

- General Notes:**
- The copyright of this drawing is vested in Green Cat Renewables Ltd. and it may not be reproduced in whole or part or used for the manufacture of any article without the express permission of the copyright holders.
 - Work to figured dimensions only.
 - This drawing is to be read in conjunction with all relevant Green Cat Renewables Ltd. drawings and specifications.
 - GFRO = Green Field Run Off
SuDS = Sustainable Drainage Systems
 - It is assumed there will be no foul drainage on site.

SUDS Strategy

All hardstanding areas around batteries will have a permeable surface - Gravel grids or similar with a free draining sub-base - Type 3 stone or similar with 30% voids.

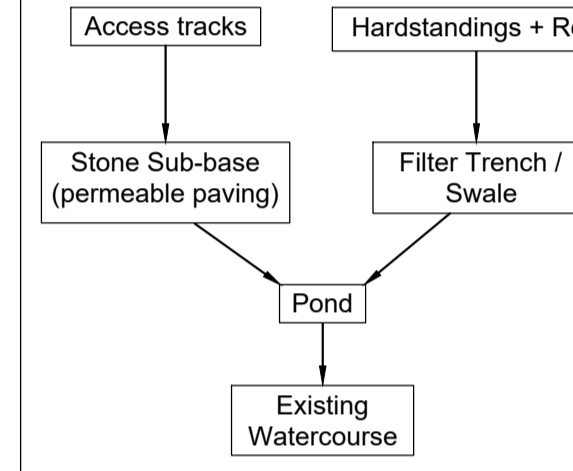
Roads will have a permeable surface - Gravel grids or Grasscrete with a free draining sub-base - Type 3 stone or similar with 30% voids.

Under-drain collector pipes will catch the treated water and move it to the pond for final treatment/storage.

Discharge to the existing watercourse at the equivalent 2yr GFRO. An overflow pipe set above the 30yr critical storms provided for larger storms up to 200yr return period.

Free draining sub-bases should be lined with geo-textile to allow for infiltration to ground where necessary.

SUDS Flowchart



This preliminary design is subject to change, final drainage and site layout design is to be confirmed at later stage. Principles noted at this stage will be maintained through detailed design.

Key

- SEPA flooding:**
- Low-Medium likelihood (0.5% chance)
 - Medium-High likelihood (10% chance)
- Existing Watercourse
- Proposed SUDS pond location
- Proposed surface water flows
- Site Boundary

P05	Final draft	CT	JS	AF	12.06.23
P04	Amended to comments	CT	JS	AF	07.06.23
P03	Amended to comments	CT	JS	AF	17.05.23
P02	Amended to comments	CT	JS	AF	15.05.23
P01	First Draft	CT	JS	AF	11.05.23
Rev	Description	Drm	Chk	App	Date

Green Cat Renewables Ltd
Stobo House
ROSLIN
EH25 9RE
0131 541 0060
www.greencatrenewables.co.uk

Client
East Coast Grid Services Ltd.

Project Title
Branxton Energy Storage Facility

Drawing Title
Surface Water Drainage Strategy

Status
INFORMATION

Scale @ size
1:1000 @ A1

Drawing Number
ECGS-GCR-DR-GA-DR-C-0001

Surface Water Drainage Strategy
1:1000

SCALE 1:1000

10m 0 100m

Interpretation of the Ground Investigation shows the site has areas of gravelly sand which is suitable for infiltration. Infiltration tests will be carried out (in accordance with BRE365) around the site for detailed drainage design. It is assumed the site will achieve 3x10-5m/s rate of infiltration.

SuDS area will be designed to store surface water up to the 30yr critical event + 39% Climate change.

A storage estimate based on a discharge rate of 21l/s and an infiltration rate of 3x10-5m/s equates to **1300-4000m³** storage volume required throughout the site.

The area shown for SUDS pond is large enough to accommodate ~3800m³ alone.

Storage volume will be split between the sub-base / pipes in the roads and the pond. Pond may be replaced with smaller swales throughout the site depending on infiltration test results.

278No. battery storage units

FGL is set higher than water level of adjacent SEPA flood risk

Lower level hardstanding will be free draining to further reduce risk of flooding near electrical transformers

Discharge to existing watercourse. Restricted to 2yr GFRO = 21l/s.

High level overflow discharge provided for storms greater than the 30yr critical return period up to the 200yr critical return period

The proposed discharges to the existing watercourse are set to mimic the natural Greenfield Run-Off rates.

Surface water capture through permeable paving and a SUDS pond with considerable volume for storage will reduce the rate at which surface water enters the watercourse naturally, reducing the risk of existing flooding.

In final site layout design no project infrastructure will be located within 10m of existing watercourse

Control containers

Site access

SPEN compound

Transformers