

BAGGED INLET WITH REINFORCED CONCRETE BASE (SIDE VIEW) A-A

CONCRETE BAGWORK GENERAL CONSTRUCTION DETAILS

GENERAL NOTES

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.

HEADWALL TO BE FULLY DESIGNED (INCUDING REINFORCEMENT) TO BS EN 1992 TO THE FOLLOWING CASES
- LEVEL RETAINED GROUND (COHESIVE OR GRANULAR)
- 1 IN 2 GRANULAR FILL SLOPE
- 1 IN 2 S COHESIVE FILL SLOPE

CULVERT DIAMETERS COVERED ON THIS STANDARD DETAIL ARE UPTO 600mmØ

INSTALLATION GUIDANCE
SCOPE OF BAGGED HEADWALL DEPENDANT ON SITE SPECIFIC REQUIREMENTS. DEPTH AND WIDTH OF BASE OF HEADWALL TO BE SPECIFIED TO ENSURE STABILITY AGAINST OVERTURNING AND ALSO ADEQUATE

DESIGN ASSUMPTIONS
EXPOSED FACE STABLE WITH BAGWORK PROVIDING EROSION PROTECTION ONLY.

ALL TRASH SCREENS TO BE FULLY DESIGNED BY ENGINEER

BAGWORK
ANY BAGWORK SHALL CONSIST OF UNPROOFED HESSIAN BAGS LAID IN ALTERNATIVE HEADER AND STRETCHER COURSES AND FILLED TO FULL WITH SEMI-DRY/DRY MIX OF 4:2:1 (HAND/CEMENT/WATER), WITH THE TIPPEN END TUCKED UNDER THE BAG.

BAG SIZE WHEN LAID FLAT TO BE 450mm X 225mm X 100mm
BAGS TO BE LAID IN STRETCHER BOND WITH 12mm DIA. BY 800mm LONG MILD STEEL DRIVEN VERTICALLY THROUGH EVERY OTHER COURSE, AND EACH ALTERNATE BAG WITHIN THE COURSE.

SUBGRADE
SUBGRADE FOR STRUCTURES TO BE COMPETENT NATURAL GROUND OR ENGINEERED FILL. WHERE UNSUITABLE MATERIAL TO BE REMOVED AND BACKFILLED WITH EITHER APPROVED COMPACTED GRANULAR MATERIAL OR C&T 40/20 CONCRETE.

EARTHWORKS
SUPPORT/FIXING FOR TRASH SCREENS TO BE GALVANISED S275 STEEL. GALVANISING TO BE IN ACCORDANCE WITH BS EN ISO 1461

EXCAVATION GENERALLY
MAXIMUM ADVANTAGE TO BE TAKEN PRIOR TO BACKFILLING. REMOVE ANY UNSUITABLE BEDDING MATERIAL AND REPLACE WITH SPECIFIED BEDDING MATERIAL. EXISTING GROUND CONDITIONS, TRENCH EXCAVATION, STABILITY AND SAFE CONSTRUCTION TO BE ASSESSED BY CONTRACTOR. TRENCH WIDTHS SHALL BE AS NARROW AS POSSIBLE WITH A MAXIMUM WIDTH/DEPRESSION OF A QUARTER THE DIAMETER IS RECOMMENDED (CIRIA REPORT 689 - DESIGN OF CULVERTS)
NO MORE THAN 12 HOURS IS ALLOWED BETWEEN CONSTRUCTION OF BRICKWALLS AND PLACING OF GRANULAR BACKFILL, OR THAT TEMPORARY SUPPORT IS PROVIDED DURING PLACEMENT AND COMPACTION OF BACKFILL
TYPE 1 GRANULAR FILL TO BE USED FOR GRANULAR FILL AND 1 IN 2.5 FOR COHESIVE FILL.
ALL JOINTS BETWEEN CONCRETE AND/OR BRICKS TO BE MORTURED.

INSTALLATION OF HEADWALL UNIT TO BE AS SPECIFIED BY MANUFACTURERS INSTRUCTIONS. FOR HEADWALL BAGS KEY DETAIL AS SHOWN IN DRAWING. PLACE SEMI-DRY CONCRETE BLINDING MIX AROUND THE HEADWALL KEY JUST PRIOR TO INSTALLATION. THIS WILL NEGATE THE NEED FOR IMPACTIVE FORMWORK FOR THE CONSTRUCTION OF THE HEADWALL.

PHASE: 0 (PRIVATE)								
MH No.	MANHOLE DIAMETER (mm)	MANHOLE TYPE	COVER TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
PS1	450	450 Inspection	D400	19.982	18.791	1.041	517478.689	277213.887
PS2	1200	Type B	D400	19.646	18.641	0.855	517471.913	277192.370
PS3	---	HEADWALL		19.600	18.608	0.842	517476.662	277191.141
PS4	450	450 Inspection	D400	19.902	18.902	0.850	517462.656	277218.208
PS5	450	450 Inspection	D400	19.750	18.809	0.791	517447.618	277199.057
PS6	450	450 Inspection		19.750	19.013	0.637	517447.650	277183.935
PS7	250	250 Inspection		19.750	19.228	0.422	517464.163	277179.294
PF1	250	250 Inspection	B125	19.750	19.300	0.350	517456.074	277192.436
PF2	250	250 Inspection	B125	19.750	19.253	0.397	517458.784	277191.692
PF3	250	250 Inspection		19.750	19.096	0.554	517467.870	277189.170
PF4	250	250 Inspection		19.600	18.995	0.505	517473.744	277187.631
PF5	250	250 Inspection		19.280	18.895	0.285	517474.652	277190.990
PF6	---	HEADWALL		18.579	18.864	-0.384	517476.470	277190.519
PF7	250	250 Inspection		19.900	19.450	0.350	517466.998	277198.638
PF8	250	250 Inspection		19.900	19.301	0.499	517469.379	277207.245
PF9	250	250 Inspection		19.900	19.244	0.556	517470.248	277210.583
PF10	250	250 Inspection		19.544	19.080	0.364	517479.735	277208.117
PF11	450	450 Inspection		19.599	18.980	0.519	517480.933	277211.384
PF12	---	HEADWALL		18.494	18.936	-0.541	517483.461	277210.544

ATTENUATION	AT-01
Lowest Cover Level (m)	19.900
Level top of Cells (m)	19.200
Base level of Cells (m)	18.800
Pipe invert (m)	18.800
Contributing area (m2)	-
Dimension on Plan (m)	12.5x4.0x0.4(d)
Cell Thickness (m)	0.4
Void Space (%)	95
Maximum Storage Volume (m3)	19

ATTENUATION	AT-02
Lowest Cover Level (m)	19.650
Level top of Cells (m)	19.050
Base level of Cells (m)	18.650
Pipe invert (m)	18.650
Contributing area (m2)	-
Dimension on Plan (m)	20x2.5x0.4(d)
Cell Thickness (m)	0.4
Void Space (%)	95
Maximum Storage Volume (m3)	19

Section A-A - Typical Geo-Cellular Tank Detail (1:15)

North Arrow

NOTES

1. 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.
2. Any discrepancies, of whatever nature, must be reported to the Engineer prior to the commencement or continuance of any further works.
3. All private drainage works to be in accordance with the requirements of Building Regulations 2010, Part H, "Drainage and waste disposal", (01st October 2015).
4. 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.
5. 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 60. 100mm diameter pipes shall not be laid flatter than 1 in 80, 150mm diameter pipes shall not be laid flatter than 1 in 150.
6. All pipes, chambers and fittings to be installed strictly in accordance with the manufacturers instructions.
7. Pipes which run adjacent to buildings shall be installed in strict accordance with Part H, Clauses 2.23 to 2.25 and Diagram 8.
8. All private manholes, inspection chambers and drainage channels to comply with BS EN124. 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
9. All drains in the vicinity of existing or proposed trees to be constructed in accordance with the requirements of NHBC Practice Note 3.
10. Private drainage frames must be tied to manhole risers by use of manufacturers ties (e.g. Polypipe ref. FRK500 fixing kit and FRK501 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.
11. All existing land drains encountered on site during construction to be re-connected.
12. 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.
13. Garage slabs relate to the finished level of the concrete at the front entrance of the garage.
14. Where a drive slopes towards a garage there is to be a 75mm ramp up to the garage slab.
15. Maximum gradients of gardens to be 1 in 6 (unless stated otherwise), except for designed banking works.
16. All dimensions in metres unless otherwise stated.
17. As underlying ground conditions may be variable across the site the Contractor shall undertake onsite porosity 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.
18. 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.
19. 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.

Private Drainage Key

- Foul Inspection Chamber (Depth <0.6m [1 side connection])
- Foul Inspection Chamber (Depth <1.2m [2 side connections])
- Storm Inspection Chamber (Depth <0.6m [1 side connection])
- Storm Inspection Chamber (Depth <1.2m [2 side connections])
- Storm BR manhole PCC Ring (1.2-1.5m)
- 1500_1/20 Proposed Perforated Carrier drain 1500 @ 1:150
- Clearwater BioAir CW2 Sewerage Treatment Plant Inlet 455-755m
- ACO channel or similar with gully and rodding point.

Surface Water Attenuation

- POLYSTORM-R (PSM1) Cellular Storage Storm Water Management System. Cellular storage tanks suitable for vehicular loading (where applicable) with 95% voids wrapped in an impermeable geo-membrane.
- Permeable Gravel Surfacing

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION/REASON FOR ISSUE	APPR
B	21.01.25	HEADWALL ADDED	JTC
A	09.10.24	ACO ADDED	JTC

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TITLE
Proposed Drainage Plan

ORIG	DATE
JTC	02.10.24
CHKD	SCALE 1:100 @ A1
APPR	DRAWING NO 3356-02 REV B

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