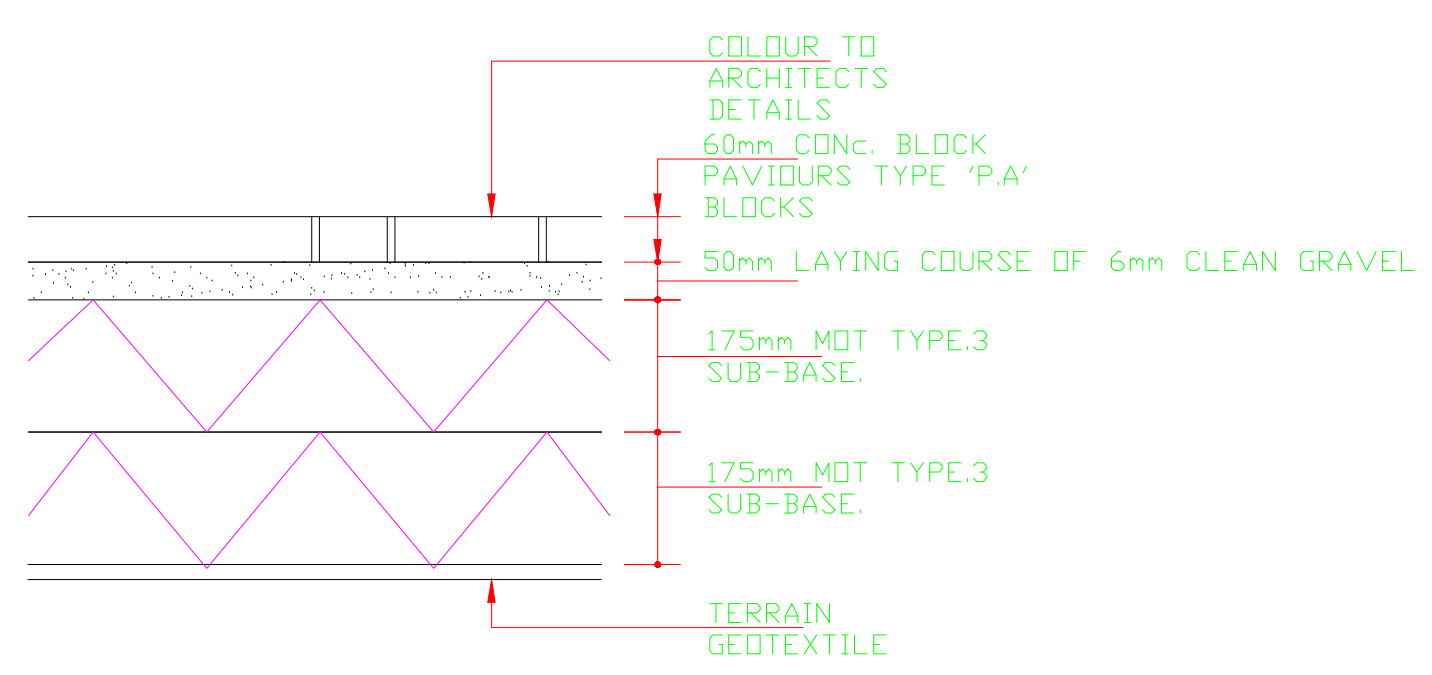


**PERMEABLE PAVING DRAINAGE DETAIL**

Scale 1:10



**DETAIL 2 - BLOCK PAVING DETAIL (DRIVEWAYS ONLY)**

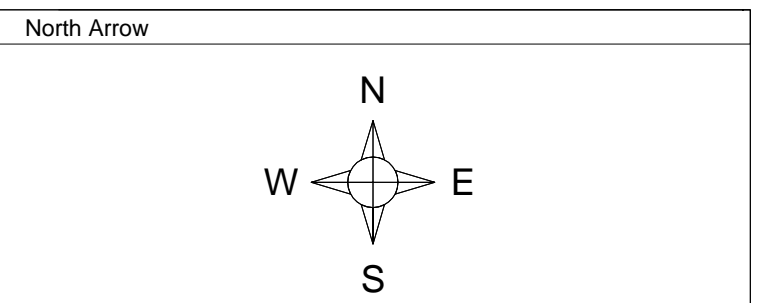
Scale 1:10

PHASE: 0

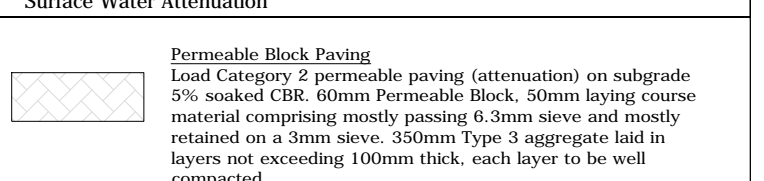
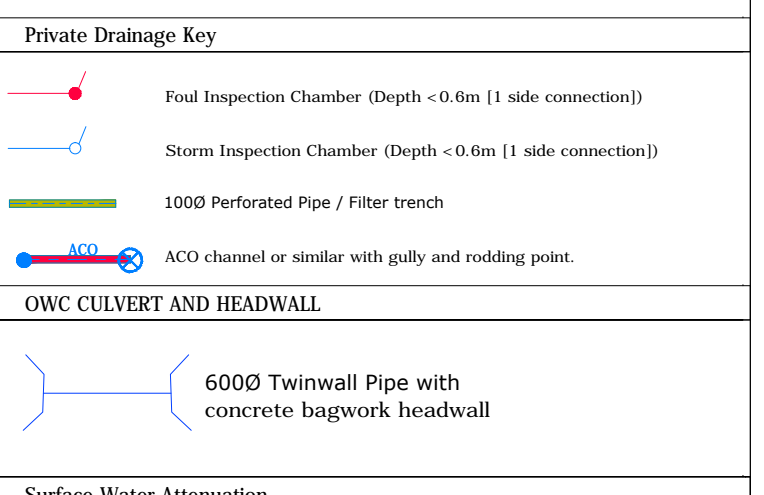
MH No.	MANHOLE DIAMETER (mm)	MANHOLE TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
S1	---	HEADWALL	25.109	25.000	-0.491	539524.927	256258.886
S2	---	HEADWALL	25.144	25.020	-0.476	539532.835	256257.567

PHASE: 0 (PRIVATE)

MH No.	MANHOLE DIAMETER (mm)	MANHOLE TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
PS1	450	450 Inspection	26.221	25.840	0.281	539521.929	256296.060
PS2	450	450 Inspection	26.103	25.658	0.345	539521.921	256281.507
PS3	450	450 Inspection	26.127	25.711	0.405	539527.946	256279.918
PS4	450	450 Inspection	26.279	25.494	0.685	539528.153	256262.059
PS5	---	HEADWALL	25.334	25.400	-0.166	539525.220	256259.700
PS6	450	450 Inspection	26.205	25.665	0.440	539534.333	256282.230
PS7	450	450 Inspection	26.405	25.856	0.449	539534.366	256297.483
PF1	450	450 Inspection	26.046	24.940	1.006	539517.972	256278.979
PF2	450	450 Inspection	26.121	25.094	0.926	539523.587	256281.537
PF3	450	450 Inspection	26.151	25.252	0.799	539529.908	256281.537



- NOTES
- The contractor shall check all tie-ins for line and level with existing before commencing any works. The Engineer shall be notified immediately, in writing, should any errors be found.
  - Any discrepancies, of whatever nature, must be reported to the Engineer prior to the commencement or continuance of any further works.
  - All private drainage works to be in accordance with the requirements of Building Regulations 2010, Part H, "Drainage and waste disposal", (01st October 2015).
  - All pipes to be bedded and backfilled in accordance with Part H, Diagram 10. Shallow pipes shall be protected in accordance with Part H, Diagram 11.
  - Unless otherwise stated, all private drainage to be 100mm diameter. Gradients have been shown where there are pipe capacity issues and these should be regarded as minimums. Unless there are constraints dictating otherwise, gradients shall generally be 1 in 80. 100mm diameter pipes shall not be laid flatter than 1 in 80. 150mm diameter pipes shall not be laid flatter than 1 in 150.
  - All pipes, chambers and fittings to be installed strictly in accordance with the manufacturers instructions.
  - Pipes which run adjacent to buildings shall be installed in strict accordance with Part H, Clauses 2.23 to 2.25 and Diagram 8.
  - All private manholes, inspection chambers and drainage channels to comply with BS EN154. Cover strengths to be:
    - Class D400 in heavy trafficked areas (access roads, service yards etc.)
    - Class C250 in lightly trafficked areas (car parks, driveways etc)
    - Class B125 in Non trafficked areas
    - Class A15 in landscaping areas
  - All drains in the vicinity of existing or proposed trees to be constructed in accordance with the requirements of BS EN12755 Part 3.
  - Private drainage frames must be tied to manhole risers by use of manufacturers ties (e.g. Polypipe ref. FR8500 fixing kit and FR8501 black ties). The ground works contractor will be held fully responsible for any accidents due to incorrect fitting or failure to use the correct manufacturers fixing equipment.
  - All existing land drains encountered on site during construction to be re-connected.
  - Should any departure from the slab level be considered, agreement shall be sought from the Engineer immediately and prior to commencement or continuance of any works, and should take full account of all restrictions to the slab level.
  - Gauge slabs relate to the finished level of the concrete at the front entrance of the garage.
  - Where a drive slopes towards a garage there is to be a 75mm ramp up to the garage slab.
  - Maximum gradients of gardens to be 1 in 6 (unless stated otherwise), except for designed banking works.
  - All dimensions in metres unless otherwise stated.
  - As underlying ground conditions may be variable across the site the Contractor shall undertake onsite percolation tests at the location and depth of each soakaway. Tests should be undertaken in accordance with BRE365 and results forwarded to the Engineers to allow verification of designs.
  - All existing services, sewers and drains indicated on this drawing and any other related drawings are shown only indicatively, and shall have their positions and level confirmed on site by the Contractor prior to commencement of any construction work. The results of the investigations shall be confirmed to MTC Engineering (Cambridge) Ltd so that the design can be verified.
  - The invert levels of all existing sewers, drains, ditches, tanks or other features and apparatus where a new connection is to be made shall have their precise position and level confirmed on site by the Contractor prior to commencement of any construction work. The results of the investigations shall be confirmed to MTC Engineering (Cambridge) Ltd so that the design can be verified.

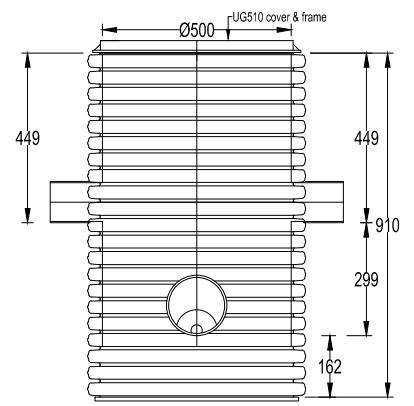


**PRELIMINARY DESIGN**  
NOT FOR CONSTRUCTION

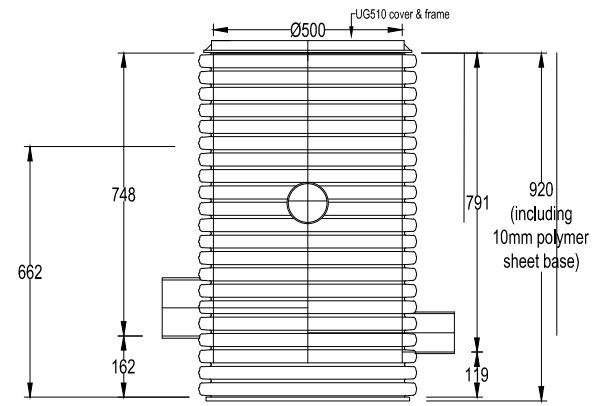
Permeable Paving Storage providing attenuation prior to discharge  
 -Attenuation Capacity=11.55m<sup>3</sup>  
 -Surface Area=110m<sup>2</sup>  
 -Depth=0.35m  
 -Void Space=30%

27mm orifice to restrict discharge rates to a maximum of 1.0l/s in all storm year events up to and including a 1 in 100 years including an allowance of 40% for climate change.

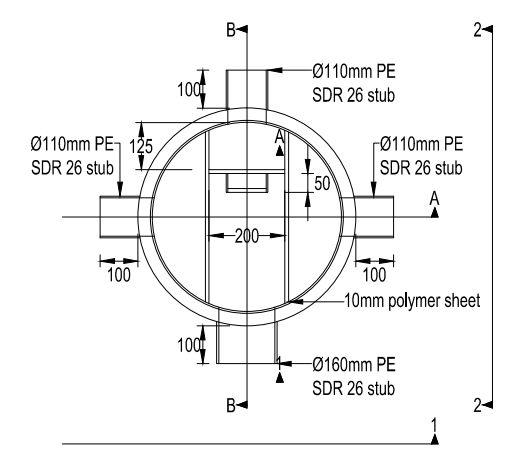
Aco-Drain preventing any surface water discharge towards highway land.



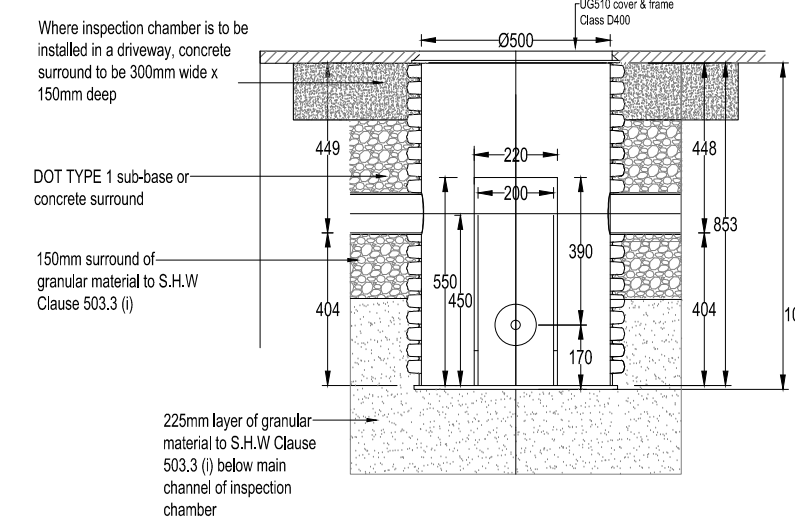
**ELEVATION 1-1 (FRONT)**  
Scale (1:20)



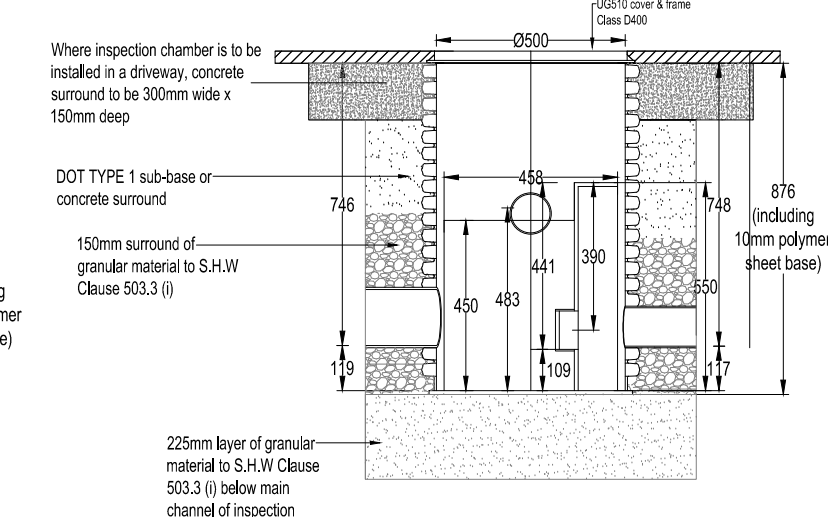
**ELEVATION 2-2 (SIDE)**  
Scale (1:20)



**PLAN**  
Scale (1:15)



**SECTION A-A**  
Scale (1:20)



**SECTION B-B**  
Scale (1:20)

ORIFICE PLATE SIZE REQUIRED BASED ON FLOW RATE AND HEAD OF PRESSURE

Orifice Ø (mm)	Depth to Orifice centre line (m)	Predicted Flow Rate (l/s)
27	0.38	1

NOTE: Discharge coefficient assumed to be 0.6  
 Figures shown in the table above are for guidance purposes only.

**SOAKAWAY PROTECTION:**  
Please ensure that during the construction phase all soakaways, gullies and gully laterals are protected from the ingress of silt or grit from the site. Placing a fine heavy duty geotextile under the gully grating, between it and the frame should suffice.

**NOTE:**  
At the location of the proposed lateral connection the contractor shall establish the position and depth of any existing services to prevent any clash in level and abortive costs.

REV	DATE	DESCRIPTION/REASON FOR ISSUE	APPR

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 E-mail [office@mtcengineering.co.uk](mailto:office@mtcengineering.co.uk)

PROJECT  
**Land Adjacent to 245 Barton Road  
 Comberton, CB237BU**

TITLE  
**Detailed Drainage**

ORIG	EG	DATE	05.02.24
CHKD		SCALE	1:200 @ A1
APPR		DRAWING NO	3230-02
		REV	

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