

For Development at Sperberry Hill, St Ipoltyes

Condition 26

SUDS and SW Drainage Maintenance and Management



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Consulting Engineers

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Airfield Park

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1271/Cond 26 Rev A

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TIMETABLE FOR IMPLEMENTATION

The drainage scheme will be implemented as the site progresses, ensuring that as hard surfacing and houses are constructed the associated drainage will be in place to take SW runoff from those elements. The outfalls and attenuation basins will be constructed prior to any connections to ensure protection of the downstream receiving water course.

STORM DRAINAGE & SUDS MAINTENANCE REQUIREMENTS

The Freeholders

The responsibility for maintenance of all elements of the development remain with Talbot Homes until handed over to the Freeholders or a Management Company. Handover of external works to the Freeholders coincides with completion and sale of each respective residential unit. At handover the Freeholders will receive as built information together with (where applicable) operating and maintenance manuals which detail all maintenance protocols.

Surface Water Sewers

The principle means of surface water disposal from the development is by way of gravity sewer system, ultimately discharging via an infiltration Basin, or porous paving discharging directly to ground. Low lying plots to the north of the site which will be maintained by a HA Provider will drain into a storage system which is then pumped into the infiltration Basin. Up to that point Talbot Homes will be responsible for the sewers and will follow the same maintenance regime as detailed for the management company.

A Management Company will be commissioned to maintain the private shared storm water drainage system, and the Management Company responsibilities will include the, main porous road, ponds etc and all inflow and outflow structures and the outlets.

The remaining shared storm water drainage system where located within the individual plot curtilage, will be the responsibility of the homeowner.

A system of regular inspections should be established, initially these inspections should be carried out in October and March, however, this may be modified to suit observations over time. Items to be observed and cleared are high levels of grit, leaves and other such detritus. The main aim of these inspections will be to prevent siltation of the system, which, if allowed to develop will reduce the effectiveness of the system.

The following elements should be inspected and cleaned as part of this preventative routine:

Chambers

Linear drainage channels/gullies located within communal areas

Quarterly (by Plot Freeholder)

It is also recommended that each homeowner regularly cleans and inspects rainwater pipes, gullies/linear drainage channels, porous paving etc, where located within their plot curtilage as a preventative measure to minimise the ingress of detritus into the storm water system. It is suggested that new homeowners are informed of such responsibilities in their welcome packs or within their conveyancing.

Ponds

Ponds are to be maintained by a Management Company. Their maintenance regime shall be as follows: -

Inspections to identify any areas not operating correctly, eroded areas, pollution, blocked outlets, standing water, and reinstate design levels, repair eroded or damaged areas by returfing or reseeding.

Collect and remove from site all extraneous rubbish that is detrimental to the operation or detract from the appearance of the site, including paper, bottles, cans and similar debris.

Maintain grass height at no less than 100mm. Ensure that soil and grass does not become compacted. Do not cut during periods of drought or when ground conditions or grass is wet.

Maintenance of the pond is to be carried out in the vicinity of the inlets and outlets, monthly during growing seasons, and at least once every two months within the remainder of the pond, or else as required.

Remove sediment as it builds up, ensuring that design storage volumes are not reduced by more than 10%.

Headwalls

Headwalls are to be maintained by a Management Company. Their maintenance regime shall be as follows: -

Initially the headwalls shall be inspected on a monthly basis. All extraneous material such as litter and rubble be removed and cleared. After this initial three months the Headwalls themselves are to be checked for structural integrity on a six monthly inspection and any issues made good as per the original design drawings. Ensure water flows freely by removal of vegetation and siltation as necessary.

Porous Roads and Drives

Visual inspections should be made to ascertain where depressions, rutting and cracked or broken blocks are considered to be detrimental to the structural performance of the pavement or a hazard to users, this will require appropriate corrective action.

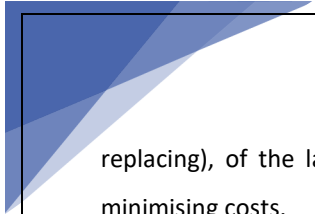
The paving should be agitated (e.g. brushed, vacuumed, etc.) at least twice a year, to ensure no vegetation of any sort is allowed to grow and develop in the joints. Ideally, this should be carried out in the spring and autumn seasons.

The paving should be inspected after any heavy precipitation to ensure there is no displacement of any organic matter onto the surface of the pavement.

For winter maintenance, the controlled use of de-icing may be used without causing significant detrimental effects towards the permeable pavements performance. When used carefully, the use of these chlorides will not result in an increase in the chloride levels in the local ground.

The inspection of the outfall should be undertaken initially on a twice-yearly basis.

Depending on the amount of usage and the environment the permeable pavement has received and been exposed to, the laying course material may require either cleaning after a 25 to 30 year period. This would be evident if the infiltration rate of the paving became prolonged, allowing ponding to develop. Should this occur, the uplifting and cleaning (or



replacing), of the laying course maybe considered. The laying course material, jointing and blocks may be reused, minimising costs.

NB. Material removed from the voids or the layers below the surface may contain heavy metals and hydrocarbons and as such may need to be disposed of as 'controlled waste'.

Cellular Storage System and Pumping Station – Plots 11-14

The principle means of surface water attenuation/disposal from the development for plots 11-14 is via cellular Storage and pumping station to the main site infiltration basin

The Management Company will ensure that the following measures are undertaken to ensure the longevity of the cellular storage system and pumped drainage system;

Quarterly

Inspect the performance of the attenuation system by lifting the cover of the catchpit immediately upstream and check that the outlet pipes are free of obstruction and visible (ie not submerged). If the outlet pipe is submerged, then remedial action may be required remedial advice to be sought from a suitably qualified consulting infrastructure engineer.

Annually

Remove silt build up from all catchpits and Aco Drain within main network.

Every 5-10 years (depending on outcome of aforementioned inspections)

Commission a CCTV survey and report on condition of the surface water piped drainage system upstream of the soakaways to check for structural integrity and hydraulic fluidity. Carry out promptly any remedial work as advised by CCTV company.

Pumping Station

Pumping station to have planned preventative maintenance agreement with suitable company. Pumps to be serviced on annual basis and any defects, damage or issues to be reported to Management company and action taken to remedy any issues. 24 hour call out to be in place should pump fail or power failure.