

DRAINAGE STRATEGY
 FOUL & STORM WATER DESIGN -

GENERAL - The storm water drainage scheme shown is designed to conform with the those requirements as set out in SuDS manual CIRIA document 753, ensuring run off water is source controlled appropriately.

Foul water is shown as connecting to a public sewer but may connect via a nearer public or indirectly through a private system subject to further detailed survey. Note, NOT ALL PUBLIC SEWERS ARE INDICATED ON THE SEWERAGE AUTHORITY MAPS.

STORM WATER - The existing greenfield site measures some ha in area. It is located in flood zone 1 area for fluvial and tidal flooding. The proposed development adds offer the following areas:-

Red line boundary area 1233 sq.m
 Predevelopment soft area 1233 sq.m

House roof area 260 sq.m
 New car parking area 75 sq.m
 Paving at front of houses 71 sq.m
 Patios at rear of houses 62 sq.m
 Soft areas 765 sq.m

INFILTRATION RATES - The design utilises infiltration which has been tested on site with a design figure of 1.95 m/s for the porosity rate. Infiltration indicates a drop in water level of 130mm in 1.15 hours. Groundwater monitoring has been carried out with levels recorded as shallow as 1.45m.

Roof - The roof downpipes from the front of the houses shall be drained through a system of pipes and catchpits into shallow geocrate soakways beneath the car parking areas.

The roof downpipes at the rear of the houses will drop to low level channels with a rain diverter to a 210 li water butt. The channel will then drain to a raingarden of 150mm depth and area of 20% of the contributing roof of , to provide 20% of the roof area, as required in the UK Raingarden Design Guidance.

Geocrate Soakaway - The soakaways located beneath the parking areas will assist in draining the parking bays and front portion of the house roofs. They will be a max of 500mm in depth and constructed to detail no. 7.

Raingardens - The raingardens will be max 150mm in depth and planted with various species as listed below. The area of the garden will match the 20% of the contributing roof area of 5 sq.m as a minimum but must be 7.5 sq.m to offer the 100 year + 45% climate change event. See detail no. 11 also.

DESIGN EXCEEDANCE FLOWS - Where design storms and attenuation volumes are exceeded, such flows will run down the road towards the lowest part of the site and to the highway.

OWNERS SUDS DRAINAGE MAINTENANCE PLAN - Where attenuated volumes are provided in permeable construction make ups which are inaccessible without conventional excavation, it is important to provide features on the drainage system which minimise silt migration.

- All rainwater hopperheads, pipes and gutters should be cleaned twice a year.
- Empty and clean the rainwater butts yearly.
- Remove weeds and debris from any raingardens, keep soil agitated and plants tended.
- All pipes should be cleaned/jettied once a year.

FOUL WATER - The new houses may connect direct to the public sewer as indicated. However due to the 2011 regulations of adoption of pipes draining two properties or more, closer public foul sewers, not recorded on the Sewerage Undertaker maps, may be present. The foul design is therefore subject to further survey findings on site.

ABBREVIATIONS / LEGEND

AAV	AIR ADMITTANCE VALVE
AC	ACCESS CHAMBER
ACC	ACCESS
ASBC	ASBESTOS CEMENT
AFFL	ABOVE FINISHED FLOOR LEVEL
BD	BACKDROP
BIG	BACK INLET GULLY
BGL	BELOW GROUND LEVEL
BR	BRANCH
BSSL	BELOW SLAB SOFFIT LEVEL
CE	CLEANING EYE
CI	CAST IRON
CL	COVER LEVEL
CP	CATCHPIT
DC	DRAINAGE CHANNEL
DCO	DRAINAGE CHANNEL OUTLET
DTC	DRAINAGE THRESHOLD CHANNEL
DP	DRAIN POINT
FA	FROM ABOVE
FB	FROM BELOW
FC	FLEXIBLE CONNECTION
FAI	FRESH AIR INLET
FWD	FOUL WATER DRAIN
FWG	FOUL WATER GULLY
FWS	FOUL WATER SEWER
GL	GROUND LEVEL
GT	GREASE TRAP
HL	HIGH LEVEL
IC	INSPECTION CHAMBER
IL	INVERT LEVEL
IT	INTERCEPTING TRAP
LL	LOW LEVEL
LWG	LIGHTWELL GULLY
MH	MANHOLE
ML	MID LEVEL
OD	OVERDRAIN
OTG	OPEN TOP GULLY
OTBG	OPEN TOP BACK INLET GULLY
PE	POLYETHYLENE
PF	PITCH FIBRE
PM	PUMP MAIN
PP	POLYPROPYLENE
PPAC	POLYPROPYLENE AC
PPIC	POLYPROPYLENE IC
PCC	PRECAST CONCRETE
PVC	POLYVINYL CHLORIDE
RE	RODDING EYE
RG	ROAD GULLY
RWH	RAINWATER HARVESTING
RWP	RAINWATER PIPE
SP	SOIL PIPE
SHG	SHOWER GULLY
STBG	SEALED TOP BACK INLET GULLY
STP	SEWAGE TREATMENT PLANT
SUDS	SUSTAINABLE DRAINAGE SYSTEMS
SVP	SOIL VENT PIPE
SS	STUB STACK
SWD	STORM WATER DRAIN
SWS	STORM WATER SEWER
SWTD	STORM WATER TREATMENT DEVICE
TA	TO ABOVE
TB	TO BELOW
TBC	TO BE CONFIRMED
TD	TO DRAIN
UB	URINAL BOWL
UD	UNDERDRAIN
UTL	UNABLE TO LIFT
UTT	UNABLE TO TRACE
UTS	UNABLE TO SURVEY
VC	VITRIFIED CLAYWARE
VTA	VENT TO ATMOSPHERE
WC	WATER CLOSET
WHB	WASH HAND BASIN
WG	WASTE GULLY
WP	WASTE PIPE
WVP	WASTE VENT PIPE
YG	YARD GULLY

PROPOSED FW DRAINAGE LEGEND / KEY	
PROPOSED FWD / GRADIENT / BEDDING	1000 FWD - 1:40 - CLASS S
EXSTG FWD / FWS	
PROPOSED 4500 PPIC - ALL 1000 INLETS / OUTLETS - AS DETAIL No. 5	
PROPOSED 225 / 300 Ø PPAC AS DETAIL No. 4	
PROPOSED FW DP - SVP - SS AS DETAIL No. 1	

PROPOSED SW DRAINAGE LEGEND / KEY	
PROPOSED SWD / GRADIENT / BEDDING	1000 FWD - 1:40 - CLASS S
PROPOSED PP SW CP AS DETAIL No. 6	
GEOCELL SOAKAWAY AS DETAIL No. 7	
PROPOSED DRAINAGE CHANNEL (DC) & (DCO) AS DETAIL No. 4	
PROPOSED RWP AND WATER BUTT AS DETAIL No. 4 & 10	
DESIGN EXCEEDANCE FLOW DIRECTION	

P2	Site drainage design added following receipt of groundwater monitoring and porosity test results.	26-09-24	SAD
P1	PRELIMINARY ISSUE	06-03-24	SAD

Rev	Description	Date	Chkd
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Drawing status PLANNING ISSUE

Project no	Scales	Drawing no	Rev
1859	A1 - 1:100 A3 - 1:200	100	P2

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