



**Key:**

- Site Boundary
- Net Developable Area

**Existing Drainage:**

- Headwall
- Concrete Channel
- Surface Water Culvert

**Proposed Drainage:**

- Surface Water Sewer Private
- Headwall
- Flow Control Chamber
- Surface Water Inspection Chamber
- Exceedance Flow
- Swale
- Culvert

**Area Summary Schedule**

Net Developable Area	0.245 ha
Impermeable Catchment	0.111 ha
PMP %	45%

**Pre-Development (Greenfield) Runoff**

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

**Existing Greenfield Runoff Rates**

Return Period	Greenfield Rate (l/s)
2yr	0.8
30yr	1.7
100yr	2.2

**Attenuation Summary**

**Swale**

Ownership	Private
Catchment	0.085 ha
Hydraulic Control	200.04m Office @IL +0.0m

**Surface Area**

Depth	357.2m <sup>2</sup>
100yr+40% Peak Discharge	1.384m
100yr+40% Volume	2.2 l/s
100yr+40% Volume	36.9 m <sup>3</sup>

**Total Volume Required:** 36.9 m<sup>3</sup>  
**Total 100yr+40% Peak Discharge:** 2.2 l/s

**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.
- This proposed development site is located within an area that is susceptible to fluvial flooding, however JBA's hydraulic modelling has demonstrated that the proposed level raising within the site protects the site from flooding, without increasing flood risk to third parties. Displaced flood water is held upstream of the site within an area of woodland inside the applicants ownership.
- 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.
- Surface water runoff generated by the site will be attenuated on site and discharged at the sites equivalent greenfield rates. The outfall sewer will route to an existing watercourse which receives runoff from the existing site.
- Exceedance flows will be directed towards convenient holding points within the site. Beyond which they will follow the natural topography towards the downstream watercourse.
- Foul flows generated by the development will drain to a new private package treatment plant. Treated flows will discharge to the proposed swale and wetland area which can provide further polishing ahead of outfall to the downstream watercourse.
- The ERF and ARF are expected to employ 33 and 6 full time members of staff respectively. In accordance with British Water Flows and Loads 4, 39 full-time day staff will generate 3,510 litres of effluent per day and therefore the site should not require an Environmental Permit for the discharge of treated foul effluent.
- All proposed drainage will be retained under private ownership and will be operated and maintained by the site operator or appointed management company in accordance with the requirements of CIRCA C753 or any other manufacturer recommended guidance.

C	20.09.2022	UPDATED TO SUIT LATEST ACCESS DESIGN	VS	TMR	CPY
B	29.06.2022	UPDATED TO SUIT LATEST ACCESS DESIGN	TMR	CPY	CPY
A	24.05.2022	INITIAL ISSUE	VS	TMR	CPY
REV	DATE	DESCRIPTION	BY	CHK	APD

DRAWING STATUS:

**PLANNING APPLICATION**

CLIENT:

**RP CLEAN POWER LTD**

PROJECT:

**SWADLINCOTE RESOURCE RECOVERY PARK**

TITLE:

**PRELIMINARY DRAINAGE LAYOUT**

PROJECT No:	DRAWING No:	REV:
1079	01-PDL-1002	C

SCALE @ A1:

0 1:500 25 metres

DESIGN BY:

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