



Basin	Developable Area [ha]	Assumed Impermeable Area [ha]	Assumed Impermeable Area including 10% Urban Creep [ha]	Indicative Attenuation Volume [m <sup>3</sup> ]
Catchment A	3.35	2.65	2.84	1,785
Catchment B	2.41	1.57	1.57	1,220
Catchment C	3.46	2.59	2.78	5,115
Catchment D	3.00	2.37	2.54	2,110
Catchment E	0.62	0.63	0.66	2,165
Catchment F, I, G and J	9.63	7.10	7.48	4,145
Catchment H	1.11	1.44	1.44	4,015
Catchment K	2.42	1.87	2.01	3,010
Catchment L	0.75	0.86	0.90	5,000
<b>Total</b>	<b>26.75</b>	<b>21.08</b>	<b>22.23</b>	<b>28,565</b>

- KEY:**
- Site Boundary
  - Catchment A
  - Catchment B
  - Catchment C
  - Catchment D
  - Catchment E
  - Catchment F
  - Catchment G
  - Catchment H
  - Catchment I
  - Catchment J
  - Catchment K
  - Catchment L
  - Indicative Location of Attenuation Basin with 3m maintenance strip
  - Indicative Location of Infiltration Basin with 3m maintenance strip
  - Location of Infiltration Testing Location IT04
  - Indicative Location of Low proposed Flow Channel
  - Indicative Location of proposed Conveyance Feature
  - Indicative Location of proposed Headwall
  - Indicative Location of Railway Line
  - Indicative Easement of 21m from the Railway Line (TBC)
  - Indicative Location of Proposed Surface Water Sewer
  - Indicative Surface Water Flow Route
  - Indicative Location of Proposed Foul Water Pumping Station and Storage Compound
  - Indicative Location of Proposed Surface Water Flow Routing Channel (0.5m deep with 1:3 side slopes)
  - Indicative Location of Proposed Surface Water Swale (1.0m deep, 0.5m base width with 1:4 side slopes)
  - Indicative Location of Proposed Orifice Plate
  - Indicative Location of Proposed Flow Control

- NOTES**
- These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9
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  - No assessment of earthworks has been undertaken at this stage.
  - No assessment of surcharged outfall has been undertaken at this stage.
  - No utilities and arbor-cultural consideration has been undertaken at this stage.
  - Drawing should be read in conjunction with all other relevant scheme drawings.
  - Drawing includes:
    - Blue Green Infrastructure Plan provided by Define in September 2025 (Drawing No: DE\_565\_74\_REV\_E).
    - Proposed Levels produced by PJA in September 2025 (Drawing no. 05920-WR-A-0530)
    - Tree Survey provided by FPCR dated December 2023 (8575-T-01)
    - An infiltration rate of 1.88x10<sup>-3</sup>m/s from location IT04 was used from the 2024 Geo Environmental Group Infiltration Testing.
  - Indicative Surface Water Drainage Strategy based on:
    - Attenuation Basin A is 1.3m deep with 1:4 side slopes (including 300mm freeboard)
    - Attenuation Basin B is 1.5m deep with 1:4 side slopes (including 300mm freeboard)
    - Attenuation Basins FIG, H, and K are 2.3m deep with platform to facilitate planting. Staged basin is 1m deep with 1:3 side slopes. From the proposed platform, the basin utilizes 1:5 side slopes and is 1.3m in depth.
    - Attenuation Basins I and E are 2.3m deep with platform to facilitate planting. Staged basin is 0.8m deep with 1:3 side slopes. From the proposed platform, the basin utilizes 1:5 side slopes and is 1.5m in depth.
    - Attenuation Basin C is 2.5m deep with platform to facilitate planting. Staged basin is 1m deep with 1:3 side slopes. From the proposed platform, the basin utilizes 1:5 side slopes and is 1.5m in depth.
    - Attenuation Basin D is 2.4m deep with platform to facilitate planting. Staged basin is 1.4m deep with 1:4 side slopes. From the proposed platform, the basin utilizes 1:5 side slopes and is 1m in depth.
  - Volume within conveyance features has not been included within the attenuation calculations at this stage.
  - Discharge limited to an infiltration rate of 1.88x10<sup>-3</sup>m/s in accordance with the Geo Environmental Group Infiltration Testing, FEH 22 Data.
  - Cv Values of 1.
  - Impermeable Area Assumptions:
    - 60% impermeable for all residential development with an additional 10% for urban creep.
    - 100% impermeable for all highways.
    - 100% impermeable for all attenuation basins.
    - 50% for all educational facilities.
    - 80% for mixed used development.
    - 90% for commercial development.
  - Further consideration of utilities, arboricultural and ecological constraints should be undertaken prior to detailed design.
  - Indicative surface water drainage design based on masterplanning at the time of production and impermeable areas may result in changes to the drainage strategy.
  - Further ground investigation to confirm infiltration rates, seasonal groundwater levels and detail of the underlying chalk solubility is required.

- RISK ITEMS:**
- Risk Item 1: Indicative Surface Water Drainage Strategy is subject to proposed development hydraulic modelling to refine surface water flood extents across the Site.
- Risk Item 2: Indicative Surface Water Drainage Strategy is subject to a detailed earthworks and levels assessment.

REV	DATE	REVISION NOTE	BY
P11	26/09/2025	REVISED MASTERPLAN	AB
P10	20/08/2025	UPDATES TO HYDRAULIC MODELLING	SF
P09	04/12/2024	UPDATING RED LINE BOUNDARY	JG
P08	04/11/2024	REVISED DRAINAGE STRATEGY	GD
P07	23/10/2024	LANDSCAPE STRATEGY UPDATED	CT
P06	16/10/2024	REVISED DRAINAGE STRATEGY	CT
P05	15/10/2024	REVISED DRAINAGE STRATEGY	CT
P04	07/10/2024	REVISED DRAINAGE STRATEGY	CT
P03	20/09/2024	REVISED DRAINAGE STRATEGY	CT
P02	19/08/2024	REVISED DRAINAGE STRATEGY	CT
P01	27/11/2023	DRAFT FOR COMMENT	GD

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CLIENT: Hallam Land Management Limited and St Albans School

PROJECT: Woollam Park, St Albans

DRAWING TITLE: Surface Water Drainage Strategy

DRAWING ISSUE STATUS: **PLANNING**

PJA JOB No. SUB-CODE DRAWING NO. REVISION  
05920 -WR - 0525 - P11

Revision Letter: P - Planning Approval / T - Tender / C - Construction  
BIM DRAWING REFERENCE:

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