

I am sharing these site-specific observations to ensure that the statutory consultees have access to empirical data that directly challenges the generalised desktop assumptions in the applicant's Sustainable Drainage Strategy (SuDS).

Specifically, I have noted active, localised groundwater seepages along the lower section of the natural brook bank adjacent to the site, alongside rapid overnight groundwater influx in nearby trial excavations.

From practical experience (resident on the other bank of the brook), with the local clay geology—specifically regarding bank management and installing dedicated sub-surface drainage to relieve lateral water pressure—it is clear that the lower bank acts as a highly active natural discharge zone for a shallow water table.

The applicant's current drainage strategy treats the site as a dry, uniform block of clay. In reality, any standard sub-surface infrastructure or unlined attenuation basins installed by the developer will immediately intercept this active groundwater bleed.

Consequently, the proposed drainage network will be forced to do double duty—constantly managing high base flows of groundwater before a storm event even occurs.

This severely compromises the volumetric capacity of the system, creating an unmitigated risk of systemic overload and downslope flooding during heavy rainfall.

Please find below a brief summarising these technical concerns for your immediate consideration during your statutory consultation period.

Yours faithfully,

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TECHNICAL BRIEF

1. Introduction & Source of Objection

This statement outlines formal technical objections concerning the proposed surface water drainage, infiltration, and attenuation infrastructure strategies for the adjacent development layout. The core layout design relies heavily on generalised desktop parameters that assume completely uniform, low-infiltration clay strata. Real-world empirical evidence contradicts these parameters, identifying localized hydrogeological pathways that threaten system viability.

2. Empirical Hydrogeological Observations

Direct field observations conducted on and immediately adjacent to the riparian boundary reveal a complex and highly active groundwater matrix, mirroring characteristics typical of natural clay

complex and highly active groundwater matrix, mirroring characteristics typical of natural clay formations with developed macro-structures:

Lower-Section Stream Bank Seepages: Visible water discharge and sustained seepage zones are actively operating along the lower elevations of the natural, sloping brook bank running adjacent to the site boundary. This establishes the definitive presence of active localised perched water tables or lateral groundwater movement through sand/silt horizons or macro-fissures within the clay profile.

Rapid Trial Excavation Influx: Exploratory test holes and excavations within close proximity to the watercourse have been verified to fill rapidly with groundwater overnight.

Given that the matrix conductivity of uniform clay is minimal, a high-volume overnight recharge provides undeniable evidence that sub-surface excavations directly breach active, highly conductive shallow water conduits.

3. Engineering Risk & Volumetric Capacity Reductions

In practical clay landscape management (such as bank stabilisation and terracing), lateral seepage requires dedicated land drainage pathways to prevent localised hydraulic pressure build-up.

However, integrating a commercial Sustainable Drainage System (SuDS) network into this specific geological framework creates two critical vulnerabilities:

The Combined Load Influx: Any standard subsurface land drains or unlined attenuation basins constructed across the lower development footprint will immediately function exactly like groundwater cut-offs. They will continuously draw in the active lateral groundwater bleed during ambient dry periods.

Systemic Capacity Inflation: Because the infrastructure will run at a high base flow due to constant groundwater interception, the net volumetric storage capacity engineered for storm retention will be severely degraded before a rainfall event occurs. During high-intensity storm occurrences, the lack of residual capacity poses a distinct risk of sudden systemic overflow, resulting in unmitigated, high-velocity surface runoff directly into the adjacent brook.

Required Remedial Actions

To avoid systemic failure and localised flooding, the applicant must be compelled to submit an explicit, separate groundwater management design that protects the integrity of the surface water attenuation calculations, ensuring the two hydrogeological regimes do not conflict