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ENGINEERING NOTES:

1. Do not scale.
2. This drawing is to be read in conjunction with and checked against all other drawings, Engineering details, Specification and any structural, Geotechnical or other specialist document provided.
3. The proposed works on this drawing could impact on existing services/statutory undertakers apparatus, therefore the Contractor should check the position of existing services on site prior to starting work.
4. Tanking (TK) height shown indicates maximum level difference between finished floor level and external ground level.
5. Retaining wall (RW) height shown indicates the maximum level difference between two ground levels either side of wall.
6. Underbuild (UB) height shown indicates the maximum height of exposed brick 150mm below FFL.
7. Final Detailed Levels to be + or - 500mm of planning levels.
8. Any anomaly or contradiction between any of the above is to be reported to the Engineer.

DRAINAGE NOTES:

1. Do not scale.
2. Refer to all other Project Drawings and supporting notes.
3. All adoptable drainage works to be constructed as detailed in Design and Construction Guidance or as stipulated in the Water Authorities Addendum.
4. All public sewers are to be the subject of a Section 104 agreement of the Water Industry Act 1991.
5. Invert levels of existing manholes and sewers are to be checked on site before construction commences and results reported to engineers.
6. The Contractor is responsible for maintaining continuity of flow for all existing sewers within the site boundary and limit of works for the duration of the project.
7. All drainage ironworks to comply with BS EN124, and be stamped with BSI Kitemark. Covers to suit loading as below;
 - -Carriageways and Roads - D400
 - -Driveways and Verges - C250
 - -Footways and Pedestrian Areas - B125
 - -Gardens/Landscaping - A15
8. All sewer pipes up to and including 600mm diameter to be PVC-U to BS EN1401. All sewer pipes greater than 600mm diameter to be concrete pipes to BS EN1916.
9. All drainage shall be installed and tested strictly in accordance with the Manufacturers' printed instructions, BS EN 752, BS EN 1601, Local Water Authority requirements and the Building Regulations.
10. All bedding shall be Class S unless noted otherwise.
11. All trenches under existing and proposed public highways are to be backfilled with thoroughly compacted Type 1 granular sub-base material.
12. Drainage laid beneath roads and areas of vehicular access (car parking etc) with less than 1200mm of cover shall be encased in concrete bed and surround with associated movement joints. Drainage laid beneath paths, footways and pedestrian areas with less than 900mm of cover shall be similarly treated.
13. The use of precast concrete products made with sulphate resisting cement is mandatory, unless a laboratory report proves such precautions are not necessary.
14. All gully connections to use a minimum diameter pipe of 150mm and to be surrounded by a minimum of 150mm of grade C8/C10 concrete over its full length (which should not exceed 15m) and its connection to the carrier system.
15. All sewers to be abandoned must be surveyed to identify any lateral connections that are still live with any found to be reported to the Engineer.
16. All laterals to be 150mm laid at 1:100 (surface) or 1:80 (foul) unless otherwise stated.
17. All private drains to be 100mm diameter unless otherwise stated.
18. All foul and storm water drains which are not to be adopted as public sewers shall be in accordance with Document H of the Building regulations, together with NHBC Standards Chapter 5.3 and BS8301.
19. Where pipes pass through footings, retaining or screen walls, lintels to be provided over drains.
20. Where inverts are less than 0.6m deep inspection chambers (min dia. 190mm) or access fittings (225 x 100mm) to be used, elsewhere proprietary plastic, brick or pcc is to be used and sized in accordance with Table 11 of Document H of the Building Regulations [<0.6m to invert min DN300, >0.6m to invert min DN475].
21. All gullies connected direct to drains to be roddable.
22. Adequate precautions in accordance with Approved Document H and manufacturers's recommendations to be taken to protect drains (particularly plastic) at shallow depths.
23. Trees and shrubs of a large size or heavy canopy with a moderate or high water demand must not be planted within any sewer easement.
24. Where required 1m deep root barrier of an approved type to be installed vertically along the back edging kerb of all areas of footway/ demarcation to protect from both proposed and future plantation.
25. First foul water ICs to be 750mm below FFL, unless noted otherwise.
26. Surface water ICs to be laid 600mm below external level, unless noted otherwise.
27. Rodding eyes to be laid 450mm below external level, unless noted otherwise.

KEY

42.50	Proposed Finish Floor Level
(G)42.50	Proposed Garage Slab Level
	Final Detailed Levels to be + or - 500mm of planning levels
55.75	Proposed road contours (major at 100mm intervals, minor at 25mm intervals)
	Embankment, typically 1 in 3, No steeper than 1 in 2.

DRAINAGE KEY

FOUL STORM

- Existing adopted sewer
- Proposed adoptable sewer & MH
- Highway gully and 150mmØ connection
- Proposed control manhole
- Proposed catchpit manhole
- Headwall
- Concrete protection
- Reed Bed
- Wetland Area
- Flood Zone 1-1000yr

Tanner's Copse

Track

RETAINED ACCESS

Proposed Control Manhole with vortex flow control and integrated weir wall to restrict flows to a maximum 5.7 l/s (QBar) for all storms up to and including the 1 in 100 year event with a 40% allowance for climate change.
Vortex flow control:
Design depth: 1.325m
Design Flow: 5.7 l/s
Weir Wall
IL: 42.550

Outfall to be formed within existing watercourse bank. Existing ditch to be cleared and desilted.

INSET A
SCALE 1:500

KEY PLAN
SCALE 1:10,000

Proposed 1775m² Lined Attenuation Basin with variable side slopes and a total depth of 1.513m including a longituinal fall of 1 in 500 to attenuate all flows

Basin to contain sedimentation bed to treat surface water prior to discharge.

Basin IL 41.487
Basin CL 43.00

Proposed connection to existing Thames Water Foul Manhole 2303

Proposed existing section of foul sewer to be abandoned. Manhole F100 to be installed to allow maintenance of existing sewer

Existing foul sewer to be diverted to exiting Thames water Manhole 2203 subject to Thames Water approval

Proposed culvert to maintain existing flow route of highway drainage

Proposed connection to existing Thames Water Foul sewer via construction of a new manhole

Private drive to discharge directly in to basin

Private drive to discharge directly in to swale

Proposed 214m² x 0.5m enhanced swale. CL 43.10 IL 42.60

Proposed 393.7m² enhanced Swale with 1 in 3 side slopes variable side slopes, a total depth of 0.5m and a longituinal fall of 1 in 500 to attenuate all flows.

Swale IL 42.50
Swale CL 43.00

Proposed Control Manhole with vortex flow control and integrated weir wall to restrict flows to a maximum 28.0 l/s (QBar) for all storms up to and including the 1 in 100 year event with a 40% allowance for climate change.
Vortex flow control:
Design depth: 1.040m
Design Flow: 28.0 l/s
Weir Wall
IL: 42.550

Proposed 1800m² Lined Attenuation Basin with variable side slopes and a total depth of 1.325m. Basin to include a low flow channel and a longitudinal fall of 1 in 500 to attenuate all excess flows from the site

Low flow channel of 0.15m in depth to run the length of the basin from all inlets to the basin outlet.

Basin to contain sedimentation beds and reed beds with a minimum total area of 1800m² to treat surface water prior to discharge.

Basin IL 41.530
Basin CL 42.855

Private drives to drain through permeable paving to detain & treat surface water runoff

Rev	Date	Description	Drawn	Checked
B	02.26	Updated to suit new layout	LC	DS
A	07.25	First Issue	LC	DS

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Client
BLOOR HOMES

Project
HYDE END ROAD, SHINFIELD

Title
FULL APPLICATION ENGINEERING & DRAINAGE OVERVIEW SHEET 2

Status

Scale	Date	Drawn	Checked
1:500 @ A1	JULY 2025	LC	DS

Drawing No
HD068-FA-046

Revision
B