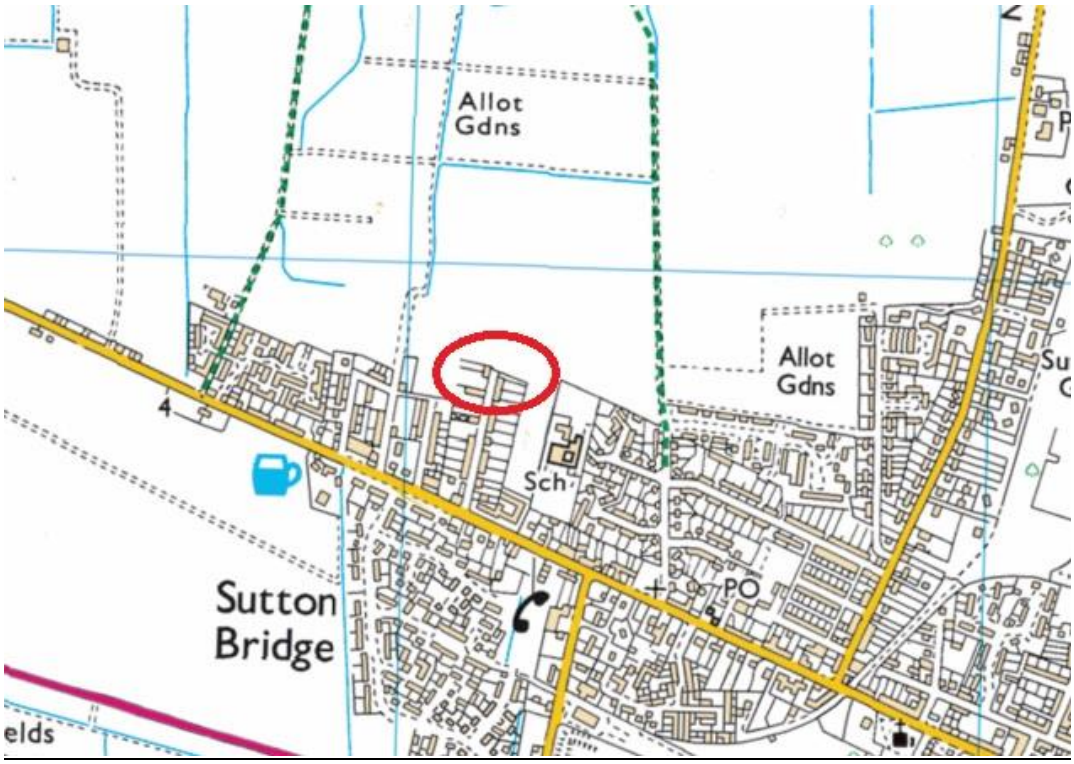
INTRODUCTION

This report is a Drainage Maintenance Plan on behalf of Lincoln Jack Ltd. for a proposed residential development at Withington Street, Sutton Bridge. The benefit of this report is limited to our instructing Client.

The objective of this report is to set out the maintenance and management of the developments storm water drainage systems throughout the lifetime of the development.

This report has been prepared to support the discharge of planning conditions for the development

The proposed site location is present below



Site location plan.

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SURFACE WATER DRAINAGE STRATEGY

The surface water drainage for scheme is presented on SEA drawing 1886/S/E10

The discharge rates from the proposed development have been restricted to 2.5/s for all storm events up to and including the 1 in 100 year event plus an allowance of 40% for climate change. The storm water will outfall to an existing Anglian Water storm sewer via the construction of new adoptable drainage

Flows will be attenuated on site with the use of the subbase within the permeable block paving.

The main drainage runs on site will be offered for adoption to Lincolnshire County council with the remaining being privately owned.

MAINTENANCE PLAN

The following paragraphs set out the proposed maintenance regime required for the developments storm water drainage throughout its lifetime

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PIPE SYSTEMS, INSPECTION CHAMBERS, MANHOLE, GULLIES AND LINEAR DRAINAGE CHANNELS

Traditional drainage systems using pipes, inspection chambers, manholes, gullies and linear drainage channel are the more conventional method of disposing of surface water from the developments impermeable areas.

Inspection chambers/manholes are provided at regular intervals in accordance with Part H and in all changes in direction. Gullies and linear drainage channels are provided at all low points within the developments new impermeable areas.

Below sets out the maintenance requirements of the developments traditional drainage systems. All of which are easily accessible and open.

Maintenance Category	Required Action	Frequency
Regular Maintenance	Inspect and identify areas that are not operating correctly. If required, take remedial action	Monthly (for the first 3 months) then six monthly
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Remove sediment from pre-treatment structures	Annually or as required
Remedial Actions	Remove blockages	As required
	Cleaning/Jetting	As required
	Repair/rehabilitation of system	As required
Monitoring	Inspect/check all part of piped system and inspection chambers to ensure that they are in good condition and operating as required	Annually and after large storms.

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FLOW CONTROL DEVICE

A flow control device comprises of a fixed orifice or throttle and its principle use is to throttle surface water discharge passed downstream and retain water upstream in storage features.

This development incorporates a proprietary flow control chamber with a Hydro Brake. Normally little maintenance is required for Hydro Brake's as there are no moving parts and generally if there are blockages they do so at the intake and due to poor upstream treatment of water entering the system. Design features used within the developments drainage have been designed to reduce the risk of blockage.

Below sets out the maintenance regime required for the flow control device and should be read in conjunction with the suppliers own maintenance requirements. The flow control device is located in an area which is accessible and open.

Maintenance Category	Required Action	Frequency
Regular Maintenance	Inspect and identify areas that are not operating correctly. If required, take remedial action	Monthly (for the first 3 months) then six monthly
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Remove sediment from pre-treatment structures	Annually or as required
Remedial Actions	Remove blockages	As required
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Monitoring	Inspect/check all part of piped system and inspection chambers to ensure that they are in good condition and operating as required	Annually and after large storms.

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PERMEABLE BLOCK PAVING

Permeable block paving is a system in which allows rainwater to penetrate the surface by use of voids between the blocks. Water is then stored within the subbase prior to outfall.

The proposals incorporate the use permeable block paving for the access road and private drives

Below sets out the required maintenance regime.

Operation and maintenance requirements for pervious pavements

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphospate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48 h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually