

[REDACTED]

Sent: 02 May 2026 19:59
To: Planning
Cc: Alice.Johnson; John Milne MP
Subject: DC/25/2057 Land North of Little Slaughterford, Chapel Road, Barns Green, West Sussex
Attachments: Barns Green STW Calculations (Rev F).pdf; EIR 3295-1 (Redacted).pdf; BG Sewage Photo Sheet.pdf; Annex A (DJP dated 18-03-26).pdf
Categories: Comments Received

6 Finians Field
Barns Green
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RH13 0PW

02nd May 2026

From a Member of the Public and Resident of Barns Green for over 50 Years with over 47 years of experience in the water and wastewater treatment industry

For the attention of Ms Alice Johnson,

Objection: Application DC/25/2057 Land North of Little Slaughterford, Chapel Road, Barns Green, West Sussex – 68 Dwellings by Miller Homes

Once again I object very strongly to this planning application.

Sewage Treatment Capacity and Discharges into Parsons Brook

I refer to the latest email response from Southern Water (Ref: DSA0000050301) dated 29th April 2026 regarding the sewage treatment with the inference in this email that the Barns Green Wastewater Treatment Works has adequate capacity. I suggest that this email was sent without first checking the files and considering the latest relevant Southern Water correspondence regarding this planning application dated 11th March 2026.

However, for the avoidance of doubt I wish to re-state my previous objections and serious concerns regarding the capacity of existing Barns Green sewage treatment works.

A – Challenge to the Southern Water letter Ref: DSA0000050301 dated 22nd January 2026

It is worth noting that over the past few years the storm water spills of screened but untreated sewage into the Parsons Brook from the Barns Green treatment plant have been increasing. In 2021 there were 40 spills for a total of 252 hours, in 2022 there were 43 spills for a total of 410 hours and in 2023 there were 63 spills for a total of 569 hours. The latest data from the Rivers Trust confirms that in 2024 there were 60 spills for a total of 503 hours into Parsons Brook.

Parsons Brook is a tributary of the River Adur, and the Barns Green sewage treatment plant is located within the Adur West Water Body Catchment, which already has a 'poor ecological status', apparently due in large part to pollution from sewage discharges.

It would seem that the response from Southern Water to HDC dated 22nd January 2026 is seriously flawed and needs to be challenged. For some reason it would appear that Southern Water do not have up to date knowledge of the current foul sewage connections to their sewer network and the potential flows and loads

that would need to be treated by their existing sewage treatment plant. I would suggest that they have carried out a 'desktop modelling study' without the full knowledge of the situation 'on the ground' here in Barns Green.

In the Southern Water letter to HDC dated 22nd January 2026 they suggest that their sewer system could currently accept another 0.6 litres per second which equates to 51,840 litres per day of foul sewage.

This is clearly not the case, and it would seem that Southern Water are unaware of the potential flows and loads into their sewer network from the following existing connection from the West side of Chapel Road and the Oakland Park development (DC/23/1235) in Emms Lane:

- Current Sumners Field housing development - estimated final population based on 100% occupancy would be 77 persons.
- Current Bluebell Park holiday lodge development (at Sumners Ponds) – estimated population based on 90% occupancy would be 48 persons.
- Current motorhome/caravan pitches and glamping accommodation (at Sumners Ponds) – estimated tourist population based on 50% occupancy would be 126 persons.
- Current Oakland Park static holiday caravan development (DC/23/1235) – estimated population based on 90% occupancy would be 84 persons.

During the busy summer holiday periods if the holiday lodges and camping facilities at Sumners Ponds and the Oakland Park static holiday caravans were at 100% occupancy then this could increase the potential population served by an additional 140 persons.

We attach a copy of our calculations (Rev F dated 29/01/26) detailing our current estimates of the potential and future foul sewage flows to be treated by the existing sewage treatment plant. We feel that our calculations may well be an underestimate as we have not fully accounted for the residential and transient flows associated with Muntham House School, the transient flows associated with the visitors to the Café on the Lake at Sumners Ponds or the staff and children at the Barns Green village school.

Even without including the proposed 68 Miller dwellings our current calculations indicate that the potential Dry Weather Flow (DWF) already exceeds the current EA consented discharge volume of 227,000 litres per day by in excess of 18%.

If the potential additional foul sewage flow from the proposed 68 Miller dwellings is then included, then our current calculations indicate that the potential Dry Weather Flow (DWF) would then exceed the current EA consented discharge volume of 227,000 litres per day by in excess of 28%.

In response to a 'Request for Information' from a Barns Green resident back in April 2025 Southern Water stated that *'Currently there are no plans to increase the capacity at the treatment works at Barns Green'* in their letter (Ref: EIR 3295-1 copy attached). In this same letter they confirmed that from their perspective the current population served by the existing sewage treatment plant is 1018 but they thought it might be able to support a population of *'roughly 1400 people before the dry weather flow would be over the consented limit'*, we suggest the current EA consented limit may already be exceeded with existing network connections without the proposed Miller development.

In our view Southern Water need to be asked by HDC to urgently confirm the following key points:

- Would the existing treatment plant perform adequately and meet all the required EA treated effluent quality consents if the Dry Weather Flow (DWF) was in excess of 291,000 litres per day?
- Would the existing treatment plant perform adequately and meet all the required EA treated effluent quality consents if the population being served was in excess of 1630?

- If the potential Dry Weather Flow (DWF) is in excess of the current EA consented Dry Weather Flow (DWF) of 227,000 litres a day into Parsons Brook, how likely is it that the EA would actually grant an increase to the consented daily discharge volume in view of the current well documented 'poor ecological health' of the receiving waters?

In addition to the well documented storm overflows from the Barns Green sewage treatment plant mentioned above there has been a long history of appalling pollution incidents and failures resulting on many occasions in raw unscreened and untreated sewage being discharged directly into the Parsons Brook (see attached photo sheet). It is a well-known fact that the operation, maintenance and monitoring of this particular sewage treatment plant by Southern Water leaves an awful lot to be desired.

It is also worth noting that all the foul sewage flows from Sumners Field, Sumners Ponds and the proposed Miller development would be transferred (under the railway line) to the Barns Green sewage treatment plant via the existing sewage pumping station in Smugglers Way. There have been frequent issues with this pumping station over the years associated with pump failures, blockages and electrical power failures causing flow to back up within the upstream combined sewer network. This situation will only be exacerbated by the additional flows from the proposed Miller development.

The effective treatment of the foul sewage from any new development is a key consideration and directly impacts on the environment and in this particular case the ecological health of the Parsons Brook and the downstream River Adur West that flows through the nearby Knepp Estate.

It is strongly suggested that HDC should not bring this proposed development to the Planning Committee without further very firm assurances from Southern Water that the serious issues regarding both the capacity and the performance of the Barns Green sewage treatment plant can be fully and adequately resolved before this and any further housing developments in Barns Green are considered.

B - Challenge to the Southern Water letter ref: EIR 4275 dated 11th March 2026

I wish to challenge the Southern Water letter ref: EIR 4275 dated 11th March 2026 which we understand is based on modelled results, and in particular the inference in this letter that the Barns Green Wastewater Treatment Works has adequate capacity.

From our own check calculations and research, the existing plant has very severe limitations in respect of the hydraulic capacity of both the primary tanks and humus tanks as well as the tertiary filters as demonstrated by the issues and check calculations detailed below and in Annex A.

Tank and Filter Sizes

Based on measurements extracted from satellite imagery of the Barns Green Wastewater Treatment Works that is in the public domain we have extracted the following information:

- Primary Settlement Tanks – 2 tanks each 4.2 metres x 4.2 metres.
- Biological Media Filters – 2 filters each 17.2 metres diameter.
- Humus (Final) Tanks – 2 tanks each 6.5 metres diameter.

We have made assumptions regarding the average tank and filter media depths and developed our own check calculations, and these are attached as Annex A.

These check calculations indicate the following issues:

Issue (1) - Existing Primary Tanks

Based on a Dry Weather Flow (DWF) of 291 m³/day it appears that the existing primary tanks are hydraulically undersized and not fully compliant with requirements of the current Southern Water process standards.

By back calculation we would suggest that the maximum DWF that the existing primary tanks could hydraulically handle with 2 tanks in service would be **161 m3/day** based on a minimum retention time of 1.5 hours.

Issue (2) - Existing Humus (Final) Tanks

Based on a DWF of 291 m3/day it appears that the existing humus tanks would be hydraulically undersized and not fully compliant with the requirements of the current Southern Water process standards.

By back calculation we would suggest that the maximum DWF that the existing humus tanks could hydraulically handle with 2 tanks in service would be **253 m3/day** based on a maximum upflow rate of 1.0 m3/m2/hr.

Issue (3) - Tertiary Filtration Package

Although not evident on the satellite imagery we are aware that a tertiary filtration package was installed in 2020/2021 together with the associated chemical dosing in order to reduce the phosphorous levels in the final treated effluent and meet the current Environment Agency (EA) discharge consent into Parsons Brook.

The De Nora Tetra tertiary treatment package comprises five (05) deep bed media filter cells each 1.0 metre diameter (from De Nora website) and as confirmed by De Nora this package has a total maximum filtration capacity of 1362 m3/day.

The maximum filtration capacity of 1362 m3/day equates to the current full flow to treatment (FFT) and is therefore based on the current EA consented DWF of 227 m3/day.

It would seem that the existing tertiary filtration package is currently designed to treat a maximum DWF of 227 m3/day and would be therefore be undersized for any DWF greater than 227 m3/day.

Conclusion

We would strongly suggest that Southern Water need to consult with their process engineers regarding the capacity of the existing Barns Green Wastewater Treatment Works and whether it is able to accept any additional flows above the current EA consented DWF of 227 m3/day from either the Barns Green area (including the Miller Homes application DC/25/2057) or other proposed local housing developments (we refer here to DC/26/0366).

I would be grateful if the full contents of this email together with the attachments could be placed before the Planning Committee.

Yours faithfully,



Attachments:

Barns Green STW Calculations at Rev F dated 29/01/26.

Southern Water letter ref: EIR 3295-1 dated 09/04/25.

BG Sewage Photo Sheet.

Annex A - Barns Green Wastewater Treatment Works - Check Calculations (Ref: DJP dated 18/03/26).

Barns Green STW - Calculations at Rev F dated 29/01/2026

Description	Dwellings	Pop Factor	Population	Litres/Head/Day	Litres/Day
Residential Dwellings in Barns Green (Pre-Ashmiles) on Combined Flow Sewer System	402	2.4	965	150	144,720
Add infiltration for 18.5 km Vitreous Clay Sewer Network @ 40%					57,888
Total Daily Flow for Existing Dwellings on Combined Flow Sewer System					202,608
Residential Dwellings in Ashmiles Development on Foul Flow Sewer System	73	2.4	175	125	21,900
Residential Dwellings in Sumners Fields Development on Foul Flow Sewer System	32	2.4	77	125	9,600
Bluebell Park Holiday Lodges on Foul Flow Sewer (Tourist Population - 90% Occupancy)	24	2.0	48	125	6,000
Motorhome/Caravan Pitches and Glamping Pods/Huts (Tourist Population - 50% Occupancy)	63	2.0	126	100	12,600
Oakland Caravan Park on Foul Flow Sewer (Tourist Population - 90% Occupancy)	42	2.0	84	125	10,500
Total Foul Flow of Existing or Under Construction Dwellings on Foul Flow Sewer System					60,600
Add infiltration at 10%					6,060
Total Daily Flow of Existing or Under Construction Dwellings on Foul Flow Sewer System					66,660
Estimated Total Daily Flow (DWF) to Treatment Plant prior to Latest Miller Proposals					269,268
Current EA Consented Daily DWF Discharge to Parsons Brook					227,000
Proposed New Miller Development on Foul Flow Sewer System	68	2.4	163	125	20,400
Add infiltration at 10%					2,040
Estimated Total Daily Flow Generated by Miller Proposals					22,440
Total Estimated Poulation Including the Proposed New Miller Development					1638



Date

9th April 2025

Contact

Tel 0330 303 0368

Dear

**The Environmental Information Regulations 2004
Request for Information
EIR reference 3295**

Thank you for your request for information which we received on 14th March 2025. We have dealt with your request under The Environmental Information Regulations 2004 (EIR 2004). This letter provides the response to your request, as follows:

Re: Barns Green WwTW, Emms Lane, Barns Green, Horsham, West Sussex, RH13 0QQ

I am a resident of Barns Green

I understand through the local Parish Council that HOC are looking into the possibility of various new housing developments in Barns Green and wish to obtain the following information regarding the local wastewater treatment works that serves the village.

- 1. Confirmation of the current population that forms the basis for the design of the existing treatment works capacity.*
- 2. Confirmation of the current EA consented daily discharge flow of treated effluent to the Parsons Brook.*
- 3. Are Southern Water currently planning to increase the treatment capacity at these works in the near future.*

I look forward to your formal reply to the above enquiries in due course.

We can confirm that Southern Water does hold this type of information you have requested.

- 1. Confirmation of the current population that forms the basis for the design of the existing treatment works capacity.*

The current population supplied by Barnes Green Wastewater Treatment Works (WwTW) is 1018 and with current estimates of daily usage per capita, the treatment works could support a population of roughly 1400 people before the dry weather flow would be over the consented limit.

2. *Confirmation of the current EA consented daily discharge flow of treated effluent to the Parsons Brook.*

The current consented daily discharge flow for Barnes Green WwTW is 227cubic metres/day (m3/d). The Flow to Full Treatment (FFT) is currently 16 litres/second(l/s).

3. *Are Southern Water currently planning to increase the treatment capacity at these works in the near future.*

Currently there are no plans to increase the capacity at the treatment works at Barnes Green. Our Clean Rivers and Seas Plan [southernwater.co.uk/water-for-life/clean-rivers-and-seas-plan/map](https://www.southernwater.co.uk/water-for-life/clean-rivers-and-seas-plan/map) does, however, provide details of all the Wastewater Treatment Works , Wastewater Pumping Stations and overflows for our region, what investment is required at each site, when the work is planned to commence and what solutions are required.

Through our new Drainage and Wastewater Management Plan (DWMP) process, which is currently underway, we are also working with stakeholders to better understand the range of flooding risks in drainage catchments across our region, to try to work towards a more collaborative and sustainable approach to managing surface water. Key to this is preventing rainwater from entering our foul network, in order to free up sewer capacity for new development, whilst minimising the risk of foul flooding. For more information please visit our website: [Arun And Western Streams River Basin Catchment](#)

We are entitled to make a reasonable charge for information provided under the Regulations. Details of our charging scheme can be found on our website: <https://www.southernwater.co.uk/water-for-life/protecting-the-environment/environmental-information>. In this case we have decided to waive our charge.

If you are dissatisfied with the handling of your request, you have the right to ask for an internal review. Internal review requests should be submitted within forty working days of the date of receipt of this response and should be addressed to Head of Legal, Southern Water Services Ltd, Southern House, Yeoman Road, Worthing, West Sussex BN13 3NX or you can email EIR.Internal.Review@southernwater.co.uk.

If you are dissatisfied with the outcome of the internal review, you can apply, without charge, to the Information Commissioner, who will consider whether Southern Water has complied with its obligations under the Regulations, and can require Southern Water to remedy any problems. You can find out more about how to do this, and about the Regulations in general, on the Information Commissioner's website at: www.ico.org.uk. Complaints to the Information Commissioner can be made via the "report a concern" section of the Information Commissioner's website.

Please do not hesitate to contact us if you have any queries.

Yours sincerely

EIR Officer

**Images of Some Typical and Frequent Pollution Incidents at the Barns Green
Sewage Treatment Plant**



**View of the Incoming Sewer Manhole Located Just Upstream of the Raw Sewage Lift
Pumping Station in the Treatment Plant with Parsons Brook in the Foreground**



**Close-Up of the Manhole with Raw Unscreened and Untreated Sewage Overflowing
and Running Down the Bank and into Parsons Brook**



View of the Parsons Brook Badly Polluted with the Raw Unscreened and Untreated Sewage which then Flows Downstream to the River Adur West



Still from a Video of the Same Manhole on Another Occasion



Still from a Video of the Same Manhole from the Other Bank of Parsons Brook

These are just some of the illustrations of very frequent unrecorded pollution events that occurs every time the raw sewage lift pumps in the adjacent sewage treatment plant fail as a result of blockage, mechanical failure or electrical power failure. There is now a standby power generator installed but on occasions this does not automatically start on power failure. Even when alerted to these issues it can be several days before Southern Water actually respond.

Annex A

Barns Green Wastewater Treatment Works – Check Calculations

Primary Settlement Tanks – 2 tanks each 4.2 metres x 4.2 metres with a total surface area (2 tanks) of 35.28 m². Assuming an average tank depth of 1.8 metres then a total tank volume (2 tanks) of 63.5 m³.

Based on a dry weather flow (DWF) of 291 m³/day and a full flow to treatment (FFT) of 6 x DWF including 5% for process returns gives 21.2 litres/sec or 76.38 m³/hour.

Surface loading of primary tanks – 2 tanks in service at FFT would be 2.165 m³/m²/hr and with just 1 tank in service this would increase to 4.32 m³/m²/hr. Our understanding is that the current process standards used by Southern Water are based on a maximum surface loading rate for primary tanks of 2.0 m³/m²/hr with 2 tanks in service and 4.0 m³/m²/hr with 1 tank in service. So, even with the 2 tanks in service the maximum surface loading rate would exceed the process standard by at least 8% and with only 1 tank in service by at least 8%.

Retention time in primary tanks – 2 tanks in service at FFT would be 0.83 hours and with just 1 tank in service this would be reduced to 0.41 hours. Our understanding is that the current process standards used by Southern Water are based on a minimum retention time for primary tanks of 1.5 hours. So even with 2 tanks in service the retention time is just 44.6% of the 1.5 hour minimum.

Biological Media Filters – 2 filters each 17.2 metres diameter with a 2.0 metre diameter central well gives a total surface area (2 filters) of 458.40 m². Assuming an average media depth of 1.6 metres then a total media volume (2 filters) of 733.44 m³.

At a population served of 1630 the daily BOD load would be 97.8 kg/day (1630 x 60g/head per day) and an Ammonia loading of 13.04 kg/day (1630 x 8g/head per day).

Biological loading of media filters (BOD) – 2 filters in service at FFT the BOD loading would be 0.13 kg/BOD/m³ and with just 1 filter in service this would increase to 0.26 kg/BOD/m³. Our understanding is that the current process standards used by Southern Water are based on a maximum loading of media filters of 0.15 kg/BOD/m³. So, with the 2 tanks in service the maximum biological loading rate would comply with the process standard but with only 1 tank in service the maximum biological loading rate would be exceeded by 73%.

Biological loading of media filters (Ammonia) – 2 filters in service at FFT the Ammonia loading would be 0.017 kg/Ammonia/m³ and with just 1 filter in service this would increase to 0.035 kg/Ammonia/m³. Our understanding is that the current process standards used by Southern Water are based on a maximum loading of media filters of 0.03 kg/Ammonia /m³. So, with the 2 tanks in service the maximum biological loading rate would comply with the process standard but with only 1 tank in service the maximum biological loading rate would be exceeded by 16%.

Based on a dry weather flow (DWF) of 291 m³/day and a full flow to treatment (FFT) of 6 x DWF including 5% for process returns gives 21.2 litres/sec or 76.38 m³/hour.

Surface loading of media filters – 2 filters in service at FFT would be 0.16 m³/m²/day and with just 1 filter in service this would increase to 0.33 m³/m²/day. Our understanding is that the

current process standards used by Southern Water are based on a maximum loading of media filters of 6.0 m³/m²/day. So, with both 2 media filter in service and just 1 media filter in service they are compliant with the process standard.

Humus (Final) Tanks – 2 tanks each 6.5 metres diameter with a total surface area (2 tanks) of 66.36 m². Assuming conical tanks with an average tank depth of 3.0 metres then a total tank volume (2 tanks) of 199.08 m³.

Based on a dry weather flow (DWF) of 291 m³/day and a full flow to treatment (FFT) of 6 x DWF including 5% for process returns gives 21.2 litres/sec or 76.38 m³/hour.

Upflow rate of humus tanks – 2 tanks in service at FFT would be 1.15 m³/m²/hr and with just 1 tank in service this would increase to 2.30 m³/m²/hr. Our understanding is that the current process standards used by Southern Water are based on a maximum upflow rate for humus tanks of 1.0 m³/m²/hr. So, even with the 2 tanks in service the maximum upflow rate would exceed the process standard by at least 15% and with only 1 tank in service by 130%.

Retention time in humus tanks – 2 tanks in service at FFT would be 2.60 hours and with just 1 tank in service this would be reduce to 1.30 hours. Our understanding is that the current process standards used by Southern Water are based on a minimum retention time for humus tanks of 2.0 hours. So, with 2 tanks in service the retention time is compliant with the standard but with just 1 tank in service is below the 2.0 hour minimum by 33%.
