



**Key**

- Site Boundary
- Flood Zone 2
- Flood Zone 3
- Existing Drainage
  - River Loddon
  - Ordinary Watercourse
  - Field Ditch
- Proposed Drainage
  - Detention Basin
  - Overland Flood Flow route
- Catchments
  - Basin A Catchment
  - Basin B Catchment
  - Basin C Catchment
  - Basin D Catchment
  - Basin E Catchment

**Pre-Development (Greenfield) Runoff**

The greenfield runoff rate has been assessed in accordance with the ICP SuDS method, which is based on the IH124, but for catchments of less than 50ha.

The greenfield rate has been assessed per 1ha of area and the future development will include 10% betterment as below.

Return Period	Greenfield Runoff	10% Betterment
2 year	4.9 l/s/ha	4.4 l/s/ha
30 year	12.5 l/s/ha	11.3 l/s/ha
100 year	17.6 l/s/ha	15.8 l/s/ha

**Attenuation Summary**

The attenuation requirements for each parcel of land has been calculated on the basis of an assumed 'percentage impermeable' of 60% and is sized to accommodate the 100 year attenuation storage and Long Term Storage simultaneously, with 40% allowance for climate change.

LTS Volume	57 m³/ha
LTS Rate	2 l/s/ha

Combined Att. & LTS Vol. 580 m³/ha

This volume has been prorated across all development parcels within the application boundary to establish the total site attenuation, as summarised below:

Phase Ref.	Total Imp. Catchment Allowance per Phase	Total Attenuation Allowance per Phase	Basin A Allowance	Basin B Allowance	Basin C Allowance	Basin D Allowance	Basin E Allowance
Phase 1	4.491 ha	2,605 m³	1,609 m³	996 m³	-	-	-
Phase 2	3.632 ha	2,107 m³	880 m³	1,226 m³	-	-	-
Phase 3	3.648 ha	2,116 m³	-	2,116 m³	-	-	-
Phase 4	5.761 ha	3,341 m³	-	-	1,216 m³	839 m³	1,287 m³
Total	15.819 ha	10,169 m³	2,489 m³	4,338 m³	1,216 m³	839 m³	1,287 m³

**Notes**

- The proposed developable area is located entirely within 'Flood Zone 1 - Low Risk' and is therefore not at risk of flooding from fluvial sources in up to a 1 in 1000 year return period.
- The proposed drainage strategy has been designed in accordance with the National Planning Policy Framework (NPPF) and the supplementary Planning Practice Guidance.
- In-situ soakway testing was undertaken by Ruddlesden Geotechnical Ltd in August 2014 and compiled with the requirements of BRE Digest 365. The results of the soakway testing confirmed that the underlying ground conditions are unsuitable for the use of infiltration based drainage techniques.
- Any on-site attenuation will be sized to cater for the 100 year (>40% climate change) critical storm event and will incorporate Long Term Storage (LTS) to mitigate the impact of any increased volume of runoff. The LTS volume will be released as 2 l/s/ha, beyond which the total site discharge will be limited to the equivalent greenfield runoff rate, less 10%.
- The blanket allowance of 40% for the predicted effects of climate change will offer further betterment until such time as this level of climate change has been realised (currently predicted as being 100 years).
- The restricted runoff from the site will be steered towards the River Loddon. No discharges will be released to the upper reaches of the ordinary watercourse (Settle Brook).
- During exceedance events, water will overflow the drainage systems and follow the natural topography of the site, towards the on-site attenuation features where any freeboard allowances will be utilised.
- The Preliminary Drainage Layout does not attempt to present a final design of the proposed drainage system. Detailed design of the system and any inherent features will commence upon approval of the strategy and will include assessments due to site investigations, health and safety, CDM etc.
- Any adoptable drainage networks will be designed in accordance with the Design and Construction Guidance and will be handed to the respective Water Authority for adoption.
- Any new private drainage will be designed in accordance with Building Regulations Part H. The operation and maintenance of any on-plot drainage will be the responsibility of the respective homeowner, whilst any communal features will be the responsibility of a third party management company.
- The maintenance of any SuDS features should be in accordance with the requirements of CIRIA C753 - The SuDS Manual.

**Client:** WELLBECK STRATEGIC LAND

**Drawing Status:** FOR INFORMATION ONLY

**Project:** GILLINGHAM SOUTHERN EXTENSION

**Title:** DRAINAGE PHASING PLAN

**Project No:** 0456 **Drawing No:** DR-1001 **Rev:** B

**Scale @ A1:** 0 1:2000 100 metres

**Design By:**

**awp** awcockward partnership

Awcock Ward Partnership, Ada House, Pynes Hill, Exeter, EX2 5TU  
Tel: 01392 409007 Web: [www.awpexeter.com](http://www.awpexeter.com)