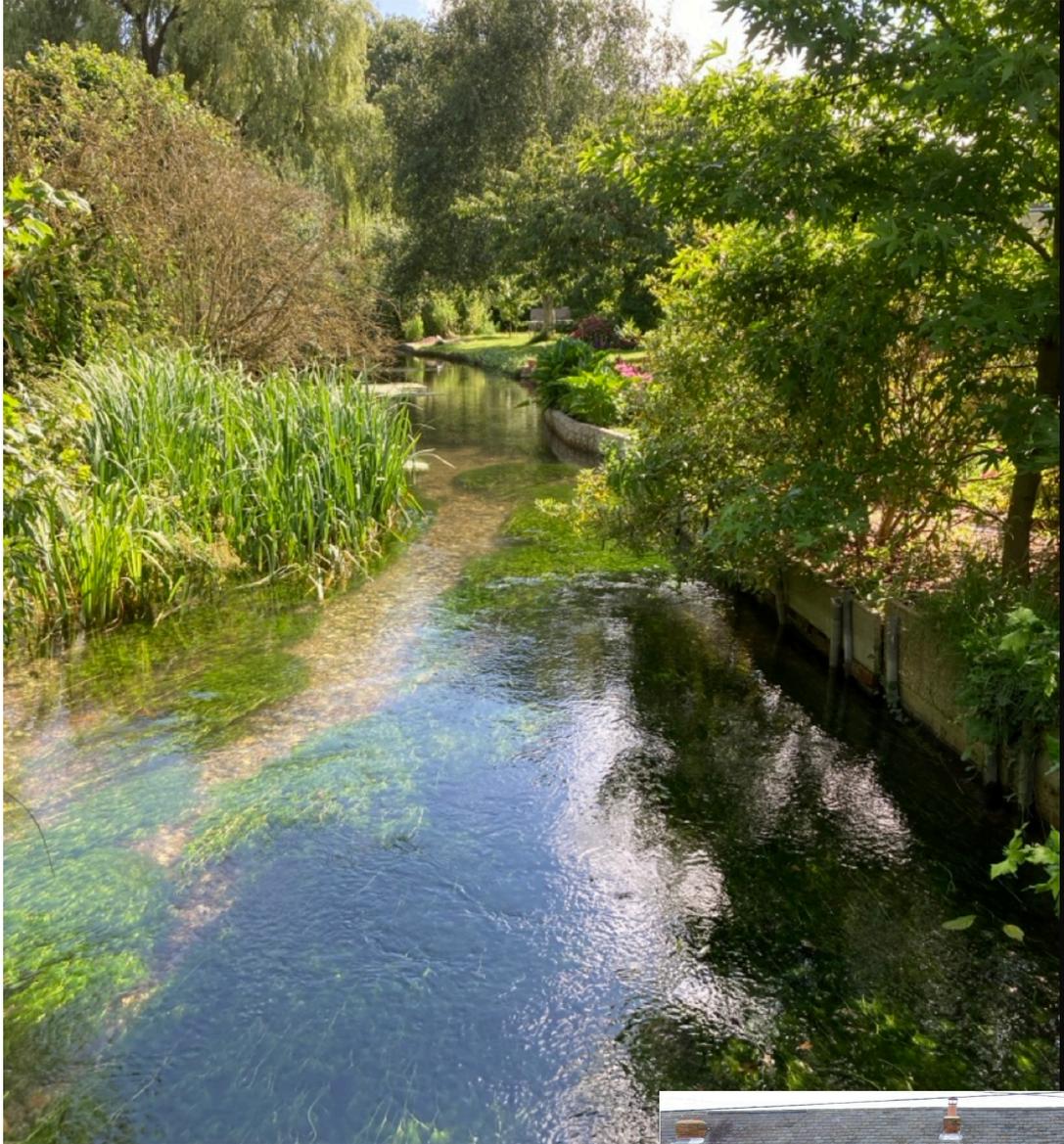


# STATUS OF NAILBOURNE SEWAGE AND WASTEWATER CATCHMENT - PROSPECTS FOR HOUSING AND IMPACTS ON LITTLE STOUR CHALK STREAM

Tim Bostock, Littlebourne Parish Council Action Group, Nov 2025



## VILLAGE NAME EMERGENCY OVERPUMPING

Please note over-pumping of dilute screened sewage to the **TBC** is being undertaken to protect customers from flooding and lack of drainage.

It is advised to keep children & pets from the watercourse in the vicinity of this discharge. If you have contact with the water please ensure you wash your hands before eating or drinking.

If you have any concerns please contact:

**Southern Water 0845 278 0845 Quoting Ref: **TBC****



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# 1. Executive Summary

This paper has been researched and prepared by a local resident of Littlebourne, with a particular focus on planning application CA/23/00484 (Gladman Developments, 300 houses off The Hill, Littlebourne). It presents new evidence on the extent and nature of the risks associated with large-scale housing development in the Lower Nailbourne catchment. In this context, “risks” include increasing disruption to local communities caused by HGV tanker operations, restricted toilet use, and environmental threats to the Little Stour chalk stream (see cover images and Figures). The underlying cause of these risks is the persistent underperformance of the wastewater and sewage network operated by Southern Water.

The paper demonstrates the lack of any credible delivery pathway within AMP8 or AMP9 to resolve the combined problems of groundwater infiltration and wastewater treatment under-capacity in the Upper and Lower Nailbourne. Southern Water’s own plans offer no binding investment, no delivery timetable, and no commitment to increase capacity. Proposed works to address groundwater infiltration have been downgraded to a minor pilot project, and there is neither a confirmed investment pathway nor a defined timetable for upgrading Newnham Valley Waste Water Treatment Works (WwTW) (source: Freedom of Information Request, Oct 2025). On current evidence, the infrastructure required to support additional housing in the Nailbourne catchment is unlikely to be deliverable before the mid-2030s, well beyond the current development plan period. This leaves core network and treatment shortfalls unresolved.

Of particular concern to the local community is that such limited measures will not even create sufficient capacity to meet existing needs or address ongoing problems such as tankering, while the prospect of further housing growth will inevitably heighten the risks of non-compliance, surface discharge incidents, and ecological deterioration within the Nailbourne–Little Stour system (source: Southern Water).

The proposed development of 300 homes would generate an estimated 45–50 million litres of additional wastewater each year—representing around a 50 per cent increase in output from Littlebourne’s housing stock and placing unsustainable pressure on an already over-stressed system.

Southern Water’s own Drainage and Wastewater Management Plan (DWMP) identifies Newnham Valley and Preston among the systems at risk of Dry Weather Flow (see definitions) permit non-compliance as housing growth proceeds, confirming that the company is already operating close to environmental and regulatory limits.

Past experience demonstrates that such works take many years and are frequently delayed. In this context, the timely delivery of sustainable development cannot be achieved, as the wastewater infrastructure serving the site has no available capacity and no committed upgrades capable of supporting early occupation; consequently, the expected benefits of new housing cannot be realised within any reasonable timeframe.

The statutory “right to connect” under the Water Industry Act 1991 provides no guarantee that adequate wastewater capacity will be available when required. Since Southern Water’s current business plans include no funded or timetabled provision for network reinforcement—and its regulatory duty to safeguard existing customers must take precedence—reliance on this right is misplaced and inconsistent with sound planning practice for the present development period.

Technical analysis of network performance shows that even if extensive pipe sealing to reduce groundwater infiltration were achieved by around 2040, such works would only restore the system to its original “as-built” capacity, not increase it. While sewer rehabilitation is essential, it is also crucial to consider some potential wider impacts. Sealing infiltration pathways may inadvertently reduce groundwater clearance and increase surface-flooding risk in this shallow-aquifer chalk-

stream catchment, underscoring the need for integrated surface- and groundwater-drainage assessment.

Over a decade ago, a seminal study commissioned by Kent County Council (*Kent Water for Sustainable Growth – WsG*, 2017) highlighted performance weaknesses at Newnham Valley WwTW. Dry-weather flow volumes of 3,500 m<sup>3</sup>/day already exceeded the Environment Agency's consented limit of 2,279 m<sup>3</sup>/day—a shortfall equivalent to the wastewater output of roughly 3,600 additional homes beyond design capacity. The WwTW continues to operate significantly above its permit, with worsening exceedance trends and no confirmed plan or timetable for expansion.

Without major interventions in both network rehabilitation and enlargement of treatment-works, any further housing growth would inevitably result in permit breaches, greater volumes of untreated discharge, and biodiversity decline within the highly valued Nailbourne–Little Stour chalk-stream ecosystem. Accordingly, any planning decision or Local Plan allocation that relies on unconfirmed future wastewater upgrades would be inconsistent with the National Planning Policy Framework (NPPF), fail to satisfy the tests of soundness, and pose a serious risk of harm to the nationally important protected chalk-stream environment.

**On this basis, the proposed development is unsound and unsustainable; application CA/23/00484 should be refused and the site removed from the emerging Local Plan.**

## 2. Context and Introduction

Canterbury City Council's (CCC) existing and emerging Local Plans aim to identify sufficient land to meet government housing supply targets. National policy and political pressure continue to push for reduced planning constraints and accelerated housebuilding. In practice, this approach has precipitated widespread urban expansion and the allocation of new sites on greenfield or agricultural land in rural areas, rather than pursuing a more concentrated strategy such as a single, large-scale garden city.

Littlebourne has been directly affected by these policies through land allocations in the emerging Local Plan and through individual planning applications for major housing schemes. The most recent of these, application **CA/23/00484** (Gladman Developments, land off The Hill), proposes up to 300 new dwellings. Additional sites directly adjacent to Littlebourne are included in the draft Local Plan (e.g. land off Court Hill).

For several years, Littlebourne Parish Council, supported by a small technical advisory team, has submitted detailed representations to CCC highlighting serious longstanding deficiencies in the local sewage and wastewater network and likely pollution impacts on our highly prized chalk stream - the Little Stour. This document summarises the extent of those problems, assesses the likely impact of additional housing on issues already experienced in villages along the Nailbourne and Little Stour, and identifies the serious risks of associated ecological damage.

## 3. Prospects and Problems with Housing Development

Littlebourne and other settlements within the Nailbourne catchment have been shown to be unsuitable for large-scale housing development due to fundamental limitations in the wastewater infrastructure managed by Southern Water. While other planning considerations — particularly traffic, sustainable transport, and landscape impact — have contributed to earlier planning refusals, the continuing failure of the foul drainage system remains a primary constraint. Southern Water publicly acknowledges the scale of the existing infrastructure failure and the current lack of capacity to accept new large scale housing within the catchment (sources include: *SRN50 Resilience: Infiltration Enhancement Business Case -2023*; other reports, documents and minutes of meetings).

These issues were central to Canterbury City Council’s unanimous refusal in July this year of the most recent major application - CA/23/00484. **The development was considered inconsistent with the principles of sustainable development set out in the NPPF.** Importantly, the proposal was also judged to conflict with CCC’s declared Climate and Ecological Emergency commitments, which require that new development demonstrably support environmental resilience, sustainable infrastructure, and the protection of sensitive ecosystems.

There are two interdependent component problems associated with wastewater management within the Nailbourne catchment. Both must be addressed together to enable the catchment to accommodate sustainable housing growth without concurrent environmental impacts.

1. **Uncontrolled groundwater infiltration** into the foul sewer network; and
2. **A significant hydraulic and treatment capacity shortfall** at Newnham Valley WwTW.

The next section examines each of these in detail before examining the specific technical and hydrological constraints facing housing growth.

### 3.1 Groundwater Infiltration

The scale of **groundwater infiltration** in the Nailbourne catchment has become increasingly evident over recent decades — traceable to the 1980s and accelerating since the major flood events of 2000 and several subsequent seasons. This trend reflects a combination of factors, including changing rainfall patterns, rising groundwater levels, and altered agricultural land management. As a result, foul sewers have become progressively surcharged with both foul effluent and extraneous surface and storm water. The existing mainly “foul-only” sewer network and associated pumping systems were never designed to accommodate such volumes. Progressive pipe damage and joint failures have allowed extensive groundwater ingress, leading to hydraulic overloads and repeated incidents of sewer flooding<sup>1</sup>. Because this is predominantly a foul-only system rather than a combined one, each litre of groundwater that enters the sewers displaces capacity intended for domestic wastewater, reducing effective system headroom and resilience. The consequences of this are evident across several villages in the catchment.

**Infiltration** — and, conversely, **exfiltration**, where the same structural defects allow raw sewage to leak into surrounding soils— remains the most acute operational problem. For many years, residents in Littlebourne and neighbouring villages have endured frequent and long-term (HGV tanker operations (see *Box* below), restrictions on bathroom and toilet use, and periodic over-pumping of untreated sewage to the Nailbourne and Little Stour chalk streams during wet months (see warning notice example on front page). Southern Water acknowledges these pressures and constraints both in local meetings and in submissions to the Planning Portal. During wet seasons, infiltration and inflow can increase flow by four or five times their normal dry-weather volumes (see definitions page), placing unsustainable strain on both the sewer network and downstream treatment capacity.

**Box 1: Example of Southern Water Tanker and Pumping Response 2013/4** (sources: Southern Water; LPC records):

Tankering operations commenced in January and continued until May, when both tankering and over-pumping activities ceased. The response followed the typical operational sequence: tankering was initiated first, with over-pumping introduced only when flows exceeded the available tankering capacity. Over-pumping took place at five locations — Barham, Bishopsbourne, Patnixbourne, Bekesbourne, and Littlebourne. Overpumping data for 2013 and 2014 show pumps were on for **3 and 4 months respectively, with outflow per pump of 20-50 Litres per second**. Tankering also utilised at the first three of these sites. In addition to these locations, Bridge also required tanker and pumping support during the event.

<sup>1</sup> Just this week, a local resident in Bekesbourne Lane reported standing sewage in their property. This was duly reported to Southern Water. **predicted and dramatic rainfall increases due to climate change will ensure the challenge will become greater.**

Tankering operations in existing locations along Nargate Street and Bekesbourne Lane, have led (most recently in 2023/24) to daily road blockages, disturbance for local residents and have resulted in cases of aggressive driver behaviour (source: Personal communication). Both roads have seen rapidly increasing use over the last year or so as alternative through-routes rather than risking long delays in Canterbury and on its ring road which have become increasingly choked.

### 3.2 Treatment Works Capacity

A further equally critical issue is the under-capacity of the **Newnham Valley WwTW**, which serves the whole of the Nailbourne catchment including Littlebourne and neighbouring villages. Inadequate performance issues add to the problems caused by groundwater infiltration within the sewer [collection] network (Section 3.1), since elevated inflows during wet weather place unsustainable hydraulic and treatment demands on a plant which already operates beyond its design limits (source: WsG, 2017).

Newnham Valley WwTW is identified in Southern Water's Base Risk and Vulnerability Assessment (BRAVA) as "requiring improvement," yet its investment priority is classed as Low, and no timetable for remedial works has been published. A recent Freedom of Information -EIR- response from Southern Water (EIR, Oct 2025) noted that flow capacity expansion is "likely to be required." The company's Stour Catchment Drainage and Wastewater Management Plan (DWMP) acknowledges that further growth would lead to additional non-compliance with dry weather flow (DWF - see definitions) permits.

The underlying problems, however, have been known for over a decade. The KCC *Kent Water for Sustainable Growth Report (WSG - AECOM/KCC, 2017)* recorded that Newnham Valley WwTW was already exceeding its Environment Agency DWF permit at that time and operating with negative flow headroom. According to the report, the works was originally designed to serve around 8,000 population equivalent (PE) — including a reasonable operational margin — but by 2017 that headroom had already been exceeded. Observed flows recorded in the WSG report (3,450–3,500 m<sup>3</sup>/day) were already well above the permitted 2,279 m<sup>3</sup>/day, producing a deficit of 1,100–1,200 m<sup>3</sup>/day. This equates to the wastewater output of some 3,600 homes additional to the works' intended capacity. More detailed analysis and information are provided in Table 5-3 of the WSG report. This also projected future dry weather flows of 3,492 m<sup>3</sup>/day by 2031 assuming local planned growth would be just 117 houses. The net result, it notes, would be a resulting headroom of negative 1,121 m<sup>3</sup>/day (ca. 47 % over permit).

Subsequent development has evidently far exceeded the assumptions made over a decade ago regarding housing growth. Around 200 new homes have already been completed in Littlebourne alone since the study. The development discussed here CA/23/00484 with site allocations in the emerging Local Plan assume a further ~350 dwellings. Finally, Southern Water's own Ofwat AMP8 data list a current load of 7,287 PE<sup>2</sup> (population equivalent) with an expected increase of only +113 PE, **with no meaningful allowance for new development and confirming that no substantive hydraulic upgrade plan or action has yet been implemented.**

#### - Potential Flooding Risks Following Network Rehabilitation

Whilst network rehabilitation is an essential step in addressing the range of problems outlined in this paper—such as tanker operations, restricted toilet use, and risks of aquatic pollution—there remains a risk that it could inadvertently reduce groundwater clearance and thereby increase surface-flooding potential, particularly in this chalk-stream catchment with shallow aquifer systems. Groundwater infiltration into damaged foul sewers, although undesirable from a treatment perspective, evidently acts as an unintended 'sink' or drainage pathway that helps to dissipate high

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<sup>2</sup>. **Population Equivalent (PE)** is a standard measure used in wastewater engineering to express the load on a treatment system, representing the organic biodegradable pollution produced by one person per day.

groundwater levels experienced especially in this catchment during frequent wet periods. Sealing the pipe networks removes that outlet, potentially slowing groundwater recession and increasing the likelihood of groundwater-induced surface flooding in low-lying areas such as Littlebourne and neighbouring villages. Research by the British Geological Survey, together with comments from Southern Water (source: personal communication), indicate that infiltration reduction can alter local groundwater dynamics where sewer and aquifer systems are closely coupled. Any programme of pipe rehabilitation should therefore be accompanied by coordinated surface- and groundwater-drainage assessments to ensure that the overall effect on flood risk is properly understood and mitigated.

Section 4 examines the scope, limitations, and implications of Southern Water’s Infiltration Reduction Plans (IRP) for the long-term management of infiltration within the Nailbourne catchment.

**In conclusion, Newnham Valley WwTW continues to operate beyond its consented capacity, with a worsening flow exceedance and no confirmed investment or timetable for expansion. Without major intervention, the works cannot support additional housing growth without risking further permit breaches, untreated discharges, and ecological deterioration in the receiving Nailbourne–Little Stour system.**

### 3.3 Network Interdependency

**Together, groundwater infiltration into the sewer network and the chronic under-capacity of the Newnham Valley WwTW form a single, systemic constraint on sustainable development within the Nailbourne catchment.** These failures are interdependent — infiltration-driven hydraulic overloads reduce treatment efficiency and accelerate non-compliance risks, while insufficient WwTW capacity amplifies the consequences of every wet-weather inflow event. Unless both issues are addressed in an integrated way through major infrastructure investment and catchment-scale planning, the current network will remain incapable of supporting additional housing growth without breaching permit conditions or causing further ecological harm to the Nailbourne–Little Stour system.

The following Table 1 presents some of the recent findings while additional details and analyses are given in Annex A.

**Table 1. Newnham Valley WwTW – Dry-Weather Flow and Equivalent Households<sup>3</sup>**

(Source: KCC / AECOM 2017 Water for Sustainable Growth Report – Table E2.7 & Table 5-3; updated with local housing data)

Parameter	Flow (m <sup>3</sup> /day)	% of Permit	Approx. Population Equivalent (PE)*	Approx. Households (2.4 pp)	Comment
Permitted Dry-Weather Flow (DWF)	2,279	100%	16,100 PE	6,700 homes	EA permit limit
Observed / Baseline DWF (c. 2014–15)	3,500	ca. 150 %	24,600 PE	10,300 homes	Empirical average including persistent infiltration
WSG 2031 projection (+117 homes)	ca. 3,492 (total)	ca. 153 %	24,800 PE	10,400 homes	Future DWF after growth; additional flow ca. +40 m <sup>3</sup> /day from 117 homes

<sup>3</sup> \* PE calculated as m<sup>3</sup>/day ÷ 0.142 m<sup>3</sup>/person/day (142 L pp/day, Ofwat 2024 average).  
Households = PE ÷ 2.4 persons/household (ONS 2023 average).

Exceedance above permit	+1,200	+45–50 %	8,500 PE	3,600 homes	Operating beyond consent
Headroom (deficit)	–1,100	–48 %	–7,700 PE	–3,200 homes	No spare capacity
Recent + proposed housing growth (since 2017)	+200 m <sup>3</sup> /day	+9 % (of permit)	1,320 PE	550 homes	200 built + 350 allocated (The Hill & Court Hill) – further load beyond 2017 baseline

## 4. Southern Water and remediation Prospects

### 4.1 Policy Context

Before examining the details of the remediation and mitigation obligations that Southern Water must take forward, it is important to consider the policy framework governing infrastructure provision, particularly wastewater capacity.

The Town and Country Planning Act 1990 and the National Planning Policy Framework (NPPF, 2023) require Local Planning Authorities (LPAs) to ensure that all new development is supported by the necessary infrastructure. Planning decisions must also ensure that development is appropriate for its location, taking into account the likely effects on the environment, including sewage and pollution. **Wastewater infrastructure is therefore a material consideration in the determination of planning applications, and LPAs must be satisfied that adequate treatment capacity exists before granting permission.**

NPPF Paragraph 194 states:

*“Planning policies and decisions should ensure that new development is appropriate for its location taking into account the likely effects ... including pollution arising from inadequate wastewater treatment.”*

Footnote 65 to that paragraph further clarifies:

*“This includes ensuring that there is adequate wastewater infrastructure to support development without causing adverse environmental effects.”*

Reliance on the Water Industry Act 1991 to fulfil connection requirements satisfies neither local nor national planning policy. The Act confers a statutory right to connect for developers and householders, **but it does not impose any obligation on water companies such as Southern Water to upgrade or expand their networks in advance of development. This right is often—and incorrectly—interpreted as a guarantee that capacity will be available when required, despite there being no such assurance.**

**In practice, the Water Industry Act’s “right to connect” duty conflicts with Southern Water’s regulatory obligations to safeguard service standards for existing customers.** The company’s own planning condition—requiring phased occupation to align with the delivery of network reinforcement—illustrates these competing pressures and indicates that full connection is unlikely to be achievable before the end of AMP9 (2035) at the earliest.

**The developer’s continued reliance on the statutory right to connect also fails to reflect Southern Water’s published position, which confirms the absence of any firm delivery timeline or funding commitment. The proposed development is not included in the company’s current business plan (SRN50 – Resilience: Infiltration Enhancement), and Southern Water continues to emphasise its overriding duty to protect existing customers.**

## 4.2 Southern Water and Mitigation

Despite extensive documentation of the problems, numerous technical studies, and over 25 years of public and institutional pressure for action, no firm funding commitment or completion target has yet been made for the Infiltration Reduction Plan (IRP) or for the replacement or upgrade of Newnham Valley WwTW — even within the current and AMP9 planning horizon.

### - Groundwater infiltration reduction.

Southern Water’s IRPs for the Upper and Lower Nailbourne are detailed technical assessments, yet they contain no binding capital investment or implementation timetable. The company’s strategic submission — *SRN50 Resilience: Infiltration Enhancement Business Case* (2023, **pre-Ofwat determination**) — indicated that only around 20% of identified works for both catchments would be delivered during AMP8, with estimated budgets of £3.1 m and £1.5 m respectively. Other higher-priority catchments would receive 100% of required works in the same period. In fact, Southern Water (EIR, Oct 2025) have just confirmed the following: **(a) Only 1 km of sewer relining had been completed to date; and (b) The total £4.5 m investment originally proposed in SRN50 was not endorsed by Ofwat and has been downgraded to a pilot project intended to inform possible future activity in AMP9 or beyond.**

Furthermore, Southern Water have explicitly stated on several occasions including in this EIR, that their planned **infiltration reduction is aimed at merely restoring the system to its original “as-built” condition.** The EIR (Oct 2025) notes:

*“We are not removing flow or creating capacity for new connections to the system.”*

**In short, the planned works will not create additional capacity to support new housing development. The underlying problems of network and treatment under-capacity will therefore remain.**

### - Prospects for Newnham Valley Upgrades.

Southern Water’s **EIR response (Oct 2025)** also clarifies that **no investment for Newnham Valley** is included in SRN50. While the company acknowledged that a **new DWF permit “would likely be required”**, implying a need for **additional treatment capacity**, no timetable was provided at our request. AMP9 was mentioned as a potential period for review and any future upgrade is expected to include tighter BOD and phosphate discharge limits.

It is also important to consider the fact that in catchments such as **Newnham Valley**, where the treatment capacity is severely constrained and fails to meet the EA permit, it is highly unlikely that Ofwat would compel an immediate connection for new housing which would simply add to existing problems and exceedance. **Moreover, as noted, the long-standing and well-documented issues of foul sewer overcharging resulting from groundwater infiltration will take many years to address and, even once mitigated, will not result in additional capacity for major new development.**

## 4.3 Southern Water Performance

It is relevant to raise concerns over Southern Water’s overall performance as a water company in the light of existing national outcry against lake, river and sea pollution caused by defective sewage systems and poorly performing utilities. According to Ofwat’s October 2025 assessment, Southern Water remains **“lagging behind”** with persistent weaknesses in customer service, environmental protection, and consistency in meeting performance commitments. Southern Water’s investment plans are also constrained by the regulatory and funding framework: major capital works require Ofwat approval and are dependent on increases in customer bills, limiting the company’s ability to commit to unplanned expenditure within the current AMP period. Taken

together, these issues reduce the company's ability to deliver complex catchment-scale projects within short timeframes.

A further consideration is the issue of competing regional investment priorities. Recent studies commissioned by Dover District Council concluded that there is no hydrological connection between the Nailbourne system and the Stodmarsh designated sites. Previously, the Nailbourne–Little Stour was correctly regarded as part of the Great Stour catchment and therefore subject to Natural England's nutrient neutrality mandate. The effect of removing the Nailbourne catchment from those obligations is that Southern Water may now be less inclined to prioritise near-term remediation or capacity upgrades in this area, instead focusing investment on larger growth zones within the wider Stour catchment where nutrient neutrality requirements continue to apply and infrastructure improvements remain a prerequisite for housing delivery.

**Given Southern Water's limited performance, investment constraints, and competing priorities across its southern region—particularly in areas where nutrient neutrality requirements necessitate urgent remedial works—it cannot reasonably be assumed that any network improvements within the Lower Nailbourne will be delivered in the near term. When the company's capital expenditure context is properly considered, it is clear that reliance on the “right to connect” as a mechanism to enable this proposed development within the 2025–2030 planning period is wholly unrealistic and unsound.**

## 5. General Conclusions

Remediation works alone will not, and cannot, create new capacity to accommodate housing at scale. A lasting solution would require both a **new or substantially expanded wastewater treatment works**—with increased flow and discharge permits—and a **collection network** capable of reliably conveying flows that match that treatment capacity. These two components are **interdependent**, and, on current evidence, **are unlikely to be delivered before the mid-2030s at the earliest**.

Under these circumstances, the impact of constructing **300–350 new houses**—representing a **50% increase in Littlebourne's housing stock** and generating around **46 million litres of additional wastewater per year**—would place unsustainable pressure on an already failing system. The likely consequences include **more frequent tanker operations**, associated noise and disruption to residents, and an increased risk of **surface sewer flooding, over-pumping, and pollution** of the ecologically sensitive **Little Stour chalk stream**. These outcomes are **not speculative**: they are consistent with **Southern Water's own technical assessments and statements made in recent stakeholder meetings** (*CCC Planning Portal correspondence; Nailbourne and Little Stour River Group, 2024*).

For the proposed development of more than 300 dwellings within this catchment, **Southern Water has provided no firm commitment or timetable** for the delivery of critical infrastructure upgrades—whether through **WwTW expansion** or **infiltration reduction and sewer capacity works**—ahead of occupation. This poses a **significant risk** that the receiving chalk stream will suffer **further pollutant loading**, or that the existing wastewater network will again become a **binding constraint** on lawful development.

Without confirmed upgrades—and with the area already facing escalating **tankering, foul-sewer surcharging**, and the continued threat of **untreated over-pumping to the stream**—the required infrastructure improvements **must be secured and implemented before any development is approved**. Failure to do so would risk **compromising the ecological status** of the Little Stour and would render the **Local Plan unsound** with respect to wastewater capacity.

A further complication in regard to pipe sealing and rehabilitation to 'remove' the groundwater infiltration problem is that this may inadvertently reduce groundwater clearance and increase

surface-flooding risk in this shallow-aquifer chalk-stream catchment, underscoring the need for integrated surface- and groundwater-drainage assessment.

Southern Water's own **Drainage and Wastewater Management Plan (DWMP)** for the Stour River Basin reinforces this concern:

*"BRAVA results show that additional homes and businesses will increase the risk of non-compliance with our DWF permits from the Environment Agency in nine of the 21 wastewater systems, including Dambridge, Wingham, Newnham Valley and Preston."*

Both **Newnham Valley** and **Preston** are integral to wastewater treatment within the Nailbourne catchment. Although the DWMP acknowledges that *"further investment will be needed in the future to increase the capacity of our treatment works to accommodate new homes and businesses,"* it provides **no funding allocation or delivery timescale within AMP8 or AMP9**.

The **statutory "right to connect"** under the *Water Industry Act 1991* offers **no assurance of timely capacity provision**. It conflicts directly with Southern Water's regulatory duty to protect existing customers and maintain environmental compliance. The company's own planning condition—requiring phased occupation pending network reinforcement—demonstrates these competing obligations. Southern Water's statements confirm that **no firm funding, no delivery timetable, and no business-plan inclusion** exist for the proposed development (*SRN50 – Resilience: Infiltration Enhancement*). Consequently, **a full connection is unlikely before the end of AMP9 (2035)**, and reliance on the right to connect as justification for new housing in this catchment is **both unfounded and contrary to sound planning practice**.

**Accordingly, any Local Plan allocations and planning permissions that depend on unconfirmed future wastewater upgrades would be inconsistent with the NPPF, fail to satisfy the tests of soundness, and risk significant harm to a protected chalk stream environment of national importance.**

**Given the absence of any credible wastewater solution and the unacceptable risks to both residents and the Little Stour chalk-stream environment, planning application CA/23/00484 should be refused and the site deleted from the emerging Local Plan.**

## Annex A: Nature of Environmental risks

The principal aquatic environmental risks from the Nailbourne sewerage system arise from both the collection network and the wastewater treatment works (WwTW)

### Collection network risks:

- Groundwater infiltration raises flows well above design levels, leading to sewer flooding, emergency over-pumping, and occasional exfiltration through defective joints.
- These events can discharge **untreated or partially treated sewage** directly to surface waters or groundwater, introducing **nutrients (nitrogen and phosphorus)** and **organic and chemical contaminants**.
- The resulting impacts include **eutrophication, oxygen depletion**, and wider **toxic or endocrine effects** on aquatic ecosystems, characteristic of chalk streams with limited dilution capacity.

### WwTW outfall risks:

- Even after treatment, **residual nutrient and chemical loads** in the final effluent contribute to the cumulative enrichment of the downstream chalk stream.
- As hydraulic loading at the works increases (i.e., as the **DWF deficit widens**), the plant's treatment efficiency and residence time decline, leading to proportionally higher risk of nutrient breakthrough and ecological harm.
- These risks therefore **scale broadly with the DWF exceedance**—the greater the flow relative to consented capacity, the greater the potential for pollutant release. Both forms of risk increase as the system operates beyond its hydraulic design and consented dry-weather flow.

### - Additional Comments on Aquatic Impacts from Site Run-off

The proposed surface water drainage system for the ca 14-hectare development site comprises two attenuation ponds located on fully impermeable subsoil, with the lower pond pumping runoff to an upper pond, which would then discharge via an existing culvert through the High Street and a short open channel in the orchard before joining the Little Stour chalk stream.

While this arrangement may appear to satisfy runoff storage requirements, it presents significant and credible risks to the receiving environment due to the combination of (i) impermeable subsoil, (ii) reliance on mechanical pumping, and (iii) discharge to a highly sensitive chalk stream.

On impermeable subsoil, SuDS can only function as storage and controlled-discharge systems, not infiltration systems. When these are pumped and unlined, their long-term success depends on continuous mechanical reliability, careful maintenance, and strict operational management. Given the high ecological sensitivity of the Little Stour chalk stream and its functional linkage to the Stodmarsh designated sites, the proposed arrangement represents a material risk of surface-water pollution, hydraulic failure, and ecological harm.

## References and Data Sources

1. **Kent County Council (2017)** *Water for Sustainable Growth Study*, Table 5-3 – Newnham Valley WwTW. Medway Council library.
2. **Southern Water (2024, 2014 and 2013)** *Infiltration Reduction Plans: Lower and Upper Nailbourne* (Several Versions incl 4.5).
3. **Southern Water (2024)** *Stour DWMP Overview and Wastewater Systems Annex*.
4. **Ofwat AMP8 Tables (2025–30)** – Population Equivalent data for Newnham Valley WwTW.
5. **Planning Applications / Housing Data** – Littlebourne Laurels (2019), The Hill R7 and Court Hill R8 applications (2023-24).
6. **Digdat Mapping (2025)** – Southern Water public sewer asset map confirming 450 mm trunk to Newnham Valley WwTW. (Data not presented here)

## Definitions

Meaning of “Dry Weather Flow” (DWF) and “Headroom”

- **Dry Weather Flow (DWF)**  
This is the average daily flow of sewage and infiltration entering a wastewater treatment works during dry weather (no rainfall).  
The Environment Agency sets a DWF permit limit for each works — the maximum flow it is allowed to receive and treat under normal (dry) conditions.
- **Headroom**  
Headroom means the spare capacity between the actual DWF and the permitted DWF.
  - If actual DWF < consent → *positive headroom* (capacity remaining).
  - If actual DWF > consent → *negative headroom* (already over capacity).
- In KCC’s 2017 *WSG report*, headroom is shown graphically:
  - Green bar = flow below consent (spare capacity)
  - Red bar = flow above consent (no headroom)

# Figures

(Sources: various including Southern Water and Parish records; photo courtesy of Alan Atkinson)



## Over pumping

Groundwater levels impacted by rainfall events, when levels are very high it causes surcharging of the sewerage system

- prevents free drainage, can lead to flooding and restricted toilet use
- Address by removing excess flows by tankering or over pumping
- Due to volume of groundwater in the sewers, over pumping only means of realistically managing the sewerage system
- Approval sought from the Environment Agency prior to commencing
- Discharge quality similar to that of some of our wastewater treatment works



Overpumping into Nailbourne-Little Stour during 2013/14 showing pumps deployed for 3 and 4 months respectively - 20-50 litres sewage/sec (equivalent. ~4000tonnes / day raw sewage) (source: Southern Water IRP, 2013/4)

Overpump Site Name	Start Date	Stop Date	Typical Number of Pumps
	N/A	N/A	N/A
Nargate St WPS	05/02/14	14/04/14	1
School Lane WPS	28/01/14	28/05/14	2
Old Palace Road	05/02/14	14/04/14	1
Patixbourne Rd	One week in March/April 2014		N/A
Mermaid Inn	29/01/14	15/05/14	1
Valley Road	24/02/14	08/04/14	1
The Orchards WPS	22/02/14	10/04/14	1
Ottinge WPS (NOT USED)	N/A	N/A	N/A

# Examples of Tanker and Pumping Locations in Littlebourne during 2013/14 (Source, Southern Water IRP)

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