



Appendix 3

Group 1 Automotive Drainage Proposals

PRIVATE DRAINAGE NOTES

1. All private drainage works shall be in accordance with 'The Building Regulations Approved Document H' and British Standard EN 752.

2. Prior to commencement of the works the Contractor shall liaise with all relevant authorities to obtain their requirements and to obtain approval for his method of working and where appropriate his intended choice of materials.

3. Refer to site survey for details of existing site conditions and bench marks.

4. Prior to commencement of the works the Contractor shall liaise with all relevant authorities to locate, protect and where necessary divert all existing services affected by the works.

5. All excavations shall be kept free of standing water.

6. The Contractor shall ensure the stability of all excavations is maintained at all times.

7. All works in or adjacent to the public highway shall be in accordance with the requirements of the Highway Authority. The Contractor shall obtain all necessary licences to carry out works within the public highway.

8. All works to new or existing public sewers shall be to the approval of the Water Authority and in accordance with 'Sewers for Adoption' - latest edition.

9. Any works within 9m of a watercourse shall be to the approval of the Environment Agency.

10. Prior to commencement of the works all drainage outfall points, whether existing sewer, drain or watercourse, shall be verified on site by the Contractor. If the outfall point is not as shown on the drawings, the Contractor shall immediately inform the Water Authority and the Highway Authority. (Significant redesign of drainage and level may be necessary). Prior to commencement of construction on-site the Contractor shall install all off-site drainage connections, or satisfy himself that there are no obstructions or other reasons why, the drain connections can not be made.

11. All private chambers in block paved / paving slab areas to have recessed covers. All covers, whether recessed or not, are to be placed entirely within paved or landscaped areas.

12. All cover levels shown on this drawing are approximate. Exact levels of new covers and frames to be determined on site to match level and profile of finished surface.
13. The construction of all existing chambers, gullies etc. and their covers, gratings and frames to be improved, repaired or replaced as necessary to suit their location within the finished development.
14. All covers, gratings and frames to chambers, gullies, channels etc. shall be of the correct load class to suit their location.

Load Class A15 Pedestrian areas (not accessible by vehicles)
Load Class C250 Lightly trafficked roads.
Load Class D400 Main loads.

Gratings in pedestrian areas to be designed for pedestrian use.

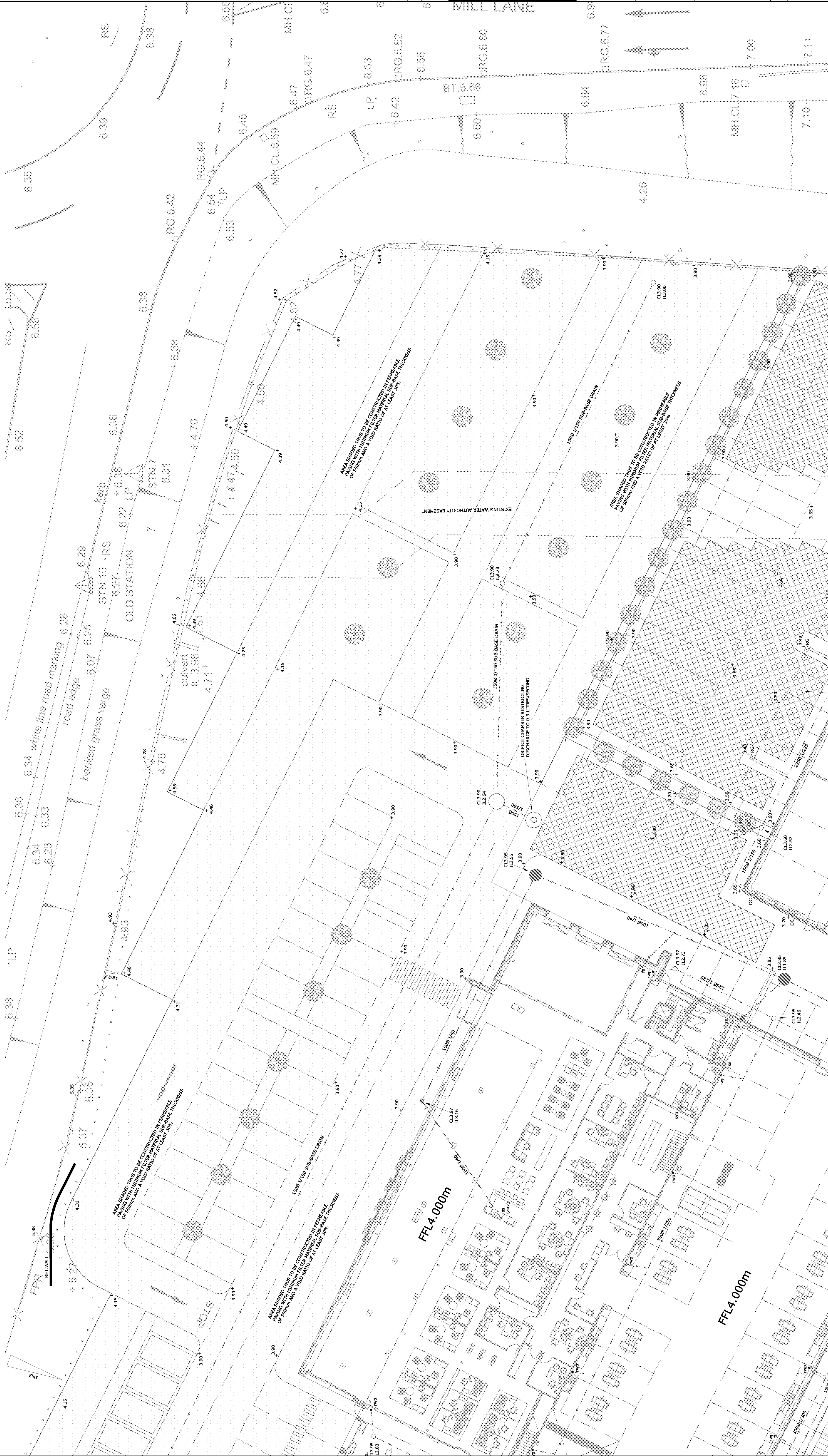
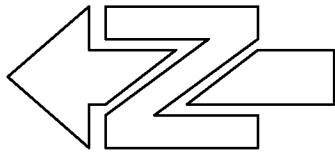
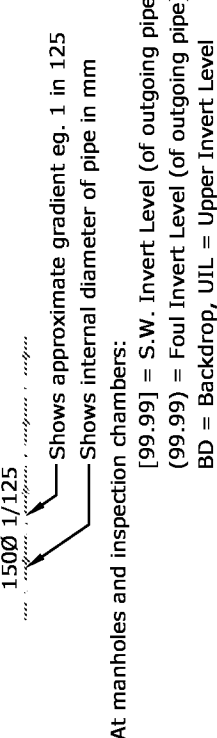
15. All existing chambers, gullies channels, pipes and other drainage apparatus shall be protected from damage during the works. The Contractor shall take all necessary measures to ensure that no material enters the drains (other than that which they are designed to carry).
16. Refer to Site Investigation Report for existing ground conditions and any special requirements for the construction of the works. The Contractor shall ensure that all pre-cast and in-situ concrete and masonry, where appropriate refer to contamination reports for details of chemicals affecting choice of materials and other additional requirements.
17. All pre-cast and in-situ concrete and masonry used in the construction of foul drains and sewers shall be made from sulphate resisting cement.
18. Unless noted otherwise all pipework shall be 100mm diameter laid to a fall of 1 in 80 or steeper for surface water and 1 in 40 or steeper for foul water. Foul drains with one or more W.C. connected may be laid at 1 in 80 or steeper. Where appropriate road gully connections shall be 150mm dia at 1 in 150 or steeper.
19. Unless noted otherwise all pipework shall be constructed from 'super strength' verified clay to BS 65.85 EN 295 or uPVC to BS EN 1201 bedded and backfilled as per the manufacturers recommendations and the above listed publications.

20. The Contractors attention is drawn to Diagrams 7 and 8 of 'The Building Regulations Approved Document H' showing details of drains laid below and near to buildings. Where ground beams are used, their level shall be set to avoid clashing with drain connections.
21. Exact location of gullies to be determined on site to suit low points. The Contractor shall ensure that all finished surfaces are laid to falls that are sufficient for all surface water to drain without surface ponding.
22. For the exact location of soil pipes, substacks, W.C.'s and other drainage connections refer to the large scale architectural building plans.
23. Rainwater downpipes that do not connect directly to an access point, shall be fitted with a rodding access.
24. All drainage channels to be by ACO or similar and to be of a type size and capacity suitable for their location.
25. Access fittings, inspection chambers and manholes shall be constructed to the dimensions shown in Tables 11 and 12 of 'The Building Regulations Approved Document H'. All access fittings, inspection chambers and manholes shall be constructed from products designed/rated for the location in which they are to be used. They shall be installed in accordance with the manufacturers/suppliers recommendations.
26. Prior to commencement of any works the existing drainage must be traced to ensure that no 'live' connections remain. Any such connections must be reported to the Contract Administrator, prior to diversion into the new drains.
27. Unless noted otherwise all drains and sewers to connect with soffits level. Chamber invert levels shown on this drawing are to outgoing pipe.
28. Small areas of block paving around the adaptable 'Mow' areas that have no positive drainage, shall be constructed from a hard wearing material to ensure no surface water or private areas drains on to the public highway. Alternatively careful profiling of finished surfaces together with additional gullies/drainage channels may be utilized.
29. Unless noted otherwise invert levels shown at catchpits (silt traps) are the invert level of the outgoing pipework, as with other chambers, unless noted otherwise, all pipes shall be laid with soffits level.

30. All Aquacell storage crates (or similar) shall be installed strictly in accordance with the manufacturers instructions (including vent), crates to be suitable for use in areas subject to vehicular loading and where appropriate have a filter fabric wrapping.
31. All catchpits are to be regularly cleaned out during the construction period (especially after heavy rainfall) to ensure no silt passes the traps to be deposited in the aquacell storage/attenuation/soakaway tanks. Before final hand over of the site, silt to the aquacell tanks is to be plugged, all s/w pipework is to be jetted, catchpits cleaned, then be removed and aquacell tanks inspected to ensure no silt has been deposited in them.

PRIVATE DRAINAGE LEGEND

Pipework other than that covered by the notes shall be identified thus:-



NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.
2. **DO NOT SCALE** FROM THIS DRAWING MANUALLY OR ELECTRONICALLY. WRITTEN PERMISSION MUST BE OBTAINED FROM MLM PRIOR TO SCALING ELECTRONICALLY OR USING THIS ELECTRONIC FILE.

CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2007

DESIGNERS HAZARD INFORMATION FOR CONSTRUCTION

1. IF YOU DO NOT FULLY UNDERSTAND THE RISKS INVOLVED DURING THE CONSTRUCTION OF THE ITEMS INDICATED ON THIS DRAWING ASK YOUR MANAGER, HEALTH & SAFETY ADVISOR OR A MEMBER OF THE DESIGN TEAM BEFORE PROCEEDING.
2. EXISTING SERVICES ON SITE. CONTRACTOR TO LIAISE WITH ALL RELEVANT SERVICE COMPANIES AND ARRANGE FOR ALL SERVICES TO BE LOCATED, MARKED AND PROTECTED.
3. DRAINAGE AND HIGHWAY WORKS INVOLVE DEEP EXCAVATION, HOT MATERIALS AND/OR HEAVY PLANT/MATERIALS.
4. THE CONTRACTOR SHALL READ AND UNDERSTAND THE SOILS REPORT. BE AWARE OF POTENTIAL VARIATIONS IN SOIL CONDITIONS OVER THE SITE.
5. WORKS WITHIN THE PUBLIC HIGHWAY MUST ENSURE THE SAFETY OF ALL PARTIES.
6. PROTECTION FOR DISEASE REQUIRED FOR WORKS WITHIN EXISTING SEWERS.
- THE ABOVE NOTES REFER SPECIFICALLY TO THE INFORMATION SHOWN ON THIS DRAWING.
- REFER TO THE HEALTH AND SAFETY PLAN FOR FURTHER INFORMATION.

Issue	Date	Description	Made	Checked
Drawing Status:				

APPROVAL

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Client

GROUP 1 AUTOMOTIVE

Project

CHANDLERS BMW WORTHING

Drawing Title

DRAINAGE AND FINISHED LEVELS LAYOUT
SHEET 2 OF 4

Drawn/Design	Checked	Approved	Date
1:200 @ A1	1:400 @ A3	615823/003	July 2014
Rev			