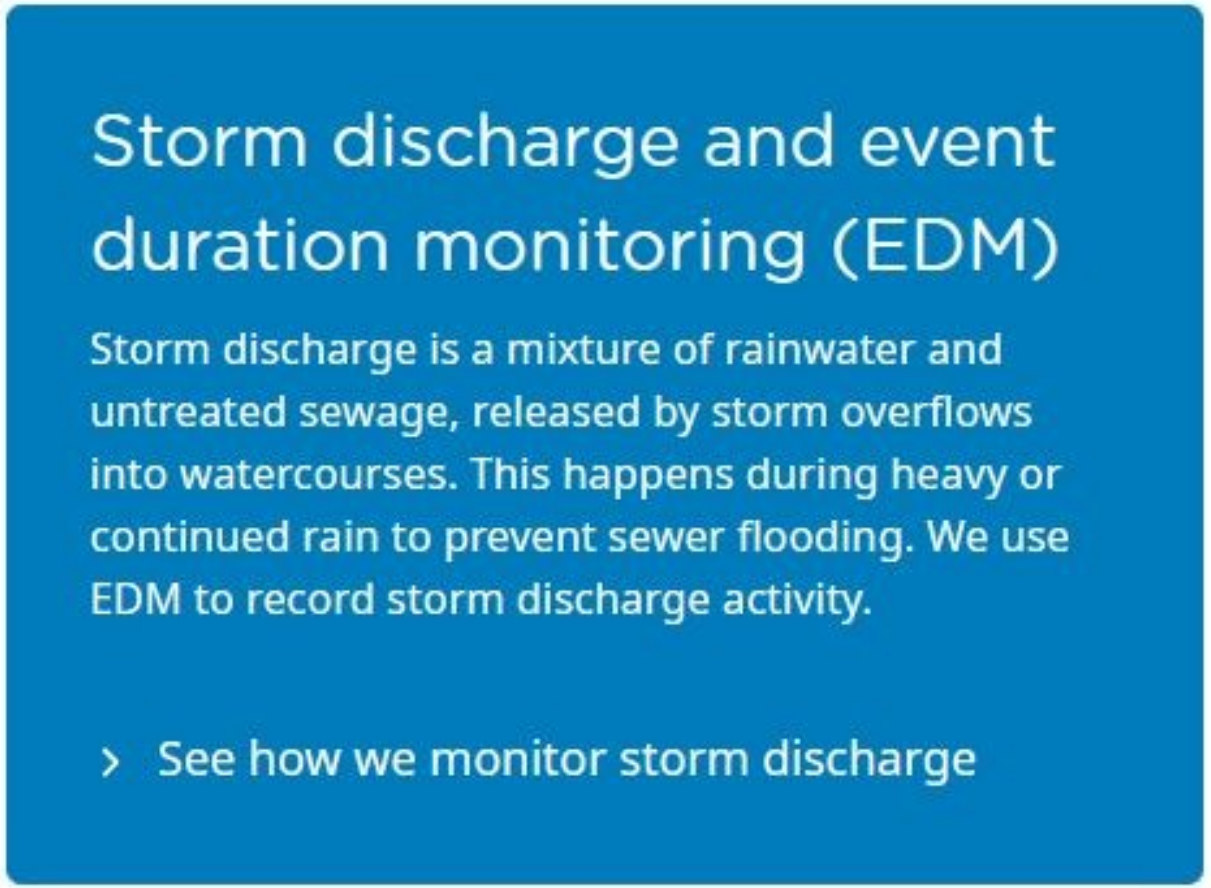
Storm Discharges into Foudry Brook from Mortimer Sewage Works

Discharge data from Thames Water under Environmental Information Requests

Rainfall data for Stratfield Mortimer from Dr Stephen Burt FRMetS



For Mortimer Sewage Works storm discharges occur most frequently between September and May with fewer (but some) in the summer

Two rows of the EDM spreadsheet for 2024

site_level	start_timestamp	end_timestamp	duration_minutes	
MORTIMER (STRATFIELD) STW	08/02/2024 10:30	21/03/2024 06:00	60210	
MORTIMER (STRATFIELD) STW	21/03/2024 08:00	22/03/2024 02:30	1110	

Note the first discharge started on 8th Feb and ended at 06:00 on 23rd Feb

But discharge started again exactly 2 hours later

There are often short gaps

Browning Mortimer?

Discharges at Mortimer Sewage works are becoming more frequent and occur for a substantial portion of the winter.

Storm discharges should pass through a screen (6 mm by 6 mm mesh) to remove large items, but the discharges do contain untreated sewage.

To some extent we are fortunate with our geography and we have not had raw sewage on our streets as has happened recently in other parts of West Berkshire

Photo 27th March 2024, 200m downstream of the discharge point

Environment Agency EDM Storm Overflow Report for Calendar Year 2023 for Thames Water

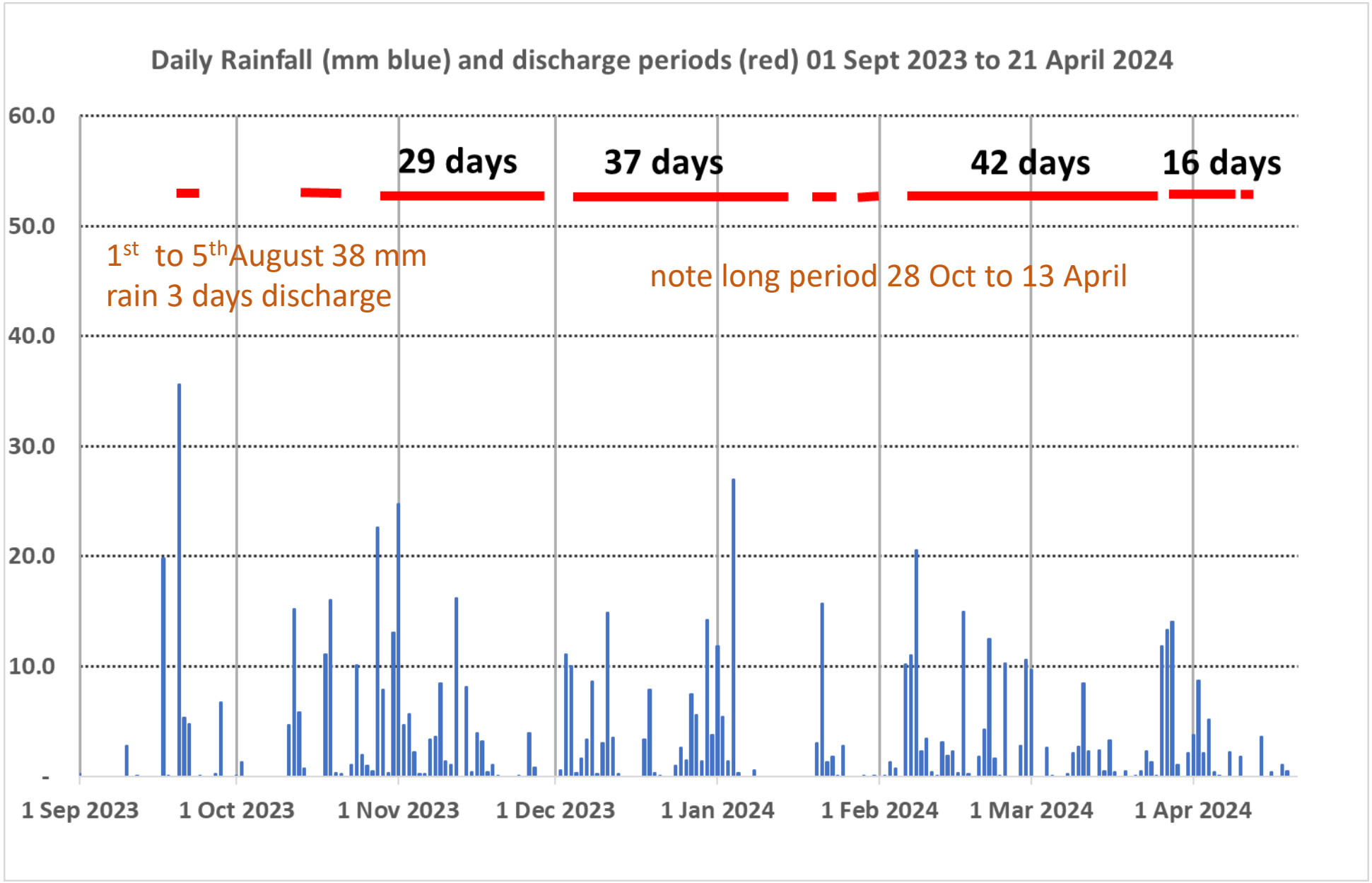
Rank by hours (700 sites)	Site	Received by	Hours	Spills
1	FAIRFORD STW	RIVER COLN	3391.00	162
2	MORTIMER (STRATFIELD MORTIMER) W	Foudry Brook	3304.25	150
3	STEWKLEY WASTEWATER TREATMENT	HARDWICK BROOK	3166.25	162
4	CLANFIELD WWTW	HALFACRE BROOK	3156.00	150
5	CIRENCESTER WWTW	SHORNCOTE DITCH	2870.75	165
6	BURGHFIELD WWTW	CLAY HILL BROOK	2861.00	132
26	SILCHESTER WWTW	SILCHESTER BROOK	2067.00	112
153	READING SEWAGE TREATMENT WORKS	FOUDRY BROOK	289.75	24

3304 hours is equivalent to 137.7 days

Environment Agency EDM Storm Overflow Report for Calendar Year 2022 for Thames Water

Rank by hours (700 sites)	Site	Received by	Hours	Spills
1	STEWKLEY WASTEWATER TREATME	HARDWICK BROOK	1931.44	107
2	MORTIMER (STRATFIELD MORTIMER)	Foudry Brook	1641.82	84
3	SOUTH LEIGH WWTW	Limb Brook	1482.69	74
4	WINGRAVE WASTEWATER TREATMEN	TRIBUTARY OF ROWSHAM BR(	1433.53	89
5	SILCHESTER WWTW	SICHESTER BROOK	1239.36	74
10	BURGHFIELD WWTW	Clay Hill Brook	1130.91	56
161	READING SEWAGE TREATMENT WOR	FOUDRY BROOK	81.55	10

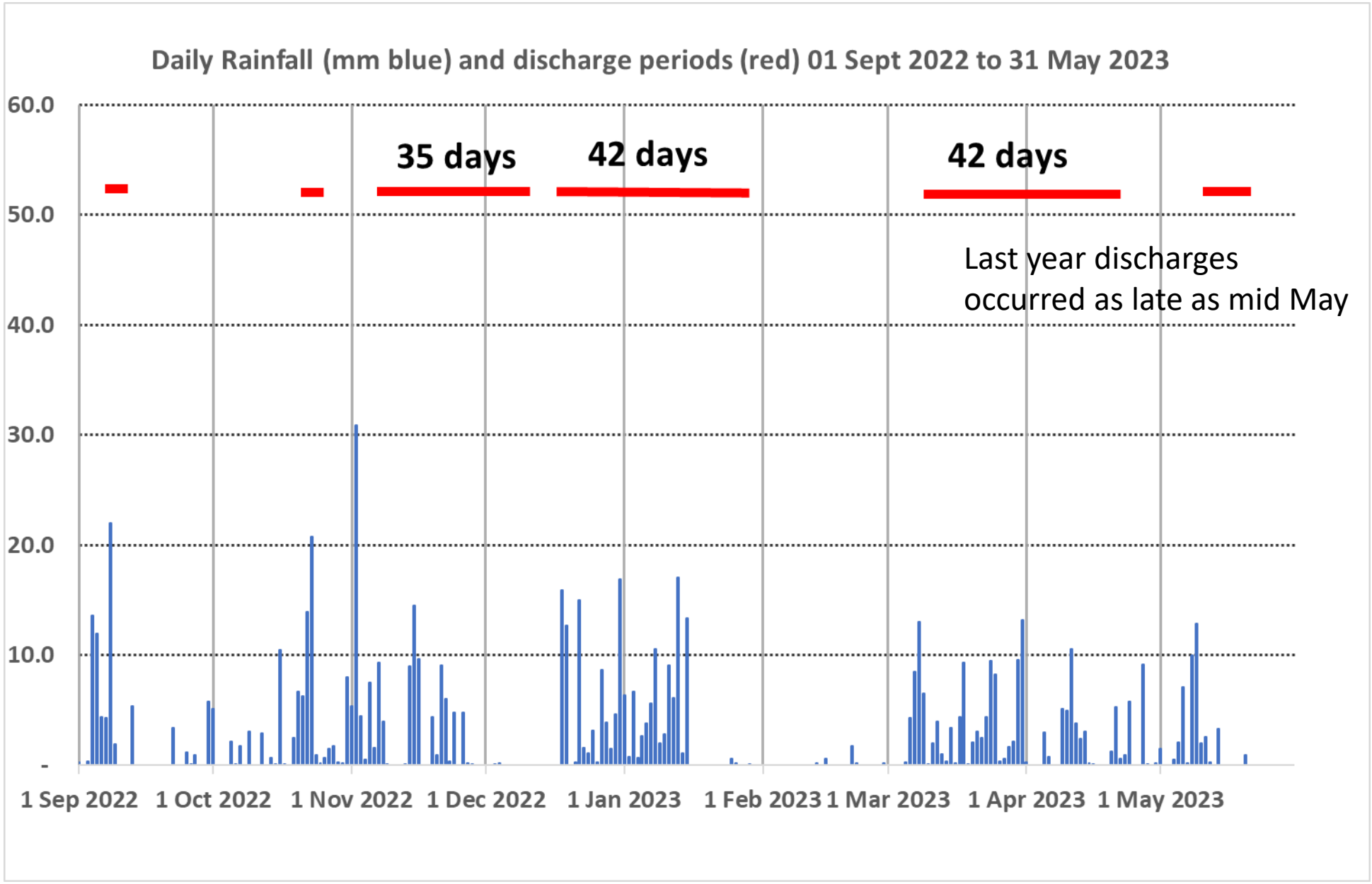
In both 2022 and 2023 Mortimer had the second longest periods of discharge in the whole Thames Water area


Daily Rainfall (mm blue) and discharge periods (red) 01 Sept 2023 to 21 April 2024
60.0
50.0
40.0
30.0
20.0
10.0
-
29 days
37 days
42 days
16 days
1st to 5thAugust 38 mm
rain 3 days discharge
note long period 28 Oct to 13 April
1 Sep 2023
1 Oct 2023
1 Nov 2023
1 Dec 2023
1 Jan 2024
1 Feb 2024
1 Mar 2024
1 Apr 2024

From 28th October 2023 to 13 April 2024

Discharge duration from the EDM totalled **200,505** minutes

That is equivalent to **139** days and is **83 %** of the time period.

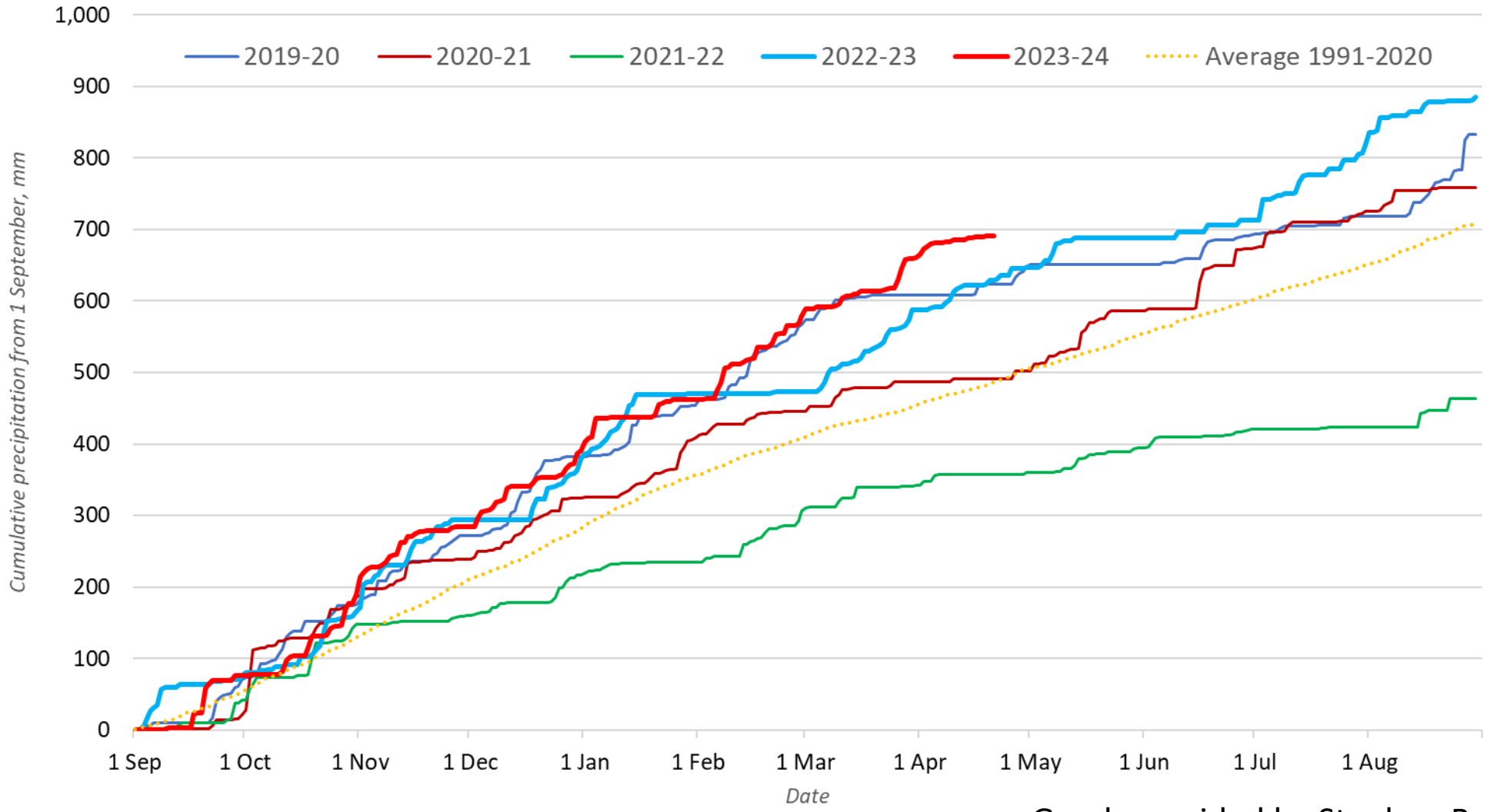

Daily Rainfall (mm blue) and discharge periods (red) 01 Sept 2022 to 31 May 2023
60.0
50.0
40.0
30.0
20.0
10.0
-
35 days
42 days
42 days
Last year discharges occurred as late as mid May
1 Sep 2022
1 Oct 2022
1 Nov 2022
1 Dec 2022
1 Jan 2023
1 Feb 2023
1 Mar 2023
1 Apr 2023
1 May 2023

For the period 1st September to 31st March each season

Season	Rain (mm)	Discharge (Days)
2019/20	608	139
2020/21	487	123
2021/22	341	29
2022/23	588	105
2023/24	661	119
Mean 1991 - 2020	452	

Low rainfall next slide

Cumulative daily rainfall totals, mm
Water year, commencing 1 September
Stratfield Mortimer Meteorological Observatory, Berkshire



Graph provided by Stephen Burt

The consent for the main sewage outlet permits an output rate of 35 litres per second or 3024 m^3 per day. This is known as Flow to Full Treatment (FFT).

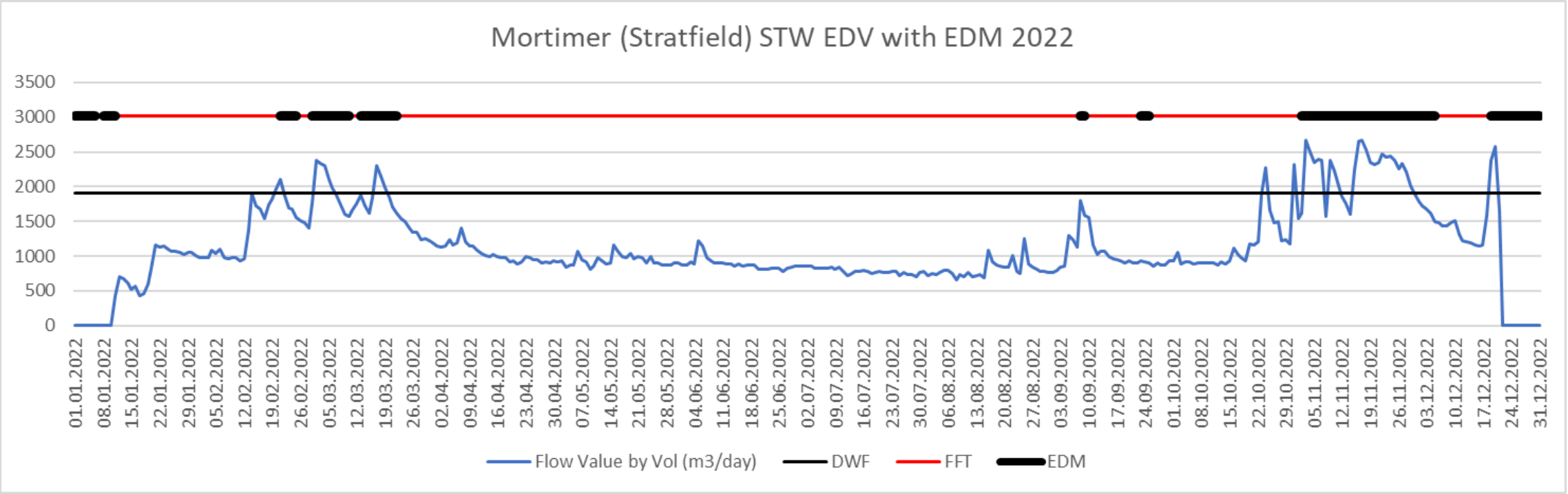
The Dry Weather Flow (DWF) is the consented daily flow without rainfall. It is 1904 m^3 per day.

Storm discharges should not occur until FFT of the main outlet has been reached.

Actual flow rates of the main outlet have been obtained by SMPC – both daily and every 15 minutes.

Volumes of the storm discharges are not measured.

Daily flows for 2022: graph provided by Geoff Tombs of Windrush Against Sewage Pollution (WASP)



Blue is Flow rate – pumps or measurement appears not to working at beginning of Jan – was zero from 22/12/21 to 10/01/22 much could have been discharged as overflow as this was a relatively dry period?

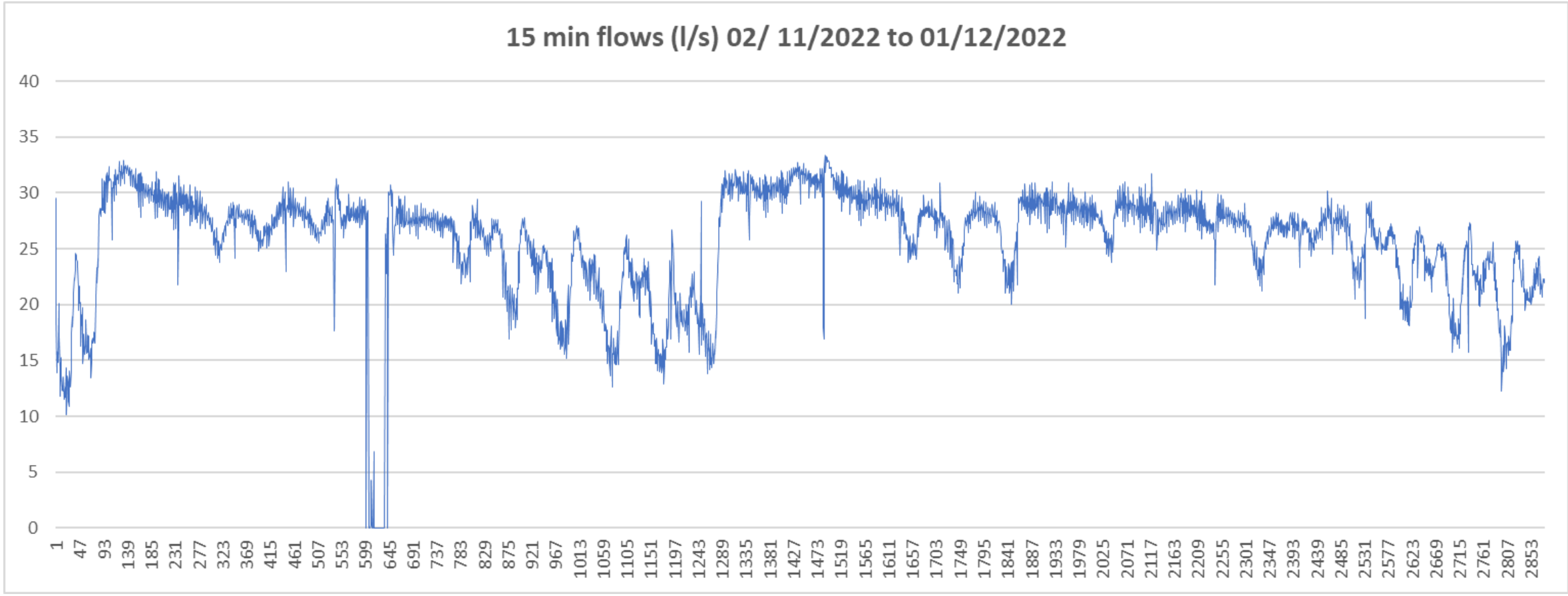
Black line is DWF and red line FFT

Black blobs on the red line are when storm discharges (EDM data) occurred

On a daily basis discharges should not have occurred as FFT not reached

Largest flow in November – see next slide

The 15 minute flows for November 2022 suggest that the works cannot reach the maximum consented capacity of 35 litres per second



Upgrade to Mortimer Sewage Works

Originally scheduled for completion Dec 2023, then summer 2024, latest December 2024 (by a spokesperson)

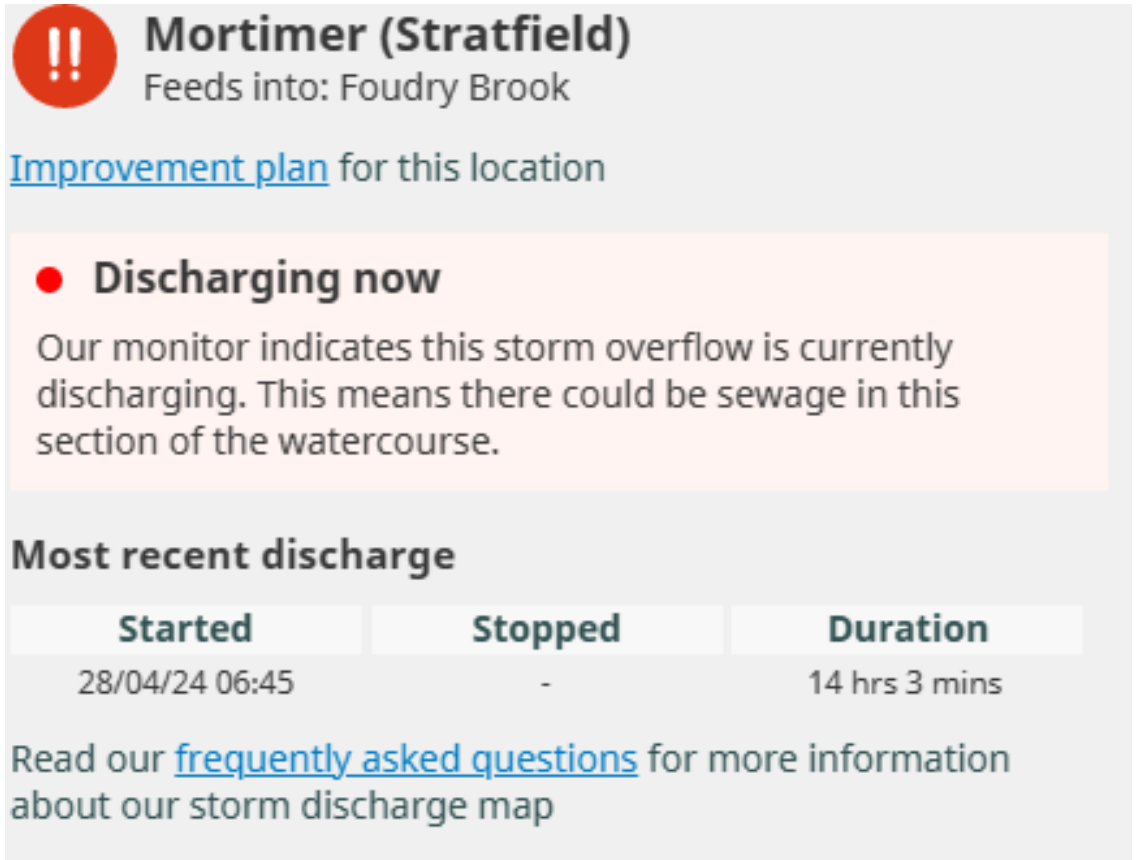
Thames Water Storm – overflow – action - plan gives some information on planned improvements
The improvements stated are:
Increase pass forward flow / flow to full treatment and a new screen.
The plan does state that this is an ecological high priority site

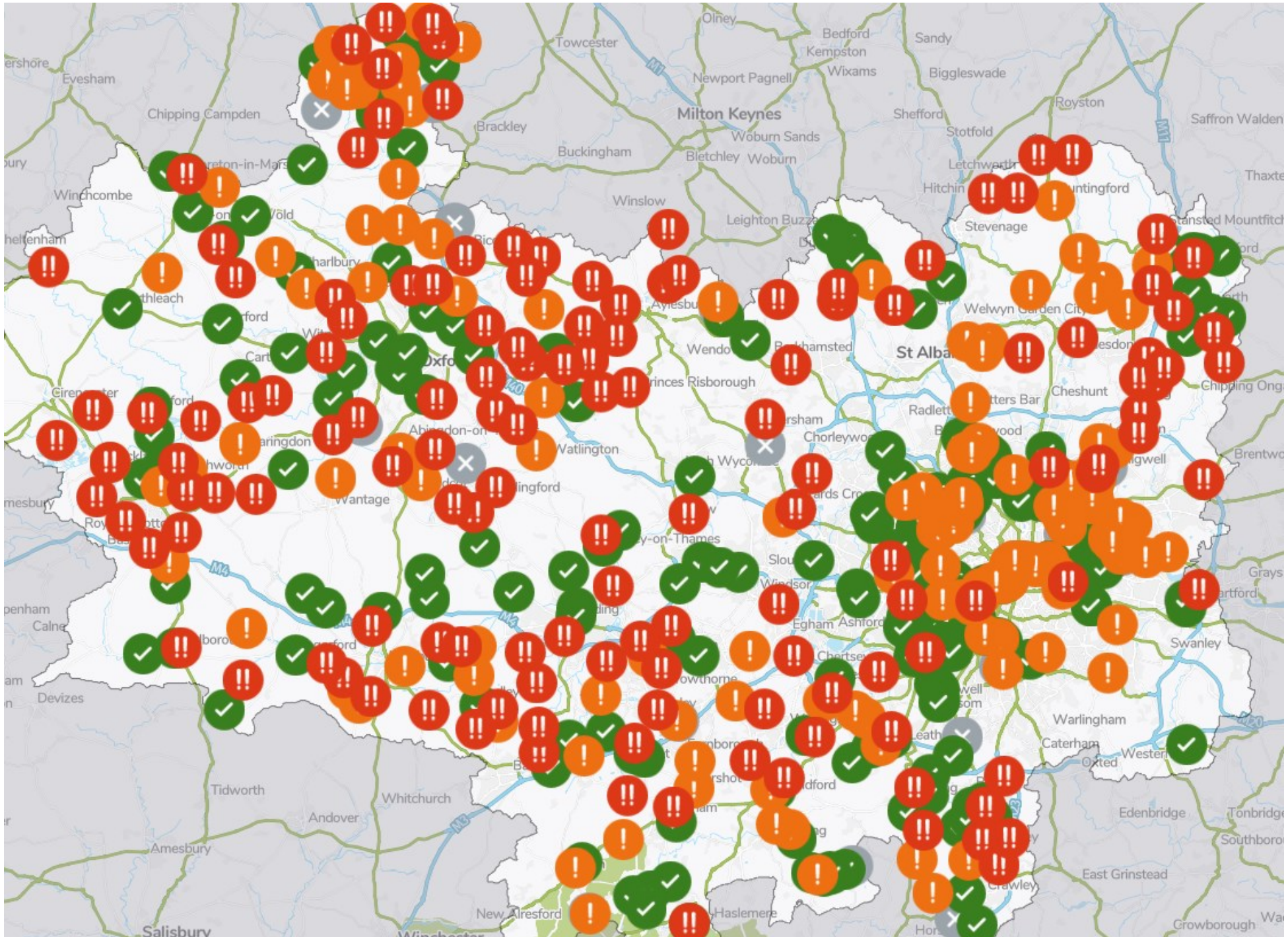
In September 2023 we requested more information and Thames Water replied*:*

The scheme will involve a variety of work, including new pumps being installed, modifications to some of the weir heights on storage tanks, replacement pipework between various parts of the process and replacement and modification to some of the telemetry equipment within the site.

We are currently awaiting replies to letters to Thames Water, The Rt Hon John Redwood MP, The Environment Agency and West Berkshire Council.

Sunday evening 28th April at 20:45 – also applies to next slide





Red - discharging now

Orange - has discharged in the last 48 hours