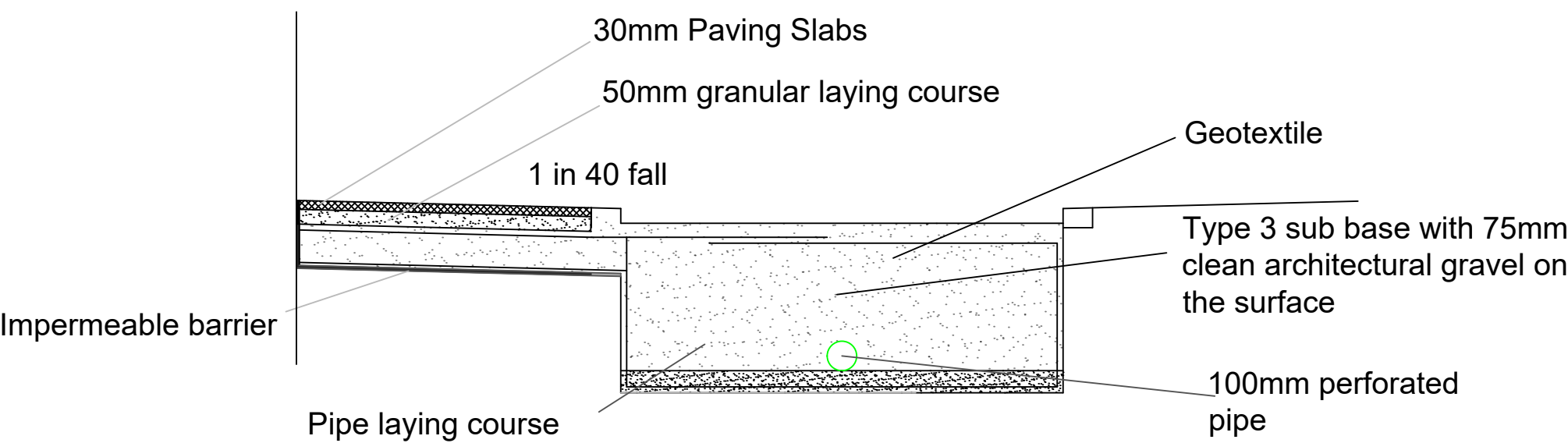
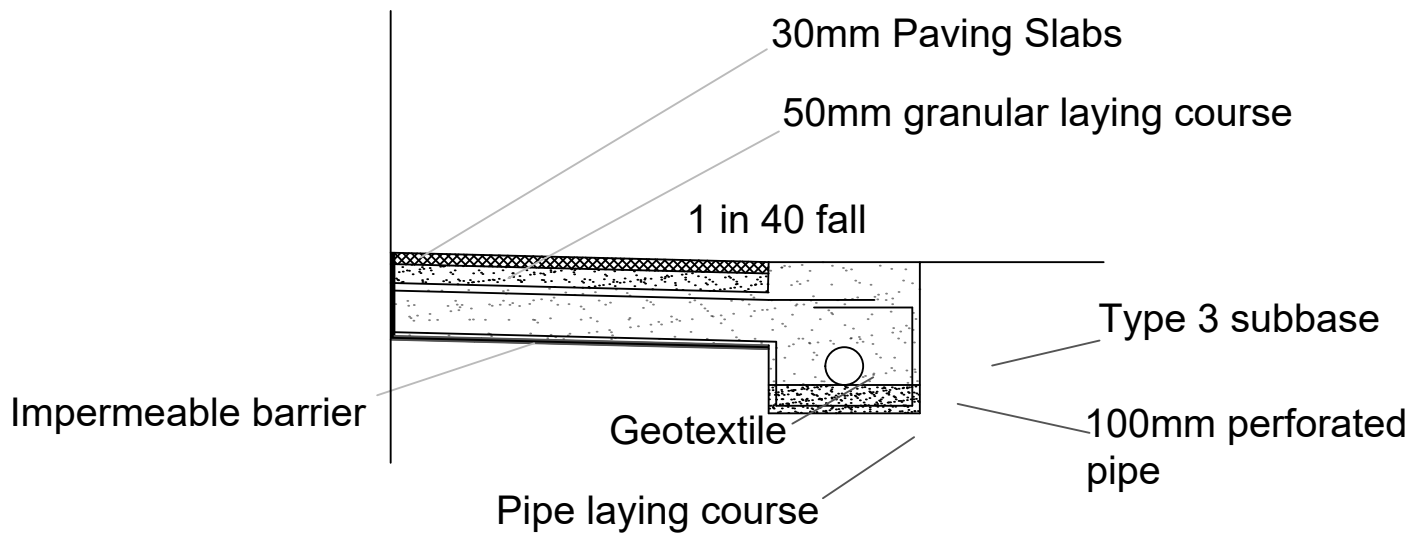


Section Through Driveway
scale 1:100



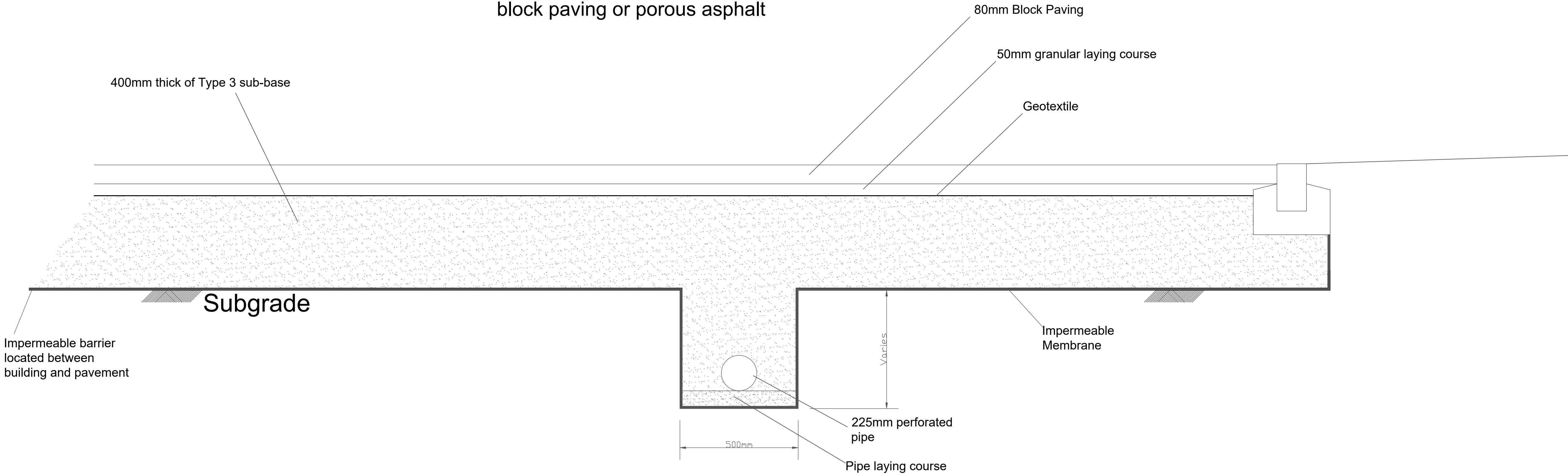
Typical Gravel Garden Details
- scale 1:20

Shrubs planted in the gravel garden to include Euphorbias, Nepeta, Verbena bonariensis, Phlomis, Cistus, Stachys, Lavender, Stipa, Gaura, Agave, Sea holly, Santolina chamaecyparissus, Allium sphaerocephalon, Digitalis parviflora 'Milk Chocolate' Crambe maritima, Rosa Pimpinellifolia, Ruscus aculeatus, Salix lanata and Salix reticulata



Typical Permeable Path
Details - scale 1:20

Permeable paving can be
block paving or porous asphalt



Permeable Paving Details
scale 1:10

Surface water pipes

1Unless otherwise specified, surface water pipes to be PVCu twin walled with smooth internal and ribbed external walls with current BBA certification.

2Unless otherwise stated main pipe run to be 225mm diameter and side pipes to be 100mm diameter.

Manhole covers and Frames

3All 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.

4For 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.

5The 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.

6On completion of the work all drains, manholes etc. shall be cleaned out, flushed and left free from all obstruction.

7Manholes size are to be as stated in the surface water drainage report.

8Paving to be as specified by others with a minimum permeability of 2l/m²/sec.

9Laying course to be 2/6.3 crushed rock toBSEN12620 (BSI,2002b)

BS Sieve Size,mm	Percentage Passing
14	100
10	90-100
6.3	80-99
2	0-20
1	1-5

10Geotextile 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 10⁻³m/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 10⁻³m/s (EN ISO 12236, 12956, and 11058).

11Sub-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

A	April 23	Additional Details Added		CFH	CFH
REV	DATE	DESCRIPTION		BY	CHK

REVISION	
CLIENT	
PROJECT	Forge Washery, Brynaman
TITLE	Surface Water Drainage Details
Francis Sant	
14 Queen Street Caerfyrddin SA31 1JT Tel 01267 233833	
DRAWN	CFH
CHECKED	CFH
PASSED	CFH
DATE	April 2021
REFERENCE	D/WD/D/2104
SCALE	As Shown
DRAWING NO.	2104/302
REVISION	A