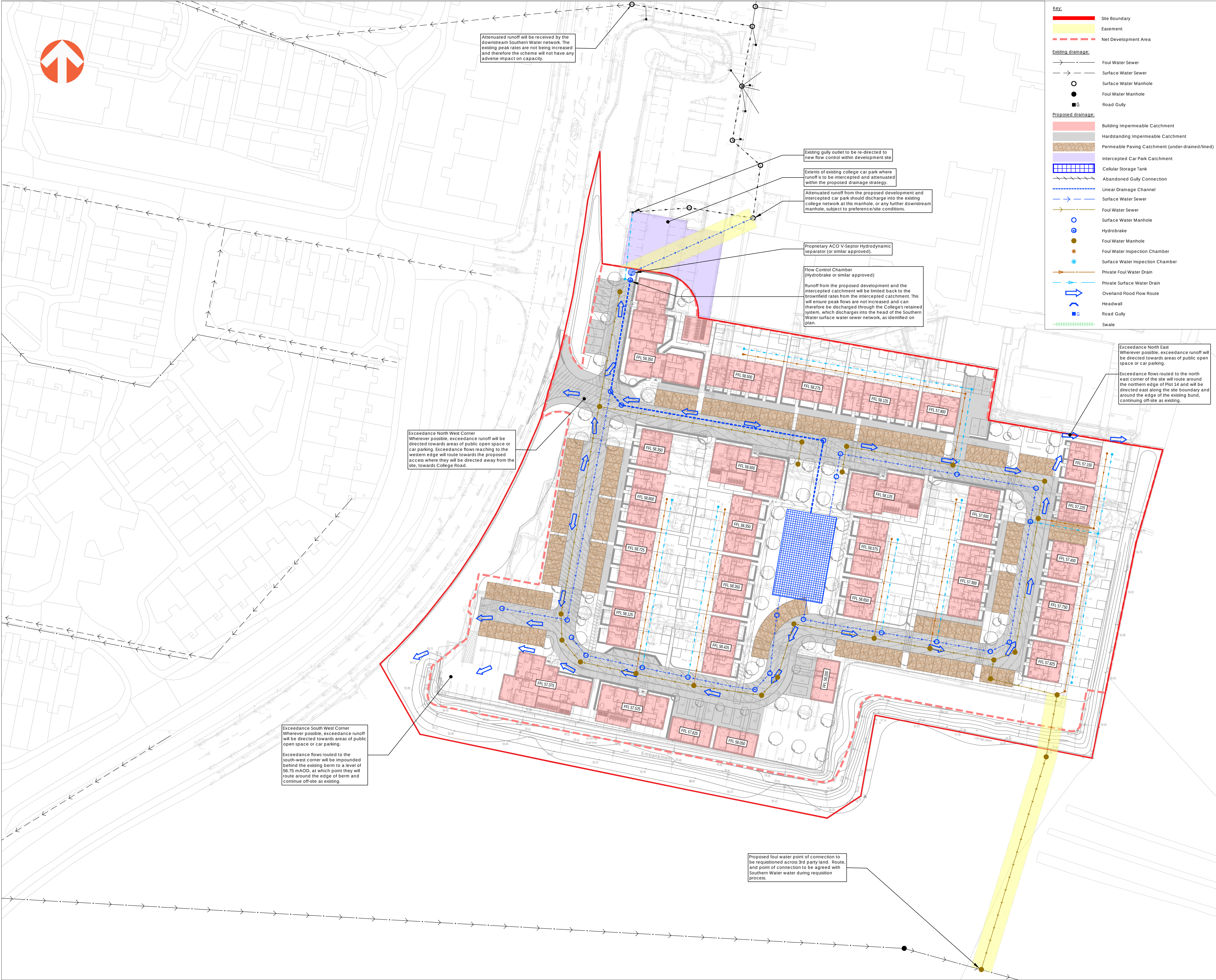




Key:

Site Boundary
Easement
Net Development Area

Existing drainage:

Foul Water Sewer
Surface Water Sewer
Surface Water Manhole
Foul Water Manhole
Road Gully

Proposed drainage:

Building Impermeable Catchment
Hardstanding Impermeable Catchment
Permeable Paving Catchment (under-drained/lined)
Intercepted Car Park Catchment
Cellular Storage Tank
Abandoned Gully Connection
Linear Drainage Channel
Surface Water Sewer
Foul Water Sewer
Surface Water Manhole
Hydrobrake
Foul Water Manhole
Foul Water Inspection Chamber
Surface Water Inspection Chamber
Private Foul Water Drain
Private Surface Water Drain
Overland Flood Flow Route
Headwall
Road Gully
Swale

Area Summary Schedule

Net Developable Area	1.934 ha
Impermeable Catchment	1.059 ha

Pre-Development Runoff

The equivalent greenfield runoff rates have been assessed for the 'net developable area' using the FFM Method. The calculation excludes large areas of open space which will remain undeveloped.

Return Period	Greenfield Rate (l/s)
2yr	8.76
30yr	22.88
100yr	31.74

To reduce capacity entering Southern Waters system, the proposed system will intercept 0.052ha of the existing college car park, immediately north of the application site. The peak flow from the intercepted catchment (0.052ha) has been calculated using the Modified Rational Method and is summarised below.

Return Period	Brownfield Rate (l/s)
2yr	6.41
30yr	14.49
100yr	23.24

Runoff from the proposed development and the intercepted catchment will be limited back to the above brownfield rates, ensuring peak flows are not increased and can therefore be discharged through the College's retained system, which discharges into the head of the Southern Water surface water sewer network, as identified on plan.

Ownership and maintenance responsibilities for the proposed flow control chamber, and downstream hydrodynamic separator, lie with the developer's appointed management company, and not the college.

Attenuation Summary

Cellular Storage Tank

Catchment	1.111 ha (incl. 10% Urban Creep)
Hydraulic Control	Ref: MD-SHE-0123-6400-0700-6400
	0.075mØ Orifice @ L + 1.050m
Porosity	95%
Dimension	12.5m X 28.5m X 1.6m Deep

Total Volume Required: 576.6m³

Total 2yr+40% Peak Discharge	6.4 l/s
Total 30yr+40% Peak Discharge	14.30 l/s
Total 100yr+40% Peak Discharge	21.7 l/s

Within the drainage strategy the use of under-drained permeable paving offers treatment of runoff but is not being used to mobilise attenuation storage. At the design stage further controls could be incorporated to attenuate within the paving sub-base, offsetting the cellular tank volume.

Notes:

- The proposed development has been assessed in line with the NPPF, to allow the planning application to be progressed and to show that the development can be undertaken in an acceptable manner from a flood risk perspective.
- The extents of built development are limited to 'Flood Zone 1' only and are not susceptible to surface flooding from pluvial, groundwater, infrastructure or artificial sources.
- To ensure the development is safe throughout its lifetime, the surface water strategy accounts for runoff in up to the 100 year return period.
- The strategy also safeguards against the upper end allowances for climate change (40%), providing betterment over undeveloped conditions, where the rate and volume of runoff would continue to increase due to climate change.
- The Ground Investigation indicates the site has a low infiltration rate that precludes the use of soakaways by virtue of excessive half drain-down time (in excess 7 days).
- The drainage strategy also provides a 10% allowance for future urban creep and discharge at existing greenfield runoff rates. The cumulative impact of the various design allowances will ensure that flood risk within the downstream catchment is reduced as a result of the proposed development.
- The drainage arrangements include a treatment scheme to mitigate against degradation of water quality as a result of the development. The proposals contribute to the provision of amenity space, and provide potential for planting to improve biodiversity of the development.
- During exceedance events runoff will be directed away from buildings and toward low points where exceedance drainage provision is provided.
- Foul flows generated by the development are proposed to be discharged via a requisitioned connection to the public foul sewer to the south of the site.

D	01.08.2023	UPDATED TO SUIT LLFA COMMENTS	TMR	CPY	CPY
C	19.06.2023	UPDATED TO SUIT LATEST LAYOUT	BJG	CPY	CPY
B	08.06.2023	UPDATED TO SUIT LATEST LAYOUT	VS	JB	CPY
A	25.03.2022	INITIAL ISSUE	VS	JB	CPY
REV	DATE	DESCRIPTION	BY	CHK	APD

DRAWING STATUS: **PLANNING APPLICATION**

CLIENT: **PLACES FOR PEOPLE**

PROJECT: **SOUTH DOWNS COLLEGE**

TITLE: **PRELIMINARY DRAINAGE LAYOUT**

PROJECT No:	DRAWING No:	REV:
1017	01-PDL-1001	D

SCALE @ A1: 0 1:500 25 metres

DESIGN BY:  **awcockward partnership**

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