

It is fundamentally myopic to consider just one development in isolation within the context of SUDs, sewage provision, nitrate pollution, A3023 capacity and general infrastructure. What is missing here is a holistic approach. Concentrating on just one development, with over 10,000 homes planned, plus windfall, it surely makes sense to consider the **cumulative** effects of all developments on infrastructure.

Further development in the borough is **contingent** on appropriate mitigation to combat excessive nitrate pollution but there are some serious oversights in the proposed mitigation arrangements and the Sinah Lane development. We have at least three mitigating nitrate pollution mechanisms which will cause more, not less contamination.

Circumventing nitrate neutrality regulations with a truly “**experimental**” credit scheme with unproven scientific credentials is complete madness! The outcome of this experiment will not be known for many decades. We could unwittingly be creating an unsustainable and damaging legacy for future generations that simply cannot be undone!

Budds Farm serves 410,000 toilet users that generate 3.3 million litres of human waste suspended in 109 million litres of household wastewater every single day. In dry conditions this wastewater gets fully treated. However, in wet conditions human waste is mixed with rainwater and dumped from multiple harbour outfalls. The Sinah Lane foul water arrangements will unequivocally lead to increased human waste concentrations at Budds Farm as runoff is separated and dealt with by SUDs.

Deep in the subsoil are the “locked-in” remnants of fertilizers from historic farming. In order to support the proposed geese refuges’, mono-cropping will be required; it’s acknowledged additional nitrate-based fertilizers will be required for this mono-crop. Tide-locking (ie elevation of the water table by high tide) will force up historic nitrates which will spill into the SUDs combining with mono-crop fertilizer nitrates which will ultimately permeate the harbour; there is no mention of the understanding of these nitrate pollution mechanisms in the documentation pack – why is that? The SUDs arrangements are at best precarious especially during heavy rainfall and high tides.

Chichester Harbour’s water quality has been significantly improved since the installation of Ultraviolet disinfection at Apuldrum. Budds Farm is not installing ultraviolet disinfection – why is that?

The Ricardo report (1) makes authoritative statements about nitrates relating to Chichester Harbour and yet the same report has failed to demonstrate how (and where) nitrogen concentrations are being measured here. Quite a contrast with the Langstone Harbour case, here, there is considerably more detail outlining sampling locations and a plethora of complex statistical data analysis and charts. Where is all the complex scientific data tracking and analysis for Chichester Harbour? It is, afterall, the site of the Warblington Farm nitrate credit scheme at the heart of HBC’s development ambition.

Surely there is a requirement to have both harbours similarly instrumented in order to demonstrate the effectiveness of the nitrate credit scheme? Monitoring the

effectiveness of all proposed nitrate mitigations for this harbour and other sites is vitally important, underpinning the whole point of the neutrality exercise. It is clear that Chichester Harbour and adjacent waters are not being closely monitored otherwise the (comprehensive) report would have referenced the data?

This is clearly a significant problem, so there is considerable doubt cast about...

1. Who defined the nitrate neutrally monitoring process specification and what success looks like?
2. Who is responsible for executing/managing/monitoring/analysis?
3. Who is funding the monitoring process?
4. Why is 1-3 above not documented? It forms the basis of scientific scrutiny.

Specific mitigations for the Sinah site are the use of SUDs for surface drainage, sending only foul water to Budds Farm and the provision of mono-cropping for geese refuges. All three mitigations are likely to increase nitrate into the harbour. It is essential that the monitoring process is in place and working ASAP in order to adequately record the current nitrate status before the efficacy of subsequent mitigation can be determined.

The HBC's Nutrient review (2) clearly agrees with much of my assertion, it casts doubt on Budds Farm to help reduce nutrient loading as

1. "it has the potential to increase the nutrient loading on sensitive habitats within Langstone Harbour and habitats"
2. "there is insufficient evidence to conclude with certainty that new housing development in the Budds Farm catchment will not cause a deterioration in condition or hinder the improvement in condition of the designated sites"

ALL of the mechanisms I highlight will be significantly exacerbated by climate change within the development's 100-year.

The Sinah Lane development nitrate mitigation needs more work!

References:

1. Ricardo: Nutrient Neutral Development review 2020 June FINAL.pdf Para 4.1.2
2. Ricardo: Nutrient Neutral Development review 2020 June FINAL.pdf Executive Summary