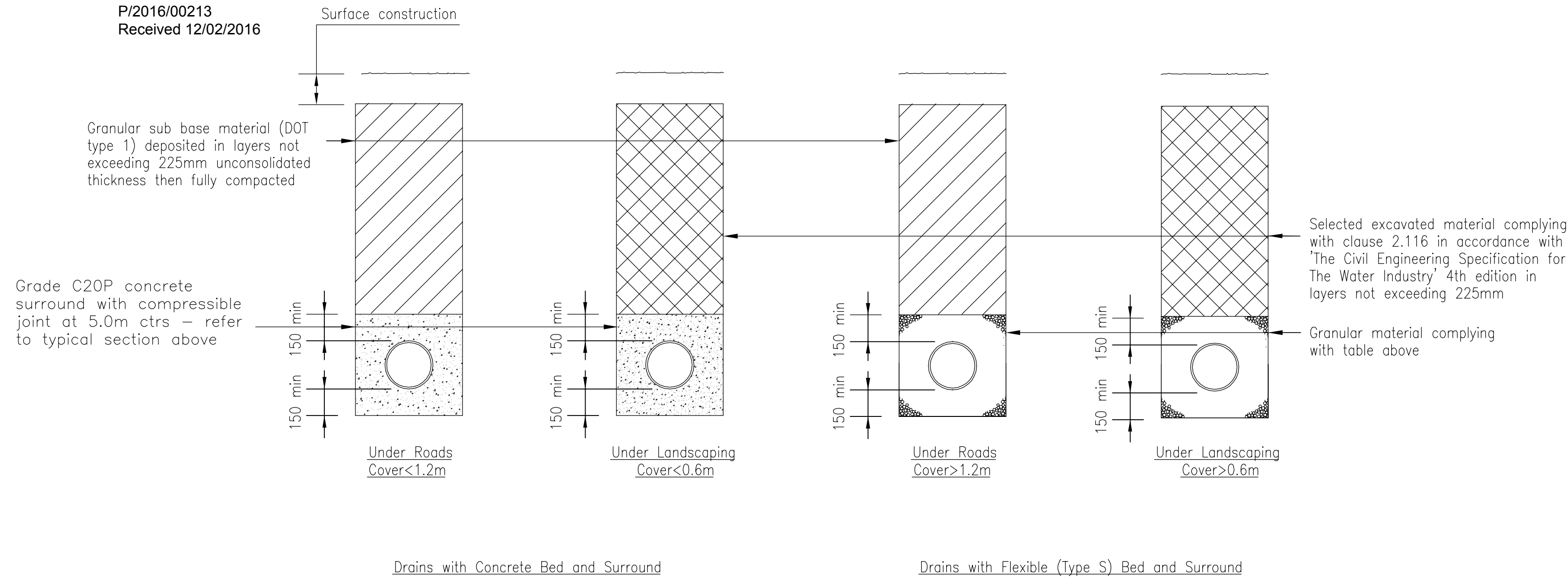
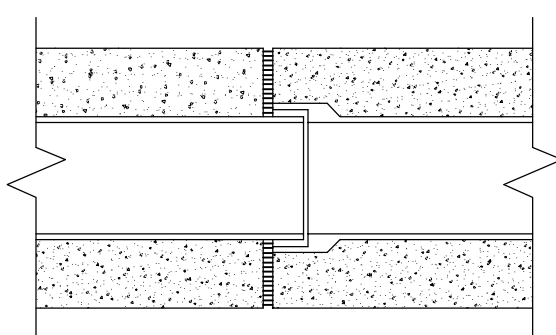


P/2016/00213  
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### External Sewers – Pipe Bedding & Backfilling Details



compressible filler board  
18mm for pipes up to 450 dia.  
36mm for pipes 450 to 1200 dia.

Section on Drain with Concrete Bed and Surround at Pipe Joints

| TRENCH WIDTHS |       |
|---------------|-------|
| DIA OF DRAIN  | WIDTH |
| 100           | 550   |
| 150           | 600   |

| GRANULAR MATERIAL |   |
|-------------------|---|
| DIA OF DRAIN      | AGGREGATE                                 |
| 100               | 10mm single size                          |
| 150               | 10 or 14mm single size or 14 – 5mm graded |

### FOUL WATER MANHOLE SCHEDULE

| manhole Ref No. | Est'd Cover Level | Est'd Invert Level | Est'd Depth | Manhole Type & Size TBC    | Min. Clear Opening Of Cover TBC |
|-----------------|-------------------|--------------------|-------------|----------------------------|---------------------------------|
| FW1             | 12.80             | 12.40              | 0.40        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW2             | 12.80             | 12.27              | 0.53        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW3             | 12.80             | 12.19              | 0.61        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW4             | 12.80             | 12.13              | 0.67        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW5             | 11.35             | 10.90              | 0.45        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW6             | 11.36             | 10.18              | 1.13        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW7             | 12.15             | 10.65              | 1.50        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW8             | 11.35             | 10.90              | 0.45        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW9             | 9.05              | 8.60               | 0.45        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW10            | 9.05              | 8.51               | 0.54        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW11            | 8.85              | 8.40               | 0.45        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| FW12            | 8.20              | 7.75               | 0.45        | 450 dia Inspection Chamber | 450 Dia plastic                 |

|      |       |       |       |                            |                 |
|------|-------|-------|-------|----------------------------|-----------------|
| FW13 | 7.78  | 7.33  | 0.45  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW14 | 8.60  | 8.15  | 0.45  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW15 | 9.10  | 8.10  | 0.50  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW16 | 9.10  | 7.98  | 1.12  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW17 | 7.70  | 7.10  | 0.60  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW18 | 9.10  | 8.65  | 0.45  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW19 | 9.10  | 8.51  | 0.059 | 450 dia Inspection Chamber | 450 Dia plastic |
| FW20 | 11.50 | 11.05 | 0.45  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW21 | 11.50 | 10.91 | 0.59  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW22 | 11.50 | 10.86 | 1.05  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW23 | 11.35 | 10.74 | 0.61  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW24 | 10.39 | 9.94  | 0.45  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW25 | 7.51  | 7.06  | 0.45  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW26 | 6.60  | 6.15  | 0.45  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW27 | 8.89  | 8.44  | 0.45  | 450 dia Inspection Chamber | 450 Dia plastic |
| FW28 | 9.87  | 9.4   | 0.47  | 450 dia Inspection Chamber | 450 Dia plastic |

### SURFACE WATER MANHOLE SCHEDULE

| manhole Ref No. | Est'd Cover Level | Est'd Invert Level | Est'd Depth | Manhole Type & Size TBC    | Min. Clear Opening Of Cover TBC |
|-----------------|-------------------|--------------------|-------------|----------------------------|---------------------------------|
| SW1             | 12.65             | 12.25              | 0.40        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW2             | 12.80             | 12.35              | 0.45        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW3             | 12.80             | 12.05              | 0.75        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW4             | 12.95             | 12.18              | 0.77        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW5             | 13.20             | 12.26              | 1.28        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW6             | 11.35             | 10.90              | 0.45        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW7             | 11.0              | 10.38              | 0.62        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW8             | 11.10             | 10.63              | 0.47        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW9             | 12.18             | 12.95              | 0.77        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW10            | 13.20             | 11.92              | 1.28        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW11            | 11.35             | 10.90              | 0.55        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW12            | 11.0              | 10.38              | 0.60        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW5             | 13.20             | 11.92              | 1.28        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW6             | 11.35             | 10.90              | 0.45        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW7             | 11.0              | 10.38              | 0.62        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW8             | 11.10             | 10.63              | 0.47        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW9             | 9.05              | 8.60               | 0.45        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW10            | 9.05              | 8.42               | 0.63        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW11            | 8.90              | 8.45               | 0.45        | 450 dia Inspection Chamber | 450 Dia plastic                 |
| SW12            | 8.00              | 7.60               | 0.40        | 450 dia Inspection Chamber | 450 Dia plastic                 |

|      |       |       |      |                            |                 |
|------|-------|-------|------|----------------------------|-----------------|
| SW13 | 8.27  | 7.80  | 0.47 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW14 | 8.20  | 7.75  | 0.45 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW15 | 8.20  | 7.71  | 0.49 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW16 | 8.20  | 7.55  | 0.65 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW17 | 8.20  | 7.75  | 0.65 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW18 | 8.35  | 7.95  | 0.40 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW19 | 8.80  | 8.15  | 0.65 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW20 | 8.00  | 7.60  | 0.40 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW21 | 7.00  | 6.60  | 0.40 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW22 | 7.70  | 7.25  | 0.45 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW23 | 9.10  | 8.65  | 0.45 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW24 | 7.70  | 7.25  | 0.45 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW25 | 8.89  | 8.30  | 0.59 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW26 | 9.10  | 8.70  | 0.40 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW27 | 9.33  | 8.55  | 0.78 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW28 | 9.87  | 9.47  | 0.40 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW29 | 10.42 | 10.00 | 0.42 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW30 | 11.32 | 10.57 | 0.75 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW31 | 11.35 | 10.71 | 0.64 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW32 | 11.35 | 10.80 | 0.55 | 450 dia Inspection Chamber | 450 Dia plastic |
| SW33 | 11.35 | 10.90 | 0.45 | 450 dia Inspection Chamber | 450 Dia plastic |

### NOTES

- This drawing to be read in conjunction with the Architects drawings
- All drainage is to be constructed in accordance with BS 8301 – Code of Practice and Part H of the Building Regulations Latest Edition and Sewers For Adoption 6th Edition
- Pipes up to and including 150mm dia to be 28kN/m strength to BS EN295-1. Pipes to be PVC-U or vitrified clay
- Plastic pipes, bends and junctions to be PVC-U to BS 4660 or BS 5481 with flexible joints, kitemark plastic inspection chambers to meet requirements of BS 7158
- All pipe runs to be laid with flexible joints.
- In manholes, where the outlet pipe size is greater than the inlet pipe, pipes are to be laid soffits level up. Where the outlet pipe size is less than the inlet pipe then pipes are to be laid inverts level up.
- Pre-formed channels are to be used in manholes where applicable.
- Granolithic concrete benching to be steel trowelled to a dense smooth face neatly shaped and finished to all branch connections and laid in accordance with the specification.
- All connections to be turned in direction of flow using pipe bends.
- Manhole covers and frames to be ductile iron heavy duty Grade D400 double triangular to BS EN124 and are to be Grade A standard in vehicular trafficked areas unless noted otherwise. Refer to manhole schedules.
- Manhole covers and frames to be ductile iron medium duty grade B125 circular or rectangular to BS EN124 positions outside vehicular trafficked areas unless noted otherwise. Refer to manhole schedules.
- Manhole covers and frames to be ductile iron medium duty grade A15 covers in soft landscaping unless noted otherwise. Refer to manhole schedules.
- First flexible joint in pipes adjacent to a manhole shall be a maximum of 600mm from inside face of manhole, connecting to a rocker pipe.

### C.D.M (Health & Safety)

The C.D.M regulations will apply to this project.

Method statements must be produced for all elements of the work and submitted to the C.D.M Coordinator prior to commencement.

Sub-Structure work involves Excavation drainage trenches. The contractor should Provide Any Temporary Earthwork Support Necessary For The safe execution Of The Works. The Contractor should prepare a method statement for this element of work which should be submitted to the C.D.M Coordinator prior to commencement.

A site investigation has not been undertaken. The contractor should familiarise himself with the site, if Contaminated Ground Is Encountered The Contractor Should Stop Work Immediately And Obtain Professional Advice & guidance Prior To Proceeding. All Health & Safety Procedures Must Be Strictly Adhered To In This Respect

| REV   | DATE | DESCRIPTION        | BY       |
|---|------|--------------------|----------|
| SHEET SIZE A1   |      |                    |          |
| CLIENT<br>David McPhearson  |      |                    |          |
| PROJECT<br>New Housing Development<br>Abbots Bromley  |      |                    |          |
| DRAWING TITLE<br>Drainage Details   |      |                    |          |
| S.A. CONSULTING<br>Civil & Structural Consulting Engineers.<br>Collingwood<br>Burton-upon-Trent<br>DE13 9DU<br>Tel/Fax 01283 565002<br>Email admin@saconsult.co |      |                    |          |
| DRAWN BY DB   |      | DATE Feb16         |          |
| CHECKED BY  |      | SCALE NOT-TO-SCALE |          |
| PROJECT No<br>F-088   |      | DRAWING No<br>02   | REVISION |