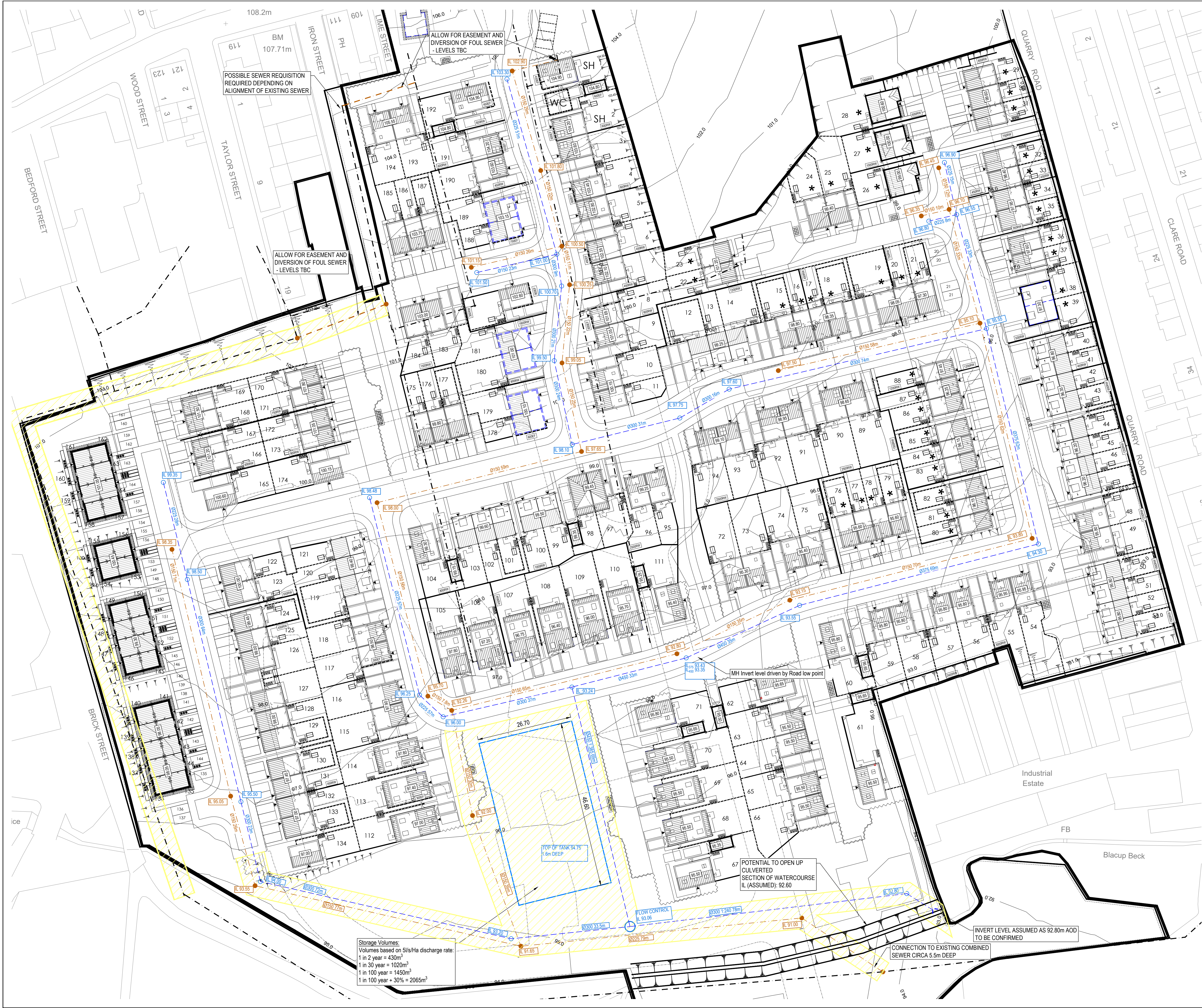




Storage Volumes:
Volumes based on 5l/s/ha discharge rate:
1 in 2 year = 430m³
1 in 30 year = 1020m³
1 in 100 year = 1450m³
1 in 100 year + 30% = 2065m³

INFORMATION WITHIN THIS DRAWING IS NOT NECESSARILY PRODUCED TO SCALE.
ALWAYS USE FIGURED DIMENSIONS AND CO-ORDINATES - IF IN DOUBT, ASK.

NOTES

- All pipes shall be either:
A - PVC to have BSI kitemark status (certified to WIS 4-35-01 and to BS EN 13476) Wavin or similar approved. Maximum pipe length to be 3m. Plastic channel sections in manholes are not acceptable, clay channel sections shall be used.
Please note that where plastic pipes are installed into the ground prior to obtaining approval, then the Developer will have to provide a Light-line survey and report of the prospectively adoptable sewers, which will be at the Developer's expense.
OR
B - Vitrified clay to BS EN 295 with a minimum crushing strength as follows:-
150 dia - 40 kN/m
225 dia - 45 kN/m
300 dia - 72 kN/m
OR
C - Class 120 concrete to EN1916 /BS 5911-1 : 2002.
 - Pipes OF 675mmØ or greater shall be concrete conforming to be concrete class 120 to EN 1916/BS 5911-1 : 2002.
 - Where plastic pipes are proposed for adoptable sewers, structural calculations for the plastic pipes and a site investigation report to prove that the ground condition is suitable for the plastic pipes are to be produced.
 - All pipes are to be laid soffit level at manholes unless noted otherwise.
 - All adoptable sewer works and materials to be in accordance with "Sewers for Adoption" (6th edition), the relevant British/European standards and Yorkshire Water's standards/requirements/addendum to the Mechanical and Electrical specification and kitemarked.
 - Manhole covers shall have a clear opening of 600 and shall be class D400 to BS EN 124 with 150 deep frames in highways. Covers to have closed keyways and are to be bedded on steel struts with 1:3 mortar haunching.
 - Pipes entering manholes and road gullies shall have a flexible joint within 600 of the inside the manhole or gully joining with a short Rocker pipe.
 - Plastic channel sections in manholes are not acceptable and clayware is preferable. Plastic channels are difficult to set in concrete and a satisfactory finish cannot be obtained on the bedding.
 - The adoptable sewers should be a minimum of 1m and outside of manholes 0.5m from kerb faces and service margins.
 - Sewers must have 5m clearance from trees and hedges (see also figure 2.3 on page 33 in "Sewers for Adoption" 6th edition for restrictions on tree planting adjacent to sewers).
 - Sewers to be laid on a class B bedding (150mm granular bed and surround). Where depth of cover to top of sewer is less than 1.2m in highways and verges (or less than 0.9m in non vehicular access areas) then a concrete slab is to be provided above the granular bed and surround.
 - All trenches in roads and paved areas shall be backfilled with Type 1 DOT granular sub-base material, or other granular material approved by the highway authority.
 - Sulphate resistant cement (C20/25) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
 - The chamber size of manholes with more than one connection in them may need to be increased by an increment to accommodate the connections and bends.
 - Cover levels are indicative only. Covers to be set to suit camber/gradients of existing and proposed roads.
 - Cover slabs must carry the BSI Kitemark or will be rejected by the Yorkshire Water inspector. Where the clear opening of the Kitemarked product is different to that of the cover and frame, a load bearing slab should be fitted above the cover slab to bring the size down to 600x600 for the Yorkshire Water specified cover size. Refer to CPISA Technical Bulletin issued autumn 2004 for Kitemarked cover slab opening sizes.
 - Demarcation chambers to be a min. 450mmØ chamber for 150mmØ foul and surface water pipes up to 1.2m deep. For depths greater than 1.2m, restricted access opening to 350mm is required for health and safety reasons. The maximum depth of demarcation chamber to be 2.0m, where depth exceeds 2m, manhole to be constructed as a Type B manhole.
 - Any connection into an existing Yorkshire Water Sewer should only be made following the submission of a completed application form and method statement for YW approval. This must be provided giving 21 days notice of the intention to connect to the public sewer.
 - Any lateral connections to a storage tank or storage manhole should be connected above the 'springing level' or via a 'backdrop' into the manhole.
 - Yorkshire Water is not obliged to accept filter drain/land drainage run-off into the public sewer network or adoptable drainage system (directly or indirectly). An alternative method of disposal of the land drainage run-off will therefore be required and you will have to liaise with the Local Authority, Land Drainage Section with regard to the disposal of the filter drain/land drainage run-off.
 - Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).
 - Yorkshire Water policy is not to accept Type "C" manholes ad 1050mm dia manhole rings. Instead it is preferred that you use a type "B" manhole with 1200mm dia or 1500mm dia rings, with the opening sited over the channel where depth of cover to pipe soffit is 1-1.5m.
 - Where a B125 cover and frame has been approved, this must be kitemarked, ductile iron, must not be coated in plastic and must have lifting eyes suitable sized to accommodate standard lifting keys. Screw down covers are not acceptable.
 - There should be enough clearance to accommodate the bedding for both pipes, approx 300mm - if crossover is near the rocker, then the clearance needed may be increased.
- ALL SEWERS TO BE 150mm DIAMETER UNLESS NOTED OTHERWISE
 - SW SEWERS SHOULD BE TAKEN AS 1.5m DEEP UNLESS NOTED OTHERWISE
 - FW SEWERS SHOULD BE TAKEN AS 1.9m DEEP UNLESS NOTED OTHERWISE
 - ALLOWANCE SHOULD BE MADE FOR SOME PERMEABLE PAVING TO PRIVATE DRIVES
 - OUTFALL CONSENTS REQUIRED FOR WORKS NEAR WATERCOURSE

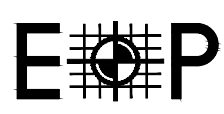
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A	First Issue.			
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STRATA HOMES

CLECKHEATON

DRAINAGE APPRAISAL

Eastwood & Partners
CONSULTING ENGINEERS



St. Andrew's House
23 Kingfield Road
Sheffield
S11 9AS
Tel 0114 255 4554
Fax 0114 255 4330

mail@eastwoodandpartners.com
www.eastwoodandpartners.com

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