

DRAINAGE KEY

- Site Boundary
- Existing Foul Water Sewer
- Adoptable S104 Foul Water Manhole & Pipe Refer to schedule for size/ types and cover details
- Adoptable S104 Foul Water Rising Main
- Adoptable S104 Surface Water Manhole & Pipe Refer to schedule for size/ types and cover details
- HB Hydrobrake Manhole (see plan for restricted rate)
- CP Catch Pit Manhole - 500mm Sump
- RG Surface Water Road Gully
- Private Foul Water Inspection Chamber & Pipe
- Private Surface Water Inspection Chamber & Pipe
- DC Private Drainage Channel
- YG Private Surface Water Yard Gully
- RG Private Surface Water Road Gully
- FD Fin Collection Drain
- Crate Soakaway / Crate Attenuation Tank ###
- Proposed filter drain/land drainage with 1500 perforated pipe
- Precast Concrete Headwall
- PD Patio Drain
- Tree Root Protection Area

Greenfield Runoff Calculation Notes

Greenfield runoff rates have been calculated using the positively drained hard-paved areas only, applying the updated HR Wallingford FEH Statistical method.

Based on a contributing area of 1.696 hectares, the calculated Greenfield runoff rates are as follows:

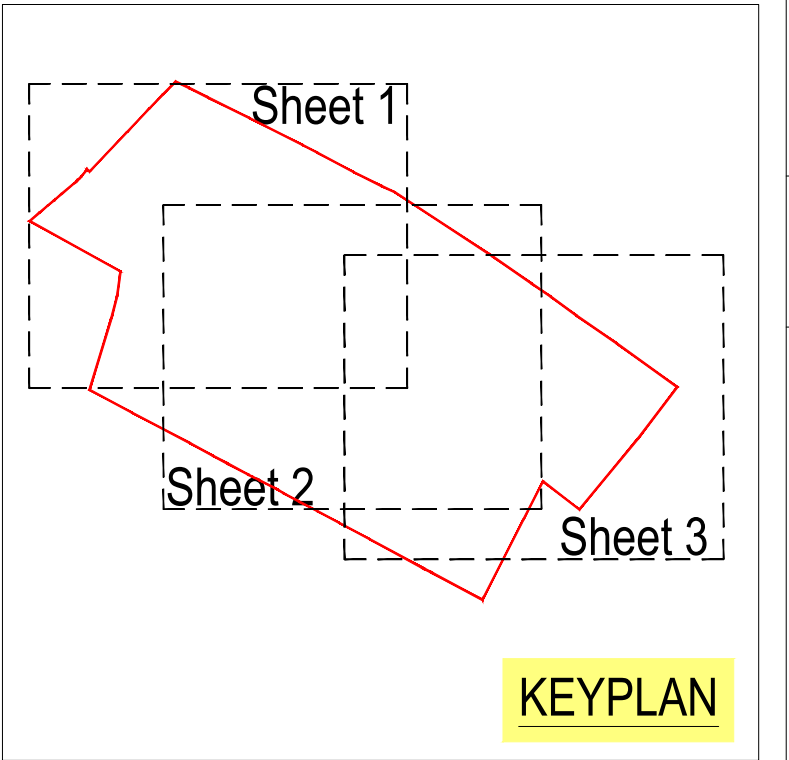
Return Period	Runoff Rate (l/s)
Ormed	5.9 l/s
Ormed (FEH)	5.6 l/s
1 in 1 year	4.7 l/s
1 in 10 year	8.4 l/s
1 in 30 year	11.3 l/s
1 in 100 year	14.5 l/s

The proposed discharge rate of 8.5 l/s has been applied.

Scale 1:250 @ A1 - 1:500 @ A3



- NOTES**
- The contractor is responsible for verifying all site & setting out dimensions before commencing work.
 - This drawing is to be read in conjunction with all relevant Architectural and M&E drawings.
 - All dimensions in meters unless stated otherwise.
- DRAINAGE NOTES:**
- All drainage works to be constructed in strict accordance with specification of the Local Authority, Building Regulations, Design and Construction Guidance (published by Water UK) BS EN 752.
 - Any existing drainage found crossing the site is to be investigated, and if found to be 'live', it should be diverted in consultation with the Client.
 - For location and setting out of building drainage points refer to architects drawings.
 - All pipe runs near buildings to comply with the Building Regulations 2015 part H11. Where a pipe is within 1m of a foundation the trench shall be filled with class GEN3 concrete up to the lowest level of the foundation. Where the trench is further than 1m from the foundation, the trench shall be filled with class GEN3 concrete to a level below the lowest level for the foundation equal to the distance from the foundation less 150mm. In both cases the pipe shall be bedded and surrounded in 150mm thick class GEN3 concrete.
 - Where pipes, external to the structures, have a depth to soffit from ground level of less than 450mm they shall have a class GEN3 concrete encasement (150mm thick).
 - Where a pipe, under a carriageway, has a depth of cover of less than 1.2m the pipe shall be laid in a concrete bed and surround.
 - Where a pipe, under a vehicular area other than a carriageway has a depth of cover if less than 0.9m the pipe shall be protected with a concrete slab set above it.
 - In any circumstances where pipes are bedded and surrounded in concrete flexible joints should be provided, compressible boards (fibreglass or polystyrene) shall be provided at a maximum of 8m centres (coinciding with pipe joints), the boards shall be pre-cut to pipe diameter and to a height and width equal to the concrete cross section. A board thickness of 15mm for pipes up to 450mm nominal diameter and 30mm for pipes over 450mm nominal diameter.
 - All private building drainage shall be constructed in strict accordance with BS EN 752. Foul drainage beneath the floor slab shall be laid, shall be laid no flatter than 1:40. Unless otherwise specified below ground building drainage external to the building shall be 100mm diameter and shall be laid at a minimum gradient of $\leq 1/10$ = 1 in 40/1/10 = 1 in 80 for foul drains and 1 in 80 for surface water drains.
 - All building drains shall be laid in conjunction with 'non adoptive bedding details' (class d, n or b) unless otherwise specified.
 - All pipes, bends and junction for private building drainage shall be UPVC conforming to BS4660, BSEN13598 and BSEN1401 as appropriate and shall be laid in accordance with the manufacturer's specification.
 - All pipes, bends and junction materials for adoptable drainage shall be UPVC compliant with Clause E2.21 of Design and Construction Guidance for Foul and Surface Water Water Sewers, Sector Guidance Appendix C, June 2022. These should conform to BS4660, BSEN13598 and BSEN1401 as appropriate and shall be laid in accordance with the manufacturer's specification.
 - All back inlet gullies to be roddable or connected to inspection chambers.
 - All gully connections other than at manholes to be 'Y' junctions.
 - All road gully connections to be 150mm diameter.
 - All slab stacks to be fitted with air admittance valves where branch drain exceeds 12m except at the head of the run. Soil vent pipes located at the head of a run to terminate to fresh air.
 - No low point shall be without a method of drainage.
 - All connections to be soffit to soffit unless otherwise noted.
 - All concrete and concrete products to be in accordance with BRE 363 for sulphates.
 - The locations of all building drainage points shall be cross referenced against the architects drawings during setting out and any discrepancies reported immediately.
 - Before connections are made to existing public sewers an application under S106 must be made to relevant sewerage undertaker.
 - The precise depth and location and size of existing pipes, watercourses or manholes where connections or diversion are proposed must be confirmed and reported to the engineer before works commence on site.
 - Any existing drains to be abandoned to be decommissioned in accordance with the Building Regulations by either grubbing, infilling or sealing.
 - Should ground water be encountered on site during construction the Client shall be informed to determine if additional measures are required.
 - The drainage system shall be fully cleaned on completion of the project using methods that ensure pollution off site does not occur.
 - Any existing land drains severed during construction shall be reinstated.



Revision History				
Rev	Comment	By	Chkd	Appr
A05	FOR APPROVAL - Updated to latest site layout	PJ	TZ	SB
A04	FOR APPROVAL - Updated to latest site layout	PJ	TZ	SB
A03	FOR APPROVAL - Updated to latest site layout	PJ	TZ	SB
A02	FOR APPROVAL	BS	TZ	SB
A01	FOR APPROVAL	TZ	TZ	SB
Current Revision				
A06	FOR APPROVAL - Updated to latest site layout	VD	TZ	SB

APPROVAL

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Project **MARKFIELD**

Drawing Title **PROPOSED DRAINAGE PLAN
SHEET 1 OF 3**

RWCL Internal Register reference: 5964-003

Scales @ A1
1020-A06