Infiltration Reduction Plan

Lancing

August 2025
Version 7.0

from Southern Water

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Document Control

Version	Date
D1	June 2014
D2	June 2014
V1	August 2014
V2	8 February 2016
V2.1	June 2016
V3	January 2020
V4	September 2021
V5	January 2024
V6	July 2024
V6.1	September 2024
V7.0	August 2025

Glossary

AMP – Asset Management Programme
CCTV - Closed-circuit television
EA - Environment Agency
GW – Ground Water
IRP - Infiltration Reduction Plans
l/s - litres per second
MH – Manhole
RPS - Regulatory Position Statement
SW – Southern Water
WaSC - Water and Sewerage Companies
WC – Water Closet
WPS - Wastewater Pumping Station
WTW - Wastewater Treatment Works

1. Background

This Infiltration Reduction Plan (IRP) for Lancing in the East Worthing wastewater catchment has been prepared in response to the Environment Agency's (EA) Regulatory Position Statement (RPS). Southern Water (SW) has been carrying out work for a number of years to survey and repair sources of infiltration in the catchment for East Worthing Wastewater Treatment Works (WTW) in Sussex.

The repairs carried out by SW improve the integrity of the sewerage system. SW has been working with the following organisations and is dependent on their support to achieve the objective of reducing non-sewage flows into the sewers.

- Environment Agency,
- West Sussex County Council
- Adur District Council
- Lancing Parish Council

Southern Water will continue to consult with representatives of these parties as part of the IRP development and implementation.

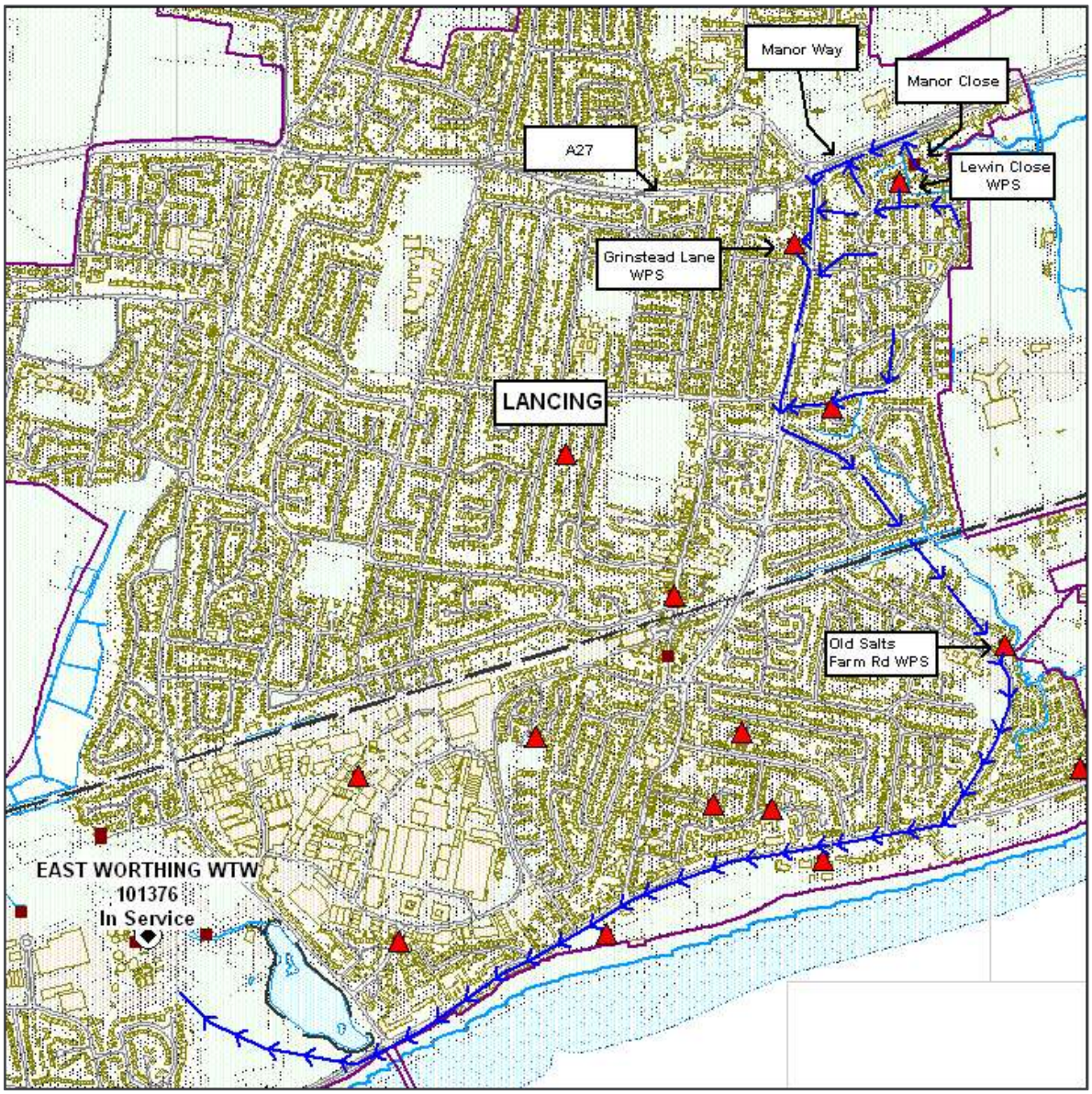


Figure 1.1 - Representation of the sewerage system for the Lancing area to East Worthing WTW

2. Groundwater Infiltration at Lancing

2.1. The significance of groundwater infiltration.

Lancing is an area in Southern Water's operating region where, during excessively wet winters, customers have been inconvenienced by the effects of groundwater infiltration into sewers. Such effects can include flooding and restricted toilet use (RTU).

Southern Water strives to maintain services for customers by a programme of investigation, repair, maintenance, and mitigation. Mitigation measures include the use of tankers and temporary network reinforcement. Such mitigation measures are not sustainable and are disruptive to communities, so since 2014 SW has invested in carrying out major improvements to the integrity of the sewers and manholes in the vicinity of Grinstead Lane, Lewin Close, Manor Close and Manor Way in the North Lancing area in order to minimise the occasions on which mitigation measures are required.

2.2. What would happen if Southern Water did not take action?

Despite the significant groundwater flow through Lancing during these conditions, incidents of sewer flooding have been relatively infrequent this is due to the mitigation provided during times of high groundwater. Table 2.1 below shows reported incidents of sewer flooding since 2006. The areas worst affected are: North Lancing, Grinstead Lane and Manor Close. Sewer flooding in West Lancing is less frequent.

For context, until the winter of 2024/25, 2012/13 was the wettest year on record and 2013/14 was the wettest winter on record. Comparing incidents in 2013/14 with 2023/24 shows that over time the number of incidents affecting our customers has reduced which demonstrates that the investment being made in terms of sewer sealing and mitigation is making a difference however the issue is not fully resolved, The total number of incidents is significantly lower than 2013 as seen in Table 2.1. The majority of events in 2021 were during summer storms and were not related to infiltration. The number incidents of flooding or restricted toilet use can be seen in Table 2.1.

Year	External Flooding (properties/ gardens)	External Flooding (Highways/Others)	Internal Flooding	Restricted Toilet Use	Total
2013	22	0	0	4	26
2014	5	9	0	7	21
2015	2	3	1	2	8
2016	7	4	0	0	11
2017	0	0	0	0	0
2018	0	0	0	0	0
2019	0	0	0	0	0
2020	4	2	0	0	6
2021	0	0	0	0	0
2023	3	0	0	0	3
2024	2	6	0	2	10
2025	0	0	0	0	0
Totals	**45**	**24**	**1**	**15**	**85**

Table 2.1 Reported incidents of sewer flooding

3. Investigation & repairs

3.1. Outline Plans to Investigate Sources of Infiltration

The Generic Plan describes Southern Water's Infiltration Reduction process. The specifics of the investigations and repairs at Lancing are captured in Section 3.2 below, and includes the following elements:

- Manhole Inspections and CCTV Surveys
- Flow Monitoring Surveys
- Manhole and Sewer Repairs
- Follow-Up Surveys and Repairs

3.2. Investigation and Repairs in the Lancing area

Groundwater infiltration into sewers has been a long-running issue in Lancing. SW has been making significant investments over many years to minimise infiltration and the need for interventions such as tankering or temporary network reinforcement.

SW recently completed a major programme of survey and repairs to the sewers in the Lancing catchment. However, at times of very high groundwater there are still significant challenges with the drainage system and there is more work to do. The investigations and repairs followed the process set out in the Generic Plan. The timing and status of each step is in Table 3.1 below.

Table 3.1 – Summary of Survey and Repairs in Lancing

Step.	Description	Approx Date	Status
1.	manhole lifting followed by CCTV Investigation	March 2013 and April 2014	Completed
3.	Determination of required repairs	March 2013 and Summer 2014	Completed
5.a.	Dry Weather Flow Survey	August -September 2013	Completed
4.a.	Repairs – Phase 1 (387m length of sewer)	April 2013 – May 2013	Complete
4.b.	Repairs – Phase 2 (316m length of sewer and 6 manholes)	November 2014 – February 2015	Complete
5.b.	Wet Weather Flow Survey	N/A	Not carried out
6.	Targeted follow-up survey	Spring 2016	Complete
7.	Further Targeted Repairs – Phase 3	Spring 2017	Complete

Step.	Description	Approx Date	Status
8.	Ongoing monitoring	Commenced December 2015	Ongoing.
9.	Installation of sewer level monitors at strategic points	2023	Completed
10.	Review of sewer level data to identify blockages and infiltration areas to target	From 2023	Ongoing activity
11.	Design and construction or permanent reinforcement	2024/25	Complete
12.	Electro scan surveys of public sewers upstream of Grinstead Lane WPS	2025/26	Planned
11.	Implement Pathfinder approach to address infiltration in private sewers	Date TBC	Planned

Phase 1 of the major repairs was completed in May 2013. This work consisted of 387m of joint testing and sealing in the Manor Close and Manor Way area. Phase 2 of the major repairs, which was completed in February 2015. This work extended the investigation into the housing development around Hayley Road/Lisher Road, resulting in 100m of sewer lining, 6 sealed manholes and 8 patch repairs. In phase 3, SW completed a further 160m of sewer lining in Curving /Woodward Road and 1 patch repair this work was completed in Spring 2016. In total 466m of sewer was sealed from infiltration.

At Grinstead Lane WPS both pumps were replaced after the sewer flooding in 2012/13.

In addition to physical investigations on site, SW has instigated a long-term programme of monitoring flows in critical catchments, including the Lancing catchment.

Additionally, flow monitoring was carried out in dry weather conditions (7th August to 18th September 2013) to establish baseline flows. Comparison of ‘wet and ‘dry’ flow monitoring data can, on occasions, help identify areas of infiltration if it has not been found by other survey methods. In the case of Lancing, this was not necessary as infiltration was located by CCTV survey.

Generally, Southern Water's investment during the past ten years to survey and seal the sewer system in the many locations across its region which are prone to groundwater infiltration of the sewers is paying dividends. Nevertheless, there are never any guarantees as the unpredictable nature of groundwater is that sealing one part of the sewer network can increase the ground water table locally because it is no longer being drained via the sewers. The result is that it finds another way into the sewers, usually via the next highest joint which previously it may not have reached and therefore could not be identified during a sewer survey. It is a long-term battle as points of ingress will continue to appear in different places, but if the ingress is significant, Southern Water’s intention is to conduct further survey work.

The locations of repair work undertaken to date can be seen in Appendix A.

4. Mitigation measures

4.1. Circumstances that lead to mitigation

Since 2013, SW has made significant investment to reduce infiltration and to protect specific properties at risk of flooding, with the objective of reducing the frequency of interruptions to wastewater service and to minimise the risk of flooding. The objective is to reduce the frequency of discharges to watercourses and the disruption caused by the need to tanker flows from the system to larger wastewater treatment centres.

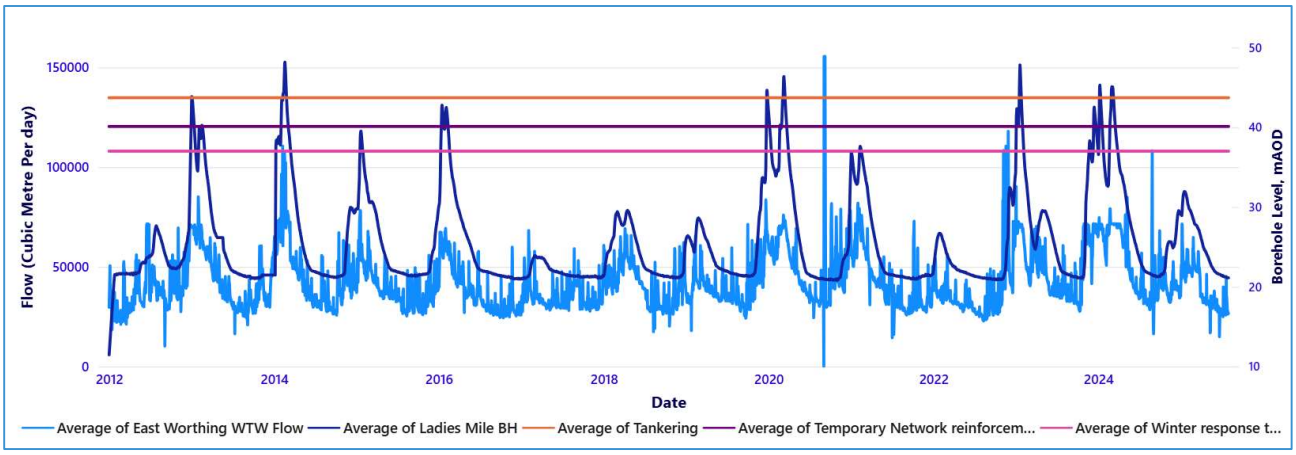
Once groundwater levels have risen to a point where the sewerage system is below the water table groundwater will enter the system through leaking joints in both the public and private pipes and manholes. To ensure the sewerage system continues to function this excess flow must be removed from the network. Initially this is done by deploying tankers to the villages to extract flow and to tanker this, primarily groundwater, to larger WTW sites with capacity to treat the flow. If levels and flows continue to rise there comes a point where increased tankering is not viable due to available locations to extract from and the logistics relating to the number of tanker movements and the disruption this causes. Once this point is reached, we will assess the option to temporarily reinforce the network using groundwater treatment and temporary pipework to re-direct the flow back into the network at a point which has capacity for the flow. This temporary reinforcement is to lay a pipe above ground to take flow from Grinstead Lane pumping station and discharge this further downstream where the pipe capacity increases. This takes the pressure off the local gravity system and reduces the risk of flooding and restricted toilet use.

The locations for tankers and temporary network reinforcement are given in Appendix B.

Based on experience in 2013 and 2014, temporary network reinforcement could be expected to be required when the groundwater level at Ladies Mile BH exceeds 40.1m AOD. However, conditions vary from year to year and to allow time for investigation and preparation, SW is using a ‘trigger level’ of 37.0m in the winter planning report. Whilst SW would not expect to start physical measures such as tankers or temporary network reinforcement at that level, the purpose of the 'trigger level' is to trigger actions to obtain more information and prepare for an appropriate response.

Figure 4.1 shows the groundwater levels over the last twelve years at Ladies Mile BH, Patcham. Following the Phase 1 repairs, temporary network reinforcement was not required in 2014 until the groundwater level measured at Ladies Mile BH reached 43.7m AOD, compared to 40.1m AOD in February 2013. This supports the view that the Phase 1 repairs have been successful in reducing infiltration. However, whilst the groundwater levels at nearby boreholes are useful indicators, it is levels in the sewers that determine the response required by Southern Water. However, the high and prolonged groundwater event of the 2023/24 did cause the system to become overwhelmed with groundwater and the temporary reinforcement of laying an above ground pipeline from Grinstead Lane WPS was again required. As it is known that this intervention is effective in mitigating the groundwater impact it was decided that we would make this a permanent feature of the system. Construction work was undertaken during 2024 to extend the Grinstead Lane rising main to a point downstream where excess pumped flow could be accommodated. This intervention will reduce the impact of groundwater upstream of Grinstead Lane and we anticipate the impact of wet winters on system performance will reduce as a result. Figure 4.1. shows that the groundwater level in 2024/25 was too low to trigger any mitigation so the effectiveness of the permanent reinforcement cannot be determined.

Figure 4.1 - Groundwater levels from 2012 to 2025



4.2. Steps to prevent discharges to the environment.

The Generic Plan details the typical activities that Southern Water undertakes to minimise the requirement for discharges to watercourses. Since 2014, SW has undertaken extensive surveys and repaired sewers and manholes where infiltration had been found (the extent of the work is shown in Appendix A). This is built on the repairs that had been carried out in previous years (shown in Appendix A). The availability and proximity of a suitable receiving watercourse with sufficient flow.

5. Steps to minimise temporary mitigation

5.1. 3rd Party Communications about tankering

Since the start of the Infiltration Reduction Programme in 2013, Southern Water has been active in communicating with stakeholders and customers about planned and completed work to improve the integrity of the public sewerage system. Stakeholders have been kept informed of progress on survey and sealing work via emails and or face-to-face meetings. However, we recognise there is more to do in this area to keep everyone informed of the mitigation measures that may be required and informing when we have deployed the measures.

SW will attend and convene meetings with local groups to ensure progress against the plan and the on-site mitigation activity is clearly communicated. Meetings that have been held over the last 10 years with local council and EA representatives have been influential in helping to shape the IRP. The latest version of the IRP approved by the EA, will be published on SW's website.

From time to time, SW updates stakeholders about completed and planned work, as part of stakeholder meetings with the local councils.
The Generic Plan outlines a detailed rationale behind the use of tankers and temporary network reinforcement and summarises the benefits and disadvantages. Some specific issues in relation to the Lancing catchment are captured below.

6. Options To Reduce Infiltration

6.1. Sewer Rehabilitation Programme

SW acknowledges that infiltration reduction is on-going process. Since 2013, SW has undertaken surveys and repairs to the public sewers in Lancing. In recent activity in systems prone to high groundwater in Hampshire and Sussex we have undertaken more investigation into the contribution of flows from the private sewer network. We have established through the Pathfinder projects that groundwater is just as likely to be entering the system through leaking private pipes and manholes as the public system. This is probably not surprising as the systems would have originally been laid at the same time using the same techniques, the only difference is that as a rule the private sewers are likely to be at a shallower depth and groundwater has to rise slightly higher for infiltration to start.

Appendix A contains details of all sewer inspection and remedial work undertaken to date.

Southern Water are planning to survey the system upstream of Grinstead Lane WPS by electro scan to identify any leaking joints in the public sewers. Any leaking joints identified will be sealed when conditions allow, this will be post April 2025.

Table 6.1 below summarises the work undertaken in the system since 2014.

Action	Km of sewer
Length Surveyed	2.53
Length with no work required	1.49
Length Sealed	1.04
Length to be sealed	0
Manholes sealed	6
Manholes to be sealed	0

Table 6.2. below details the work undertaken in the system since 2014.

Reporting Year	Surveyed (km)	Sewers Sealed (km)	Manholes Sealed
2014	1.345	0.434	0
2015	0.098	0.197	6
2016	0.799	0.099	0
2017	0.292	0.035	0
2018	0	0.226	0
2019	0		0
2020	0		0
2021	0	0.045	0
2022	0		0
2023	0		0
2024	0		0
Post 2024	0	0	0
2025	0	0	0
Total	2.534	1.036	6

6.2. Property Level Protection

Non-return valves (NRVs) have always been part of Southern Water's armoury for preventing infiltration affecting vulnerable properties. NRVs are only effective if infiltration is under control on both the lateral and the main sewer. Whilst there are no plans currently to install non-return valves in the Lancing catchment, the potential benefit of further property level protection will be investigated, if it is considered appropriate, when the planned repairs have been completed.

6.3. Local Flow Control

As noted in Section 4.1, in the winter 2013/14 SW used tankering at four locations. Tankering has been required on selected dates during all winters where groundwater levels have impacted levels of service. Full details are given in Appendix B.

6.4. Pumping Stations

In order to minimise infiltration, SW continues to ensure that design discharges are maintained at pumping stations. This will help to ensure that the design discharge continues to be reliably delivered.

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6.5. Monitoring

The Lancing catchment is a location, where groundwater levels have been monitored via electronic data since January 2015. This monitoring helps inform SW's response, in terms of when tankering is required. The Generic Plan has more detail on the overall monitoring strategy.

The graph in Figure 4.1, is an example of those used for predicting the earliest, average, and latest dates for when the trigger levels are forecast to be breached. This graph shows groundwater levels and an indication of flows.

In addition to the groundwater flooding forecasts explained above, SW is also looking at longer-term trends to monitor the effectiveness of the completed rehabilitation work.

Figures 6.1 and 6.2 quantitatively illustrate how flow varies with groundwater levels. It is reasonable that as groundwater levels increase, the rate of infiltration increases. Data points prior to the major repairs are plotted in blue: (Dec 2009 – Aug 2013). The data points for the period after major repairs (Jan 2014 – Jun 2021) are plotted in orange. Linear regression lines are also included for each set of data. These give an indication of the difference between average conditions for 'before' and 'after' repairs.

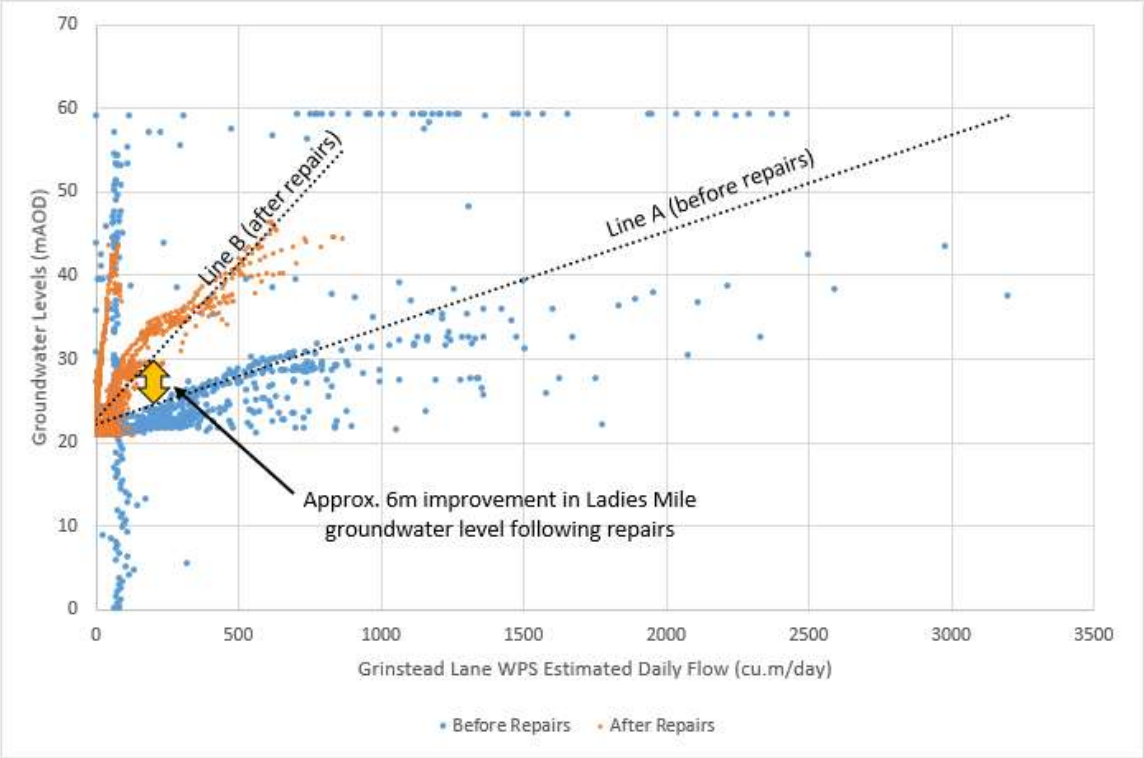

Figure 6.1 – Long Term Monitoring (Dec 2009 to Feb 2021)

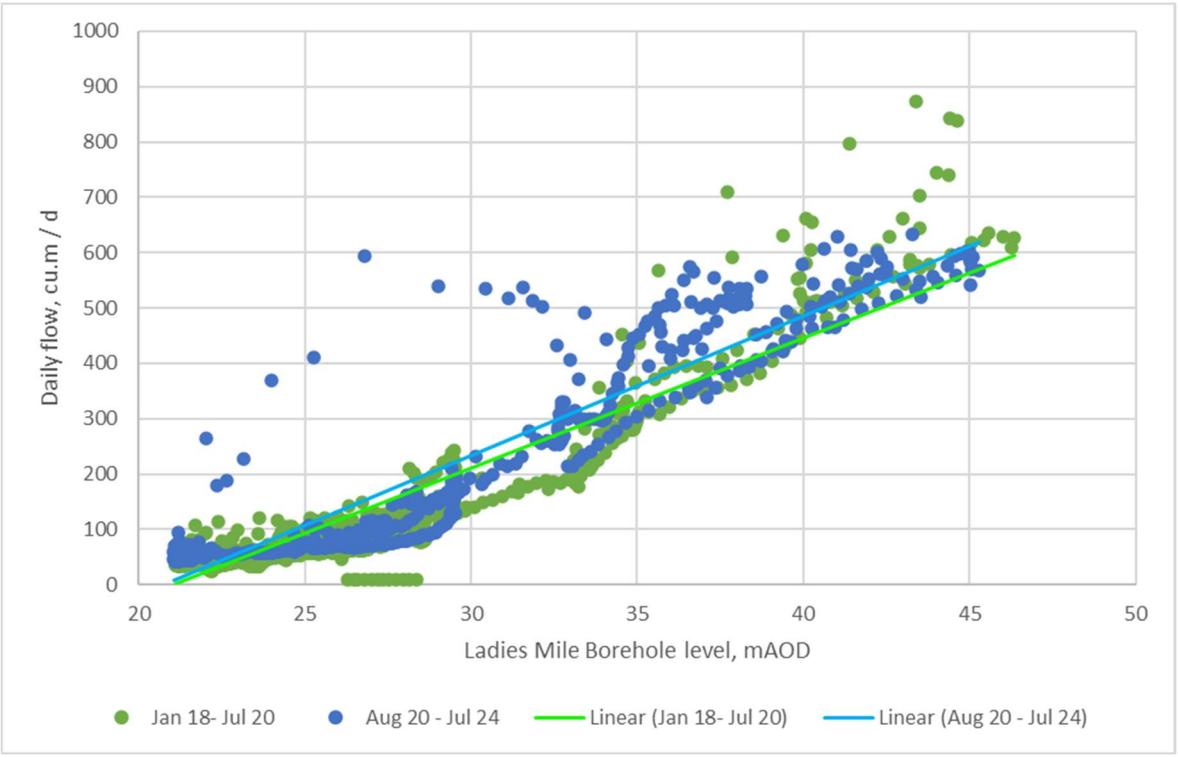

Figure 6.2 – Long Term Monitoring comparison of before and after repairs (Jan 2018 to July 2024)

The difference in groundwater level between the lines is approximately 6m. In other words, for a given groundwater level, the corresponding flow is lower after the repairs. This confirms that the repair work has been effective.

The analysis outlined above is supported by historic tankering and temporary network reinforcement dates. During the winter of 2013/14, temporary network reinforcement only had to commence at a groundwater level of 40 mAOD. In the winters since sewer lining temporary network reinforcement started when the groundwater level reached 43 mAOD.

7. Action Plans

A significant amount has been achieved in the Lancing catchment in the last 8 years. Some actions are ongoing which reflects the continuous improvement process for dealing with infiltration due to groundwater. To make it easy to track progress, the following tables set out the actions to reduce infiltration and also to mitigate the effects of it, if the infiltration cannot be controlled at economic cost. Tables 7.1 and 7.2 cover the actions by SW and by other parties, respectively, to reduce infiltration. Tables 7.3 and 7.4 cover mitigation of the effects of flooding (Communication and other activities).

SW is committed to continuing to pursue infiltration to reduce the frequency of tankering. This IRP describes the work that has been done by SW to improve the situation. In addition, it also describes what is being done to monitor flows, the 'winter preparation' work to be carried out to ensure assets are operating correctly, and the work to be developed with other agencies to improve an integrated plan to address flooding.

Colour coding of actions in tables:

- Green – completed.
- Orange – imminent action required.
- Red – overdue
- White – on-going actions with no specific end dates.

Table 7.1. Southern Water Current Activities to Reduce Groundwater Infiltration

Ref.	Item	Actions	Timescale and Status	Outcomes
1.1	Develop an approach for reduction of infiltration and maintenance of reduced levels of infiltration.	Refer to Section 1 above and the report in Appendix 1.	Summer 2013, Complete	The steps are being followed to deliver results.
1.2	'Dry weather' flow surveys (to measure background levels of infiltration during low groundwater periods)	Identify suitable measurement points, carry out survey over four-week period in Summer, match rainfall records with flow data.	July/ August 2013 - Complete	Groundwater infiltration is greater than would be expected for summer conditions.
1.3	'Wet weather' flow surveys (to identify remaining areas of infiltration following initial sewer rehabilitation/repair).	Identify suitable measurement points, carry out survey over four-week period, match rainfall records with flow data.	May/ June 2014 – Survey complete Analysis - complete	Wet Weather and Dry Weather flow monitoring data used in hydraulic model completed in December 2014.
1.4	CCTV etc survey of sewers	Identify Strategic Manholes, survey manholes to identify clear flow and infiltration. Carry out CCTV survey where clear flow was identified.	Lancing Summer 2014 - Complete	Identify major sources of infiltration to determine scope of rehabilitation work.

Ref.	Item	Actions	Timescale and Status	Outcomes
1.5	Carry out sewer rehabilitation work	Use various techniques to seal infiltration points in manholes and sewers	Summer/Autumn 2014 – Complete Autumn 2018 - Complete Autumn 2019 - Complete	Structural integrity of sewers restored.
1.6	Further surveys (CCTV or alternative techniques), if required, where 'wet weather' flow surveys show areas of high infiltration remaining	Further surveys in areas where high infiltration flows remain.	2015 – Completed	Determine scope and carry out further rehabilitation if identified as required from the survey results.
1.7	Further sewer rehabilitation work, if required, in areas where surveys carried out.	As above, use various techniques to seal infiltration points in manholes and sewers	Summer/Autumn 2015 - Completed	Reduced infiltration, leading to reduced requirement for tankers.
1.8	Maintain IRP as a live document	Review text of the IRP and update if appropriate to describe work carried out and/or developments	Annually	Reviewed/Updated IRP. Last issued for review 20121.
1.8a	Maintain IRP as a live document	Review Tables 6.1 to 6.5 and as appropriate amend to show progress on individual activities.	Quarterly	Up to date tables of Actions
1.10	Install Property Level Protection to Vulnerable properties.	Survey and install NRVs at vulnerable properties.	Autumn 2014 - Complete	The aim is that protection to vulnerable properties restricts tankering to those properties only as opposed to more significant sewer pumping.

Ref.	Item	Actions	Timescale and Status	Outcomes
1.11	Groundwater treatment Sites: improve effluent quality.	Investigate potential for improved screening and basic treatment at points of discharge into watercourse.	SW, Summer/Autumn 2014	Improved arrangements for discharges when required.
1.12	Groundwater treatment Sites: minimise flow	Add level control to pumps to reduce durations for pumping	SW, 2014, Complete	Establish whether seasonal discharge (s) will be necessary to maintain use of sewerage services for customers during periods of very high groundwater levels.
1.12	Standards for emergency discharges	SW to discuss with EA about best practice set up for groundwater treatment arrangements.	SW, 2014, included in this IRP	Agree with EA acceptable treatment for discharges and acceptable flow rates.
1.13	Flow, location, screening arrangements for emergency discharges	Determine potential flow rates and screening arrangements and most appropriate locations,	SW, included in this IRP	Agree with EA, WSCC, Adur DC and local Parish Councils acceptable arrangements for future emergency discharges.
1.14	Action Plans	Develop SW action plans documenting set up of pumps, tankers, etc. for emergency situations.	SW, Summer 2014- Complete	Action Plan available for planning sessions with other authorities in preparation for repeat flooding events. Engagement with the local community about the potential arrangements for dealing with excess flows into sewers to mitigate disruption to customers.
1.15	Electroscan surveys of the public sewerage system upstream of Grinstead Lane WPS	SW to gain approval to undertake necessary work	Post 2024	Planned

Ref.	Item	Actions	Timescale and Status	Outcomes
1.16	Repair of defects found in electroscan surveys	Review surveys and determine lengths to seal	Post April 2025	If required
1.17	Installation of permanent reinforcement.	Extend rising main from Grinstead Lane WPS by 300m to discharge to system where there is headroom	2024/25	Completed
1.18	Review effectiveness of any sealing and reinforcement work	Analyse monitoring data and groundwater data to determine benefit of investment	From spring 2025	Ongoing
1.21	Review further options for property protection and alternative tanker points	Consider further improvements	From spring 2025	Planned

Table 7.2. Multi-Agency Activities to Reduce Groundwater Infiltration

Ref.	Item	Actions	Owner, Timescale and Status	Outcomes
2.1	Strategy for infiltration via private drains	Southern Water to propose a strategy for dealing with infiltration via private drains*	SW supported by EA and local Parish Councils, Summer/ Autumn 2014. Completed 2014.	Southern Water objective is to improve awareness of the significance of infiltration into private drains and the importance for customers to ensure infiltration is repaired when it is discovered.
2.1a	Long-term Monitoring	SW will monitor sewer flow to identify significant increases in inflows.	Ongoing	Early identification of areas where infiltration has increased
2.2a	Investigate highway 'misconnections'	Where non-sewage flow is identified, check highway drainage relative to sewers to ensure road drainage is not a source of flow into the SW sewers	WSCC (for highways) and Adur District Council (for domestic connections) to investigate and pursue as required.	Reduced flow of surface water (if connections are found).
2.2b	Investigate groundwater infiltration on domestic drains	Groundwater Flooding Strategy	WSCC with input by other agencies as appropriate	Reduced flow of surface water (if connections are found).
2.3	Consider effects of proposed new developments on infiltration.	Respond to planning applications as required	District Council, Ongoing.	Developments in areas which would be detrimental to sewer flooding, to have conditions recommended by SW and applied, as appropriate, by the City and District Councils.

*Note: Southern Water does not have powers to require residents to repair private drains. Hence the support of the other agencies is required. It is acknowledged that customers may not be aware of infiltration in their private drains, so SW will consider ways of obtaining information to

demonstrate the presence of infiltration. District Councils would only be able to instigate action under Section 59 of the Building Act where proof/evidence is provided of the defect.

Table 7.3. Publicity / Communication Activities to Reduce / Mitigate the Effects of Groundwater Infiltration.

Ref.	Item	Actions	Owner, Timescale and Status	Outcomes
3.1	Public meetings about reducing groundwater infiltration into sewerage system	Attend public meetings with other agencies as appropriate.	SW, as required	Inform stakeholders of progress and planned activities and receive feedback.
3.2	Letters from SW to stakeholders about reducing groundwater infiltration into the sewerage system	Send letters at regular intervals to communicate progress and planned activities	SW, as required	Inform stakeholders of progress and planned activities
3.3	Multi-Agency Group meetings	Discuss and agree actions to reduce requirements for tankering and emergency discharges to watercourses.	All Parties, Discussed and actions agreed in 2013 and 2014. To be discussed in future as required.	Improved understanding and appreciation of issues. Agreement to actions to help reduce the need for tankering and emergency discharges to watercourses

** SW can provide base information to councils to include in articles publicising the role that everyone can play in minimising non-sewage flows into sewers, and the importance of doing so to reduce the incidence of restricted toilet use during periods of high groundwater.

Table 7.4. Activities to Mitigate the Effects of Groundwater Infiltration/ Other Flood Protection Mechanisms

Ref.	Item	Actions	Owner, Timescale and Status	Outcomes
4.1	Early Warning system	Joint continuous monitoring of groundwater levels and sewer levels/flows.	SW, EA, 2014. Ongoing. Commenced Jan 2015. Re-commenced annually	Develop trigger levels by comparing historic customer complaints and tankering with BH levels (or other reference). Note: due to the success of the rehabilitation work, the trigger level has been raised from 40m to 43m at Grinstead Lane WPS.
4.2	Tankering arrangements	Investigate options for improving location of tankers and temporary network reinforcement units for future events. e.g. by use of longer hoses/ pumping	SW, Spring 2014, Complete	Potentially less disruption to residents when tankering / groundwater treatment is essential.
4.5	Maintenance of watercourses	Riparian owners to carry out their responsibilities to maintain adequate flow through watercourses by clearing vegetation, desilting, etc	Riparian owners with input from District and Parish Councils – ongoing responsibility	Maximise the flow along watercourses to minimise surface flooding, which results in inundation of manholes to the sewerage system.
4.6	Review of utilisation of a control structure	Investigate the possible use of a fixed control structure to relieve hydraulic overloading of sewers.	SW	No current plans to progress this option.

Appendix

A Survey Findings and Completed and Planned Rehabilitation

B Mitigation Measures