

Site Layout
Scale @ 1:200

Project Details

The site is located off Peterborough Road, Crowland. The postcode for the site is PE6 0BH and the approximate centre of the site at National Grid Reference TF 23950 09156.
The site size is more than a hectare (0.27 ha). The site is currently a Brownfield decommisioned petrol station.
The proposed development includes proposals for the construction of 10 dwellings with roads, driveways and parking spaces as follows:

- Housing (Roofs) : 1,038m^2
- Driveways and Parking : 210m^2
- Access Road: 461m^2
- Total Impermeable area: 1709m^2 (Approx 62% of the Site)

A Desk Study revealed that due to Clayey soils from a borehole less than 100m away, soakaways were assumed to not be utilised.

Drainage and SUDS Strategy:

As stated in CIRIA SuDS Manual 2015 the objective of sustainable drainage systems is to maximize the benefits and minimize the negative impacts of surface water runoff from developed areas. By applying SuDS methodology, storm runoff from the Site is controlled to ensure that flow rates in downstream watercourses are not increased and the water is appropriately treated to remove any contaminants, thus ensuring the quality of the water in the natural environment downstream.

Drainage Hierarchy:

	Drainage Hierarchy	Y/N	Comment
1	Infiltration to maximum extent	N	Due to Clayey Soils, soakaways are assumed not suitable
2	Discharge to Surface Waters	Y	An Existing ditch is being utilised to the Northern East side of the site
3	Discharge to Surface Water Sewer	N	None Available
4	Discharge to Combined Sewer	N	None Available

Key aspects proposed:

- It is proposed to provide an private drainage system throughout the development, receiving runoff from roofs, driveways and the access road. These flows will be attenuated before discharge into the existing ditch
- Runoff from private driveways, parking spaces and part of the access road will be filtered through a filter media within permeable surfacing.
- Part of the Access Road will be collected through gullies and discharged through a gravitational system.
- Discharge from the Site shall be restricted to 1.2-l/s using an Orifice Plate in MH-0001-S.
- Attenuated water shall be stored in a combination of underground storage (in the form of Attenuation Crates and Type 3 Subbase) for all storm events upto 1 in 100-year + 40% Climate Change event.

Storm Water Attenuation

Attenuation Volume Provided: 95m³

- Attenuation Volume used in 1 in 30 yrs storm event: 50%
- Attenuation Volume used in 1 in 100 yrs storm event: 65%
- Attenuation Volume used in 1 in 100 yrs storm event + 40% Climate Change : 92%

Foul Water

- A private foul water system shall be provided, discharging to an existing foul water sewer in Peterborough Road to the Western side of the site..

Exceedence Flows

Storm Water System is designed to receive and contain within the site boundary all rainfall up to & including 1:100 +40% CC AEP. Larger flows are expected to discharge into the existing ditch to the North Eastern side of the site. Exceedence Flows is exceptional events or due to blockage shall be routed away from all properties.

Management & Maintenance:

The maintenance activities listed below are considered to be the basic tasks necessary to keep the site drainage systems working at optimum efficiency, which is necessary to ensure that they have capacity to deal with extreme / unusual events. Other activities, such as litter removal / repairs etc. will also be required.

Area	Maintenance Activity	Frequency	Responsibility
Foul Drainage	CCTV/Jetting of Sewers	Every 10-Years	Management Company
Foul Drainage Hard-Surfacing & Drainage	Repairs to Sewers	As Required	Management Company
	Blockwork paved areas to be swept and de-weeded	As required during Spring and Summer Months	Management Company
Hard-Surfacing & Drainage	Cleaning of Gullies	Recommended every 2-Years	Management Company
Building Roof Drainage Building Foul Drainage	CCTV/Jetting of Sewers	Recommended Every 10-Years	Management Company
Hard-Surfacing & Drainage	Inspection of Manholes/Chambers	Recommended Every 5-Years	Management Company
Building Roof Drainage Building Foul Drainage	Spillages	Provision of Spill Kits to Contain	Management Company
	Gutters to be cleared of debris	Recommended Every 2-Years	Management Company
	Cleaning of below ground pipework	Recommended Every 10-Years	Management Company
Development Site Access Roads	Periodic sweeping to remove, debris, leaves etc	Every 2-4 weeks during autumn	Highways Authority

Key

- HB-HALF BATTERED KERB
- BN-BULLNOSE KERB
- TN-TRANSITION KERB
- EF-EDGING OF FOOTPATH
- Permeable Paving
- Tarmac
- Grass
- 3.000 Proposed Levels
- Surface Water Polypropylene Inspection Chamber
- Foul Water Polypropylene Inspection Chamber
- Private Storm Water Manhole
- Private Foul Water Manhole
- Foul Water Pipeline
- Surface Water Pipeline
- G Road Gully
- RE Rodding Eye

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NOTES

1. Do not scale this drawing.
2. All dimensions are in millimetres unless stated otherwise.
3. This drawing to be read in conjunction with all other relevant drawings and specifications.
4. All proprietary items to be installed in strict compliance with manufacturers instructions and recommendations.

STANDARD DRAINAGE NOTES:

1. Except where specifically shown otherwise all below ground pipes / connections shall be 100mm dia PVC (to BS 4660) or VC (to BS 5481) with flexible joints and laid to minimum falls of 1 in 40, except where connected to WC when falls may be 1 in 80.
2. All gravity pipe runs to be tested to a standing head of 1500mm head of water above the invert at the head of the pipe run (but not exceeding 4000mm at the lower end)
3. For details of bed and surround requirements refer to long-sections and standard details. In all other situations provide 150mm of 10mm single-sized rounded gravel bedding and surround.
4. Except where specifically shown otherwise, pipes to be a minimum of 900mm below roads/driveways and 600mm below gardens/fields.
5. Ventilating pipes to be provided at the head of each drain and to any branch longer than 6m where a single appliance is connected, or 12m where a group of appliances is connected.
6. Step-irons shall not be fitted in any chambers unless specified otherwise.
7. Manhole/Gully covers shall be regulated to suit finished levels and crossfalls
8. All proprietary items to be installed in strict compliance with manufacturers instructions and recommendations
9. Drains passing beneath buildings to have minimum 100mm granular fill or flexible filling around pipe. Where the pipe crown is within 300mm of the underside of the slab, pipe shall be encased in concrete integral with the slab.
10. Drains passing through walls below ground level to have minimum 50mm clearance all round and opening in walls to be masked all round with rigid sheet material to prevent ingress of fill or vermin. Openings in walls for pipes shall have concrete lintels to support wall construction above

CONSTRUCTION DESIGN AND MANAGEMENT REGULATIONS 2015

THE CONTRACTORS ATTENTION IS DRAWN TO THE ABNORMAL RISKS IDENTIFIED BELOW, ANNOTATED ON THE DRAWING AND EXPLAINED IN THE ASSOCIATED DESIGN RISK REGISTERS

LEGEND

- YOU MUST NOT DO
- HAZARD OR DANGER
- YOU MUST DO
- CAUTION

ABNORMAL RISKS IDENTIFIED:

P2	Re-design	AJP	18-11-21

Client
Dove Partners LLP

Project
64-66 Peterborough Road

Title
Drainage Strategy

Job No 19088

Drawing No 19088-001 Rev P2

Status Preliminary

Scale 1:200 Date 18-11-21

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Drawn By AJP
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