Surface and Foul Water Drainage Notes

The surface water drainage proposal indicated is based on discharging the runoff from the development into the existing surface water sewer at a maximum discharge rate of 1.5l/s. The storage requirements have been assessed on a 1:100 year design storm event + 40% climate change allowance. Refer to MD Calculations for further information.

A S106 Consent to Connect will need to be submitted to Thames Water to obtain legal consent to connect to the existing surface water and foul water network. All new connections to the existing sewer will be agreed with The Building Inspector/Thames Water prior to commencement of the works and inspected as required.

SuDS Maintenance Details

All the new proposed surface water drainage elements will be under the maintenance responsibility of the appointed Management Company. For more details on maintenance activities, please refer to the maintenance schedule tables shown in this drawing.

Silt Traps Operation and Maintenance Requirements

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then every six months
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Inspection of silt traps and catch pits to assess silt accumulation	Monthly (and after large storms)
Remedial Actions	Repair/rehabilitation of inlets, outlet , overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually and after large storms

Modular Storage Operation and Maintenance Requirements

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then every six months
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Remove sediment from pre-treatment structures	Annually, or as required
Remedial Actions	Repair/rehabilitation of inlets, outlet , overflows and vents	As required.
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually and after large storms

Pervious Pavement Operation and Maintenance Requirements

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Brushing and vacuuming.	Three times/year at end of winter, mid-summer, after autumn leaf fall, or as required based on site-specific observations of clogging or manufacturers' recommendations.
Occasional Maintenance	Stabilise and mow contributing and adjacent areas.	As required.
	Removal of weed.	As required.
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of paving.	As required.
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or hazard to users.	As required.
	Rehabilitation of surface and upper sub-structure.	As required (if infiltration performance is reduced as a result of significant clogging).
Monitoring	Initial inspection.	Monthly for 3 months after installation.
	Inspect for evidence of poor operation and/or weed growth. If required take remedial action	3-monthly, 48h after large storms.
	Inspect silt accumulation rates and establish appropriate brushing frequencies.	Annually.
	Monitor inspection chambers.	Annually.

Non-Adopted Drainage Notes

1. All new private surface water and foul drainage shall be constructed and tested in accordance with BS EN 752, Building Regulations Approved Document Part 'H' and NHBC Chapter 5.3, as appropriate.

2. Pipes shall be 100 mm diameter, flexibly jointed manufactured from vitrified clay or uPVC, and constructed to a minimum fall of 1:80 (min. 1 toilet) or 1:40 (no toilet), unless noted otherwise. Sewers and drains of different diameters to be laid soffit to soffit. All non straight junctions between pipes to be formed using preformed connections (curved square or oblique junctions) laid in the direction of the flow.

3. Pipe bedding to be class 'S' bedding (100 mm granular bed and surround).

4. Where cover to soffit of pipe is less than 900mm in trafficked private areas (600mm, untrafficked), the following shall apply:-

a) Vitrified clay pipes - provide a 100mm min. thick concrete bed and surround (instead of class 'S' bedding) and a 13 mm thick compressible filler at each joint.
b) uPVC pipes - provide a concrete bridge (in addition to class 'S' bedding) in accordance with appendix A15, Building Regulations Part 'H'.

5. Unless noted otherwise concrete indicated in the construction of drainage infrastructure (pipe bedding, bridging, manholes etc) shall be standardised prescribed concrete ST2 and is to conform to BS EN 206-1 and BS 8500-2. The maximum aggregate size shall be 20mm.

6. Pipe runs adjacent to proposed foundations are to be installed in accordance with appendix A11, Building Regulations Part 'H'.

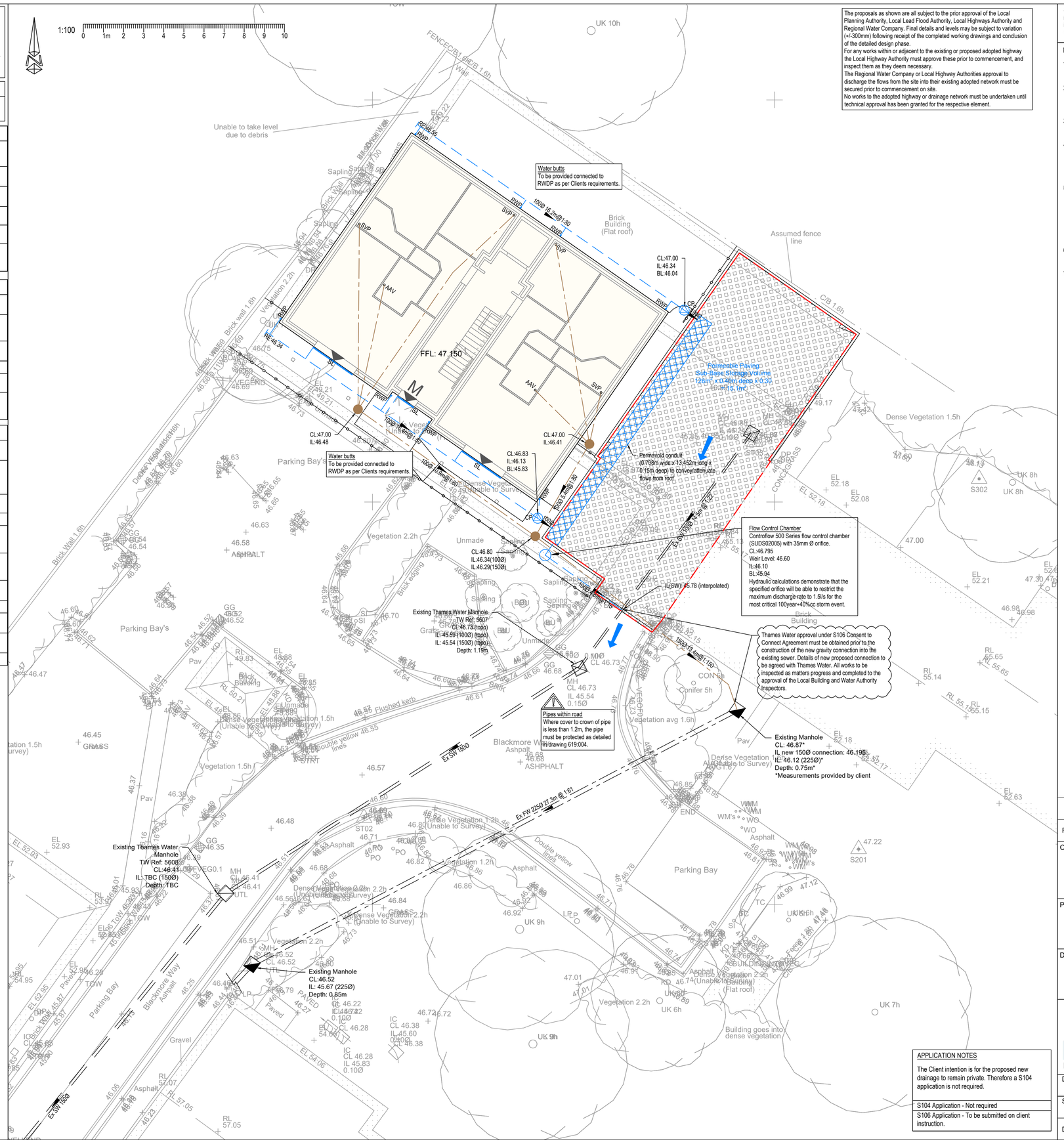
7. Excavations for manholes, pipe runs etc. located within a 45 degree load distribution splay from any adjoining existing foundations, are to be adequately supported for the duration of the works and pipe runs protected as note 6 above.

8. Foundations adjacent to pipe runs or manholes are to have their formation level set above the invert level, no higher than the equivalent of the horizontal distance between the pipe/excavation trench and the foundation, minus 500mm.

9. Where excavations for pipe runs are parallel and in close proximity to each other and/or other service trenches, the Contractor shall ensure that adequate safety measures, including temporary shoring, are provided in line with current Health & Safety legislation and good practice. Particular attention is to be paid to adjacent trenches of differing invert levels.

10. All existing drainage found on site during the works shall be investigated, its operational status confirmed, and the following applied:-
a) Inoperative drainage shall be cut back and pipe runs filled with concrete grout.
b) 'Live' drainage shall be temporarily re-routed to allow the new drainage to be constructed. Prior to the reuse of any existing drainage its condition shall be verified and its suitability for reuse confirmed.

11. All new private shallow surface water and foul drain inspection chambers and rodding eyes shown without cover levels (CL) shall be assumed to be at external ground level.



The proposals as shown are all subject to the prior approval of the Local Planning Authority, Local Lead Flood Authority, Local Highways Authority and Regional Water Company. Final details and levels may be subject to variation (+/-300mm) following receipt of the completed working drawings and conclusion of the detailed design phase.
For any works within or adjacent to the existing or proposed adopted highway the Local Highway Authority must approve these prior to commencement, and inspect them as they deem necessary.
The Regional Water Company or Local Highway Authorities approval to discharge the flows from the site into their existing adopted network must be secured prior to commencement on site.
No works to the adopted highway or drainage network must be undertaken until technical approval has been granted for the respective element.

NOTES:

1. Do not scale from this drawing. This drawing shall be read in conjunction with all other relevant Architect's and Engineer's drawings.
2. Any discrepancies, ambiguities, or anomalies in the information provided on this or any of the engineering drawings package must be reported prior to work proceeding.
3. All accommodation work deemed necessary to facilitate a satisfactory link between the new works and the existing to be undertaken by the developer.
4. It is the contractor's responsibility to locate all existing services and verify their level & location prior to commencing any works. Should they be affected by the works then the respective statutory undertaker should be contacted and any special protection requirements agreed.
5. All highway works shall be undertaken in accordance with Hertfordshire Council Highway Design Guide and Specification and strictly in accordance with the 'Specification for Highway Works'. All drainage works shall be undertaken in accordance with the 'Design & Construction Guidance', and any other Regional Water company requirements. All works to be supervised/inspected as required by the relevant Inspector.
6. All works must comply with current Health and Safety guidance & standards. All temporary signing to comply with Traffic Signs Manual - Chapter 8.
7. All products are to be installed and maintained strictly in accordance with manufacturer's recommendations & guidelines.

Surface Water Drainage Legend

- New surface water drainage (min gradient@1:80)
- New shallow surface water inspection chamber (typ. 450mm dia.) up to 1.2m deep
- New deep surface water inspection chamber (typ. 450mm dia.) up to 3m deep with access opening restricted to 350mm diameter
- CP: New surface water catchpit chamber (typ. 450mm dia.) up to 3m deep. Restict access opening to 350mm Ø for depth greater than 1.2m (cover level to base of chamber).
- RE: New surface water rodding eye
- RWP: New rain water down pipe with rodding access point
- SL: Slot drain, Aco Hexdrain brickslot drainage system.
- Extent of permeable paving with sub-base attenuation under, min. 400mm thick of sub-base type 4/20 (min 30% voids), sub-base formation level to fall towards outlet. Full impermeable tanking to sub-base to be provided.
- Permavoid conduit made of single, interconnected 150mm deep units, each 0.708m long x 0.354m wide (product code PVPP150). To be fully encapsulated with a permeable geotextile, all installed in accordance with manufacturer's instructions.
- Root protection areas.
- Potential surface water flood exceedance route. For storm events in excess of design storm event (1:100y + 40% c/c).

Foul Water Drainage Legend

- New foul drain/sewer (see 'Non Adopted Drainage Notes' for requirements)
- New shallow foul water inspection chamber (typ. 450mm dia., unless specified otherwise) up to 1.2m deep
- New deep foul water inspection chamber (typ. 450mm dia.) up to 3m deep with access opening restricted to 350mm diameter
- SVP: New soil and vent pipe
- FS: New floor socket
- TG: New trapped bottle gully

Existing Drainage Legend

- Existing foul water manhole
- Existing foul water sewer
- Existing surface water manhole
- Existing surface water sewer

PRELIMINARY

Rev:	Date:	Description:
P1	30.08.24	Drainage layout adjusted to reflect external works layout.

Client:
W E Black Ltd.

Project:
Land at Blackmore Way, Uxbridge

Drawing Title:
Drainage Layout

BEAL CONSULTING ENGINEERS
Haddenham Business Centre,
Chiltern House,
Thame Road,
Haddenham,
Bucks, HP17 8BY.
☎ 01844 396233
www.beal-uk.com

Designed:	Drawn:	Checked:
FD	SRC	----
Scale: 1:100 @ A1	Date: Aug 2024	Approved: ----
Drawing Number: 619:002		Revision: P1