

1. Do not scale this drawing. All dimensions must be checked / verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant Architects, Engineers and Specialist drawings and specifications.
3. All dimensions in millimetres unless stated otherwise. All levels in metres unless stated otherwise.
4. Any discrepancies noted on site are to be reported to the Engineer immediately.
5. The design specification for drainage works shall be the Water Authority Association 'Sewers for Adoption' (7th Edition).
6. For details of ground conditions refer to the Ground Investigation Report.
7. The following pipe strengths shall be adopted unless noted otherwise:
  - Pipes 150mm diameter up to and including 225mm to be classed as BS EN 295 Class 160
  - Pipes over 300mm diameter to be classed as BS 5911 Class M
  - All pipe runs to be laid with flexible joints.
8. All pipes entering and exiting manholes are to be connected with pipe soffits level unless noted otherwise.
9. Bedding and surround to be as follows:
 

Location	Cover to Soffit	Bedding
Roads	+1.2m	Class '3' granular bed and surround
	+1.2m	Class 'X' Concrete surround
Hard and soft landscaping	+0.6m	Class '3' granular bed and surround
	+0.6m	Class 'X' Concrete surround
10. The following concrete mixes are to be used (all in accordance with BS 5800):
 

Location	Mix Reference
Concrete surround to pipes	ST1
Concrete base and surround to manholes	ST2

The above concrete mixes have been selected for BS 5800 Class 2 Subgrades.
11. All precast concrete products (ie pipes, manholes rings etc.) shall be of suitable concrete mix to cater for Class 2 subgrades.
12. Pre-formed drains are to be used in manholes where applicable.
13. Geotextile concrete bedding to be steel bedded to a dense smooth fine neatly shaped and finished to all branch connections and laid in accordance with the Specification.
14. All connections to be turned in direction of flow using pipe bends.
15. Manhole covers and frames to be ductile iron medium duty Grade D400 circular or rectangular to BS EN124 positions inside vehicular trafficked areas.
16. First flexible joint in pipes adjacent to a manhole shall be a maximum of 600mm from inside face of manhole, connecting to rocker pipe.
17. The length of rocker pipe is as follows:
 

Pipe Diameter	Length of Rocker pipe
150mm-400mm	600mm
450mm	900mm
18. Manholes with outgoing pipes greater than 600mm diameter shall be fitted with guard bars, safety chains or other safety devices.
19. The Project Contractor shall be responsible for checking the existing live and invert levels of any connection points for both the foul and surface water systems, prior to undertaking installation of any new drainage works. Any deviation to the levels and positions indicated on the drawing should be brought to the immediate attention of the Project Engineer.
20. All inverts specified are outgoing (except backdrops). All pipes are to be laid with soffits level U.N.O.
21. All foul connections to be 150mm dia. laid at a minimum gradient of 1:100 unless noted otherwise. All surface water pipes to be 225mm dia. U.N.O.
22. All connections to be made by purpose made junctions as far as practicable.
23. Manhole covers in stock paved areas to be recessed to receive required surface finish.

KEY  
 PROPOSED FLOOD ROUTING WITHIN EVENTS EXCEEDING THE 100 YEAR EVENT + CC →

FOR PLANNING

Rev	Date	Description	By	Chkd
C	09.02.2021	UPDATED TO SUIT LATEST DRAINAGE MODELING.	JH	GL
B	18.09.2019	FLOODING UPDATED TO SUIT LATEST MODELING.	JH	GL
A	16.09.2019	AMENDED TO SUIT LATEST ARCHITECTS LAYOUT.	JH	GL
-	05.09.2019	First Issue	JH	GL

Revision Schedule					
Project Title					
PLOT 5100					
HATFIELD BUSINESS PARK					
Drawing Title					
PROPOSED DRAINAGE AND LEVELS PLAN					
Drawn by	JH	Checked by	GL	Project Engineer	GL
Date	FEB 19	Scale	1:250	Project No	12690
				Drawing No	116
				Rev	C

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