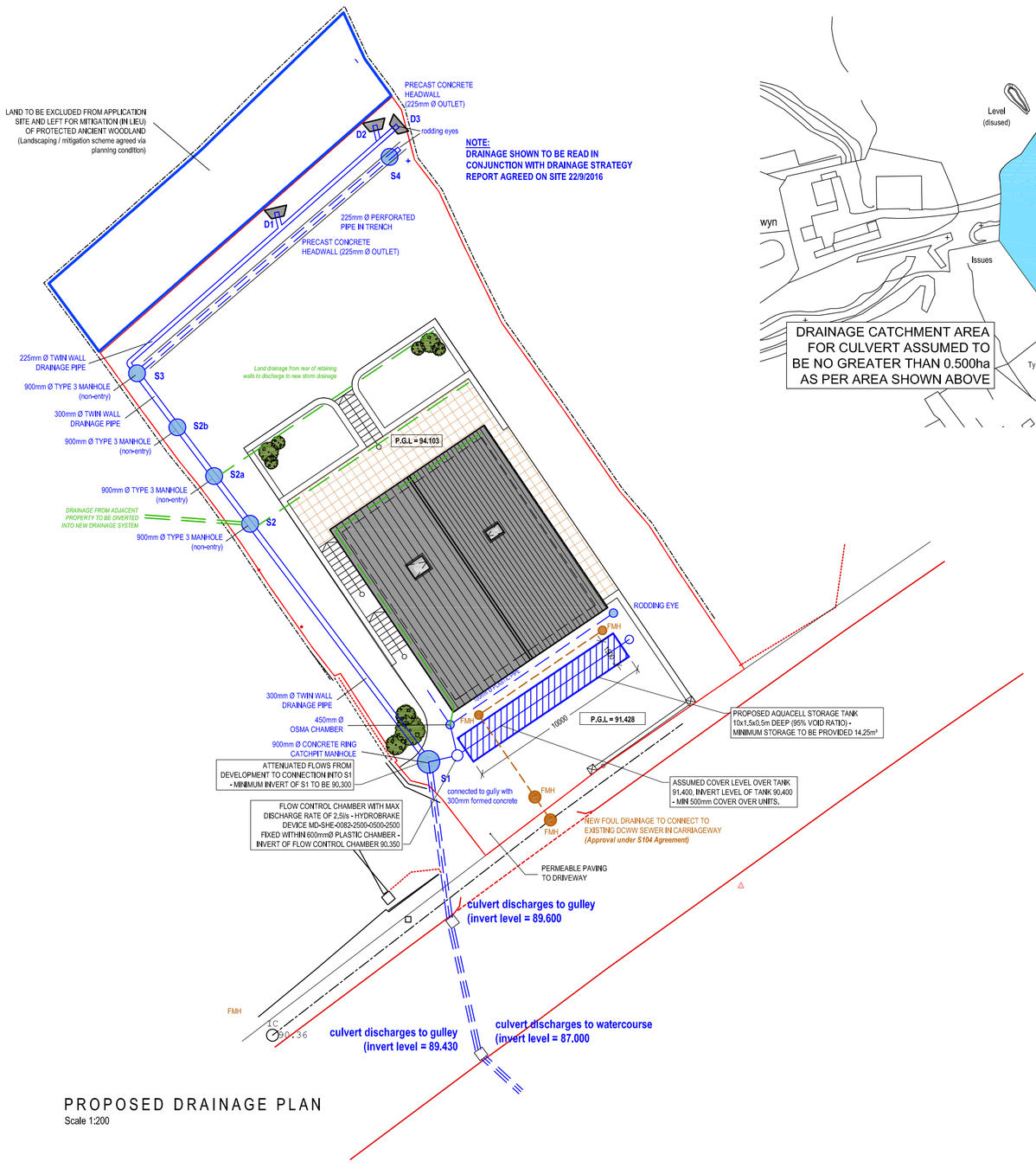
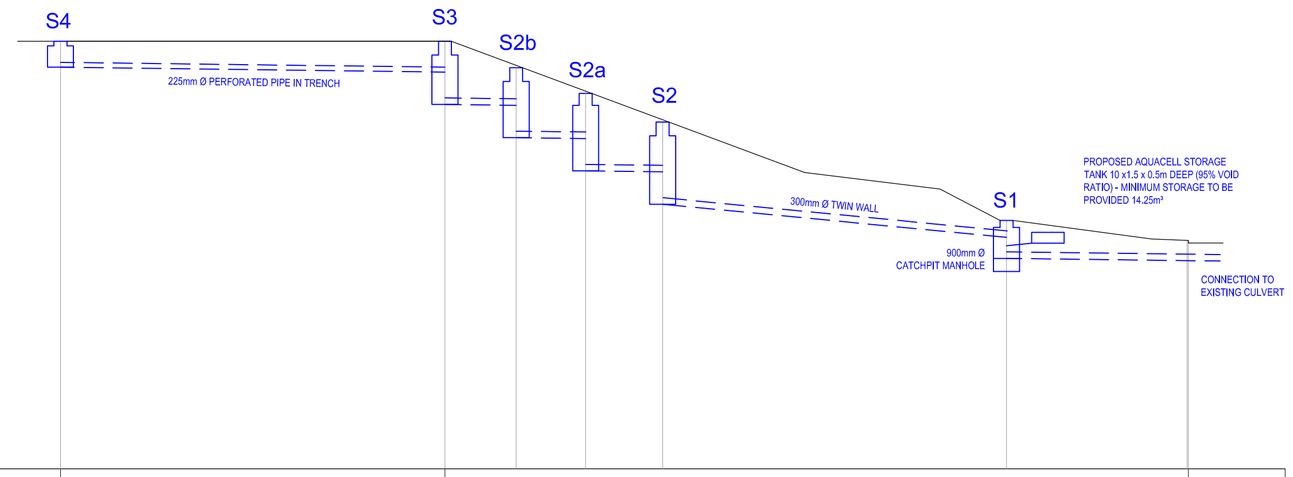


PROPOSED DRAINAGE PLAN

Scale 1:200



A.O.D. = 80.000m

PIPE MATERIAL AND Ø	225mm PERFORATED		300mm ULTRA RIB TWIN WALL (SN8)				
BEDDING MATERIAL	GRANULAR MATERIAL FILLED TRENCH		TYPE A GRANULAR CLASS B				
GRADIENT	1 in 80		1 in 20			EXISTING	
CHAINAGE (m)	0.000	17.731	21.015	24.219	27.769	43.361	52.000
DRAINAGE COVER LEVEL (m)	99.720	99.720	98.500	97.430	95.990	91.450	69.000
DRAINAGE INVERT LEVEL (m)	98.520	96.805 96.305	95.270 96.775	93.740 95.240	92.200 93.700	89.704 89.103 90.730	66.718

LONGITUDINAL SECTION THROUGH STORM DRAINAGE (S4 - 1)

SCALE 1:200

TIMEFRAME OF DRAINAGE WORKS

Existing on-site Drainage regime to be implemented until Basement Retaining walls, Basement Slab and Attenuation manhole (S1) is in place and connected.

- Manholes S1 - S4 to be Installed.
- Existing Headwalls D1, D2 & D3 to be installed.
- Connecting drainage between manholes to be installed as inspected by Building Control Officer.
- Attenuation tanks and flow control chamber installed in front of proposed dwelling.

MEASURES FOR LAND DRAINAGE DURING CONSTRUCTION

Existing on-site Drainage regime to be implemented until Basement Retaining walls, Basement Slab and Attenuation manhole (S1) is in place and connected.

- A Catchment trench will be excavated at site of proposed attenuation tanks in front of proposed dwelling to intercept any surface water run off during construction.
- Land drainage allowed to discharge to existing culvert inlet on within boundary. Straw Bails / Silt Traps or suitable filtration mats to be utilised to prevent excess silt / construction pollution entering culvert.
- During excavation, should ground water be encountered within trenches / excavations, a suitable pump is to be employed allowed to discharge to filtration trench as above before entering existing culvert.
- On Completion of the basement Retaining wall bases, the land drains to the rear of the walls are to be installed and connected temporarily to manhole S1.
- All exposed embankments / spoil heaps excavated during construction are to have a biodegradable membrane laid on top to protect the bare soil.
- Good practice on site techniques will be employed to reduce the impact of surface water run off pollution entering the culverrt ie: bunded storage areas of oils and chemicals and segregated areas for storage of other polluting materials.

MANAGEMENT & MAINTENANCE PLAN

The purpose of the Maintenance plan is to ensure ongoing operation of the drainage system as designed.

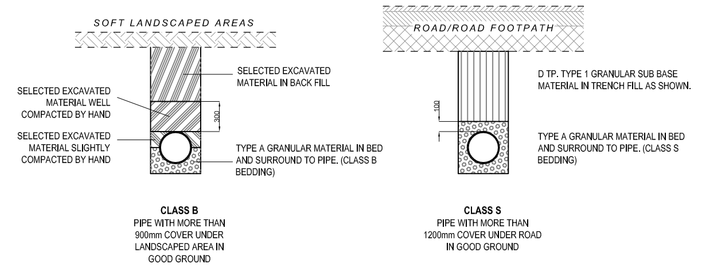
- The inlet headwalls at the top of the site are to be regularly checked for any debris and blockages.
- All Manholes are to be regularly inspected to be clear of any blockages. Any excess silt or debris is to be removed.
- Flow control chamber is to be regularly inspected for any blockages or excess debris.

Flexible Pipe Joints (Rocker Pipes)

*

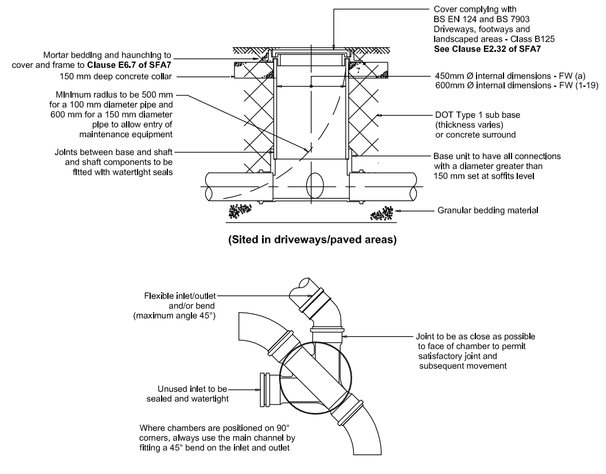
Nominal pipe diameter (mm)	Effective Length (m)
150 to 600	0.6
over 600 to 750	1.0
over 750	1.25

PIPE BEDDING DETAILS



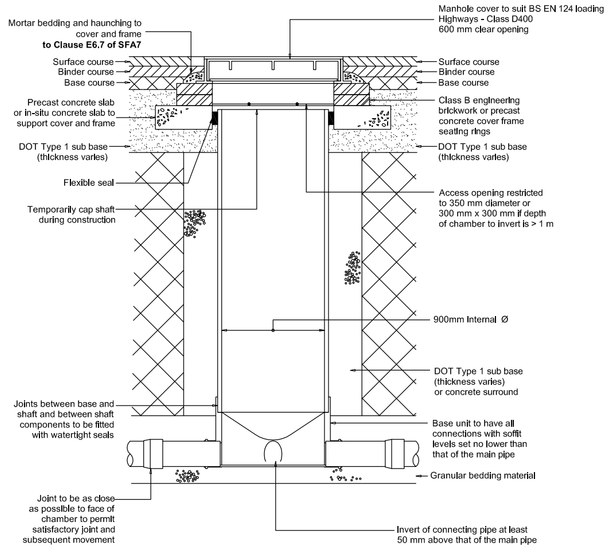
TYPICAL INSPECTION CHAMBER DETAIL - TYPE 4 (Flexible material detail)

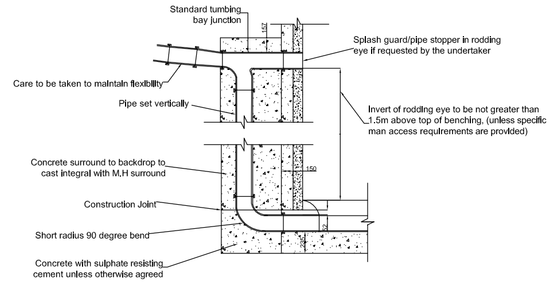
(Maximum depth from cover level to soffit of pipe 2 m, non-entry)



TYPICAL INSPECTION CHAMBER DETAIL - TYPE 3 (Flexible material detail)

(Maximum depth from cover level to soffit of pipe in areas subject to vehicle loading 3 m, non-entry)

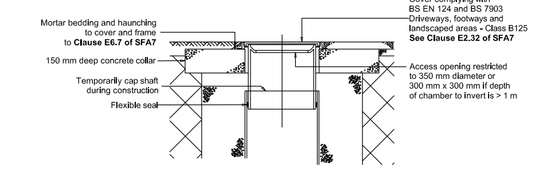




TYPICAL VERTICAL BACKDROP DETAIL

ALTERNATIVE TOP DETAILS FOR LIGHT VEHICLE LOADING AND LANDSCAPED AREAS - TYPE 3

Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent independent approval



Client:

Mr. & Mrs. H. Jones

Project Title:

PROPOSED DETACHED DWELLING
on land adjacent to
261 Graig Road
Godre'r Graig
Swansea

General Notes:

1. Do not scale from this drawing, take figured dimensions only.
2. Dimensions are in millimetres unless otherwise stated.

Drawing Issue:

PLANNING

Drawing Title:

PROPOSED DRAINAGE DETAILS

Drawing No:	009	Revision:	A
Date:	28-08-2017	Revised:	16-10-2017
Scale(s):	As Shown	Paper Size:	A1

Cwm Planning & Design Ltd.
(Civil, Structural & Architectural)