



BRE 365 TEST REPORT

56 Ballyroan Road,
Dublin 16.

April 2022

GARLAND
Concepts Realised

CONTENTS

1. INTRODUCTION.....3
2. ANALYSIS.....3
3. CONCLUSION & RECOMMENDATIONS5

Description of change	Originator	Rev	Approval	Date
Initial Release	CR	1st	CR	14/04/2022

1. INTRODUCTION

A soakaway test, in accordance with BRE 365, was undertaken at 56 Ballyroan Road, Dublin 16 on 7 April 2022 to ascertain the infiltration properties of the subsoils at the site and to design, accordingly, for a soakaway to manage storm water runoff of the proposed domestic dwelling on the site. The weather over the previous number of days had been wet.

2. ANALYSIS

A trial hole, of dimensions 700mm in width, 1500mm in length and 1550mm in depth, was excavated on the site approximately 4m from the nearest point of the proposed building.

The soil strata consist of 150mm topsoil, on heavily consolidated brown clay.

The BRE 365 design method for sizing a soakaway based upon the equation of volumes, in accordance with the following equation, is:

$$I - O = S$$

Where;

I = the inflow from the impermeable area drained to the soakaway (m^3/min)

O = the outflow infiltration into soil during rainfall (m^3/min)

S = the required storage in the soakaway to balance temporarily inflow and outflow (m^3)

And; Outflow from soakaway,

$$O = a_{s50} \times f \times D$$

Where;

a_{s50} = the internal surface area of the soakaway to 50% effective depth (m^2)

f = the soil infiltration rate (m/s)

D = the storm duration ($mins$)

The trial hole was pre-soaked prior to the testing being undertaken and monitored as follows:

- After 1 hour, the water level had dropped by 120mm
- After 2 hours, the water level had dropped by a further 50mm
- After 16 hours, the water level had dropped by 430mm in total

The test was concluded after a period of 16 hours.


Based upon these results, it was not possible to calculate either the 75% nor the 25% rate of infiltration as the infiltration did not reach either of these test markers and, therefore, it is not possible to obtain an infiltration rate for the soils at the site in accordance with BRE 365.

3. CONCLUSION & RECOMMENDATIONS

A soakaway test, in accordance with BRE 365, was undertaken at 56 Ballyroan Road, Dublin 16 on 7 April 2022. The prevailing soil conditions on the site consists of heavily consolidated brown clay, the characteristics of which generally include poor infiltration properties. The soakaway test was abandoned after 16 hours by which time the 25% rate of infiltration had not been achieved. We have, therefore, concluded that the soil conditions are not appropriate for a soakaway alone to manage storm water runoff from the development. We would recommend that following storm water management system is incorporated within the development:

- Storm water to be attenuated to 2l/s within an aquacell soakaway to allow for the maximum volume of storm water to infiltrate the subsoil;
- A flow control device, to limit storm water to a maximum discharge of 2l/s to be provided on the discharge pipe from the soakaway;
- This soakaway shall be provided with an overflow pipe to the public system such that only storm water that cannot be managed within the site is discharged to the public system;
- The manhole to which the storm water is discharged to shall be in full compliance with Type H Manhole of the Greater Dublin Regional Code of Practice to accommodate any future separate public storm water system.

Signed:


CATHAL RIGNEY
CHARTERED ENGINEER

Date:

14 April 2022

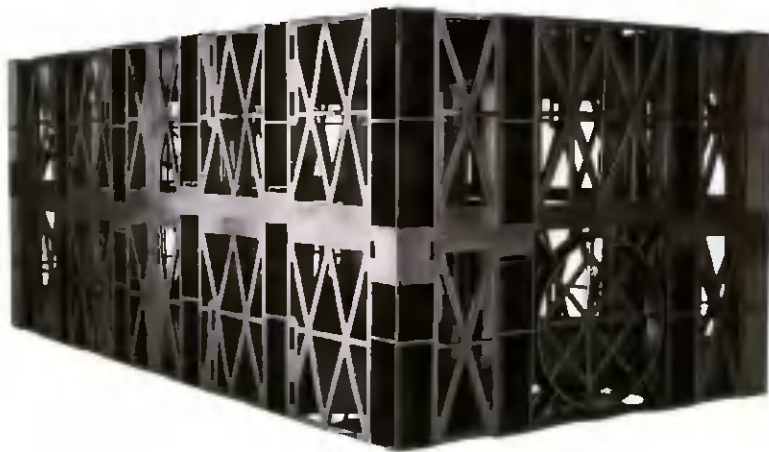
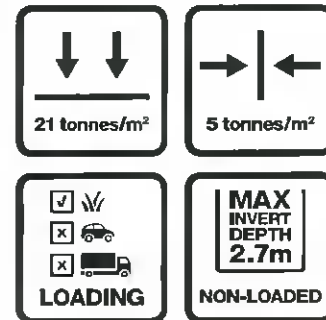
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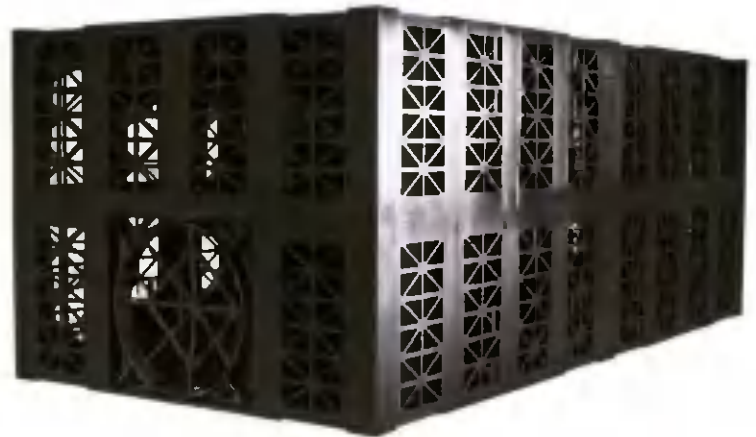
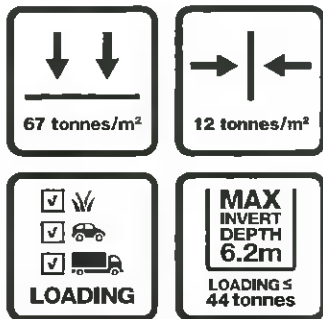
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AquaCell CORE-R

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