

General Notes

- Do not scale this drawing. If in doubt, consult with the Engineer
- This drawing is to be read in conjunction with all other relevant Engineers, Architects and Specialist design drawings and specifications.
 - All dimensions and levels are in metres unless noted otherwise.
 - This drawing is for information purposes and all information displayed is subject to detailed design.
 - Cover levels noted are indicative or best design levels. constructed levels should take into account as-built surfacing levels and gradients.
 - The Contractor shall be responsible for checking all tie-ins for line and level with existing foul and surface water systems before commencing any works.
 - The Engineer shall be notified immediately, in writing, should any errors or discrepancies be found prior to the commencement or continuation of any works. All work is to be carried out in accordance with current British Standards, Building Regulations and NHBC Standards.
 - All drainage work is to be strictly in accordance with the requirements of the Building Regulations 2010, Approved Document Part H, "Drainage and waste disposal".
 - It is the responsibility of the Contractor to execute the works at all times in strict accordance with the requirements of the Health and Safety at Work Act 1974, and the C.D.M. Regulations 2015. The Contractor will be deemed to have allowed for full compliance, including full liaison with the Principle Contractor, within his rates.
 - All existing land drains encountered on site during construction are to be re-connected.
 - Should any departure from the proposed slab or external levels be considered, agreement shall be sought from the Engineer immediately and prior to the commencement or continuation of any works. Proposals should take full account of all restrictions to the slab level.
 - Temporary protection to be provided to drainage work during construction as necessary.
 - Power supply to separator/treatment units, alarm, panel, vent etc to be provided by contractor in accordance with manufacturers recommendations.
 - Topographical survey shown is based upon surveys drawing 0-100
 - Architects layout shown is based upon Revival architect Layout drawing no.0-100
This layout may be subject to change and is intended for indicative purposes only.

Specification Notes

- The following types of pipe may be used unless noted or agreed otherwise:
 - Pipes up to 450mm diameter to be Structured Walled to BS EN 13476, Polypropylene to BS EN 1852 or PVC-U to BS EN 1401.
 - Pipes 450mm diameter or over to be Concrete to BS 5911.
- Both Clay and Concrete pipes shall be strength class 120 (100/150mm min crushing strength 2800N/m²). Thermoplastic pipes shall have a minimum ring stiffness of SN4.
- Pipes which run adjacent to buildings shall be installed in strict accordance with Part H, Clauses 2.23 to 2.25.
- All pipes, chambers and fittings shall be installed, bedded and backfilled in accordance with the manufacturers instructions subject to the following minimum requirements;

Pipe Location	Cover to crown	Clay/Concrete Pipe * Bedding	Plastic Pipe Bedding	Backfill
Roads (HGV)	>1.2m	Class S	Class S (S1or2)	Type 1 Granular
	<1.2m	Class 'A' (Concrete)	Class 'A' (Concrete)	
Drives / car parking	>0.9m	Class S	Class S (S1or2)	Type 1 Granular
	<0.9m	Class 'A' (Concrete)	Class 'A' (Concrete)	
Hard and soft Landscaping	>0.6m	Class S	Class S (S1or2)	Suitable as dug material
	<0.6m	Class 'A' (Concrete)	Class 'A' (Concrete)	

- The first flexible joint in pipes adjoining a manhole shall be a maximum length of 600mm from the inside face of the manhole, connecting to a rocker pipe. The length of the rocker pipe shall be as follows;

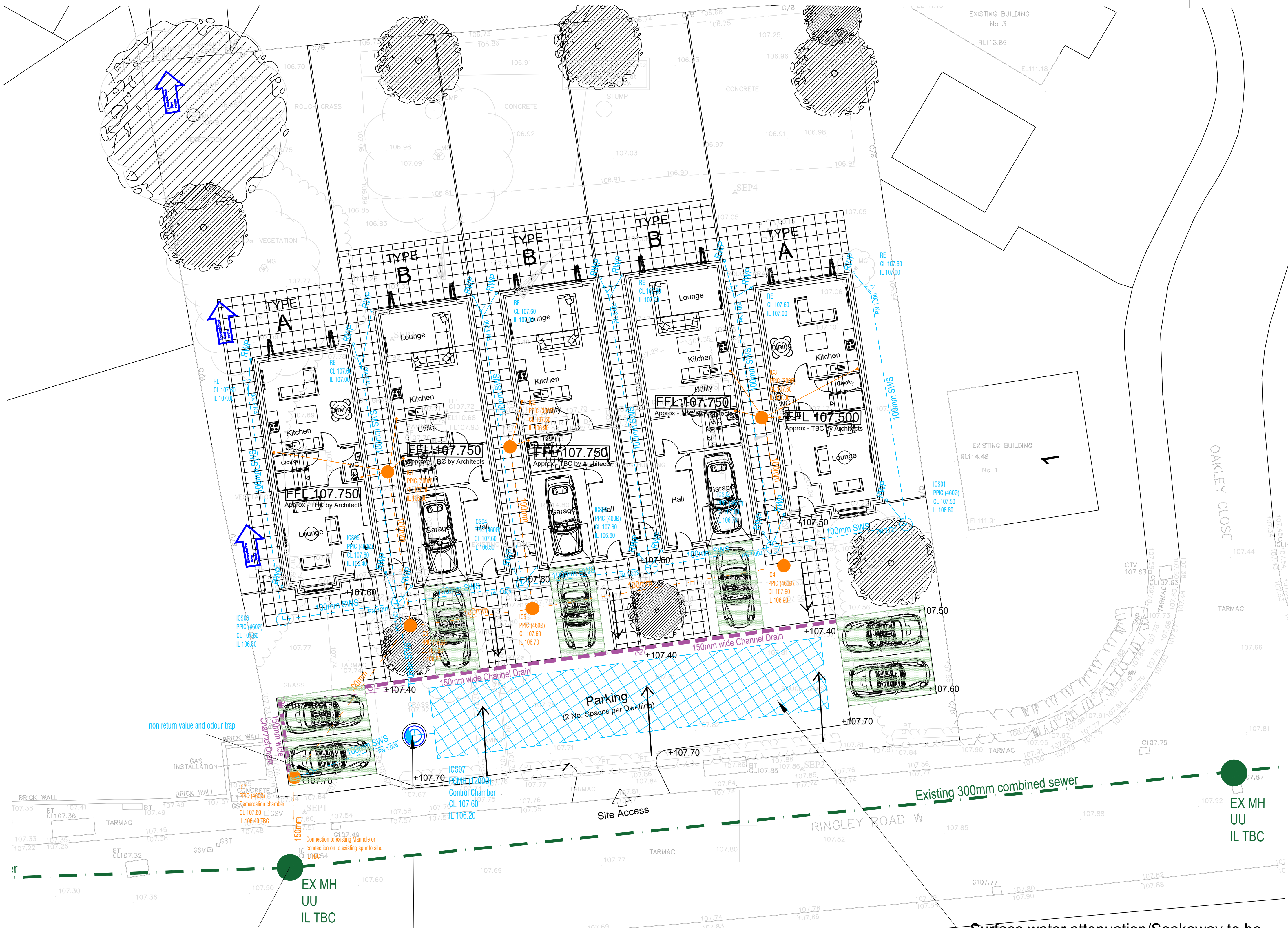
Pipe diameter	Length of Rocker pipe
150-600mm	600mm
675-750mm	1000mm
over 750mm	1250mm
- All manholes and inspection chambers situated in areas subject to vehicular loading to have class D400 covers and frames to BS EN124 and those not subject to vehicular loading to have class minimum class B125 covers and frames.
- Drainage frames must be tied to manhole risers by use of manufacturers ties (eg. Polypipe ref FRK500 fixing kit and FRK501 black ties.) The ground works contractor will be held fully responsible for any accidents due to incorrect fitting or failure to use the correct manufacturers fixing equipment.
- All drains in the vicinity of existing or proposed trees to be constructed in accordance with the requirements of NHBC Practice Note 3.

Connection into existing United Utilities sewer, contractor to review outfall conditions and confirm position and outfall level at least 1 week prior to construction work starting. Discharge consent required under S106 agreement

Control chamber capable of discharging 1l/s in a 100yr + 40% CC event. HYDRO BRAKE

Qbar Rate used at 0.81L/s for 1100m2 greenfield site rounded to 1L/s max discharge.

100 year storm event with 40% climate change used for attenuation with 10% urban creep applied.



Key.

- F1 (12000) CL 130.000 IL 130.000 Proposed foul sewer (Invert level shown)
- C1 (12000) CL 130.000 IL 130.000 Proposed Combined water sewer
- S10 (12000) CL 130.000 IL 126.30 Proposed surface water drain (roof water/ highway/treated external area flows only)
- Existing drain - to remain
- Existing sewers to be diverted/made redundant
- 600/460/225 "non -accessible" inspection chambers
- Minimum 12000 "accessible" manholes
- Proposed road gully and lateral Connection
- Proposed Rodding Eye point
- Proposed channel drainage system - hauraton faserflex super or similar approved. 150mm wide.
- Proposed surface water attenuation/soakaway unit
- Proposed surface water flow control unit
- Drainage Design Subject to confirmation on proposed finished site levels and surface finishing. + infiltration testing
- FFL 130.000 Proposed Finished Floor Level
- x131.05m Proposed site levels
- 1:35 Proposed Gradients
- 600mm high Embankment (@1:3 unless stated)
- Retaining wall/SOE detail
- Porous paving construction
- Exceedance Flow routes.
- Note: All Treatment units noted are for indicative costing purposes only. Full detailed design specification to be obtained from the manufactures prior to any orders being placed.
- Levels provided are indicative only to assist with completion of drainage design works. For precise level information refer to architects/landscaping information

Surface water attenuation/Soakaway to be provided. Crate Soakaway. 51m3 storage volume. size currently based on minimal soakaway potential. Size to be reduced following soakaway testing if infiltration possible.

Minimum 800mm cover depth size currently based on 700mm deep crate units, 95% void ratio

Impermeable new site area = 1100m2

size shown = Graf ECO MAX or similar approved. 0.8m x 0.8m x 0.35m (2 layers) 20m x 5m x 0.7m.

REV	DATE	DESCRIPTION	BY
CLIENT TS Ringley Rd Ltd VIA Baltic Planning and Development			
PROJECT 70 Ringley Road - Radcliffe Manchester - M26 1DN			
DRAWING TITLE Below Ground Drainage Strategy Planning/Approval			
BACE    			
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