

Proposed Drainage Strategy.

1. Infiltration systems are used to store surface water runoff from 50% of the total roof and driveways / courtyard areas. As infiltration rates throughout the site are low (3.0x10-6 m/s), designs to infiltration systems will require a piped overflow to a gravity fed drainage system which discharges to the detention basins and pond. The overflows from the infiltration systems will control the release of the surface water runoff ensuring that the volume of surface water runoff does not exceed greenfield runoff volumes for the same event. A factor of safety of 5 is required to all infiltration systems where exceedance flows could affect adjacent houses.
2. Surface water runoff from over 50% of roofs, driveways and courtyard areas drain directly to infiltration systems which will reduce the contributing impermeable area to each pond. However, as infiltration rates on site are low, the detention basins and pond have been designed to allow for 100% of the impermeable contributing area to ensure that there is adequate capacity for storage volumes.
3. Accordingly, the detention basin and Pond design details within the drawing show the results for 100% of the impermeable area from each sub-catchment.
4. The reduction in Contributing Areas to all detention basins and pond using infiltration methods is also indicated.
5. The pre-development catchment area of 7.08ha with circa 40% volume runoff equates to an allowable impermeable area of 2.83ha. The total measured impermeable area from the current masterplan is 3.50ha (including an allowance for urban creep), however with infiltration systems such as permeable paving being used throughout this could offer a significant reduction of hard catchment areas from roofs, driveways and courtyards which will avoid any increase in surface water volumes discharging from the site. By utilising this strategy the post-development impermeable catchment area reduces to 2.01ha.

0 2m 10m 20m 30m 40m



B C

A

Detention/Infiltration Basin A Design Details
Design storm capacity: Q100 + 45% CC
Basin bed level: 135.278mAOD
Minimum bank level: 136.578mAOD
Basin Area: 2298.1m²
Bank gradient within attenuations: 1 in 3
Contributing Area: 1.673ha
Discharge Rate: 3.5l/s
Maximum water level: 136.279mAOD
Attenuation depth (max): 1.001m
Pond Freeboard: 0.299m

Impermeable Area A
Total Roof Areas = 5740.012m²
Plus allowance of 6% for urban creep = 344.400m²
Total Garage Areas = 448.150m²
Total Driveways & Courtyards = 5271.923m²
Total Highways = 5151.751m²
Total Impermeable Area = 16728.861m²

Reduction in Contributing Areas to Pond A using infiltration methods
Roof areas to permeable paved sub-bases = 4125.506m²
Driveways to permeable paved sub-bases = 2160.369m²

Reduced Total Impermeable Area to Pond A = 10442.384m²

Detention/Infiltration Basin B Design Details
Design storm capacity: Q100 + 45% CC
Basin bed level: 133.50mAOD
Minimum bank level: 134.50mAOD
Basin Area: 1082.9m²
Bank gradient within attenuations: 1 in 3
Contributing Area: 0.677ha
Discharge Rate: 7.3l/s
Maximum water level: 134.199mAOD
Attenuation depth (max): 0.701m
Pond Freeboard: 0.301m

Impermeable Area B
Total Roof Areas = 1972.239m²
Plus allowance of 6% for urban creep = 118.334m²
Total Garage Areas = 105.978m²
Total Driveways & Courtyards = 1338.442m²
Total Highways = 3236.267m²
Total Impermeable Area = 6771.280m²

Reduction in Contributing Areas to Pond B using infiltration methods
Roof areas to permeable paved sub-bases = 1424.782m²
Driveways to permeable paved sub-bases = 704.230m²

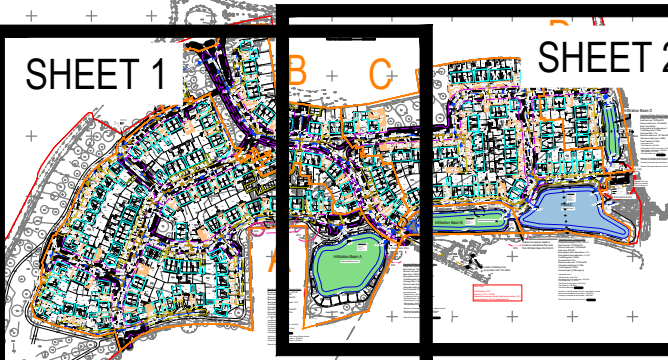
Reduced Total Impermeable Area to Pond B = 4642.268m²

Notes:

1. Drainage designs in accordance with CIRIA C753 The SuDS Manual, Sewerage Sector Guidance Appendix C - Design and Construction Guidance, Building Regulations 2010 Approved Document Part H and BS EN 752:2017.

Legend:

- Proposed Surface Water Sewer
- Proposed Foul Water Sewer
- Proposed Detention/Infiltration Basin
- Proposed Attenuation Pond (with residual depth of water)
- Proposed Attenuation Storage (Cellular Crates)
- Proposed Shallow Swale (Exceedance Flow Route)
- Proposed Permeable Paving
- Impermeable Roof Areas
- Impermeable Highways Area
- Impermeable Driveway / Parking Area
- Detention/Infiltration Basin & Attenuation Pond Catchment Areas
- Site Boundary



SHEET LAYOUT

P11	18/02/26	Updated to suit current layout & Icosas requirements for adoptable drainage.	EPH	WH
P10	07/10/25	Impermeable area measurements updated following detailed design	EPH	WH
P9	23/09/25	Drainage Layout updated to suit Foul Drainage Inlet to offsite Pump Station.	EPH	WH
P8	16/07/25	Surface Water Drainage Strategy updated to suit comments received by Wiltshire Council Drainage Engineers dated 23rd June 2025 in relation to Planning Application No. PL/2025/01523.	EPH	KM
P7	12/06/25	Surface Water Drainage Strategy updated to suit comments received by Wiltshire Council Drainage Engineers dated 29th May 2025 in relation to Planning Application No. PL/2025/01523.	EPH	KM
P6	22/04/25	Surface Water Drainage Strategy updated to suit comments received by Wiltshire Council Drainage Engineers dated 20th March 2025 in relation to Planning Application No. PL/2025/01523.	EPH	KM
P5	11/04/25	Surface Water drainage strategy updated to allow for revised levels design, 45% allowance for climate change, 30% betterment against revised green field runoff rates and 6% allowance for urban creep. Pond sizes adjusted to suit. Scale bar added as required.	EPH	KM
P4	26/02/25	Scale bar added as required.	S.H	K.M
P3	29/01/25	Updated to suit current Masterplan	EPH	KM
P2	21/08/24	Permeable paving reduced to 50%	KM	EPH
P1	26/06/24	Preliminary issue	EPH	KM

Rev Date Description By Apvd

PROJECT:
VICTORIA ROAD
WARMINSTER

TITLE:
PROPOSED DRAINAGE STRATEGY
SHEET 1 OF 2

CLIENT:
KEEPMOAT HOMES LTD

SCALE@A1:
1:500

PROJECT REF:
24233
DRAWING No:
24233-JUB-ZZ-XX-DR-C-500
REV:
P11

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction

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