

TYPICAL INFILTRATION SYSTEMS

There are four basic systems designs (see below). Each design can be tailored for infiltration or tanked according to requirements.

Infiltration

The system is underlaid with a pervious geotextile membrane (Inbitex®) and is suitable for use where it is proposed to infiltrate the water directly into a suitable sub-grade.

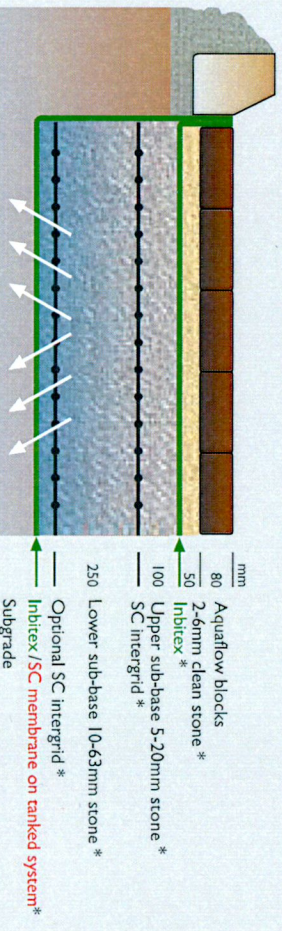
Tanked

The system is underlaid by an impervious plastic membrane (SC membrane) and is suitable for use where it is proposed to attenuate storm water before releasing it in a controlled manner, harvest the water for re-use or where difficult or contaminated sub-grades are encountered.

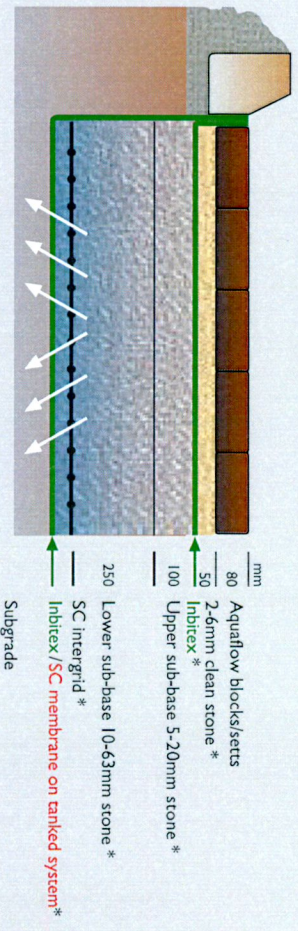
The type of membrane used and the method of sealing will depend upon the application. In some circumstances, the membrane will require additional protection from puncturing and specialist advice should be obtained.

The impervious membrane restricts water entering the sub-grade and preserves sub-grade structural integrity. This is very important where clay subgrades are encountered.

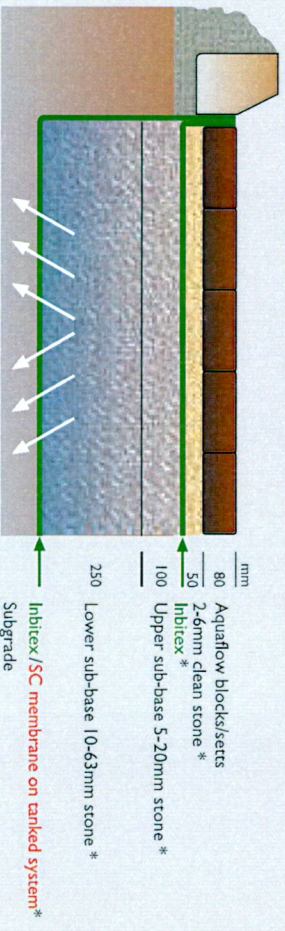
Typical Infiltration system
Areas subject to trafficking by HGV's



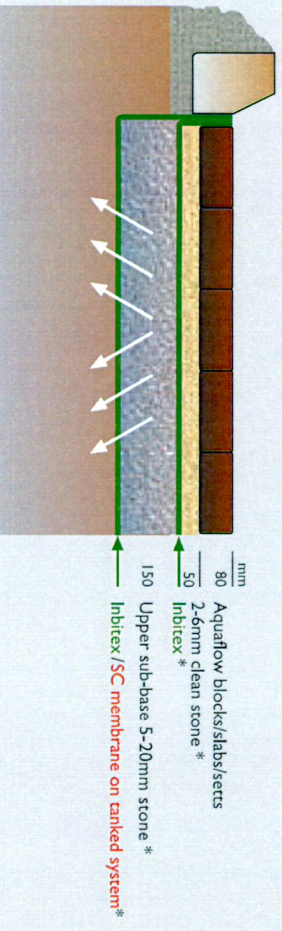
Typical Infiltration system with a sub-grade CBR of between 2-5%
Parking areas subject to trafficking by cars and vans only



Typical Infiltration system with a sub-grade CBR of 5% or greater
Parking areas subject to trafficking by cars and vans only



Typical footpath construction
For Aquaflo



Soakaway Infiltration Test



Project No.: 21-1340
Site: Esker ETNS
Test Location: TPP01B
Test Date: 01 December 2021

*Analysis using method as described in BRE Digest 365
 and CIRIA Report C697-The SUDS Manual*

test pit top dimensions width (m) length (m)
 0.35 1.00
 test pit base dimensions 0.35 0.85
 test pit depth (m) 1.50 depth to groundwater before adding water (m) = Dry

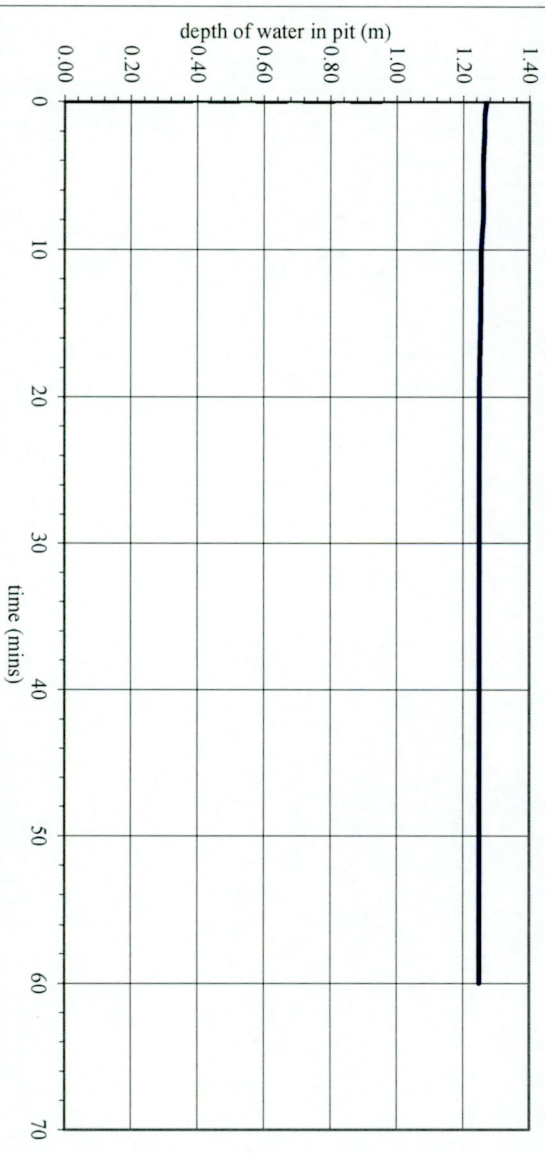
time (mins)	depth to water surface (m)	depth of water in pit (m)
0	0.23	1.27
1	0.24	1.27
2	0.24	1.27
4	0.24	1.26
6	0.24	1.26
8	0.24	1.26
10	0.25	1.26
15	0.25	1.25
20	0.25	1.25
30	0.25	1.25
45	0.25	1.25
60	0.25	1.25

From graph below:
 test start - 75% depth at
 0.9525 m water depth
 time is not determined

 test end - 25% depth at
 0.3175 m water depth
 time is not determined

infiltration rate (q) is very low

time (mins)	depth to water (m)	depth of water in pit (m)	time elapsed (mins)	volume of water lost (m ³)	Area of walls and base at 50% drop (m ²)	q (m/min)	q (m/h)
	0.55	0.9525					
	1.18	0.3175					



APPENDIX V Traffic

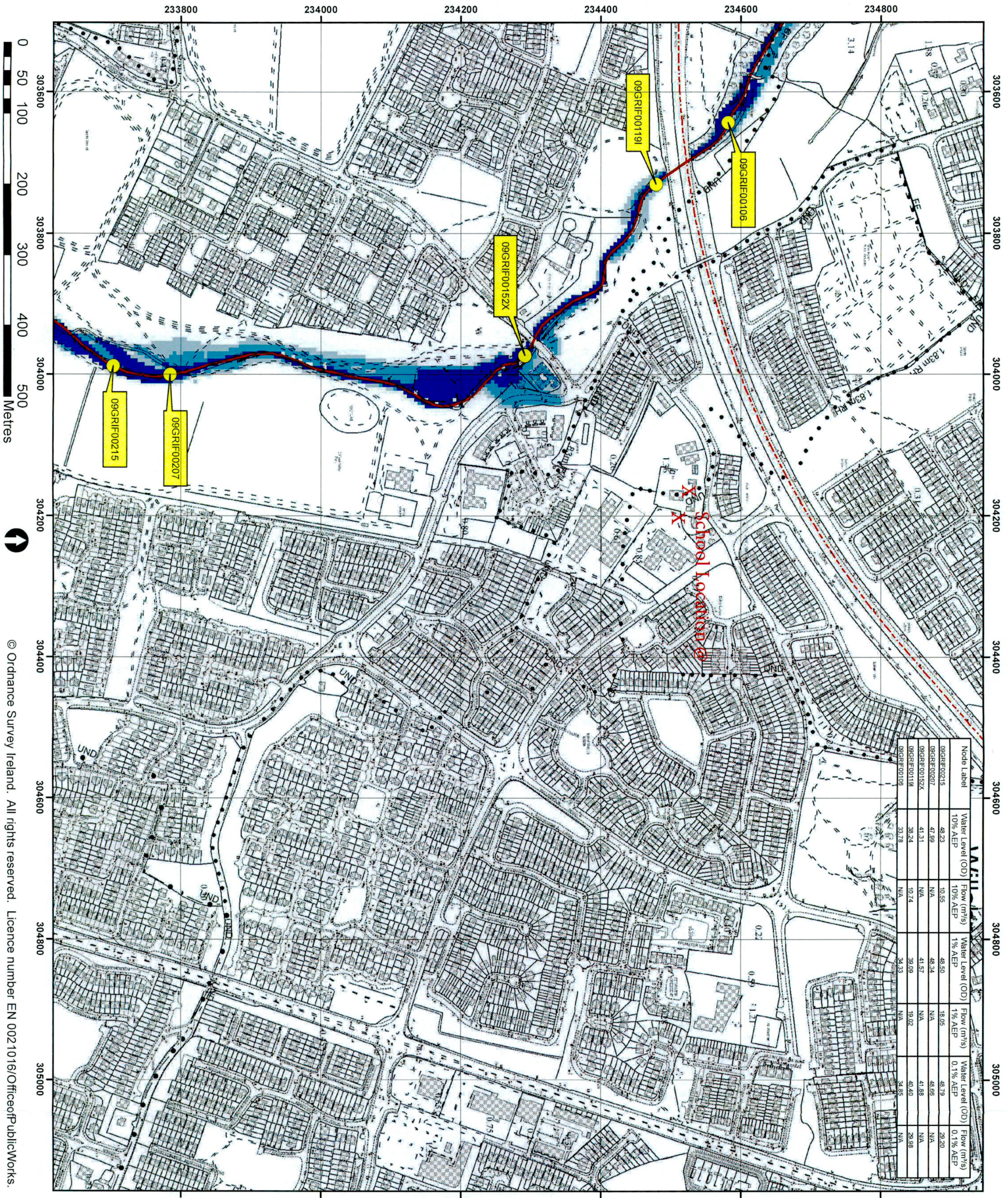
SECTION 1.0 ITEM 1.4

Short summary of consultations with the Statutory Authorities (and their requirements)

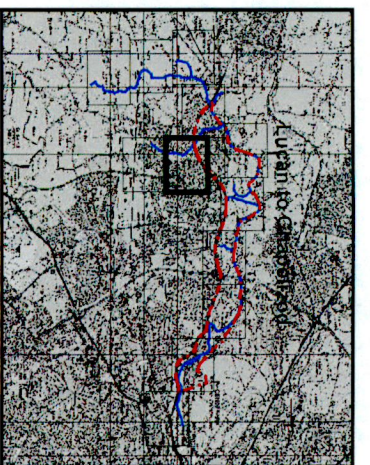
Schedule of Key Meetings in the Scheme Development to Date

Meeting	Date Held
<p>PRE-PLANNING MEETING (Online)</p> <p>Tracey McGibbon (Senior Planner SDCC) Brian Harkin (Water Drainage division SDCC) Yasir Khan (Roads Engineer SDCC) Ewan Walsh (planner SDCC) Fionnuala Collins (Landscape architect SDCC) Stephen O'Shea (Project Architect, Oppermann Associates) Kevin Branagan (Associate, Oppermann Associates) Eamonn Collins (Project Engineer, Collins Boyd Engineers)</p>	<p>Date</p> <p>7th September 2021</p>
<p><i>Notes taken at time of meeting:</i></p> <ul style="list-style-type: none"> - Generally, the proposal was welcomed. - Include increased occupation numbers in planning application. - 16m wayleave for large surface water drain. Note: Wayleave already allowed for. - Flood maps to be referred to. Note: Flooding not expected to be an issue. - SUDs to be maximized. - Existing trees to be protected and during construction phase. - Tree survey and protection plan. - Landscaping plan and details. - Play area to be accessible. - Car parking to be broken up with planting and SUDs. - Soften concrete apron around bike/bin store with planting. - Increased greening of area. Planting proposals will be required. - Hammerhead turn at end of cark park. - Provide no. of staff and proposed car parking numbers. - 6m carriage width for parking (this is not possible currently). - Bike parking to be provided in line with development plan. - Construction management plan. - Mobility plan. - Traffic impact assessment plan not required. - Planning application to confirm materials to be used on elevations. - Copying the existing elevational treatments. - We need to make sure we are in compliance with the previous planning conditions for the existing. To be confirmed in this application. 	

APPENDIX VI Flood Mapping



Node Label	Water Level (OD) 10% AEP	Flow (m ³ /s) 10% AEP	Water Level (OD) 1% AEP	Flow (m ³ /s) 1% AEP	Water Level (OD) 0.1% AEP	Flow (m ³ /s) 0.1% AEP
09GRIF00215	48.23	10.55	48.50	18.05	48.79	29.20
09GRIF00207	47.99	N/A	48.34	N/A	48.66	N/A
09GRIF00152X	41.31	N/A	41.57	N/A	41.88	N/A
09GRIF001191	38.24	10.74	39.09	19.02	40.40	29.98
09GRIF001106	33.78	N/A	34.33	N/A	34.85	N/A



IMPORTANT USER NOTE:
 THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP.

- Legend**
- 10% Fluvial AEP Event
 - 1% Fluvial AEP Event
 - 0.1% Fluvial AEP Event
 - Modelled River Centreline
 - AFA Extents
 - Node Point
 - Node ID Node Label

FINAL

REV.	NOTE	DATE



The Office of Public Works
 Jonathan Swift Street
 Tinn
 Co. Wick
 Elmwood House T: +44(0) 28 90 9679-14
 74 Boucher Road F: +44(0) 28 90 968286
 Belfast W: www.rpsgroup.com
 BT12 6RZ E: ireland@rpsgroup.com

Map: Lucan to Chapelizod Fluvial Flood Extents

Map Type: EXTENT

Source: FLUVIAL

Map Area: HPW

Scenario: CURRENT

Drawn By: C.C. Date: 27 July 2016

Checked By: S.P. Date: 27 July 2016

Approved By: G.G. Date: 27 July 2016

Drawing No.: E091UC_EXFCD_F0_06

Map Series: Page 6 of 12

Drawing Scale: 1:5,000 @ A3