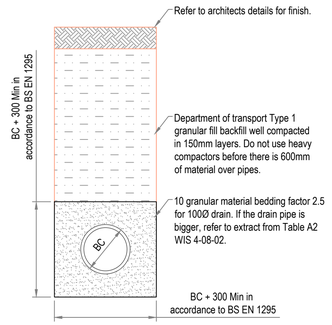
Site Area
Existing Impermeable Area = say 55m²
Proposed Impermeable Area = 70m²

Surface Water Connection
Peak Surface Water run-off (Q) = CIA
Q = peak discharge coefficient
C = run-off coefficient
I = intensity (mm)
A = drainage area (ha)
Existing surface water run-off for 100 year event
Q = 2.78 x 1.5 x 1.3 x 50 x Say 0.0055 = 1.5 l/s
Proposed run-off for 100 year event plus 40% client change
Q = 0.1 l/s

Foul Water Connection
Peak foul water flow from the proposed buildings based on unit method to BS EN 12056-2-2000
FW peak flow = 5.8 l/s
Deverlopment size (N) = 1
Occupancy - persons / dwellings (O) = 2.4
Population of development (P) = NxO =2.4
Dry weather flow multiplier (PF) = 2.5
Per capita flow -litres/ head / day (G) = 125 l/h/d
Infiltration – percentage (I) = 10%
Population design flow = (PF + 0.1) PG = (2.5 + 0.1) x (2.4 x (125/(60secx60minx24hr)) = 0.012 l/

Below Ground Drainage Notes

1. All drainage to be installed in accordance with relevant Building Regulations documents, British Standards and Sewers for Adoption 7th edition where applicable.
2. All indirect connections to public sewers to be agreed and inspected by Local Water Authority.
3. Exploratory works to be undertaken to locate all public utility services on site prior to commencing drainage works to ensure no clashes between the drains & service runs occur. Using hand digging means.
4. Any redundant external existing drainage on site that is to be made redundant shall be completely removed from the ground and backfilled to suit.
5. A CCTV survey and report in WINCAN format for all new drainage will be required before "As Built" drawings are issued.
6. Contractor to allow for waterbars around pipe penetration through structures.
7. Contractor to confirm feasibility of reusing existing below ground drainage prior to commencing drainage works.
8. The cover levels of all proposed drainage infrastructure to be ascertained prior to works commencing.
9. Contractor to allow for application to Thames Water for new or indirect connection.
10. Manhole cover & invert levels shown are subject to confirmation of finished site levels.
11. Any existing drainage on site that is to be made redundant shall be completely removed from the ground and backfilled to suit.
12. All rwp's & svp's to have rodding access points above FFL.
13. All pipes built into manhole inverts should be installed with soffits level unless noted otherwise.
14. All down pipes to project minimum 100mm above finished floor levels
15. All internal manholes and inspection chambers to have double sealed recessed trays to suit proposed finishes by architect.

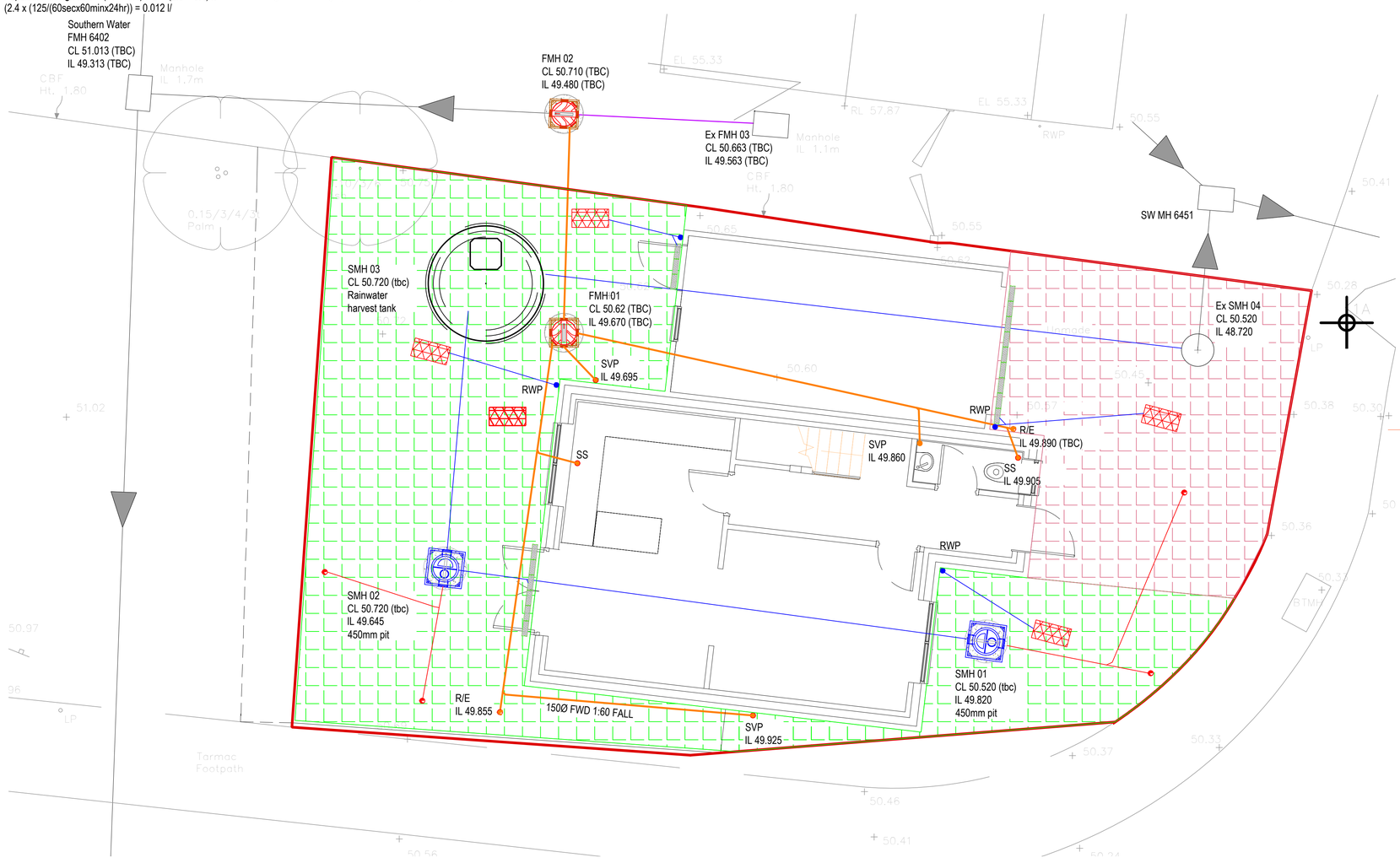


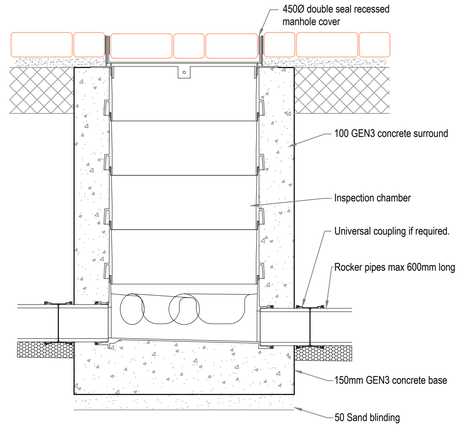
Detail 4 - Typical External Class S Bedding Details
1:20

Extract from Table A2 WIS 4-08-02

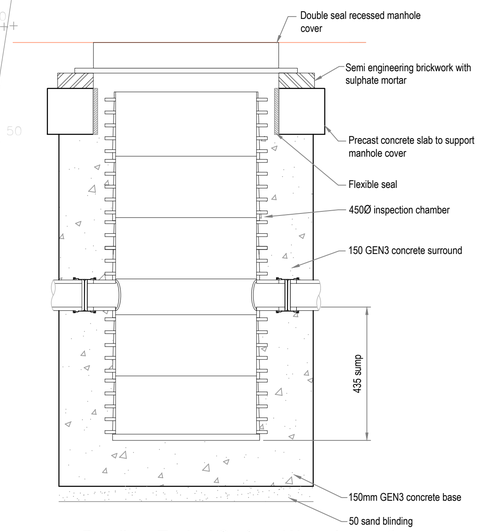
Pipe nominal bore (mm) see note (4)	Nominal maximum particle size (mm)	Materials specified in British Standards see note (a)
100	10	10mm nominal single-size
Over 100 to 500	15	10 or 14mm nominal single-size or 14mm to 5mm graded
Over 150 to 300	20	10, 14 or 20mm nominal single-size or 14mm to 5mm graded or 20mm to 5mm graded
Over 300 to 550	20	14 or 20mm nominal single-size or 14mm to 5mm graded or 20mm to 5mm graded
Over 550	40	14, 20 or 40mm nominal single-size or 14mm to 5mm graded or 20mm to 5mm graded or 40mm to 5mm graded

Note (a) - Processed granular material to include aggregates





Detail 2 - Typical Foul Water Inspection
1:10



Detail 1 - Typical Surface Water Inspection
1:10

DRAINAGE LEGEND

- Existing foul / surface water drainage adoption.
- FWMH 100Ø FW — Private foul water drainage and inspection chamber.
- SWMH 100Ø SW — Private surface water drainage and inspection chamber.
- 100Ø SW — Perforated surface water drain.
- ACO M100D MultiDrain 135 x 150 depth and sump unit (with silt basket and air traps). Grating loading class C250
- 708x354x150 Formpave distribution tank with geotextile surround on 10mm pipe bedding. Minimum 200 top and side cover.
- Proposed foul water down pipes.
- Proposed surface water down pipes.
- 60mm concrete paving on 50 mm laying course on Terrain geotextile or similar approved 350mm sub base (CGA or Type 3) on Terrain geotextile or similar approved
  or
  Permeable artificial grass on 50 mm laying course on Terrain geotextile or similar approved 350mm sub base (CGA or Type 3) on Terrain geotextile or similar approved
  or
  76mm Grasscrete GC3 with A142 mesh on Terrain geotextile or similar approved 350mm sub base (CGA or Type 3) on Terrain geotextile or similar approved

FOUL WATER MANHOLE SCHEDULE
Note: Levels to be confirmed. Levels to Ordnance Survey Datum.

MANHOLE REF	COVER LEVEL (m)approx	INVERT LEVEL (m)	MANHOLE TYPE	MANHOLE SIZE (mm)	COVER & FRAME (New manhole with double seal recessed U.N.O)	NOTES	BACKDROP/ CATCHPIT
FWMH1	50.62 tbc	49.670 tbc	Figure B18	450Ø	minimum 450 x 450 class B125 double seal recessed	-	-
FWMH2	50.710 tbc	49.480 tbc	Figure B18	450Ø	minimum 450 x 450 class B125 double seal recessed	-	-

SURFACE WATER MANHOLE SCHEDULE
Note: Levels to be confirmed. Levels to Ordnance Survey Datum.

MANHOLE REF	COVER LEVEL (m)approx	INVERT LEVEL (m)	MANHOLE TYPE	MANHOLE SIZE (mm)	COVER & FRAME (New manhole with double seal recessed U.N.O)	NOTES	BACKDROP/ CATCHPIT
SWMH1	50.520 tbc	49.820 tbc	Figure B18	450Ø	minimum 450 x 450 class B125 double seal recessed	450 mm pit	Catchpit
SWMH2	50.720 tbc	49.645 tbc	Figure B18	450Ø	minimum 450 x 450 class B125 double seal recessed	450 mm pit	Catchpit
SWMH3	50.720 tbc				minimum 600 x 600 class B125 double seal recessed	-	Rainwater Harvest Tank
Ex SWMH4	50.520	48.720	Figure B18	450Ø	Existing	-	-

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This drawing is to be read in conjunction with all relevant drawings and specifications

NOTES
1. All setting out to be in accordance with the Architect's drawings. Any discrepancies between the Engineer's and the Architect's drawings to be referred to the Architect before proceeding. Dimensions must not be scaled.
2.

CDM 2015

1. Potential buried below ground services locations to be identified.
2. Proposed connection to the public sewer to be agreed with the local water authority.

Rev.	Amendment	Drn	Chkd	Date
P2	Issued for Information	KY	-	31.01.25
P1	Issued for Information	KY	-	22.01.25

Drg Status: Preliminary

RonkeDesigns
Civil & Structural Consultant

Client: ATLAS CONSTRUCTION

Project: **1 Quarry Way Southwater Horsham RH13 9ST**

Title: **Below Ground Drainage LOWER GROUND**

Scales: A1 AS NOTED
Status: S3

Project No.: **15058-RD-ZZ-DR**
Drg No.: **C500**
Rev.: **P2**