

Notes

- Do not scale this drawing, other than for Planning Application purposes.
- All dimensions are in millimetres unless stated otherwise.
- This drawing to be read in conjunction with all other relevant drawings and specifications.
- All proprietary items to be installed in strict compliance with manufacturers instructions and recommendations.

STANDARD DRAINAGE NOTES:

- Except where specifically shown otherwise all below ground pipes / connections shall be 100mm dia PVC (to BS 4660) or VC (to BS 5481) with flexible joints and laid to minimum falls of 1 in 40, except where connected to WC when falls may be 1 in 80.
- All gravity pipe runs to be tested to a standing head of 1500mm head of water above the invert at the head of the pipe run (but not exceeding 4000mm at the lower end)
- For details of bed and surround requirements refer to long-sections and standard details. In all other situations provide 150mm of 10mm single-sized rounded gravel bedding and surround.
- Except where specifically shown otherwise, pipes to be a minimum of 900mm below roads/driveways and 600mm below gardens/fields.
- Ventilating pipes to be provided at the head of each drain and to any branch longer than 6m where a single appliance is connected, or 12m where a group of appliances is connected.
- Step-irons shall not be fitted in any chambers unless specified otherwise.
- Manhole/Gully covers shall be regulated to suit finished levels and crossfalls.
- All proprietary items to be installed in strict compliance with manufacturers instructions and recommendations
- Drains passing beneath buildings to have minimum 100mm granular fill or flexible filling around pipe. Where the pipe crown is within 300mm of the underside of the slab, pipe shall be encased in concrete integral with the slab.
- Drains passing through walls below ground level to have minimum 50mm clearance all round and opening in walls to be masked all round with rigid sheet material to prevent ingress of fill or vermin. Openings in walls for pipes shall have concrete lintels to support wall construction above
- Unless stated otherwise, pipes to be 150mm Diameter.
- Unless Stated otherwise car parking spaces subbase to be 350mm type 3 granular material

STANDARD ROADS / FOOTPATH NOTES:

- Existing structures to be broken out to minimum 450mm below top of finished surface level. Existing footpath to be broken out and rubble and existing subbase to be removed off-site.
- Subgrade to be proffed roll with one pass of a smooth-wheeler roller having a mass per M-width of roll of not less than 2,100-kg or a Vibrating Roller having a mass per M-width of roll of not less than 700-kg or a Vibrating Plate Compactor having a mass per m2 of not less than 1400-kg. Any soft spots shall be removed and replaced with Type 1 compacted in layers not exceeding 150mm thickness.
- All formations are to be treated with an approved herbicide before placing sub-base material on a geotextile separation membrane (Terram 1000 or similar approved)
- All sub-base material is to be non-frost-susceptible. All concrete to be sulphate resisting

P02	Updated Site Layout Plan & Amended SuDS Plan	EP	04-09-23
P01	Planning Issue	EP	07-08-23

Client
Mr Andrew Wright

Drainage and SuDS Strategy

As stated in CIRIA SuDS Manual 2015 the objective of sustainable drainage systems is to maximize the benefits and minimize the negative impacts of surface water runoff from developed areas. By applying SuDS methodology, storm runoff from the site is controlled to ensure that flow rates in downstream watercourses are not increased and the water is appropriately treated to remove any contaminants, thus ensuring the quality of the water in the natural environment downstream.

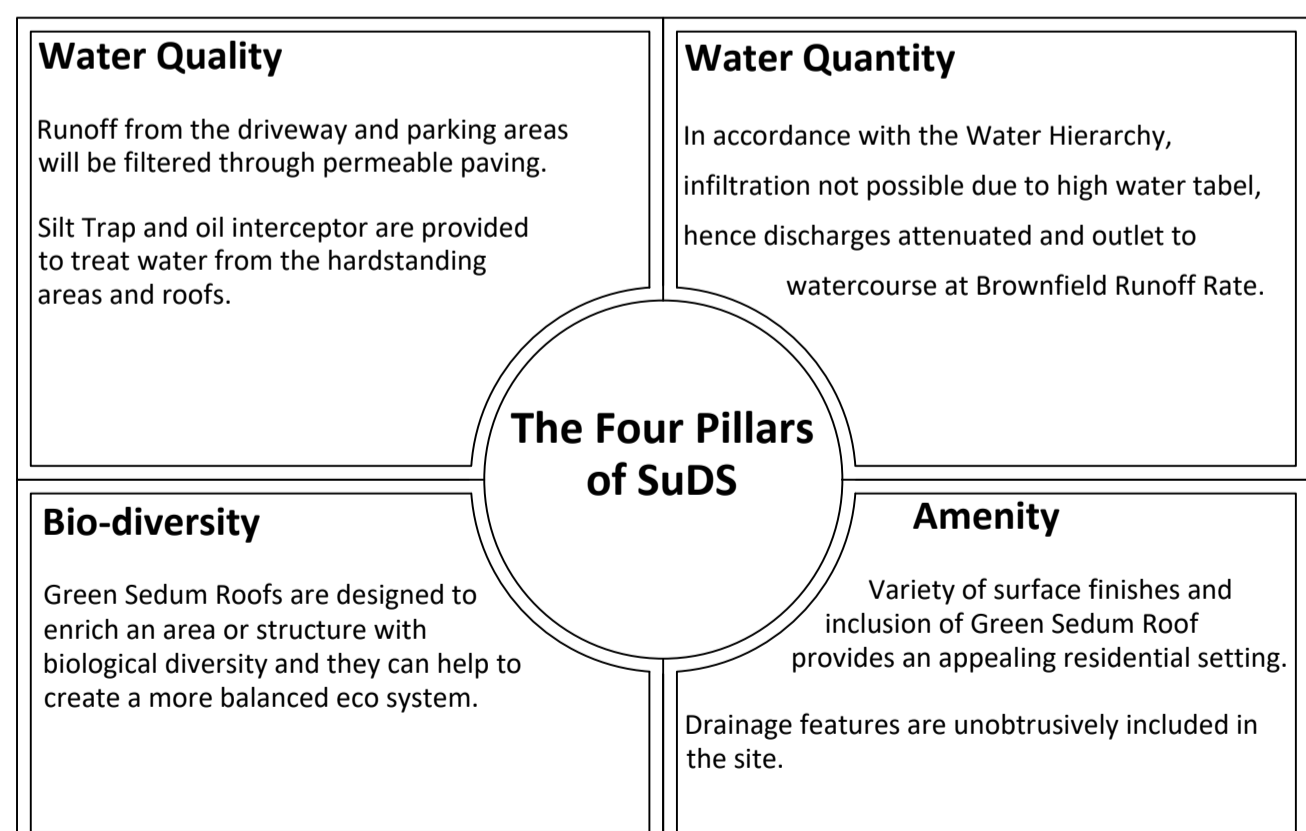
Summary of SuDS Strategy

- Permeable paving areas are proposed as part of the treatment system and therefore runoff from driveway and pedestrian areas will be filtered through the permeable paving areas.
- Type 3 subbase, being a single-sized washed gravel, has a 30% void ratio will be utilized beneath all permeable car parking spaces with minimum depth of 300mm to both allow the passage of water to the drainage system and also to attenuate peak in rainfall intensity.
- Silt Traps will be proposed at the upstream chambers before discharging into the storage system as shown in plan to provide sufficient treatment for reducing pollution.
- Oil interceptor is proposed to treat water draining from the part of access road, driveway, parking spaces and footpath then attenuated and discharged into existing private storm water manhole.
- Green Sedum Roof is proposed in the cycle store area in front of Unit 01 as part of SuDS Drainage Design.
- The Table demonstrates how the Pollution Indices (As defined in Tables 26.2 and 26.3 from SuDS Manual) have been applied.

Simple Pollution Indices:

Area	Pollution Indices			Proposed Treatment	Pollution Mitigation Indices			Residual Indices		
	TSS	Metals	Hydro-Carbons		TSS	Metals	Hydro-Carbons	TSS	Metals	Hydro-Carbons
Residential Roofs	0.5	0.5	0.1	Green Sedum Roof	0.8	0.7	0.9	0.0	0.0	0.0
Driveways & Parking	0.5	0.3	0.4	Silt Trap	0.5	0.5	0.5	0.0	0.0	0.0
				Permeable paving	0.7	0.6	0.7			
				Silt Trap	0.5	0.5	0.5			
				Oil Interceptor	0.7	0.7	0.7			

SuDS Plan
(Scale 1:250)



Management & Maintenance

The private drainage systems shall be managed by Management Company for this development. The maintenance activities listed below are considered to be the basic tasks necessary to keep the site drainage systems working at optimum efficiency, which is necessary to ensure that they have capacity to deal with extreme / unusual events. Other activities, such as litter removal / repairs etc. will also be required.

Area	Maintenance Activity	Frequency	Responsibility
'On Plot' Hard-Surfacing & Drainage	Inspection of manholes/Chambers	Recommended every 5 years	Management Company
	CCTV/Jetting of Sewers	Recommended every 10 years	Management Company
	Spillages	Provision of Spill Kits to contain contaminants	Management Company
	Inspection and cleaning of flow control	Annually	Management Company
	Inspection of Silt Traps	Annually	Management Company
Building Roof Drainage	Roof Gutters to be cleared debris	Recommended every 2 years	Management Company
Sedum Roof	Inspect all components including soil substrate, vegetation, drains, irrigation systems (if applicable), membranes and roof structure for proper operation, integrity of waterproofing and structural stability	Annually and after severe storms	Management Company
	Inspect soil substrate for evidence of erosion channels and identify any sediment sources	Annually and after severe storms	Management Company
	Inspect drain inlets to ensure unrestricted runoff from the drainage layer to the conveyance or roof drain system	Annually and after severe storms	Management Company
	Inspect underside of roof for evidence of leakage	Annually and after severe storms	Management Company
	Remove debris and litter to prevent clogging of inlet drains and interference with plant growth	Six monthly and annually or as required	Management Company
	During establishment (i.e year one), replace dead plants as required	Monthly	Management Company
	Post establishment, replace dead plants as required (where 5% of coverage)	Annually especially in Autumn	Management Company
	Remove fallen leaves and debris from deciduous plant foliage	Six Monthly or as required	Management Company
	Mow grasses, prune shrubs and manage other planting (if appropriate) as required - clippings should be removed and not allowed to accumulate	Six monthly or as required	Management Company
	If erosion channels are evident, these should be stabilized with extra soil substrate similar to the original material, and sources of erosion damage should be identified and controlled	As Required	Management Company
If drain inlet has settled, cracked or moved, investigate and repair as appropriate	As Required	Management Company	
Oil Interceptor	Maintenance in accordance with manufacturer specifications	As Required	Management Company

Project
Piperell Way, Haverhill

Title
SuDS Plan

Job No
22111

Drawing No
22111-003 P02

Status
Planning Rev

Scale
1:250@A1 Date
07-08-2023

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