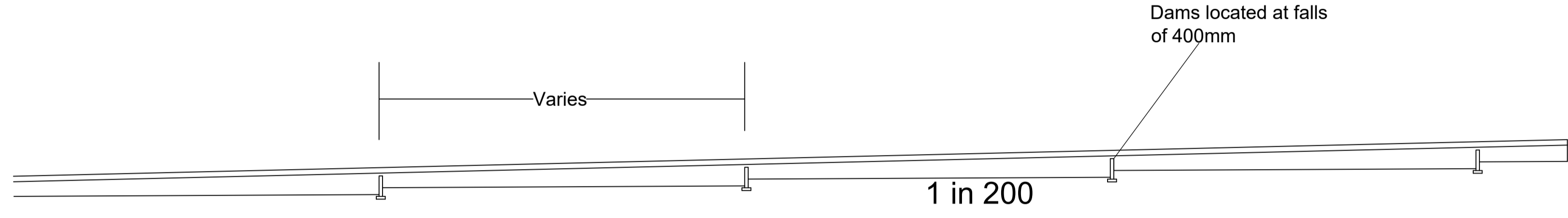
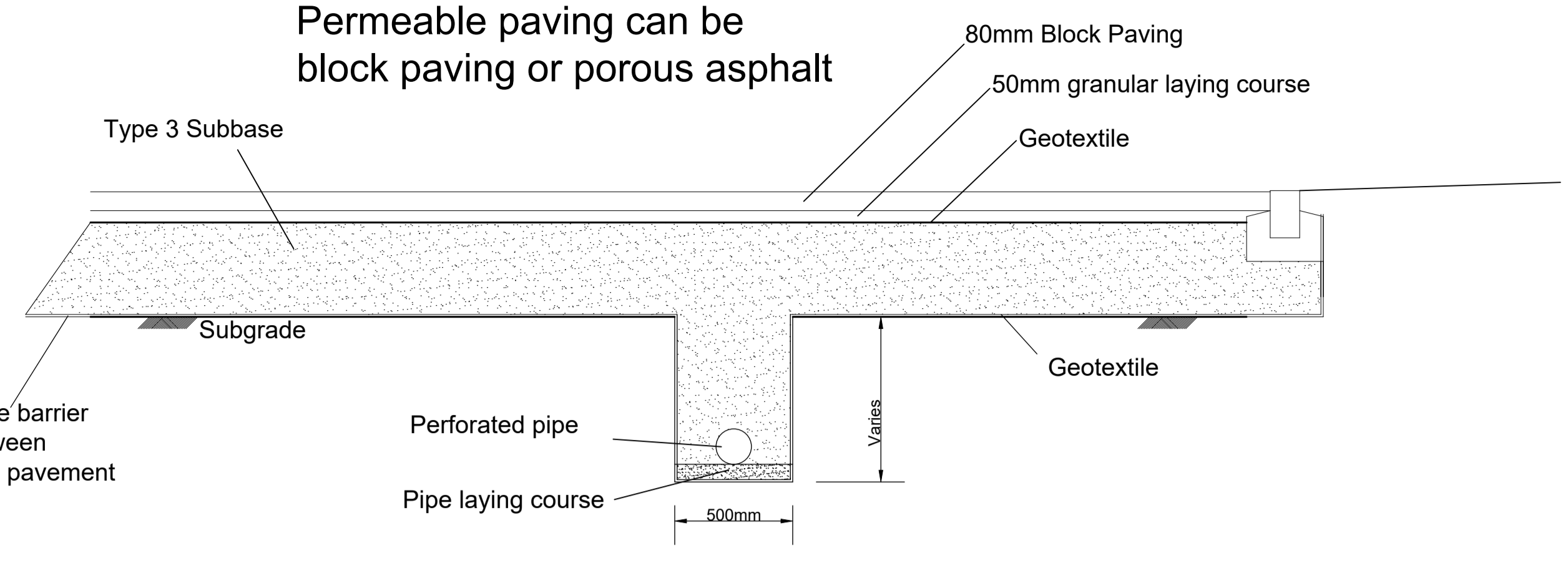


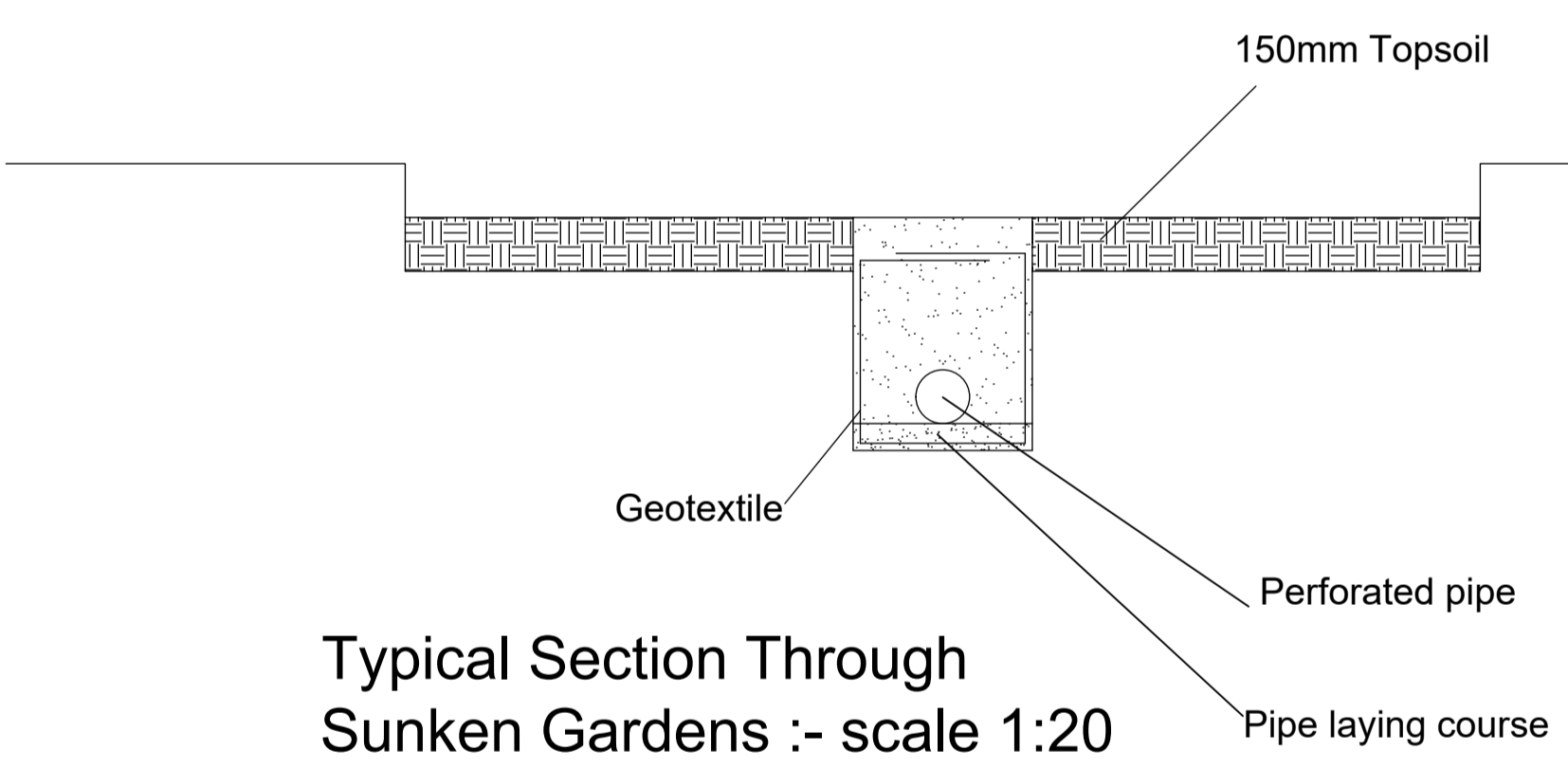
Typical Section Through Filter Drain - scale 1:10



Section Through Access Road scale 1:100

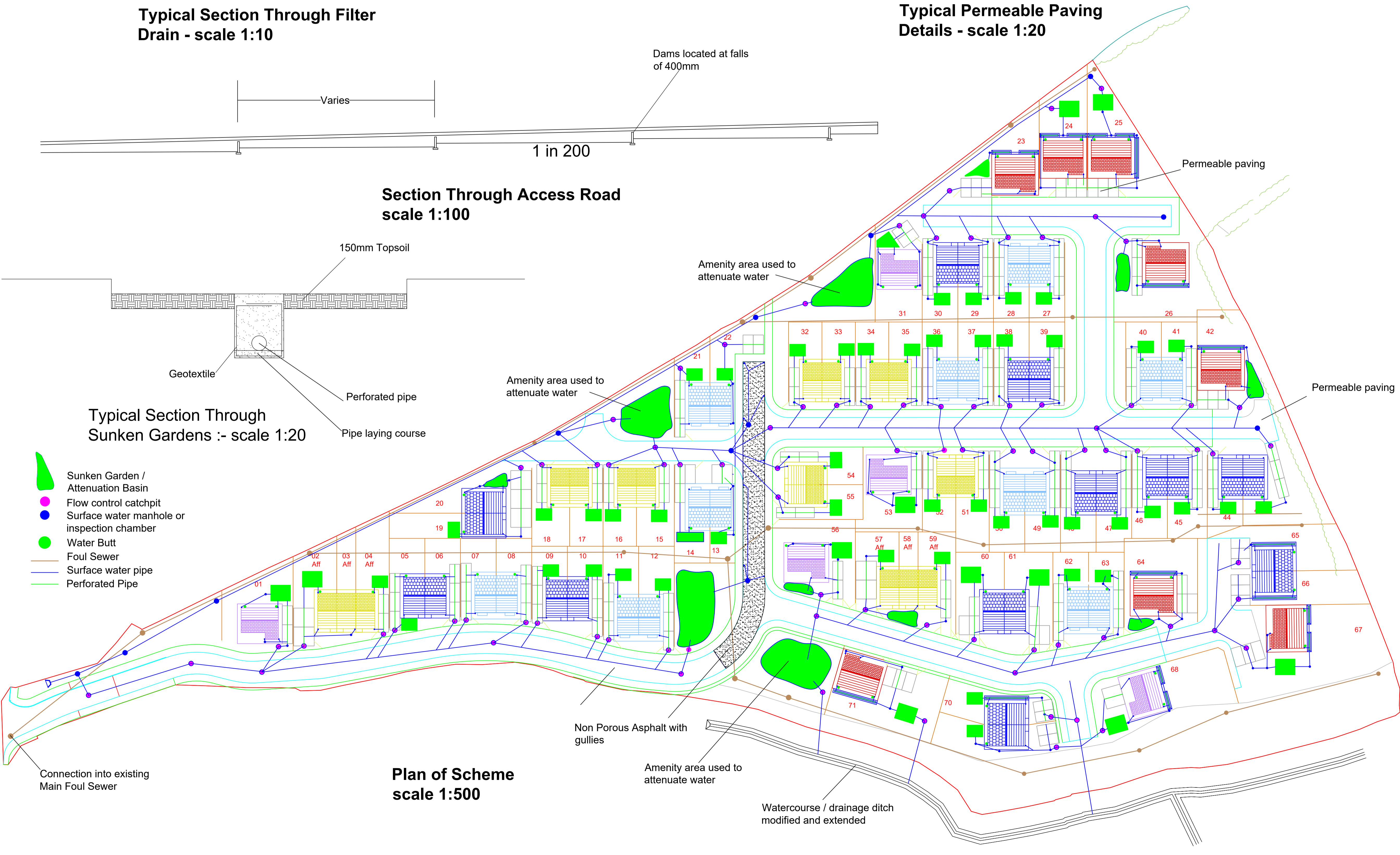


Typical Permeable Paving Details - scale 1:20



Typical Section Through Sunken Gardens :- scale 1:20

- Sunken Garden / Attenuation Basin
- Flow control catchpit
- Surface water manhole or inspection chamber
- Water Butt
- Foul Sewer
- Surface water pipe
- Perforated Pipe



Plan of Scheme scale 1:500

- Surface water pipes**
- Unless otherwise specified, surface water pipes to be PVCu twin walled with smooth internal and ribbed external walls with current BBA certification.
 - Unless otherwise stated pipes to be 100mm diameter.
- Manhole covers and Frames**
- All manhole covers and frames intended to be used within the Highway shall be kite marked products to BS EN 124:1994 and badged S.W. for surface water and F.W. foul water.
 - For the manholes that are located in the highway the covers will be heavy duty D400 to BS EN 124 with a clear opening of 600mm and a minimum frame and cover depth of 150mm. For those located in the footway or driveway, the covers will be medium duty C250 to BS 124 with a clear opening of 400mm.
 - The frames shall be bedded on a gauged Class 1 sand/cement mortar to clause 2404 and BS 5628 Part 3:2001 above two or three courses of Engineering Brickwork Class B to BS3921:1985.
 - On completion of the work all drains, manholes etc. shall be cleaned out, flushed and left free from all obstruction.
 - Manholes size are to be as stated in the surface water drainage report.
 - Paving to be as specified by others with a minimum permeability of 2l/m²/sec.
 - Laying course to be 2/6.3 crushed rock to BSEN12620 (BSI:2002b)
- | S Sieve Size,mm | Percentage Passing |
|-----------------|--------------------|
| 14 | 100 |
| 10 | 90-100 |
| 6.3 | 80-99 |
| 2 | 0-20 |
| 1 | 1-5 |
- Geotextile to be of a mono-filament woven or needle punched non-woven. If non woven the material should have a weight greater than 400 g/m² (EN 965). Ultimate tensile strength, longitudinal and transverse, to be greater than 15kN/m (EN ISO 10319) and strain, at nominal tensile strength, to be less than 70%. CBR to be greater than 3000N and opening size should be greater than 0.1mm with a water permeability of at least 6 x 10⁻⁷m/s (EN ISO 12236, 12956, and 11058). If woven the material should have a weight greater than 200 g/m² (EN 965). Ultimate tensile strength, longitudinal and transverse, to be greater than 30kN/m (EN ISO 10319) and strain at nominal tensile strength to be less than 25%. CBR to be greater than 2000N and opening size should be greater than 0.2mm with a water permeability of at least 200 x 10⁻⁷m/s (EN ISO 12236, 12956, and 11058).
 - Sub-base should be crushed rock with greater than 90% fracture faces and should comply with BS EN 13242 BSI. Typical grading for the sub base is given below and type should be UF5-0C80-GO-0/40 or Clause 805 Type3 base material as provided in the Specification for Highway Works.
- | BS Sieve Size,mm | Percentage Passing |
|------------------|--------------------|
| 40 | 100 |
| 31.5 | 98-100 |
| 20 | 90-99 |
| 10 | 25-70 |
| 4 | 0-15 |
| 2 | 0-5 |

REV	DATE	DESCRIPTION	BY	CHK	APP
A	April 2022	Change in House Layout	CFH	CFH	CFH

REVISION	CLIENT

PROJECT: **Dinas Yard Residential Development**

TITLE: **Surface Water Drainage Details**

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DRAWN	CFH	CHECKED	CFH	PASSED	CFH
DATE	April 2022	REFERENCE	D/WD/D/1932		
SCALE	As Shown				
DRAWING NO.	1932/301	REVISION	A		