

## Appendix 2 - Single-Tube Soil Infiltration Tests in Forest/Bush - 27 Elmslie Road, Pinehaven

Single-tube tests carried out on 26<sup>th</sup> and 27<sup>th</sup> June 2019, by Stephen Pattinson

### Location:

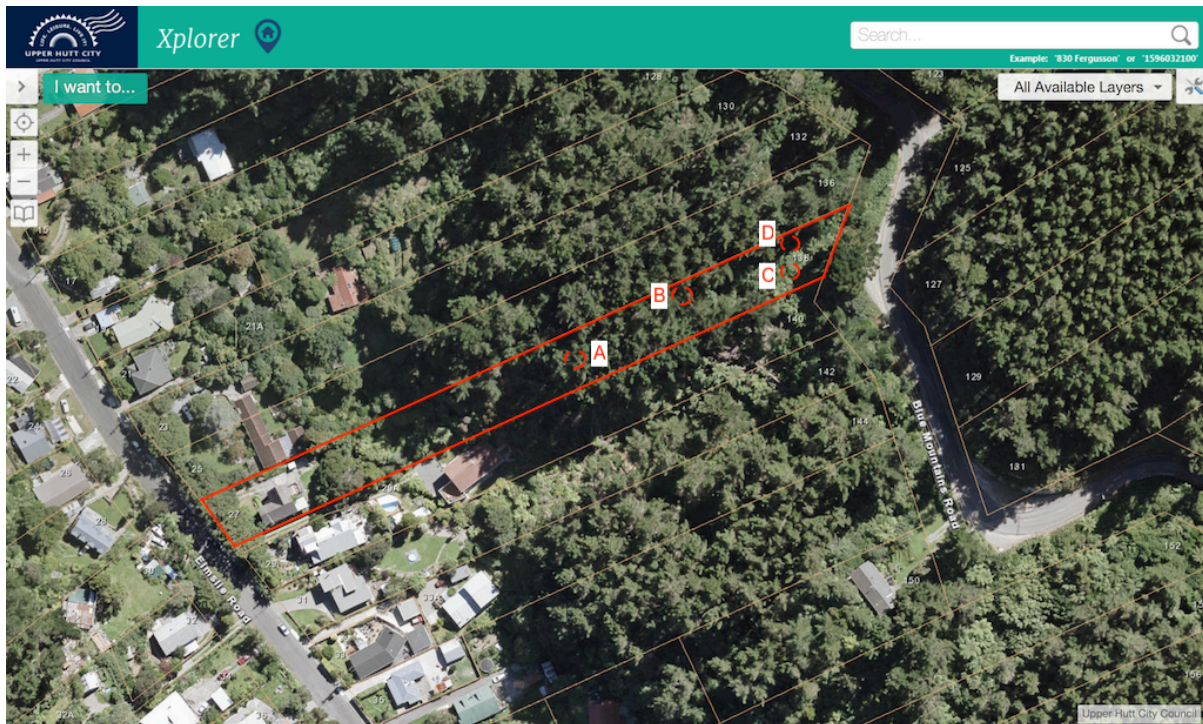


Figure 1 – Test Locations: Aerial View of Property – 27 Elmslie Road, Pinehaven, Upper Hutt

The above aerial view shows four test locations – A, B, C and D – at 27 Elmslie Road.

The single-tube soil infiltration tests were carried out at locations A, C and D.

(Note: Double-Ring Infiltration tests were done later at locations A, B & C by Alex Ross and Stephen Pattinson)

### Method for Single-Tube soil infiltration tests:



Use nominal 100mm  $\varnothing$  PVC tube x 140mm long set 70mm into the ground after clearing away leaf litter.

The inside of the tube is marked with two lines 20mm apart, one line being 50mm from the top of the tube, the other 70mm from the top of the tube (i.e. at the level of the soil).

Protect the soil with loose-weave cloth and fill the tube 3 or 4 times to pre-soak the soil, then time how long for 20mm head of water to soak away.

Figures 2 & 3 – Single tube  $\varnothing$ 100mm PVC

## Single-tube Infiltration Test Results

**Location A** - Among pine trees on the edge of the pine forest.  
Tested 4 sites within a 2.5m radius at Location A.

Time for 20mm head of water to soak away:

Test A1	16 sec
Test A2	10 sec
Test A3	12 sec
Test A4	18 sec
Average time	14 sec

**Location C** - Amongst regenerating bush.  
Tested 4 sites within a 2.5m radius at Location C.

Time for 20mm head of water to soak away:

Test C1	10 sec
Test C2	6 sec
Test C3	42 sec
Test C4	165 sec
Average time	56 sec

**Location D** - In a gully amongst pine trees and regenerating bush.  
Tested 4 sites within a 2.5m radius at Location D.

Time for 20mm head of water to soak away:

Test D1	46 sec
Test D2	276 sec
Test D3	930 sec
Test D4	96 sec
Average time	337 sec

### Summary:

The average time overall for all 12 tests at the three locations A, C and D for 20mm head of water to soak away was 136 seconds (i.e. 2 minutes and 16 seconds).

This is similar to the result for 8 single-tube tests carried out later on Sub-catchment B (in the upper catchment of Pinehaven Stream) by Alex Ross and Stephen Pattinson during July 2019 which found the average time for 20mm head of water to soak away was 119 seconds (about 2 minutes).

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