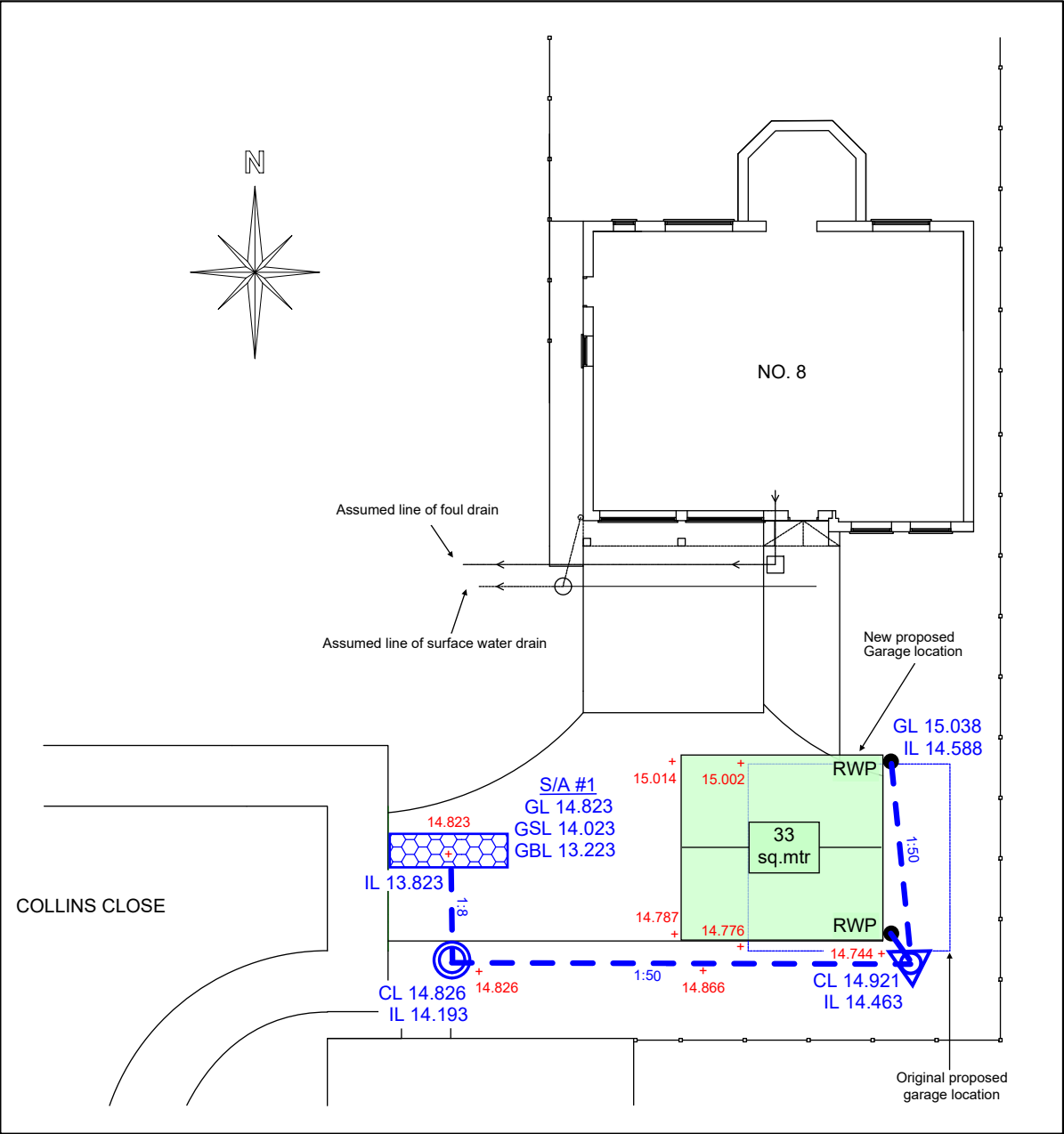


Detailed Drainage Layout Scale 1:200



Soil Infiltration Testing Results

Trial Pit testing to BRE365 principles

Minimum rates provided and approved by Arun DC drainage engineers.

At a depth of 1.24 metres -- location TP102 -- 3.024 E-06 metres/second

At a depth of 1.60 metres -- location TP107 -- 6.570 E-06 metres/second

The Minimum Rate used in the calculations for the appropriate cover depths was 6.570 E-06 metres / second. A Factor of Safety of 2.0 was used in the calculations.

NOTE

This drawing had been produced for discharge of planning conditions only.

All levels and details to be checked for Building Regulations approval and construction purposes.

Surface Water Drainage Design Notes

As detailed from the British Geological Survey, the Superficial Geological ground conditions here indicates River Terrace Deposits of sand, silt and clay over Bedrock of the London Clay Formation.

The drainage design is based on percolation tests carried out within trial pits located in the adjacent site. The Soil Infiltration Rates obtained, which have been provided by Arun DC drainage engineers, are detailed in the table below.

The testing produced a range of Infiltration Rates and a minimum Soil Infiltration Rate of 3.024 E-06 metres / second was obtained at a test depth of 1.24 metres at location TP102, and a minimum Soil Infiltration Rate of 6.570 E-06 metres / second was obtained at a test depth of 1.60 metres at location TP107, indicating better infiltration at increasing depth.

A Factor of Safety of 2 has been applied to the Soil Infiltration Rate used in the calculations, (this being where the consequence of failure is "no damage or inconvenience".

The optimised solution is to use a geo-cellular installation of 2 geo-cells (each 400mm) deep with 800mm of cover. The recommended minimum cover for this type of installation in trafficked areas is 650mm. The geo-cells are specified as heavy duty 60-65 tonne loading for trafficked areas.

Soakaway S/A#1, in the access / driveway, has been designed to be 3.50 metres long x 1.00 metre wide x 800mm deep, with a cover of 800mm, which will be suitable to drain the proposed new detached garage full roof area of 33 square metres.

The proposed soakaway S/A#1 has been designed to meet Building Regulations, below it's lowest incoming pipe, on a 1 in 10 year rainfall return event plus 40% climate change addition, and has been designed, without flooding above ground level, on a 1 in 100 year rainfall return event plus 40% climate change addition.

The soakaway S/A#1 should be sited a minimum of 5 metres from any habitable building or the garage to avoid any saturation of the ground and settlement affecting any building structure.

The driveway and hard-standing remain as existing.

KEY

- Proposed surface water drainage.
100mm diameter PVC pipe.
Minimum fall of 1:100
- Proposed 250mm diameter surface water inspection chamber.
Osma shallow IC or similar approved.
- Proposed silt trap inspection chamber
Polypipe Ridgistorm Basic or similar approved.
Sump depth 420mm minimum.
A15 Cover and Frame to BS EN 124
- S/A#1 Proposed Geocellular Soakaway of 800mm deep
Geocells 3.50 metres long x 1.00 metre wide.
A footprint of 3.5 square metres.
Heavy duty type 60-65 tonnes for trafficked areas.
- GL #### Ground level at detailed items
- CL #### Cover level of surface water chambers
- IL #### Invert level of surface water drains
- GSL #### Soffit (top) level of Geocell structure
- GBL #### Base level of Geocell structure
- + 5.999 All levels are to AOD unless otherwise stated

Mate GeoTechnic Services

02	Revised Garage Position	RC	18-06-21
01	Original	RC	29-05-21
Rev	Description	Drn.	Date

Project

Proposed New Detached Garage #8 Collins Close Eastergate Chichester PO20 3JT

Client **Mr Turner**

Drawing Title **Surface Water Drainage**

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Scale **As Shown** Drawing Original **A3**

Drawing Number **MGS -- BN/16/21-rev02**