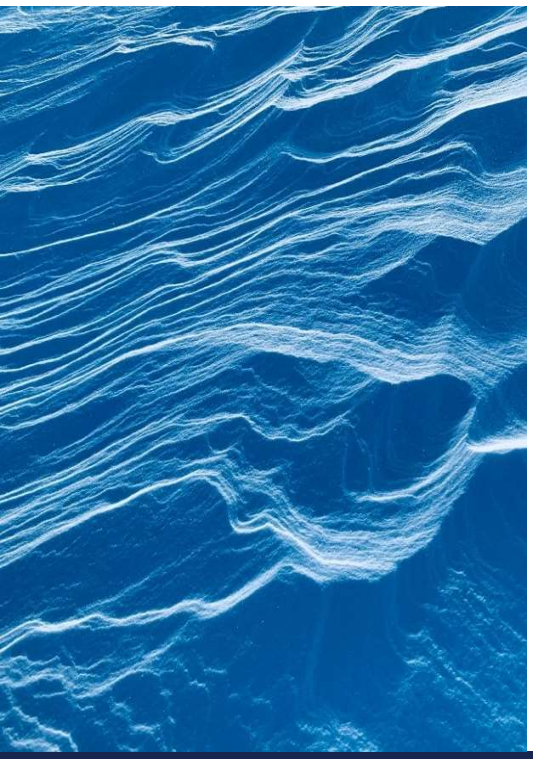

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Flood Risk Assessment and Surface Water Drainage Strategy
AEG5524_NW3_Hampstead_07

Site Address: Flat 1
18 Platts Lane
Hampstead
NW3 7NS

UK Experts in Flood Modelling, Flood Risk Assessments, and Surface Water Drainage Strategies

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Document Issue Record

Project: Flood Risk Assessment and Surface Water Drainage Strategy

Prepared for: Toby Vanhegan

Reference: AEG5524_NW3_Hampstead_07

Site Location: Flat 1, 18 Platts Lane, Hampstead, NW3 7NS

Issue	Date	Author	Check	Auth.	Comments
5	11/12/2024	Jack Allen	OM	OH	Fifth Issue

Please Note:

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Summary

Development Description	Existing	Proposed
Development Type	Residential	Single storey basement excavation with swimming pool and alterations to the front/rear/side garden.
EA Vulnerability Classification	More Vulnerable	No Change
Ground Floor Level	Based on a Topographical Survey of the site ground elevations range from 90.95mAOD and 92.11mAOD.	No Change
Level of Sleeping Accommodation	Ground level	Basement level and Ground Level
Impermeable Surface Area	250m^2	300m^2
Surface Water Drainage	N/A[1]	See Section 6 for the Surface Water Drainage Strategy.
Site Size	Approximately 400m^2	No change
Risk to Development	**Summary**	**Comment**
EA Flood Zone	Flood Zone 1	
Flood Source	Groundwater	Considered to be low risk, however, as there is a basement proposed, precautionary mitigation measures are proposed.
SFRA Available	Strategic Flood Risk Assessment Level 1 (Camden Council, 2014)	
Management Measures	**Summary**	**Comment**
Ground floor level above extreme flood levels	Yes	The site is at a low risk from all analysed sources
Safe Access/Egress Route	Yes	As per the existing scenario on Platt's Lane.

Flood Resilient Design	Yes	Low risk, however, as there is a basement proposed, precautionary mitigation measures are proposed.
Site Drainage Plan	Yes	See Section 6 for the Surface Water Drainage Strategy.
Flood Warning and Evacuation Plan	N/A	Recommended that occupier monitor Met Office Weather Warnings for extreme weather events.
Offsite Impacts	**Summary**	**Comment**
Displacement of floodwater	No	Site is at a low risk of flooding from all analysed sources. However, a Basement Impact Assessment may be required prior to construction.
Increase in surface run-off generation	No	The Surface Water Drainage Strategy in Section 6 proposes a betterment compared to existing runoff rates.
Impact on hydraulic performance of channels	No	There are no watercourses in the site's vicinity.

[1] not required for this assessment

[2] data not available.

1. Introduction

1.1. Aegaea were commissioned by Toby Vanhegan to undertake a Flood Risk Assessment (FRA) and Surface Water Drainage Strategy (SWDS) to facilitate a planning application for the proposed development. This FRA and SWDS has been prepared in accordance with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance.

1.2. This FRA and SWDS is intended to support a full planning application and as such the level of detail included is commensurate and subject to the nature of the proposals.

Site Overview

1.3. The site of the proposed development is Flat 1, 18 Platts Lane, Hampstead, NW3 7NS (Figure 1).

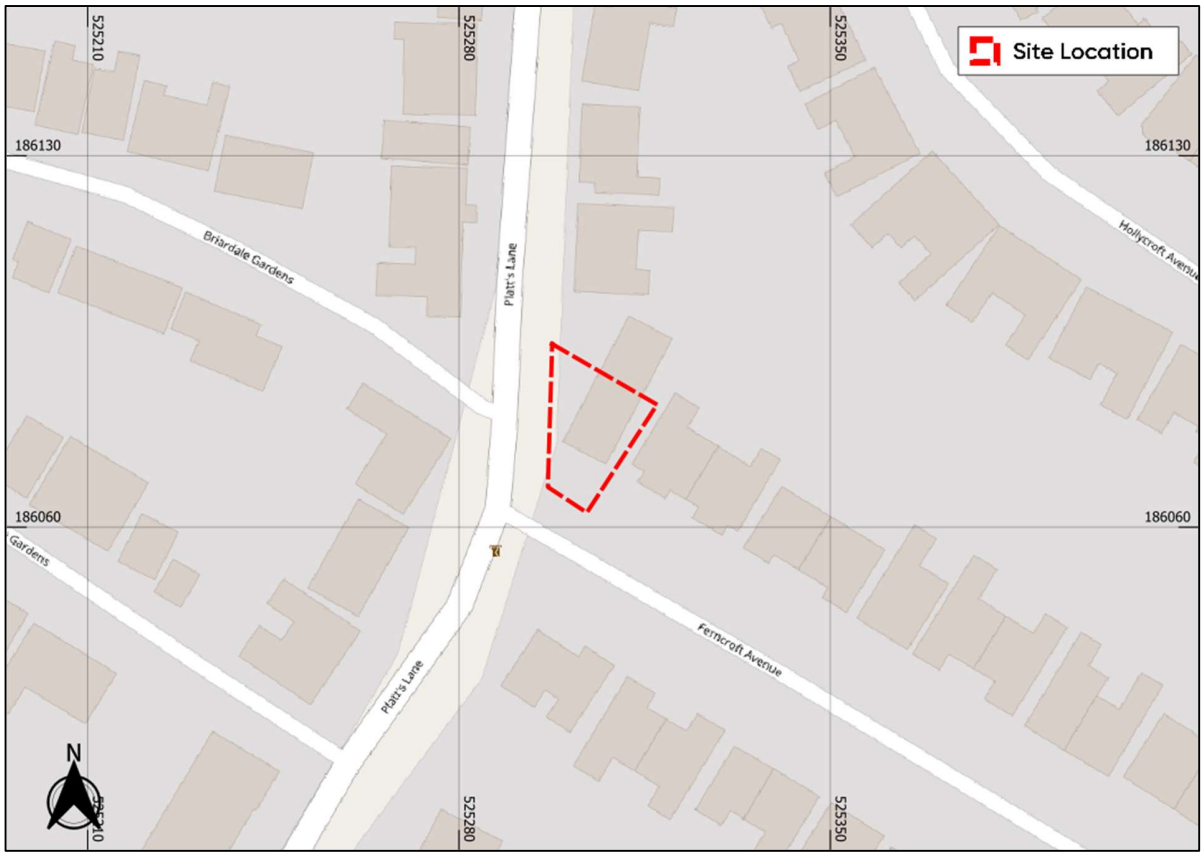


Figure 1: Site Location (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors)

1.4. It is understood that the proposed development is for a single storey basement excavation with swimming pool and alterations to the front/rear/side garden including the laying of hardstanding, installation of walk on roof lights/grill, an electric vehicle charging point and a timber refuse area. The development proposals will be included in this report as Appendix A.

1.5. A Topographical Survey of the site is included in this report as Appendix B. The survey shows the ground elevations of the site varies between 90.95mAOD (metres Above Ordnance Datum) and 92.11mAOD.

1.6. Environment Agency Light Detection and Ranging (LiDAR) data Digital Terrain Model has been used to review the topography of the site (Figure 2).

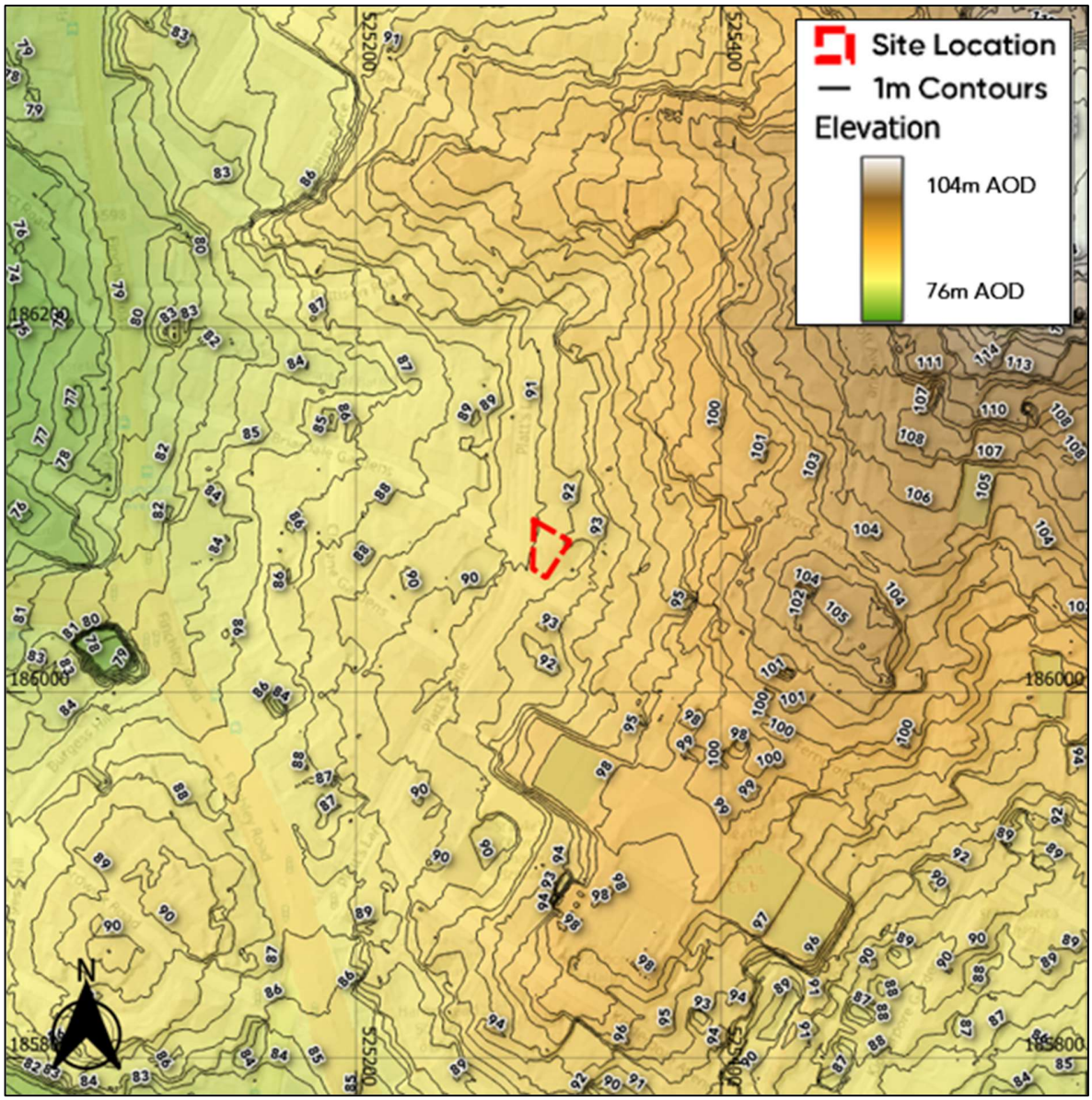


Figure 2: Site Topography (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

1.7. Camden Council is the Local Planning Authority (LPA) for the site and also the designated Lead Local Flood Authority (LLFA). The site sits within the Environment Agency's Hertfordshire and North London region.

Planning Policy and Guidance

1.8. UK government planning guidance states[1] that an FRA is required for developments which are:

- *in flood zones 2 or 3 including minor development and change of use*
- *more than 1 hectare (ha) in flood zone 1*
- *less than 1 ha in flood zone 1, including a change of use in development type to a more vulnerable class (for example from commercial to residential), where they could be affected by sources of flooding other than rivers and the sea (for example surface water drains, reservoirs)*
- *in an area within flood zone 1 which has critical drainage problems as notified by the Environment Agency*

1.9. The site is identified as being within a historically flooded street (Platt's Lane and Ferncroft Avenue) and as per policy CC3 of the Camden Council Local Plan, the Council requires flood risk assessments for all basement development on streets identified as being at flood risk or in an area where historic underground watercourses are known to have been present, or in areas where there is an elevated risk of groundwater flooding. A site-specific flood risk assessment and drainage report would therefore be required to support an application for basement development.

1.10. The objective of this FRA is to demonstrate that the proposals are acceptable in terms of flood risk. This report summarises the findings of the study and specifically addresses the following issues in the context of the current legislative regime:

- Fluvial/tidal flood risk
- Surface water flood risk
- Risk of flooding from other sources

[1] **https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications#when-you-need-an-assessment**

2. Planning Policy

2.1. Inappropriate development in a flood risk area could pose significant risk in terms of personal safety and damage to property for the occupiers of the development or for people elsewhere. The approach taken in the assessment of flood risk at the planning stage is set out in national, regional, and local planning policy and associated guidance. This section summarises the key policies and guidance relevant to the proposed development.

National Planning Policy Framework (NPPF)

2.2. The National Planning Policy Framework[2] (NPPF) (DLUHC, 2023) which includes UK Government policy on development and flood risk states:

> *165. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.*
>
> *173. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:*
>
> *a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*
>
> *b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;*
>
> *c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*

[2] https://www.gov.uk/guidance/national-planning-policy-framework, **last updated Dec 2023**

d) any residual risk can be safely managed; and

e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

174. Applications for some minor development and changes of use should not be subject to the sequential or exception tests but should still meet the requirements for site-specific flood risk assessments set out in footnote 59.

2.3. Paragraph 051 of the Flood Risk and Coastal Change Planning Practice Guidance (PPG) states:

Minor development means:

- *minor non-residential extensions (industrial/commercial/leisure etc): extensions with a floorspace not in excess of 250 square metres.*
- *alterations: development that does not increase the size of buildings, e.g. alterations to external appearance.*
- *householder development: for example, sheds, garages, games rooms etc within the curtilage of the existing dwelling,* ***in addition to physical extensions to the existing dwelling itself.*** *This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling (e.g. subdivision of houses into flats) or any other development with a purpose not incidental to the enjoyment of the dwelling.*

2.4. As such, the proposal would be considered a Minor Development under the PPG.

2.5. Footnote 59 of the NPPF states:

A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

2.6. Flood Zones in England are defined as follows:

Table 1: Flood Zone Definitions

Flood Zone	Definition
Zone 1 Low Probability	Land having less than 1 in 1,000 annual probability of river or sea flooding (all land outside Zones 2 and 3).
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding.
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

2.7. An FRA should be appropriate to the scale, nature, and location of the development. It should identify and assess the risk from all sources of flooding to and from the development and demonstrate how any flood risks will be managed over the lifetime of the development.

2.8. An assessment of hydrological impacts should be undertaken, including to surface water runoff and impacts to drainage networks in order to demonstrate how flood risk to others will be managed following development and taking climate change into account.

The London Plan

2.9. The London Plan prepared by the Greater London Authority in 2021 sets out the policies for development in the region.

2.10. Policy SI 12 Flood risk management outlines the requirements for new development within the region. It states:

- A. Current and expected flood risk from all sources (as defined in paragraph 9.2.12) across London should be managed in a sustainable and cost-effective way in collaboration with the Environment Agency, the Lead Local Flood Authorities, developers and infrastructure providers.

- B. Development Plans should use the Mayor's Regional Flood Risk Appraisal and their Strategic Flood Risk Assessment as well as Local Flood Risk Management Strategies, where necessary, to identify areas where particular and cumulative flood risk issues exist and develop actions and policy approaches aimed at reducing these risks. Boroughs should cooperate and jointly address cross-boundary flood risk issues including with authorities outside London.

- C. Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. This should include, where possible, making space for water and aiming for development to be set back from the banks of watercourses.

- D. Developments Plans and development proposals should contribute to the delivery of the measures set out in Thames Estuary 2100 Plan. The Mayor will work with the Environment Agency and relevant local planning authorities, including authorities outside London, to safeguard an appropriate location for a new Thames Barrier.

- E. Development proposals for utility services should be designed to remain operational under flood conditions and buildings should be designed for quick recovery following a flood.

- F. Development proposals adjacent to flood defences will be required to protect the integrity of flood defences and allow access for future maintenance and upgrading. Unless exceptional circumstances are demonstrated for not doing so, development proposals should be set back from flood defences to allow for any

foreseeable future maintenance and upgrades in a sustainable and cost-effective way.

- G. Natural flood management methods should be employed in development proposals due to their multiple benefits including increasing flood storage and creating recreational areas and habitat.

2.11. Policy SI 13 Sustainable drainage outlines the requirements for new development within the region. It states:

- A. Lead Local Flood Authorities should identify

- through their Local Flood Risk Management Strategies and Surface Water Management Plans

- areas where there are particular surface water management issues and aim to reduce these risks. Increases in surface water run-off outside these areas also need to be identified and addressed.

- B. Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:

1. rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)

2. rainwater infiltration to ground at or close to source

3. rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)

4. rainwater discharge direct to a watercourse (unless not appropriate)

5. controlled rainwater discharge to a surface water sewer or drain

6. controlled rainwater discharge to a combined sewer.

- C. Development proposals for impermeable surfacing should normally be resisted unless they can be shown to be unavoidable, including on small surfaces such as front gardens and driveways.

- D. Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improved water quality, and enhanced biodiversity, urban greening, amenity and recreation.

Local Plan

2.12. The Local Plan prepared by the Local Planning Authority, Camden Council, sets out the policies for development in the local area.

2.13. Policy CC3 Water and flooding outlines the requirements for new development within the area. It states:

The Council will seek to ensure that development does not increase flood risk and reduces the risk of flooding where possible. We will require development to:

- incorporate water efficiency measures;

- avoid harm to the water environment and improve water quality;

- consider the impact of development in areas at risk of flooding (including drainage);
- incorporate flood resilient measures in areas prone to flooding;

- utilise Sustainable Drainage Systems (SuDS) in line with the drainage hierarchy to achieve a greenfield run-off rate where feasible; and

- not locate vulnerable development in flood-prone areas.

Where an assessment of flood risk is required, developments should consider surface water flooding in detail and groundwater flooding where applicable.

The Council will protect the borough's existing drinking water and foul water infrastructure, including the reservoirs at Barrow Hill, Hampstead Heath, Highgate and Kidderpore.

2.14. With regards to a basement development, Camden Council's Planning Guidance for Basements[3] states (paragraph 4.54);

[3] https://www.camden.gov.uk/documents/20142/4823269/Basements+CPG+Jan+2021.pdf/43eb1f08-dc6b-0aa5-4607-bcfbe4ba60e6?t=1611580510428

Basement development should not displace ground water or surface water flow so it causes flooding on nearby sites or those further away. The Council will require an adequate drainage plan and has a preference for the use of Sustainable Urban Drainage Systems (SUDS).

Only where this cannot be achieved should surface/ground water be discharged to combined sewers (refer to the chapter on water efficiency in the Camden Planning Guidance on Water and flooding and Local Plan Policy CC3 Water and flooding).

Redington and Frognal Neighbourhood Plan

2.15. The Redington and Frognal Neighbourhood Plan (2021) has the following policy with regards to basement development;

2.16. UD 1 Underground Development

i. Residential basements and other underground development, including car parking and swimming pools, should have no significant adverse impact on:

a. the viability of garden spaces. This requires maintaining 3 metres of depth for roots of large trees and 2 metres of depth for roots of medium trees. Large and medium trees are defined as: • large trees (ultimate height of 15m+): a minimum of 30 m3 • medium trees (ultimate height of 8 -15m): a minimum of 20 m3;

b. the character and verdant amenity of garden spaces, including through the impact of light wells, car lifts and other surface features;

c. the viability of trees with ecological or amenity value and potential for future tree planting. This requires maintaining 3-metres of depth for roots of large trees and 2-metres of depth for roots of medium trees;

d. underground streams or spring lines, including through cumulative impact, and

e. neighbouring properties, though impacts, and cumulative impacts, on ground water and land stability.

Sequential and Exception Tests

2.17. The Sequential and Exception Tests are applied in specific cases defined by UK Government policy. Their purpose is to drive development to areas of low flood risk and to support developments which improve flood risk for developments in areas at risk of flooding.

2.18. Under the NPPF all new planning applications should undergo a Sequential Test unless a **Minor Development** or a change of use application in accordance with paragraph 174 and footnotes 59 and 60.

2.19. Paragraph 174 of the 2023 NPPF states that:

> *'174. Applications for some **Minor Development** and changes of use should not be subject to the sequential or exception tests but should still meet the requirements for site-specific flood risk assessments set out in footnote 59.'*

2.20. Therefore, in accordance with Paragraph 174 and footnote 59 of the NPPF, the proposed development is classified as a **minor development, t**herefore, should not be subject to the sequential or exception tests but should still meet the requirement for the site-specific flood risk assessments.

3. Consultation and Review

Documents and Online Mapping

3.1. Local Governments and Lead Local Flood Authorities provide documents which contain data and policies on flood risk and new development in their areas. These documents are introduced and briefly summarised below. For the purposes of this FRA, these documents have been reviewed for relevant information and any relevant data is discussed within the appropriate sub heading of this report.

3.2. The following sources of information have been reviewed for this assessment:

- Flood Map for Planning on the Environment Agency website *https://flood-map-for-planning.service.gov.uk/*
- Long Term Flood Risk Information on the Environment Agency website *https://www.gov.uk/check-long-term-flood-risk*
- National Planning Policy Framework (NPPF) (Department for Levelling Up, Housing and Communities, 2023)
- Planning Practice Guidance - Flood Risk and Coastal Change (Department for Levelling Up, Housing and Communities, 2022)
- Geoindex Onshore (British Geological Survey, 2023)
- The London Plan[4] (Greater London Authority, 2021) and Local Plan[5] (Camden Council, 2017)
- Preliminary Flood Risk Assessment[6] (Camden Council, 2011)
- Strategic Flood Risk Assessment Level 1[7] (Camden Council, 2014)

[4] https://www.london.gov.uk/programmes-strategies/planning/london-plan/london-plan-2021
[5] https://www.camden.gov.uk/documents/20142/4820180/Local+Plan.pdf/ce6e992a-91f9-3a60-720c-70290fab78a6
[6] https://webarchive.nationalarchives.gov.uk/ukgwa/20140328094444/http://www.environment-agency.gov.uk/research/planning/135542.aspx#6
[7] https://www.camden.gov.uk/documents/20142/0/download+%2815%29.pdf

- Redbridge and Frognal Neighbourhood Plan[8] (2021)
- Red Frog Sub-surface Water Features Mapping Summary Report[9] (2016)
- Managing Flood Risk in Camden[10] (Camden Council, 2012)

Preliminary Flood Risk Assessment (PFRA)

3.3. The PFRA, published in 2011, 2017, and 2017, is a high-level appraisal of flood risk across Lead Local Flood Authority Camden Council. The flood risk from all sources, including fluvial, surface water, groundwater, and surcharged sewers is evaluated. It is the basis upon which the Local Flood Risk Management Strategy is produced.

3.4. The PFRA summarises historical flood incidents in Camden Council. The site is not recorded as having been affected by any flood event.

Strategic Flood Risk Assessment (SFRA)

3.5. The SFRA, published in 2014, provides the evidence base for the Local Planning Authority Camden Council Local Plan and guidance for consideration when determining planning applications.

3.6. The SFRA seeks to place new development into areas of lower flood risk taking into account current flood risk, future flood risk, and the effect a proposed development would have on the risk of flooding.

3.7. The SFRA mapping provided by Camden Council has been used throughout production of this report as a source of information, particularly pertaining to historical flood incidents.

[8] https://www.camden.gov.uk/redington-and-frognal-neighbourhood-forum

[9] https://www.redfrogforum.org/wp-content/uploads/2018/10/Arup-Mapping-Report_RevA_Issue-010416_Reduced.pdf

[10] https://www.camden.gov.uk/documents/20142/1458280/Camden_Flood_Risk_Management_Strategy.pdf/9e739029-02e5-59c7-e9a4-64d3622f2475

Local Flood Risk Management Strategy (LFRMS)

3.8. The Local Flood Risk Management Strategy sets out roles and responsibilities for flood risk management, assesses the risk of flooding in the area, where funding can be found to manage flood risk, and the policies, objectives, and actions of the Lead Local Flood Authority.

3.9. The Camden Council LFRMS is used within this report to identify any flood management infrastructure and historical incidences of flooding.

4. Sources of Flood Risk

Fluvial

4.1. Flooding from watercourses arises when flows exceed the capacity of the channel, or where a restrictive structure is encountered, resulting in water overtopping the banks into the floodplain.

Main Rivers and Ordinary Watercourses

4.2. The nearest EA Main River to the site is the River Brent located circa 2.5km north of the site.

4.3. The nearest waterbody to the site is the Leg of Mutton Pond circa 0.5km northeast of the site.

4.4. There are no ordinary watercourses in the vicinity of the site.

4.5. The nearest culverted ordinary watercourse to the site is located approximately 500m east and flows south away from the site.

4.6. According to the Red Frog Sub-surface Water Mapping Report there is estimated to be a culverted watercourse flowing from east to west away from the site. The watercourse appears to have historically originated from a pond in or adjacent to the sites location. There is estimated two additional tributaries (culverted) of the same watercourse flowing east to west, originating further north along Platts Lane.

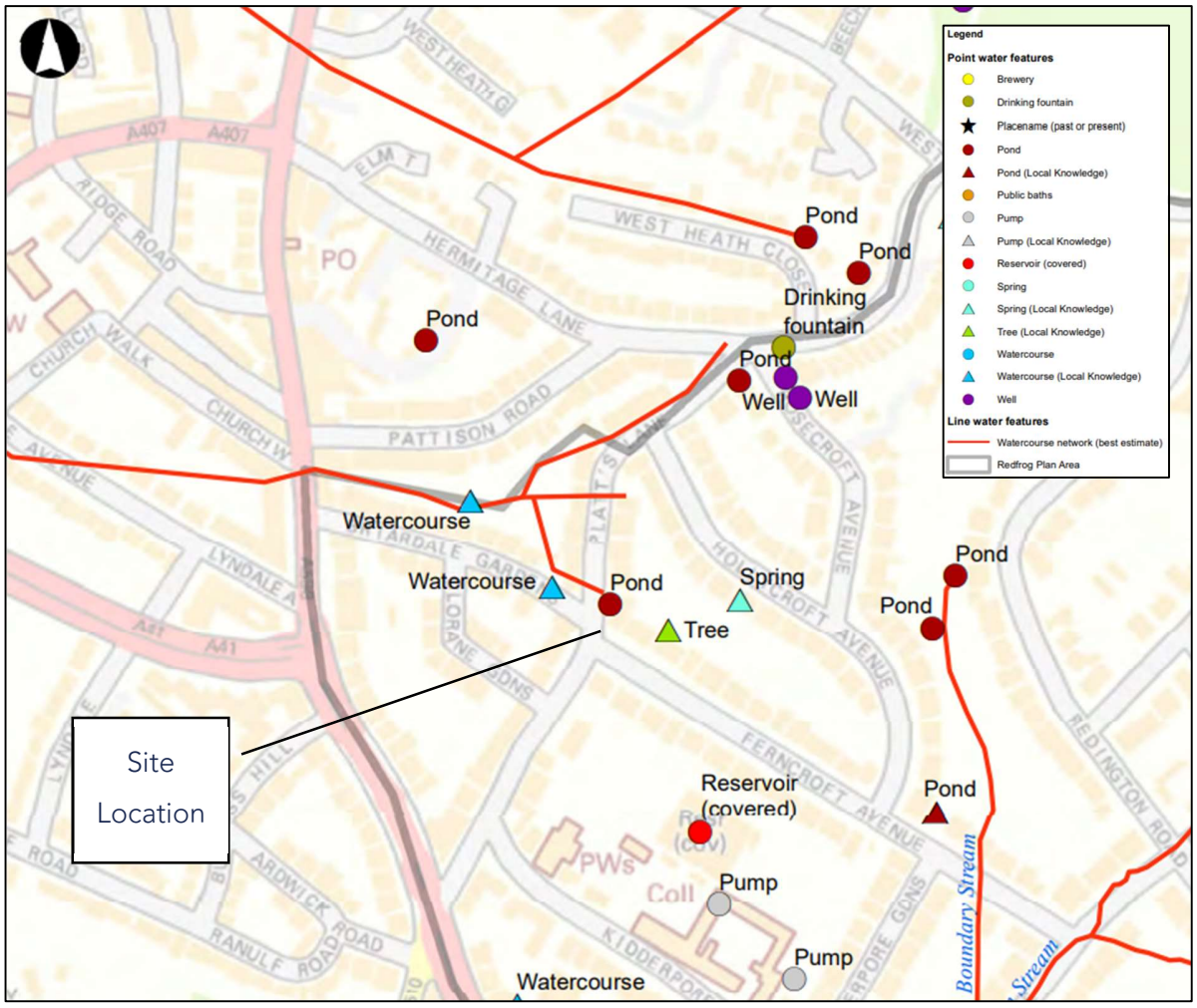


Figure 3: Sub-surface Water Mapping - Red Frog Sub-surface Water Features Mapping Summary Report (2016)

Environment Agency Flood Map for Planning

4.7. According to the EA Flood Map for Planning (Figure 4) the site is located within Flood Zone 1 (land having less than 1 in 1,000 annual probability of river or sea flooding).

Figure 4: EA Flood Map for Planning (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors.)

Historical Fluvial Flooding

4.8. Based on the EA's Historic Flood Outlines there is no record of historical fluvial flooding on the site (Figure 5).

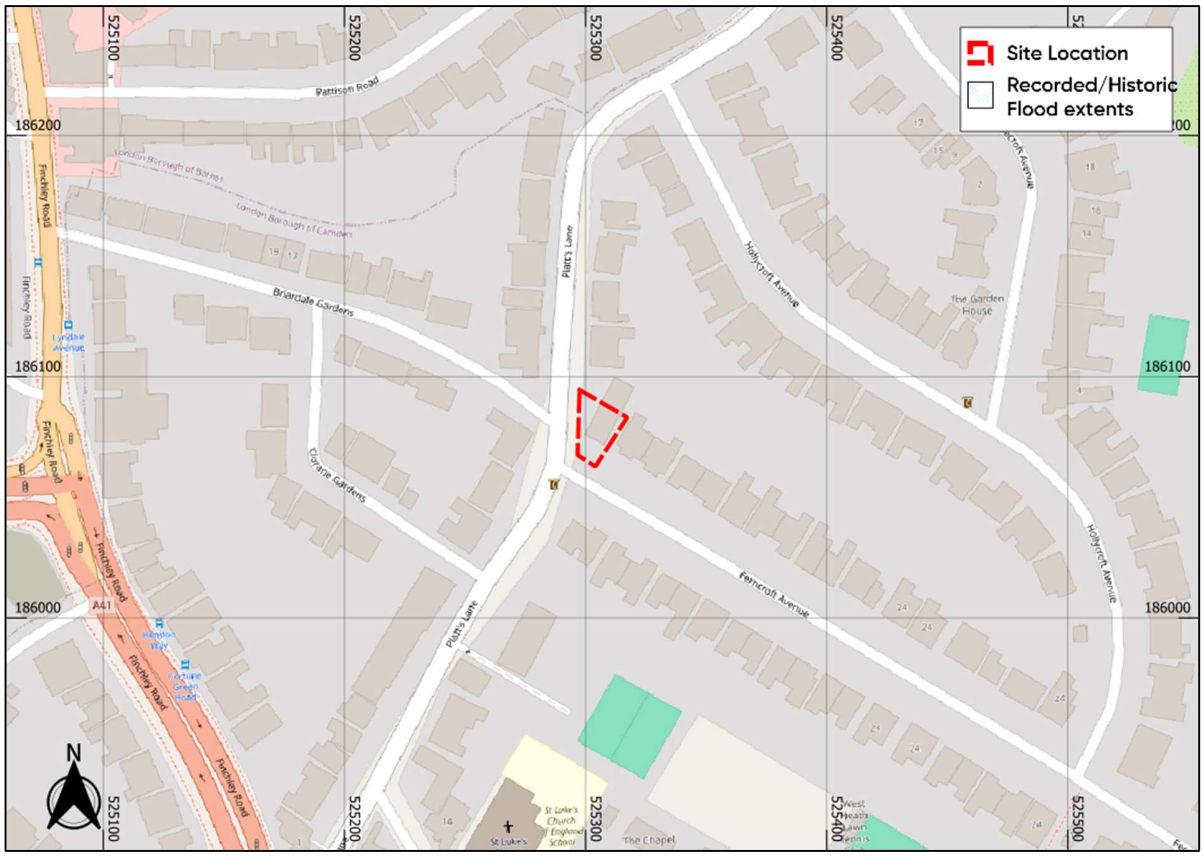


Figure 5: EA Historic Flood Mapping (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

4.9. Based on the information available the site is considered to be at a low risk of fluvial flooding.

Tidal

4.10. Tidal flooding occurs when a high tide and high winds combine to elevate sea levels. An area behind coastal flood defences can still flood if waves overtop the defences or break through them. Tidal flooding can also occur a long way from the coast by raising river levels. Water may overtop the river bank or river defences when tide levels are high.

4.11. The site is a significant distance from any tidal source and above the anticipated extreme tidal levels, even when considering the impacts of climate change. The risk of flooding from tidal sources is low.

4.12. There is no record of historical tidal or sea flooding on-site.

4.13. The site is considered to be at a low risk of tidal flooding.

Canals

4.14. The Canal and River Trust (CRT) generally maintains canal levels using reservoirs, feeders, and boreholes and manages water levels by transferring it within the canal system.

4.15. The nearest canal is over 1km from the site location.

4.16. The risk of flooding to this site from canals is considered to be low.

Pluvial

4.17. Pluvial flooding can occur during prolonged or intense storm events when the infiltration potential of soils, or the capacity of drainage infrastructure is overwhelmed leading to the accumulation of surface water and the generation of overland flow routes.

4.18. Annual surface water flood risk is labelled by the EA as:

- 'High Risk'; >3.3% AEP (annual probability greater than 1 in 30).
- 'Medium Risk'; 1.1% to 3.3% AEP (annual probability between 1 in 100 and 1 in 30).
- 'Low Risk'; 0.1% to 1% AEP (annual probability between 1 in 1000 and 1 in 100).
- 'Very Low Risk'; <0.1% AEP (annual probability less than 1 in 1000).

4.19. Examination of the EA's Flood Risk from Surface Water mapping for High Risk, Medium Risk, and Low Risk AEP flood events (Figure 6) shows that the site is considered to be at a very low risk of surface water flooding.

Figure 6: EA Surface Water Flood Risk Mapping (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

4.20. The SFRA includes historical records of flooding and states that Platt's Lane has flooded previously in 1975 and 2002. There is no evidence to suggest that the site was affected during these events.

4.21. The site is not located within a Critical Drainage Area.

4.22. The site is considered to be at a low risk of surface water flooding.

Reservoirs

4.23. Large waterbodies or reservoirs that have walls built above the surrounding ground level pose a risk of flooding. Walls could fail due to old age, accident, or because excess flood water has been added to the reservoir. Although a breach is unlikely the consequences would be significant, leading to rapid inundation of the downstream floodplain.

4.24. According to the EA's Flood Risk from Reservoirs mapping (Figure 7) the site is outside flood extents in the event of reservoir flooding.

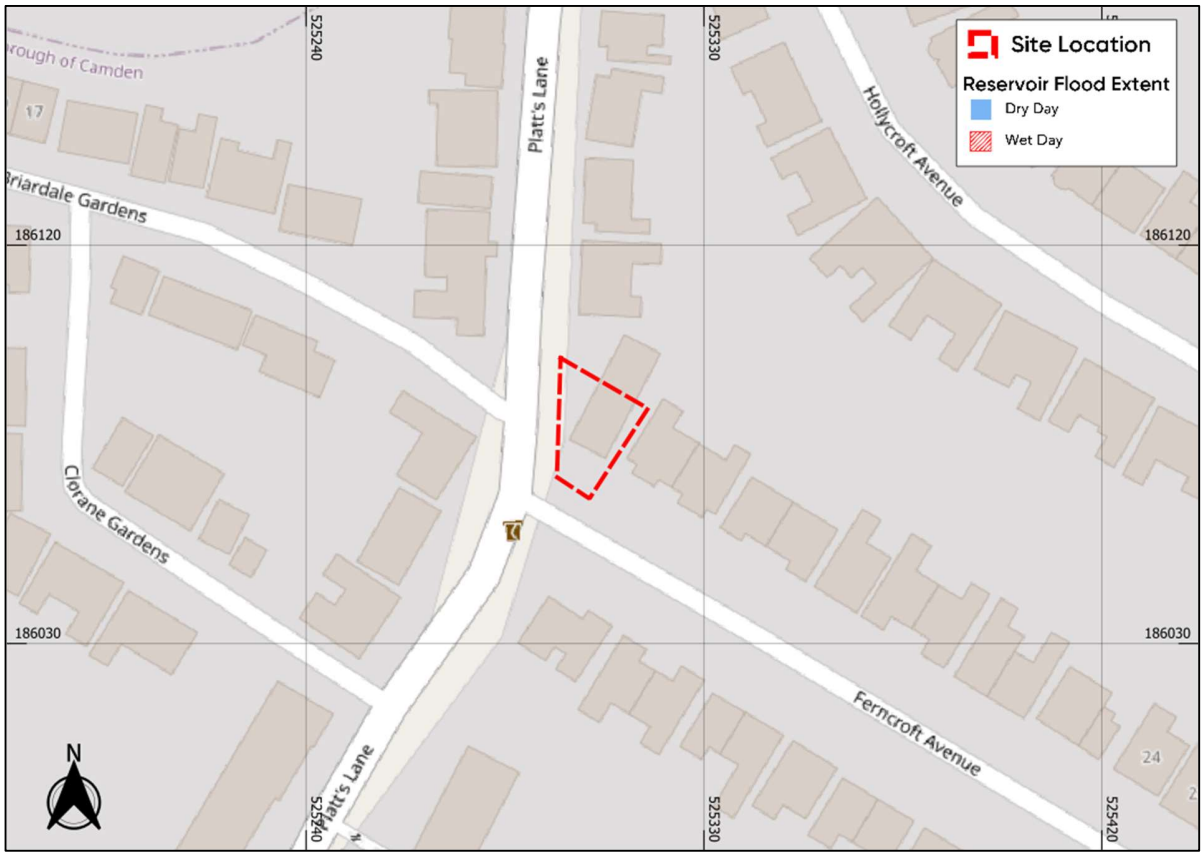


Figure 7: EA Reservoir Flood Risk Mapping (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). ©https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

4.25. The site has not been flagged as being at risk of flooding following a reservoir failure.

Groundwater

4.26. Groundwater flooding occurs in areas where underlying geology is permeable, and water can rise within the strata sufficiently to breach the surface.

4.27. The British Geological Survey's (BGS) mapping shows that there are no superficial deposits underlying the site. The bedrock underlying the site is Claygate Member comprising Clay, silt and sand.

4.28. There are no boreholes within a 150m radius of the site.

4.29. The SFRA presents groundwater susceptibility mapping (Figure 8), which assesses the risk of groundwater flooding. This shows that the site is located in an area with limited potential for groundwater flooding to occur.

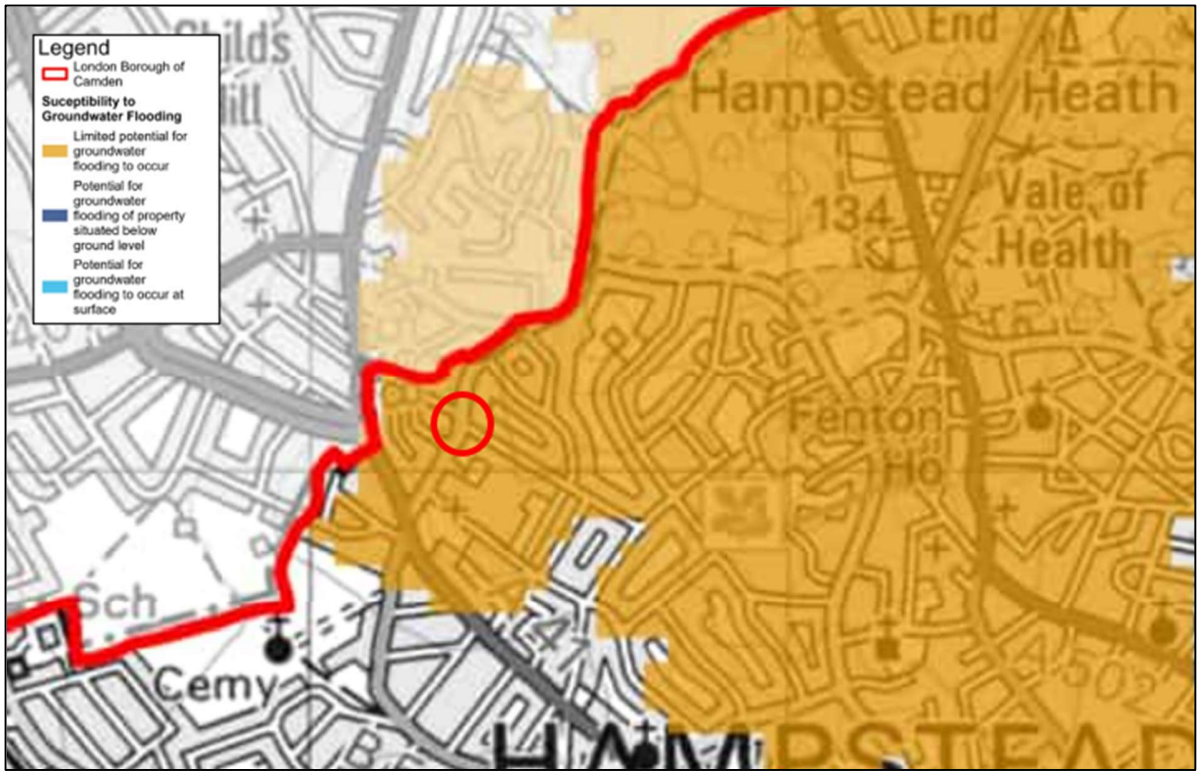


Figure 8: Camden SFRA (2024) – Susceptibility to Groundwater Flooding

4.30. As the development proposals includes an extension at basement level, a precautionary approach to mitigation has been recommended in Section 5 of this report. Based on the information available, the overall risk of groundwater flooding can be considered low. However, a Basement Impact Assessment may be required prior to construction which is outside the scope of this report.

Sewers

4.31. Foul or surface water sewers can be a cause of flooding if the drainage network becomes overwhelmed, either by blockage or due to local development beyond the designed capabilities of the drainage system.

4.32. The SFRA provides mapping of historical sewer flood incident records (January 2013 – April 2023) kept by the local authority (Figure 9). The mapping shows that there have been between 6-20 incidents in the postcode area between January 2013 and April 2023.

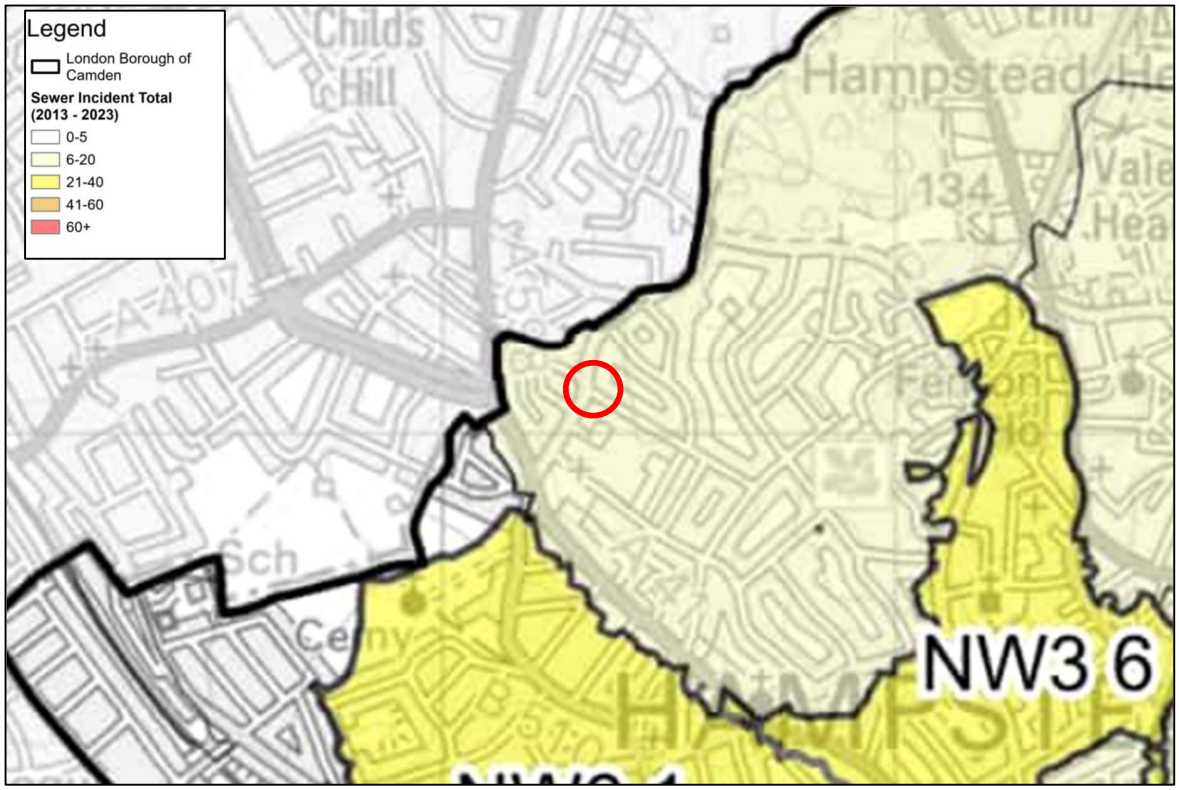


Figure 9: Camden SFRA (2024) Reported Incidents of Sewer Flooding – Site in Red

4.33. Local policy documentation does not identify the site as being in a Critical Drainage Area.

4.34. The development is therefore considered to be at low risk of flooding from sewers.

5. Flood Risk Mitigation

Groundwater

5.1. The flood risk from groundwater sources is considered low. Therefore, the development should adopt a precautionary approach and follow guidance set out in 'Improving the Flood Performance of New Buildings' Flood Resilient Construction (2007). Waterproofing of below ground structures should be undertaken as described in British Standard BS8102-2009. A summary of additional mitigation measures is detailed below.

- Any PVC window/door sills at lower ground floor level should be adequately sealed. All lightwells should be sealed to minimise water ingress.
- Basement and ground floor which are to be used for habitable accommodation are required to be constructed to Grade 3 standard (no water penetration or dampness is permitted). As such, a 'type C' drain protection system with internal drained cavity protection with a sump and pump for removal of water is recommended - in line with British Standards BS8102-2009.
- Basement floors should be tanked with appropriate waterproofing measures. Damp Proof Membranes (d.p.m.) should be included in any design to minimise the passage of water through ground floors. Impermeable polythene membranes should be at least 1200 gauge to minimise ripping.
- Recommended that, where possible, concrete floors are incorporated with a water resilient screed, especially at proposed basement floor level.
- Non-return valves are to be installed on the new drainage systems throughout the basement level. It is also recommended that these valves are retrofitted on to any existing sewer connections to prevent back-flow of diluted sewage. Maintenance of these valves is important to ensure their continued effectiveness so should be maintained in line with manufacturers recommendations.
- Cavity insulation should preferably incorporate rigid closed cell materials as these retain integrity and have low moisture take-up. Other common types are not generally recommended as they can remain wet several months after exposure to flood water which slows down the wall drying process. Blown-in insulation can slump due to

excessive moisture uptake, and some types can retain high levels of moisture for long periods of time (under natural drying conditions).

- Exterior ventilation outlets, utility points and air bricks to be fitted with removable waterproof covers.

Increase to Flood Risk Elsewhere

5.2. It is understood that the proposed development is for single storey basement excavation with swimming pool and alterations to the front/rear/side garden including the laying of hardstanding, installation of walk on roof lights/grill, an electric vehicle charging point and a timber refuse area. As such, the proposal constitutes a Minor Development under the NPPF.

5.3. Paragraph 051 of the Flood Risk and Coastal Change Planning Practice Guidance (PPG) states:

> *Minor developments are unlikely to raise significant flood issues unless:*
>
> - *they would have an adverse effect on a watercourse, floodplain or its flood defences;*
> - *they would impede access to flood defence and management facilities, or;*
> - *where the cumulative impact of such developments would have a significant effect on local flood storage capacity or flood flows.*

5.4. As such, the proposed development in isolation should have a negligible impact on flood risk elsewhere. However, as the development includes a basement construction a Basement Impact Assessment may be required prior to construction which is outside the scope of this report.

Flood Warnings

5.5. The site is not in an area where the EA provide specific flood alerts and warnings. The occupant of the dwelling should monitor Met Office Weather Warnings to be prepared for extreme weather events

5.6. Flood warnings/alerts can be enforced at any time of the day or night. Signing up for this service provides site owners some notice before a flood event. The amount of time afforded before a flood occurs depends on the site-specific location (e.g. proximity to the source of flooding, topography of the surrounding area) and the flood mechanism (e.g. bank over topping versus a breach event). Flood alerts and warnings provide site managers with time to take necessary action, e.g. communication of the risk of flooding to occupants/employees etc, evacuation of

occupants offsite or to a safe level, removal of valuable items out of reach of flooding and the mounting of site-specific flood defences.

6. Surface Water Drainage Strategy

Nearby Watercourses

6.1. The are no mapped watercourses within a 250m radius of the site, therefore, it will not be possible to discharge surface water runoff from the site into a watercourse.

Ground Conditions

6.2. The British Geological Survey's (BGS) mapping shows there are no superficial deposits underlying the site. The bedrock underlying the site is Claygate Member comprising clay, silt and sand.

6.3. However, the provision of a soakaway is limited due to the space constraints within the rear garden given that building regulations state that a minimum of 5.0m buffer be provided between the soakaway and any building footprint. Additionally, it is typically expected that a buffer of 2.5m is provided from the site boundary as well. Therefore, an infiltration led strategy is not feasible, based on the above.

6.4. Shallow SuDS features, such as permeable paving, can be unlined to promote infiltration. However, they have been modelled as unlined for this drainage strategy as a conservative approach due to the clay underlying geology.

Existing Drainage Infrastructure

6.5. Thames Water Sewer Asset plans have been included in this report within Appendix B and reproduced as Figure 10.

6.6. Figure 10 shows that there are combined sewers located adjacent to the site, beneath Platts Lane.

6.7. A CCTV Survey conducted by Happy Drains on 21/09/2024 (included as Appendix C) confirms that the site has positive drainage on site draining into the combined sewer beneath Platts Lane. Although, the surface water drains were not accessible, as such, the condition and location of surface water sewers is still unknown.

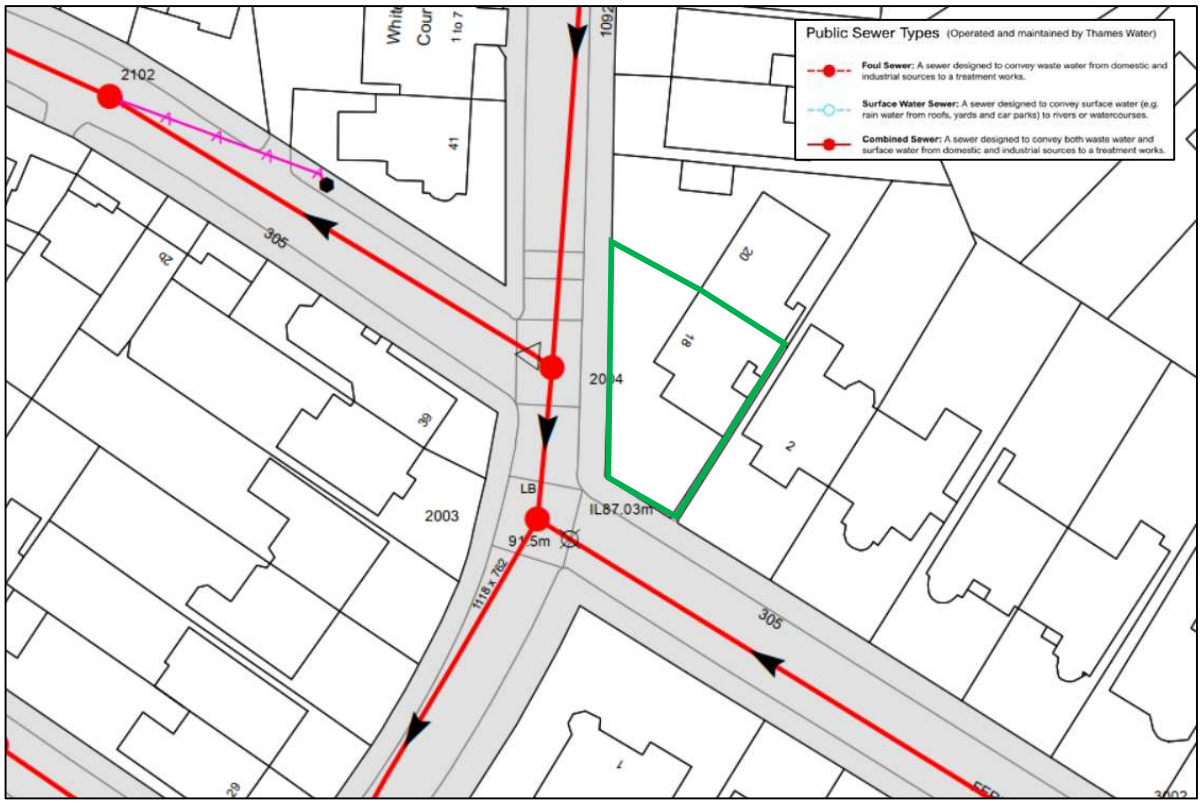


Figure 10: Thames Water Sewer Asset Plan (Site in Green)

Proposed Runoff Rate

6.8. The proposed development includes alterations to the front/rear/side garden including the laying of hardstanding, installation of walk on roof lights/grill, an electric vehicle charging point and a timber refuse area.

6.9. A tree root protection zone is covering the garden area of the site. Also, a 5m easement is required from any buildings on site. As such, geocellular attenuation tanks are not feasible on site. As such, as the existing dwelling roof (remains unchanged), it is proposed that the roof drains as per the existing scenario via the existing drainage infrastructure onsite. SuDS planters and/or water butts can be used at rainwater downpipes to provide betterment to the existing scenario.

6.10. These calculations include the proposed driveway, patio area, electric vehicle charging point and a timber refuse area for a total impermeable area of 160m^2. Using InfoDrainage Software (v2025.2.3) the existing runoff rate from the 160m^2 of impermeable area, has been calculated.

6.11. Given the development is so small, the greenfield rate is too low to design to (0.1l/s). It is not possible to discharge runoff at such a low rate as it would require unreasonably small flow controls, which would significantly increase the risk of blockage.

6.12. As such, it is proposed that flows are restricted using the minimum recommended orifice size (25mm). The strategy proposes a permeable paving unit discharging into the existing drainage infrastructure onsite. With the permeable paving unit discharging via a 25mm orifice outlet the total discharge is 0.6l/s.

6.13. Calculations in Table 2 show the present-day maximum unrestricted outflow rates from the area managed in this strategy compared to the proposed 0.6l/s.

Table 2: Existing (unrestricted) and proposed runoff rates.

Catchment	Area	1 in 1 Year	1 in 30 Year	1 in 100 Year
Existing	160m^2	3.0l/s	7.2l/s	9.4l/s
Proposed	160m^2	0.6l/s	0.6l/s	0.6l/s
% Betterment	-	80%	91.67%	93.62%

6.14. Therefore, restricting rates to 0.6l/s would provide a significant betterment for the proposed 160m^2 of impermeable area considered in these calculations.

6.15. Brownfield rates are included in this report as Appendix D and the proposed drainage network is included as Appendix F.

Surface Water Drainage Strategy

6.16. In accordance with the SuDS management train approach, the use of various SuDS measures to reduce and control surface water flows have been considered in detail for the development (Table 3).

6.17. The management of surface water has been considered in respect to the SuDS hierarchy below, as detailed in the London Plan.

Table 3: SuDS Drainage Hierarchy

SUDS DRAINAGE HIERARCHY				
			Suitability	**Comment**
	1.	**Store rainwater for later use**	✓	Rainwater harvesting for the proposed development should be considered. There are plot scale opportunities for rainwater harvesting measures such as water butts and these should be implemented where practical. The captured rainwater could be re-used throughout the landscaping on site.
	2.	**Use infiltration techniques, such as porous surfaces in non-clay areas**	x	The British Geological Survey's (BGS) mapping shows there are no superficial deposits underlying the site. The bedrock underlying the site is Claygate Member comprising clay, silt and sand. However, the provision of a soakaway is limited due to the space constraints within the rear garden given that building regulations state that a minimum of 5.0m buffer be provided between the soakaway and any building footprint. Additionally, it is typically expected that a buffer of 2.5m is provided from the site boundary as well. Therefore, an infiltration led strategy is not feasible, based on the above. Shallow SuDS features, such as permeable paving, can be unlined to promote infiltration. However, they have been modelled as unlined for this drainage strategy as a conservative approach due to the clay underlying geology.
	3.	**Attenuate rainwater in ponds or open water features for gradual release**	x	Space on site within the confines of the layout does not allow for large above ground SuDS such as basins or ponds.
	4.	**Attenuate rainwater by storing in tanks or sealed water features for gradual release**	✓	Has been deemed an appropriate option for lined (type C) permeable paving where appropriate.
	5.	**Discharge rainwater direct to a watercourse**	x	There are no watercourses in the vicinity of the site.
	6.	**Discharge rainwater to a surface water sewer/drain**	x	There are no surface water sewers in the site's vicinity.

	7.	**Discharge rainwater to Combined Sewer**	✓	It is proposed to discharge surface water into the existing combined connection on site.

6.18. On review of the SuDS drainage hierarchy, and with reference to both national and local policy, it is proposed that the surface water runoff from the development is managed via permeable paving (Type C). Surface water from the permeable paving unit is then to be conveyed, via a 100mm underdrain, to the existing drainage infrastructure onsite. The primary method of attenuation will be the subbase beneath the permeable paving; however, additional storage can be provided by rainwater planter bioretention systems/ water butts located at the ground level beneath rainwater downpipes.

6.19. Flow rates will be restricted via 25mm orifice plates to ensure the minimum possible discharge rates are achieved.

6.20. Rainwater planter bioretention systems have not been accounted for within the storage calculations in the subsequent sections of this report but would provide additional benefit. This represents a conservative approach whereby these SuDS features have been assumed to be at full capacity at the onset of the modelled storm events.

6.21. The proposed Surface Water Drainage Layout is included in Appendix E.

InfoDrainage Modelling

6.22. A network model has been produced in InfoDrainage software (v2025.2.3).

6.23. The model comprises;

- 1no. contributing catchment areas across the proposed development area representing hardstanding surfaces for a total area of 0.0176ha (inclusive of a 10% urban creep allowance).
- 1no. Lined permeable paving (Type C) units. Porosity of 30% and a 25mm orifice plate at the paving outfall to reduce flow rates from the paving, and to retain surface water in the subbase.
    - Total plan area (130m^2). Subbase Depth (0.35m), a total volume of 13.65m^3. Taking flows from the patio, 1no basement roof light, bin store, driveway and surrounding hardstanding;

6.24. The paving catchment has been assigned as lateral inflow into the permeable paving unit.

Climate Change

6.25. The Environment Agency Peak Rainfall Climate Change Allowance guidance (updated in May 2022) was reviewed and subsequently the Defra Peak Rainfall Allowances Map was assessed to determine appropriate climate change allowances to inform the surface water drainage strategy. In line with this guidance, the upper end allowances for the London Management Catchment have been used for both the 1% and 3.3% annual exceedance probability events. An allowance of 35% has been used for the 3.3% AEP event and an allowance of 40% has been used for the 1% AEP event.

6.26. The system is designed to manage runoff from up to and including the 1 in 100 (+40% allowance for climate change) storm event.

Simulation Criteria

6.27. Table 4 summarises the simulation criteria for the InfoDrainage model.

Table 4: Simulation Criteria

Catchment Area Simulation Parameters	
Rainfall Data	FSR
Total Area	0.0176 ha (inclusive of a 10% urban creep allowance)
Return Periods	1, 30, 30+35% for climate change, 100, 100 +40% for Climate Change. Summer and Winter
Storm Durations	15, 30, 60, 120, 240, 360, 480, 960, 1440 minute
Volumetric Runoff Coefficient	0.9 (summer and winter storms)
Percentage Impervious	100%
Time of Concentration	5 minutes

InfoDrainage Model Results

6.28. The full calculation outputs can be found in Appendix F of this report although the 1in100year +40% climate change results have been summarised below:

- The maximum flow rate into the combined water sewer beneath Platt's Lane would be 0.6l/s for the critical storm event (120 minute winter).
- The maximum depth in the 0.35m deep permeable paving unit is 0.223m for the critical storm event (120 minute summer).
- No flooding is observed in the critical storm event based on the InfoDrainage model.

6.29. As such, these results indicate that the runoff from the proposed development could be accommodated within a drainage system of the approximate size modelled, with surface water runoff restricted to 0.6l/s.

Water Quality

6.30. A key element of SuDS is that they have the potential to improve the quality of surface water discharged from a site. In order to assess this, the "Pollution hazard indices for different land use classifications", provided in the CIRIA SuDS Manual (C753) as table 26.2, has been reviewed. The indices use four different methods of assessing pollution potential based on the hazard level, total suspended solids (TSS), Metals, and Hydrocarbons.

6.31. The Pollution Hazard Indices are summarised in Table 5 below (with reference to table 26.3 in the CIRIA SuDS manual).

Table 5: Pollutant Hazard Indices

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Residential roofs	Very Low	0.2	0.2	0.05
Residential car parks and low traffic roads	Low	0.5	0.4	0.4

6.32. Table 6 shows that permeable paving and bioretention systems have sufficient mitigation indices for residential roofs and residential carparks.

Table 6: Mitigation Hazard Indices for discharges to surface waters

SuDS	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Permeable Paving	0.7	0.6	0.7
Bioretention Systems	0.8	0.8	0.8

6.33. As such, permeable paving will provide sufficient treatment for the trafficked areas of the proposed development. Whilst bioretention systems with sediment traps will offer sufficient treatment for the proposed development.

Maintenance

6.34. Table 7 presents details regarding the maintenance requirements for the proposed SuDS included as part of the development, taken from the CIRIA C753 The SuDS manual. Each manufacturer will have bespoke requirements however the below should be used as a guide. All SuDS are to be maintained by the property owner.

Table 7: Specific SuDS Maintenance Requirements (Source: CIRIA SuDS Manual)

Permeable Paving		
Regular Maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations
Occasional Maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphospate applied directly into the weeks by an applicator rather than a sprayer	As required
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper structure by remedial sweeping	Every 10 to 15 years as required (if infiltration performance is reduced due to significant clogging)

Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48hr after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually
Rainwater Planters/ Water Butts		
Regular Maintenance	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in underdrain (if appropriate) to determine if maintenance is required.	Quarterly
	Check operation of underdrains by inspection of flows after rain.	Annually
	Assess plants for disease infection, poor growth, invasive species ect. And replace as necessary	Quarterly
	Inspect inlets and outlets for blockage	Quarterly
	Remove litter and surface debris and weeds	Quarterly (or as required)
	Replace any plants, to maintain planting density	As required
	Remove sediment, litter and debris build-up from around inlets or from forebays	Quarterly to biannually
Remedial Actions	Infill any holes or scour in the filter medium, improve erosion protection if required	As required
	Repair minor accumulations of silt by raking away surface mulch, scarifying surface medium and replacing mulch	As required

Designing for Exceedance

6.35. Exceedance events are those greater than the design rainfall event, i.e. greater than the 100 year rainfall event plus 40% increase for climate change.

6.36. Periods of exceedance occur when the rate of surface water runoff exceeds the drainage system capacity. Conveyance beneath ground cannot, generally, be economically or sustainably constructed to the scale required for the most extreme rainfall events. This may result, on occasion, in the surface water runoff exceeding the capacity of the drainage network, with excess water (exceedance flow) being conveyed above ground.

6.37. For situations where extreme rainfall intensity exceeds inlet capacities, or for extreme storm events exceeding the design flood event considered for drainage design, surface water would flow overland towards the west of the site, towards Platt's Lane into the highway drainage network. Exceedance flows should not ingress into any properties onsite.

7. Conclusions

7.1. This FRA and SWDS has been undertaken with reference to the requirements of NPPF and Planning Practice Guidance with respect to the development at Flat 1, 18 Platts Lane, Hampstead, NW3 7NS. It has been written to support a planning application and prepared with due consideration to the nature of the proposed development to provide the appropriate level of detail.

7.2. An assessment of the risk of flooding from all sources has been undertaken and is summarised in the table below:

Source of Flooding	Flood Risk Summary
Fluvial/ tidal	The site is located in Flood Zone 1 and is therefore considered to be at a low risk of fluvial and tidal flooding.
Pluvial	According to the EA surface water flood mapping the sites at a very low risk of surface water flooding, although there are records of Platt's Lane flooding in 1975 and 2002.
Reservoirs Groundwater Sewers Canals	The site is considered to be at low risk from other sources.

7.3. The FRA supports the planning application and demonstrates that there is an acceptable level of flood risk to the site if the mitigation strategies recommended are implemented in the scheme. The development does not increase flood risk off site or to the wider area.

7.4. On review of the SuDS drainage hierarchy, and with reference to both national and local policy, it is proposed that the surface water runoff from the development is managed via permeable paving (Type C). Surface water from the permeable paving unit is then to be conveyed, via a 100mm underdrain, to the existing drainage infrastructure onsite. The primary method of attenuation will be the subbase beneath the permeable paving; however, additional storage can be provided by rainwater planter bioretention systems/ water butts located at the ground level beneath rainwater downpipes.

7.5. Flow rates will be restricted via 25mm orifice plates to ensure the minimum possible discharge rates are achieved.

7.6. The 1in100year +40% climate change results have been summarised below:

- The maximum flow rate into the combined water sewer beneath Platt's Lane would be 0.6l/s for the critical storm event (120 minute winter).
- The maximum depth in the 0.35m deep permeable paving unit is 0.223m for the critical storm event (120 minute summer).
- No flooding is observed in the critical storm event based on the InfoDrainage model.

7.7. As such, these results indicate that the runoff from the proposed development could be accommodated within a drainage system of the approximate size modelled, with surface water runoff restricted to 0.6l/s.

7.8. This Flood Risk Assessment and Surface Water Drainage Strategy should be submitted as part of the planning application to satisfy the requirements under NPPF.

Appendix A - Development Proposals

Location Plan
(OS Map)
1 : 1250

2
L201

20

18

PLATT'S LANE

B

A

C

Property Boundary

A Communal Entrance
B Front Driveway
C Garden
D Bin Storage

0m 4m 8m 12m 16m 20m

FERNCROFT AVE

North

1
L201

Block Plan
1 : 200

DRAWN	Author	DATE	PROJECT	DRAWING TITLE	DWG. No.	NOTES	REV	DATE	REVISION NOTES	ARCHITECT
CHECKED	Checker	16 12 23	FLAT 1, 18 PLATT'S LANE	PROPOSED BLOCK AND LOCATION PLANS	L201	1. All dimensions are in millimetres.				BL Architecture
SCALE	As indicated @ A3		CLIENT TOBY VANHEGAN		REV	2. All dimensions are to be checked on site. 3. Any discrepancy between the architectural drawing and other drawings relevant for construction should be notified before commencement.				

Appendix B - Thames Water Asset Plans

Asset Location Search

Thames Water Property Searches

Aegaea
66 Swaledale Road
WARMINSTER
BA12 8FJ

Search address supplied Flat 1
18
Platts Lane
London
NW3 7NS

Your reference 5524

Our reference ALS/ALS Standard/2024_5064418

Search date 14 October 2024

Notification of Price Changes

From 1st April 2024 Thames Water Property Searches will be increasing the prices of its CON29DW Residential and Commercial searches along with the Asset Location Search. Costs will rise in line with RPI as per previous years, which is sat at 6%.

Customers will be emailed with the new prices by February 28th 2024.

Any orders received with a higher payment prior to the 1st April 2024 will be non-refundable. For further details on the price increase please visit our website at www.thameswater-propertysearches.co.uk.

Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW

searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk

0800 009 4540

Asset Location Search

Property Searches

Search address supplied: Flat 1, 18, Platts Lane, London, NW3 7NS

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This search provides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0800 009 4540, or use the address below:

Thames Water Utilities Ltd
Property Searches
PO Box 3189
Slough
SL1 4WW

Email: searches@thameswater.co.uk
Web: www.thameswater-propertysearches.co.uk

Asset Location Search

Thames Water Property Searches

Waste Water Services

Please provide a copy extract from the public sewer map.

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an ‘as constructed’ record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and pressure test to be carried out for a fee.

For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Payment for this Search

A charge will be added to your suppliers account.

Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

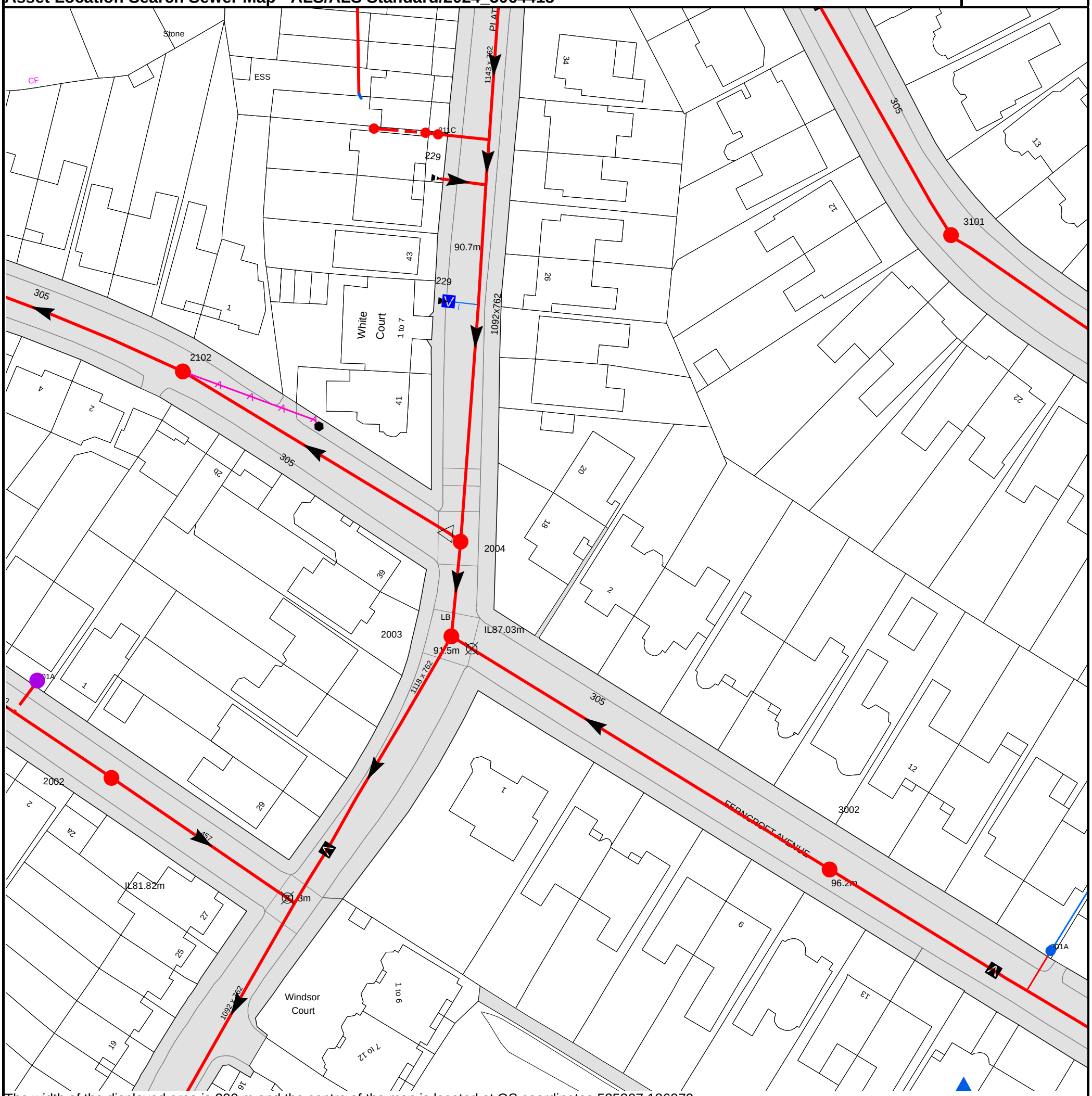
Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2024_5064418



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 525307,186079

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
211A	n/a	n/a
211B	n/a	n/a
211C	n/a	n/a
2003	91.21	83.02
2004	90.99	83.32
3002	96.05	91.51
3101	99.21	95.31
301A	98.72	97.78
201A	n/a	n/a
2002	90.06	82.41
2102	88.23	85.23

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Asset Location Search - Sewer Key

Public Sewer Types (Operated and maintained by Thames Water)

Foul Sewer: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.

Surface Water Sewer: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.

Combined Sewer: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

- Storm Sewer
- Sludge Sewer
- Foul Trunk Sewer
- Surface Trunk Sewer
- Combined Trunk Sewer
- Foul Rising Main
- Surface Water Rising Main
- Combined Rising Main
- Vacuum
- Thames Water Proposed
- Vent Pipe
- Gallery

Other Sewer Types (Not operated and maintained by Thames Water)

- Sewer
- Culverted Watercourse
- Proposed
- Decommissioned Sewer
- Content of this drainage network is currently unknown
- Ownership of this drainage network is currently unknown

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

- Air Valve
- Meter
- Dam Chase
- Vent
- Fitting

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

- Ancillary
- Drop Pipe
- Control Valve
- Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol. Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

- Inlet
- Outfall
- Undefined End

Other Symbols

Symbols used on maps which do not fall under other general categories.

- Change of Characteristic Indicator
- Public / Private Pumping Station
- Invert Level
- Summit

Areas

Lines denoting areas of underground surveys, etc.

- Agreement
- Chamber
- Operational Site

Ducts or Crossings

- Casement

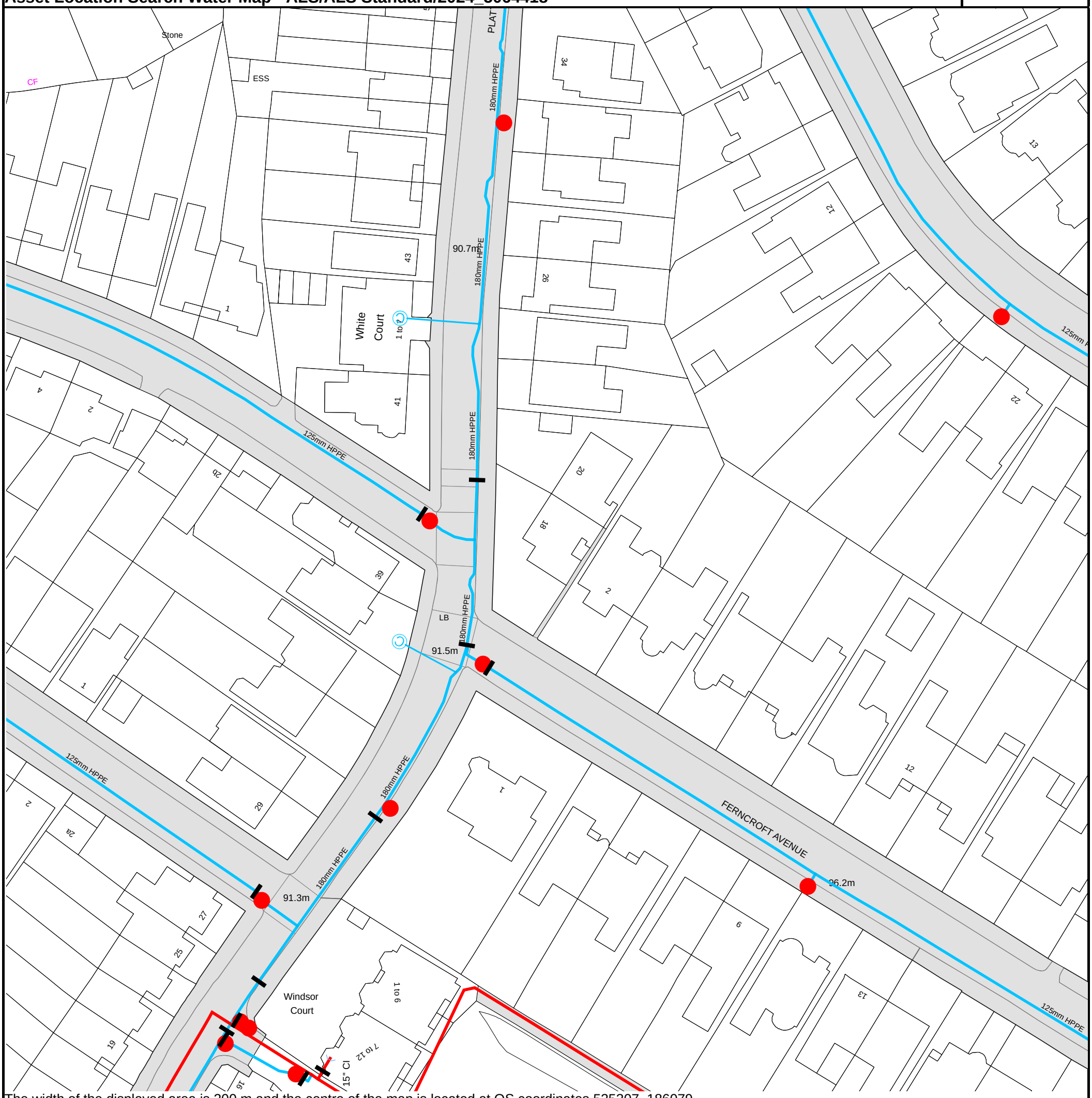
Ducts may contain high voltage cables. Please check with Thames Water.

- Conduit Bridge
- Subway
- Tunnel

Notes:

1) All levels associated with the plans are to Ordnance Datum Newlyn.
2) All measurements on the plan are metric.
3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate the direction of flow.
4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
5) 'na' or '0' on a manhole indicates that data is unavailable.
6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimeters. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology, please contact Property Searches on 0800 009 4540.

Asset Location Search Water Map - ALS/ALS Standard/2024_5064418



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 525307, 186079.

Asset Location Search - Water Key

Water Pipes (Operated & Maintained by Thames Water)

4"

Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.

16"

Trunk Main: A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.

3" SUPPLY

Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.

3" FIRE

Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.

3" METERED

Metered Pipe: A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.

Transmission Tunnel: A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.

Proposed Main: A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

Valves

- General Purpose Valve
- Air Valve
- Pressure Control Valve
- Customer Valve

Hydrants

- Single Hydrant

Meters

- Meter

End Items

Symbol indicating what happens at the end of a water main.

- Blank Flange
- Capped End
- Emptying Pit
- Undefined End
- Manifold
- Customer Supply
- Fire Supply

Operational Sites

- Booster Station
- Other
- Other (Proposed)
- Pumping Station
- Service Reservoir
- Shaft Inspection
- Treatment Works
- Unknown
- Water Tower

Other Symbols

- Data Logger
- **Casement:** Ducts may contain high voltage cables. Please check with Thames Water.

PIPE DIAMETER	DEPTH BELOW GROUND
Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

Other Water Pipes (Not Operated or Maintained by Thames Water)

Other Water Company Main: Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.

Private Main: Indiates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.

Payment Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment within 14 days of the date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service or will be held to be invalid.
4. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
5. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
6. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 980 8800.

If you are unhappy with our service, you can speak to your original goods or customer service provider. If you are still not satisfied with the outcome provided, we will refer the matter to a Senior Manager for resolution who will provide you with a response.

If you are still dissatisfied with our final response, and in certain circumstances such as you are buying a residential property or commercial property within certain parameters, The Property Ombudsman will investigate your case and give an independent view. The Ombudsman can award compensation of up to £25,000 to you if he finds that you have suffered actual financial loss and/or aggravation, distress, or inconvenience because of your search not keeping to the Code. Further information can be obtained by visiting www.tpos.co.uk or by sending an email to admin@tpos.co.uk.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0300 034 2222 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

Ways to pay your bill

Credit Card	**BACS Payment**	**Telephone Banking**
Please Call **0800 009 4540** quoting your invoice number starting CBA or ADS	Account number **90478703** Sort code **60-00-01** A remittance advice must be sent to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW.** or email **ps.billing@thameswater.co.uk**	By calling your bank and quoting: Account number **90478703** Sort code **60-00-01** and your invoice number

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.

Appendix C - CCTV Survey

Project

Project Name:	HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264
Project Description:	CCTV Survey
Project Status:	Issued
Project Date:	21/09/2024
Inspection Standard:	MSCC5 Sewers & Drainage GB (SRM5 Scoring)

Happy Drains
Unit 12B Chalex Industrial Estate, Manor Hall Road, Southwick
Tel. 08008498099

Table of Contents

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

Happy Drains
Unit 12B Chalex Industrial Estate, Manor Hall Road, Southwick
Tel. 08008498099

Project Information

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

Client

Company: Happy Drains
Street: Unit 12B Chalex Industrial Estate
Town or City: Manor Hall Road, Southwick
County: East Sussex
Post Code: BN42 4NH
Phone: 08008498099

Site

Street: Flat 1, 18 Platts Lane
Town or City: Hampstead
County: London
Post Code: NW3 7NS

Contractor

Company: Happy Drains
Street: Unit 12B Chalex Industrial Estate
Town or City: Manor Hall Road, Southwick
County: East Sussex
Post Code: BN42 4NH
Phone: 08008498099

Happy Drains
Unit 12B Chalex Industrial Estate, Manor Hall Road, Southwick
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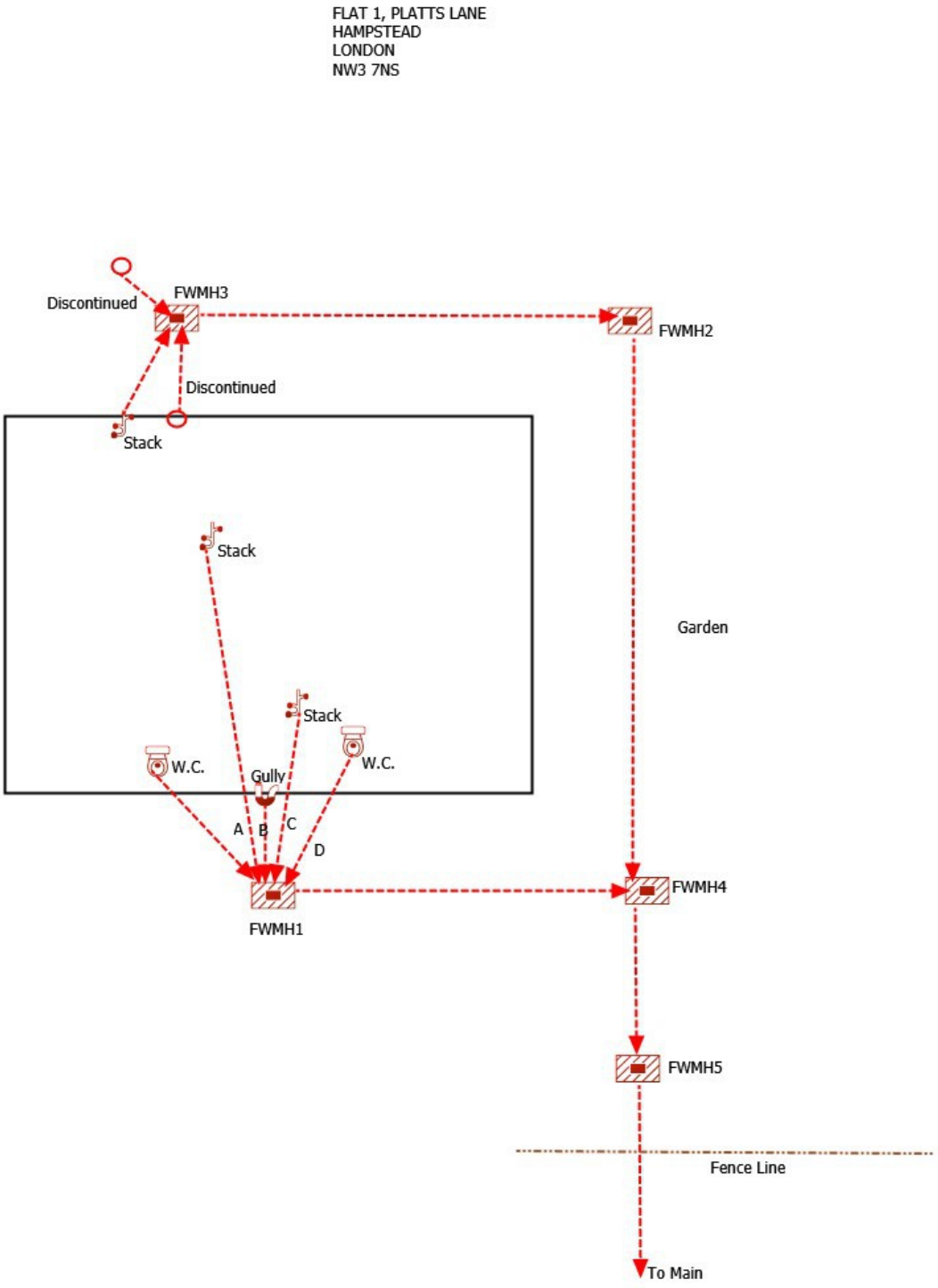
Project Information

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

Project Drawing, Page 'HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS -



Happy Drains
Unit 12B Chalex Industrial Estate, Manor Hall Road, Southwick
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Section Summary

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

Number of sections	13
Total length of sections	67.69 m
Total length of inspected sections	67.69 m
Total length of not inspected sections	0.00 m
Number of abandoned inspections	0
Number of section inspection photos	43
Number of section inspection videos	13
Number of section inspection scans	0
Number of section inclination measurements	0

PLR:	WCX	**Upstream Node:**	WC
Inspection Direction:	Upstream	**Downstream Node:**	FWMH1
Inspected Length:	10.05 m	**Dia/Height:**	100 mm
Total Length:	10.05 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH1
2	0.00	WL	Water level, 0% of the vertical dimension
3	8.15	CN	Connection other than junction at 11 o'clock, 100mm dia
4	10.05	OCF	Finish node, other special chamber, reference: WC

PLR:	StackX	**Upstream Node:**	Stack
Inspection Direction:	Upstream	**Downstream Node:**	FWMH1
Inspected Length:	11.54 m	**Dia/Height:**	100 mm
Total Length:	11.54 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH1
2	0.00	WL	Water level, 0% of the vertical dimension
3	10.41	LR	Line deviates right
4	11.54	OCF	Finish node, other special chamber, reference: Stack

PLR:	GullyX	**Upstream Node:**	Gully
Inspection Direction:	Upstream	**Downstream Node:**	FWMH1
Inspected Length:	2.84 m	**Dia/Height:**	100 mm
Total Length:	2.84 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH1
2	0.00	WL	Water level, 0% of the vertical dimension
3	2.84	GYF	Finish node, gully, reference: Gully

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Section Summary

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

PLR:	StackY	**Upstream Node:**	Stack
Inspection Direction:	Upstream	**Downstream Node:**	FWMH1
Inspected Length:	5.26 m	**Dia/Height:**	100 mm
Total Length:	5.26 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH1
2	0.00	WL	Water level, 0% of the vertical dimension
3	5.26	OCF	Finish node, other special chamber, reference: Stack

PLR:	WCY	**Upstream Node:**	WC
Inspection Direction:	Upstream	**Downstream Node:**	FWMH1
Inspected Length:	2.42 m	**Dia/Height:**	100 mm
Total Length:	2.42 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH1
2	0.00	WL	Water level, 0% of the vertical dimension
3	2.42	OCF	Finish node, other special chamber, reference: WC

PLR:	FWMH1X	**Upstream Node:**	FWMH1
Inspection Direction:	Downstream	**Downstream Node:**	JN
Inspected Length:	7.11 m	**Dia/Height:**	100 mm
Total Length:	7.11 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH1
2	0.00	WL	Water level, 0% of the vertical dimension
3	7.11	LD	Line deviates down
4	7.11	BRF	Finish node, major connection without manhole, reference: JN

PLR:	FWMH2X	**Upstream Node:**	FWMH2
Inspection Direction:	Upstream	**Downstream Node:**	Interceptor
Inspected Length:	9.00 m	**Dia/Height:**	100 mm
Total Length:	9.00 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: Interceptor
2	0.00	WL	Water level, 0% of the vertical dimension
3	9.00	MHF	Finish node, manhole, reference: FWMH2

PLR:	FWMH3X	**Upstream Node:**	FWMH3
Inspection Direction:	Upstream	**Downstream Node:**	FWMH2
Inspected Length:	6.36 m	**Dia/Height:**	100 mm
Total Length:	6.36 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH2
2	0.00	WL	Water level, 0% of the vertical dimension
3	6.36	MHF	Finish node, manhole, reference: FWMH3

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Section Summary

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

PLR:	AX	**Upstream Node:**	A
Inspection Direction:	Upstream	**Downstream Node:**	FWMH3
Inspected Length:	1.62 m	**Dia/Height:**	100 mm
Total Length:	1.62 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH3
2	0.00	WL	Water level, 0% of the vertical dimension
3	1.20	DES	Settled deposits, fine, 15% cross-sectional area loss
4	1.62	OCF	Finish node, other special chamber, reference: A

PLR:	BX	**Upstream Node:**	B
Inspection Direction:	Upstream	**Downstream Node:**	FWMH3
Inspected Length:	0.66 m	**Dia/Height:**	100 mm
Total Length:	0.66 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH3
2	0.00	WL	Water level, 0% of the vertical dimension
3	0.66	OCF	Finish node, other special chamber, reference: B

PLR:	CX	**Upstream Node:**	C
Inspection Direction:	Upstream	**Downstream Node:**	FWMH3
Inspected Length:	1.28 m	**Dia/Height:**	100 mm
Total Length:	1.28 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH3
2	0.00	WL	Water level, 0% of the vertical dimension
3	1.28	OCF	Finish node, other special chamber, reference: C

PLR:	FWMH4X	**Upstream Node:**	FWMH4
Inspection Direction:	Downstream	**Downstream Node:**	FWMH5
Inspected Length:	1.60 m	**Dia/Height:**	225 mm
Total Length:	1.60 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH4
2	0.00	WL	Water level, 5% of the vertical dimension
3	0.00	DEG	Attached deposits, grease from 12 o'clock to 12 o'clock, 15% cross-sectional area loss, start
4	1.50	DEG	Attached deposits, grease from 12 o'clock to 12 o'clock, 15% cross-sectional area loss, finish
5	1.60	MHF	Finish node, manhole, reference: FWMH5

PLR:	FWMH5X	**Upstream Node:**	FWMH5
Inspection Direction:	Downstream	**Downstream Node:**	Main
Inspected Length:	7.95 m	**Dia/Height:**	225 mm
Total Length:	7.95 m	**Material:**	Vitrified clay

No.	m+	Code	Observation
1	0.00	MH	Start node, manhole, reference: FWMH5
2	0.00	WL	Water level, 5% of the vertical dimension
3	0.50	RMJ	Roots, mass at joint, 20% cross-sectional area loss
4	0.60	RF	Roots, fine, start

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Section Summary

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

No.	m+	Code	Observation
5	2.30	RF	Roots, fine, finish
6	6.00	RFJ	Roots, fine at joint
7	7.90	RM	Roots, mass, 90% cross-sectional area loss
8	7.95	OCF	Finish node, other special chamber, reference: End of Survey

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Project Summary

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

Pipe Summary

No.	Type	PLR	Upstream Node	Downstream Node	Road	Town	Use	Mat.	Profile	Length
1	SEC	WCX	WC	FWMH1	Platts Lane	London	F	VC	Circular 100mm	10.05 m
2	SEC	StackX	STACK	FWMH1	Platts Lane	London	F	VC	Circular 100mm	11.54 m
3	SEC	GullyX	GULLY	FWMH1	Platts Lane	London	F	VC	Circular 100mm	2.84 m
4	SEC	StackY	STACK	FWMH1	Platts Lane	London	F	VC	Circular 100mm	5.26 m
5	SEC	WCY	WC	FWMH1	Platts Lane	London	F	VC	Circular 100mm	2.42 m
6	SEC	FWMH1X	FWMH1	JN	Platts Lane	London	F	VC	Circular 100mm	7.11 m
7	SEC	FWMH2X	FWMH2	INTERCEPTOR	Platts Lane	London	F	VC	Circular 100mm	9.00 m
8	SEC	FWMH3X	FWMH3	FWMH2	Platts Lane	London	F	VC	Circular 100mm	6.36 m
9	SEC	AX	A	FWMH3	Platts Lane	London	F	VC	Circular 100mm	1.62 m
10	SEC	BX	B	FWMH3	Platts Lane	London	F	VC	Circular 100mm	0.66 m
11	SEC	CX	C	FWMH3	Platts Lane	London	F	VC	Circular 100mm	1.28 m
12	SEC	FWMH4X	FWMH4	FWMH5	Platts Lane	London	F	VC	Circular 225mm	1.60 m
13	SEC	FWMH5X	FWMH5	MAIN	Platts Lane	London	F	VC	Circular 225mm	7.95 m
									Total:	**67.69 m**

Pipe Levels

No.	PLR	Upstream Node	Upstream C.L.	Upstream I.L.	Upstream I.D.	Downstream Node	Downstream C.L.	Downstream I.L.	Downstream I.D.
1	WCX	WC			0.000 m	FWMH1			0.000 m
2	StackX	STACK			0.000 m	FWMH1			0.000 m
3	GullyX	GULLY			0.000 m	FWMH1			0.000 m
4	StackY	STACK			0.000 m	FWMH1			0.000 m
5	WCY	WC			0.000 m	FWMH1			0.000 m
6	FWMH1X	FWMH1			0.000 m	JN			0.000 m
7	FWMH2X	FWMH2			0.000 m	INTERCEPTOR			0.000 m
8	FWMH3X	FWMH3			0.000 m	FWMH2			0.000 m
9	AX	A			0.000 m	FWMH3			0.000 m
10	BX	B			0.000 m	FWMH3			0.000 m

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Project Summary

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

No.	PLR	Upstream Node	Upstream C.L.	Upstream I.L.	Upstream I.D.	Downstream Node	Downstream C.L.	Downstream I.L.	Downstream I.D.
11	CX	C			0.000 m	FWMH3			0.000 m
12	FWMH4X	FWMH4			0.000 m	FWMH5			0.000 m
13	FWMH5X	FWMH5			0.000 m	MAIN			0.000 m

Pipe Summary by Profile

Profile		Total Length	No. Pipes
Circular 100mm		10.05 m	
Circular 100mm		11.54 m	
Circular 100mm		2.84 m	
Circular 100mm		5.26 m	
Circular 100mm		2.42 m	
Circular 100mm		7.11 m	
Circular 100mm		9.00 m	
Circular 100mm		6.36 m	
Circular 100mm		1.62 m	
Circular 100mm		0.66 m	
Circular 100mm		1.28 m	
Circular 100mm	=	58.14 m	11
Circular 225mm		1.60 m	
Circular 225mm		7.95 m	
Circular 225mm	=	9.55 m	2
Total	**=**	**67.69 m**	**13**

Inspection Summary

Pipe No.	Insp. No.	Upstream Node	Downstream Node	Dir.	Operator	Insp. Date	Insp. Time	Str	Ser	Final Observation	Length
1	1	WC	FWMH1	US		21/09/2024	15:33	1	1	OCF, WC Outlet	10.05 m
2	1	STACK	FWMH1	US		21/09/2024	15:36	1	1	OCF, Downpipe	11.54 m
3	1	GULLY	FWMH1	US		21/09/2024	15:40	1	1	GYF	2.84 m
4	1	STACK	FWMH1	US		21/09/2024	15:42	1	1	OCF, Downpipe	5.26 m
5	1	WC	FWMH1	US		21/09/2024	15:44	1	1	OCF, WC outlet	2.42 m
6	1	FWMH1	JN	DS		21/09/2024	15:45	1	1	BRF	7.11 m
7	1	FWMH2	INTERCEPTOR	US		21/09/2024	15:50	1	1	MHF	9.00 m

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Project Summary

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

Pipe No.	Insp. No.	Upstream Node	Downstream Node	Dir.	Operator	Insp. Date	Insp. Time	Str	Ser	Final Observation	Length
8	1	FWMH3	FWMH2	US		21/09/2024	15:51	1	1	MHF	6.36 m
9	1	A	FWMH3	US		21/09/2024	15:53	1	3	OCF, Downpipe	1.62 m
10	1	B	FWMH3	US		21/09/2024	15:53	1	1	OCF, Downpipe	0.66 m
11	1	C	FWMH3	US		21/09/2024	15:53	1	1	OCF, Downpipe	1.28 m
12	1	FWMH4	FWMH5	DS		31/12/1979	23:00	1	5	MHF	1.60 m
13	1	FWMH5	MAIN	DS		31/12/1979	23:00	1	5	OCF, End of Survey	7.95 m
										Total:	**67.69 m**

Inspection Summary by Profile

Profile		Total Length	No. Inspections
Circular 100mm		10.05 m	
Circular 100mm		11.54 m	
Circular 100mm		2.84 m	
Circular 100mm		5.26 m	
Circular 100mm		2.42 m	
Circular 100mm		7.11 m	
Circular 100mm		9.00 m	
Circular 100mm		6.36 m	
Circular 100mm		1.62 m	
Circular 100mm		0.66 m	
Circular 100mm		1.28 m	
Circular 100mm	=	58.14 m	11
Circular 225mm		1.60 m	
Circular 225mm		7.95 m	
Circular 225mm	=	9.55 m	2
Total	**=**	**67.69 m**	**13**

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Project Summary

Project Name	Project Number	Project Date
HAPPY DRAINS Flat 1 18 Platts Lane NW3 7NS - C1013264		21/09/2024

Defect Summary

				CCTV Drainage Survey Observation Count																					
				General				Structural Condition									Service Condition						Misc	
Sect. No.	Insp. No.	Upstream Node	Downstream Node	Insp. Length (m)	No. Grade 4/5 Obs.	Survey Abandoned	Camera Under Water	Cracks	Fractures	Broken	Deformed	Collapsed	Holes	Surface Damage	Displaced Joints	Open Joints	Roots	Infiltration	Encrustation	Silt	Grease	Obstruction	Water Level	Line Deviates
1	1	WC	FWMH1	10.1																			1	
2	1	STACK	FWMH1	11.5																			1	1
3	1	GULLY	FWMH1	2.8																			1	
4	1	STACK	FWMH1	5.3																			1	
5	1	WC	FWMH1	2.4																			1	
6	1	FWMH1	JN	7.1																			1	1
7	1	FWMH2	INTERCEPTOR	9.0																			1	
8	1	FWMH3	FWMH2	6.4																			1	
9	1	A	FWMH3	1.6																1			1	
10	1	B	FWMH3	0.7																			1	
11	1	C	FWMH3	1.3																			1	
12	1	FWMH4	FWMH5	1.6																	2		1	
13	1	FWMH5	MAIN	8.0	2												5						1	
			Total:	**67.7**	**2**												**5**			**1**	**2**		**13**	**2**

Happy Drains
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Tel. 08008498099

Section Inspection - 21/09/2024 - WCX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
1	1	21/09/24	15:33	Not Specified	No Rain Or Snow	Unknown	WCX

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	0.20 m	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	WC
Road:	Platts Lane	**Inspected Length:**	10.05 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	10.05 m	**Downstream Node:**	FWMH1
Surface Type:		**Joint Length:**	0.70 m	**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Complete, no defects
Recommendations: None

Scale: 1:88

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: FWMH1	00:00:00	WCX_6fc7e5e8-1425-47ef-9898	
0.00	WL	Water level, 0% of the vertical dimension	00:00:00	WCX_39352e6f-2fab-4614-825	
8.15	CN	Connection other than junction at 11 o'clock, 100mm dia	00:00:38	1035e34e-b20a-47e5-a1c4-b78	
10.05	OCF	Finish node, other special chamber, reference: WC: WC Outlet	00:00:51	30e71dd8-0ac1-49ed-8709-9a3	

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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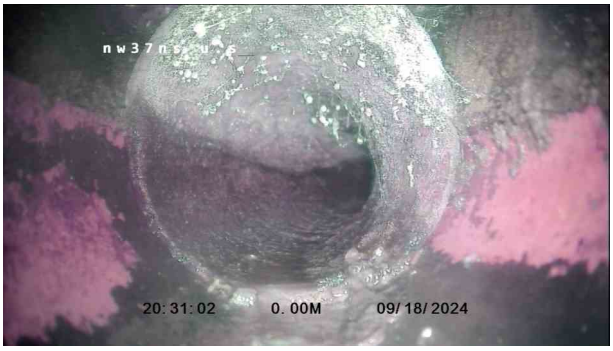
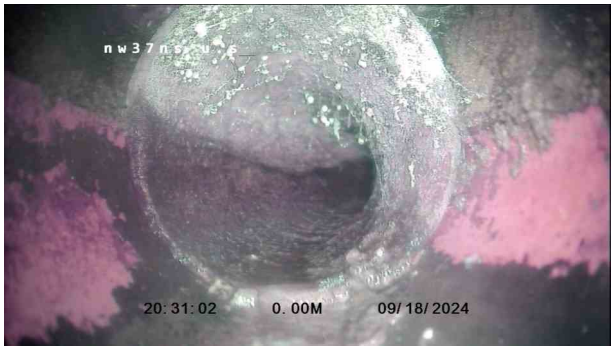
Section Pictures - 21/09/2024 - WCX

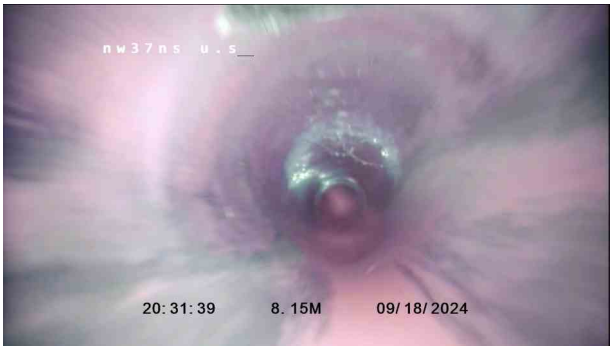
Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
1	Upstream	WCX		



WCX_6fc7e5e8-1425-47ef-9898-0138bef9f86b_20240922_124329_312.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH1



WCX_39352e6f-2fab-4614-8250-97e7712343d3_20240922_124336_317.jpg, 00:00:00, 0.00 m
Water level, 0% of the vertical dimension



1035e34e-b20a-47e5-a1c4-b78ced69edcd.png, 00:00:38, 8.15 m
Connection other than junction at 11 o'clock, 100mm dia

30e71dd8-0ac1-49ed-8709-9a35791bb8be.png, 00:00:51, 10.05 m
Finish node, other special chamber, reference: WC, WC Outlet

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Section Inspection - 21/09/2024 - StackX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
2	1	21/09/24	15:36	Not Specified	No Rain Or Snow	Unknown	STACKX

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	0.20 m	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	STACK
Road:	Platts Lane	**Inspected Length:**	11.54 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	11.54 m	**Downstream Node:**	FWMH1
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Complete, no defects
Recommendations: None

Scale: 1:100

Depth: m
FWMH1

Stack
Depth: m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: FWMH1	00:00:00	StackX_8b9c0b4c-9d23-4312-8	
0.00	WL	Water level, 0% of the vertical dimension	00:00:00	StackX_cd691033-bd49-4663-9	
10.41	LR	Line deviates right	00:00:47		
11.54	OCF	Finish node, other special chamber, reference: Stack: Downpipe	00:01:04	9595a0a6-322a-459c-9cde-2c2	

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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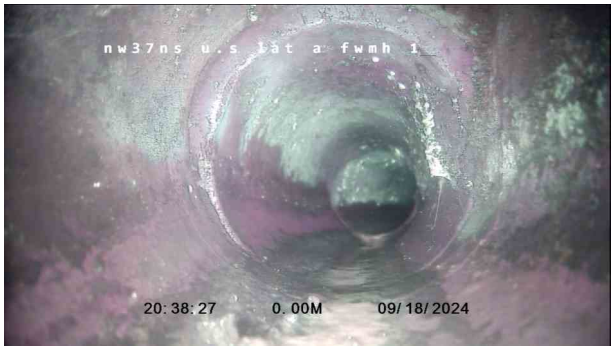
Section Pictures - 21/09/2024 - StackX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
2	Upstream	STACKX		

StackX_8b9c0b4c-9d23-4312-810a-e2578a160066_20240922_124349_381.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH1



StackX_cd691033-bd49-4663-9acf-ac5623cbe645_20240922_124355_226.jpg, 00:00:00, 0.00 m
Water level, 0% of the vertical dimension

9595a0a6-322a-459c-9cde-2c20bc233e4d.png, 00:01:04, 11.54 m
Finish node, other special chamber, reference: Stack, Downpipe

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Section Inspection - 21/09/2024 - GullyX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
3	1	21/09/24	15:40	Not Specified	No Rain Or Snow	Unknown	GULLYX

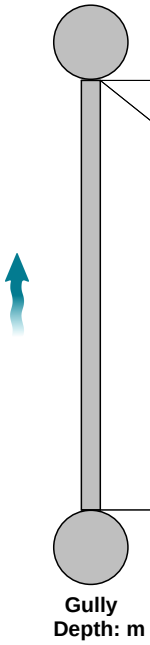
Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	0.20 m	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	GULLY
Road:	Platts Lane	**Inspected Length:**	2.84 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	2.84 m	**Downstream Node:**	FWMH1
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Complete, no defects
Recommendations: None

Scale: 1:50



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: FWMH1	00:00:00	GullyX_2fd6a9c8-f466-420b-a9	
0.00	WL	Water level, 0% of the vertical dimension	00:00:00	GullyX_8e7b33be-abac-4371-b	
2.84	GYF	Finish node, gully, reference: Gully	00:00:12	ea6b7b9f-6510-4b38-a6e8-01c	

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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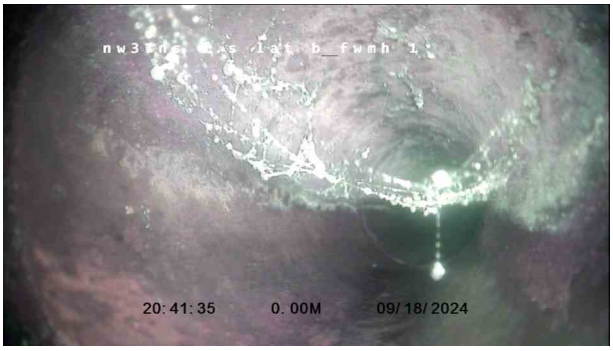
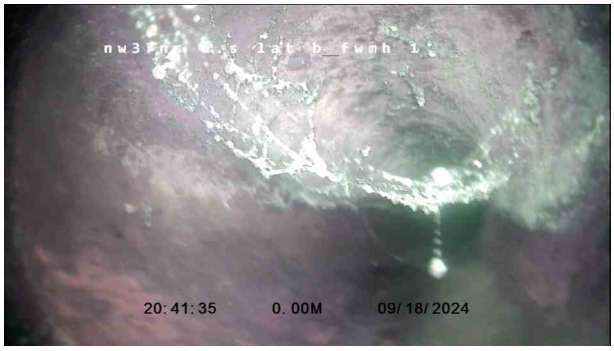
Section Pictures - 21/09/2024 - GullyX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
3	Upstream	GULLYX		



GullyX_2fd6a9c8-f466-420b-a91e-420624c9f054_20240922_124408_623.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH1



GullyX_8e7b33be-abac-4371-b555-912a57c9bdfd_20240922_124412_143.jpg, 00:00:00, 0.00 m
Water level, 0% of the vertical dimension

ea6b7b9f-6510-4b38-a6e8-01c8136cf193.png, 00:00:12, 2.84 m
Finish node, gully, reference: Gully

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Section Inspection - 21/09/2024 - StackY

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
4	1	21/09/24	15:42	Not Specified	No Rain Or Snow	Unknown	STACKY

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	0.20 m	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	STACK
Road:	Platts Lane	**Inspected Length:**	5.26 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	5.26 m	**Downstream Node:**	FWMH1
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Complete, no defects
Recommendations: None

Scale: 1:50

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: FWMH1	00:00:00	StackY_258e7d10-5cd7-4268-8	
0.00	WL	Water level, 0% of the vertical dimension	00:00:01	StackY_6797472a-554f-4fad-aa	
5.26	OCF	Finish node, other special chamber, reference: Stack: Downpipe	00:00:22	84ed1b34-c6c8-427d-a4b3-ca0	

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 21/09/2024 - StackY

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
4	Upstream	STACKY		

StackY_258e7d10-5cd7-4268-8a6d-db3b72df8407_20240922_124424_257.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH1

StackY_6797472a-554f-4fad-aa6c-5ee8321ffe1b_20240922_124427_948.jpg, 00:00:01, 0.00 m
Water level, 0% of the vertical dimension

84ed1b34-c6c8-427d-a4b3-ca011fc27df4.png, 00:00:22, 5.26 m
Finish node, other special chamber, reference: Stack, Downpipe

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Section Inspection - 21/09/2024 - WCY

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
5	1	21/09/24	15:44	Not Specified	No Rain Or Snow	Unknown	WCY

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	0.20 m	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	WC
Road:	Platts Lane	**Inspected Length:**	2.42 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	2.42 m	**Downstream Node:**	FWMH1
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Complete, no defects
Recommendations: None

Scale: 1:50

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: FWMH1	00:00:00	WCY_1def0308-151b-4cf7-9529	
0.00	WL	Water level, 0% of the vertical dimension	00:00:01	WCY_dc5f5864-2216-4b03-a2c	
2.42	OCF	Finish node, other special chamber, reference: WC: WC outlet	00:00:24	def27aae-c442-4bde-a74f-5681	

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 21/09/2024 - WCY

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
5	Upstream	WCY		

WCY_1def0308-151b-4cf7-9529-d6fc00c39383_20240922_124440_568.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH1

WCY_dc5f5864-2216-4b03-a2c6-f1647335528a_20240922_124445_706.jpg, 00:00:01, 0.00 m
Water level, 0% of the vertical dimension

def27aae-c442-4bde-a74f-5681a032a4e3.png, 00:00:24, 2.42 m
Finish node, other special chamber, reference: WC, WC outlet

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Section Inspection - 21/09/2024 - FWMH1X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
6	1	21/09/24	15:45	Not Specified	No Rain Or Snow	Unknown	FWMH1X

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	0.20 m	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Downstream	**Upstream Node:**	FWMH1
Road:	Platts Lane	**Inspected Length:**	7.11 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	7.11 m	**Downstream Node:**	JN
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Complete, no defects
Recommendations: None

Scale: 1:62

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: FWMH1	00:00:00	FWMH1X_5deb5bc2-7c55-4057	
0.00	WL	Water level, 0% of the vertical dimension	00:00:01	FWMH1X_204676a4-f1ee-4a5b-	
7.11	LD	Line deviates down	00:00:35	6d2dfc35-97b3-4dc0-83ae-877	
7.11	BRF	Finish node, major connection without manhole, reference: JN	00:00:53		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 21/09/2024 - FWMH1X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
6	Downstream	FWMH1X		

FWMH1X_5deb5bc2-7c55-4057-90d4-8b2aef45b3f9_20240922_124458_447.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH1

FWMH1X_204676a4-f1ee-4a5b-8388-85c73dd93639_20240922_124503_884.jpg, 00:00:01, 0.00 m
Water level, 0% of the vertical dimension

6d2dfc35-97b3-4dc0-83ae-87758a451ba8.png, 00:00:35, 7.11 m
Line deviates down

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Section Inspection - 21/09/2024 - FWMH2X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
7	1	21/09/24	15:50	Not Specified	No Rain Or Snow	Unknown	FWMH2X

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	Not Specified	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	FWMH2
Road:	Platts Lane	**Inspected Length:**	9.00 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	9.00 m	**Downstream Node:**	INTERCEPTOR
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Complete, no defects
Recommendations: None

Scale: 1:78

Position [m]	Code	Observation	MPEG	Photo	Grade
		Depth: m			
		Interceptor			
0.00	MH	Start node, manhole, reference: Interceptor	00:00:00	FWMH2X_aa963c10-c128-4f11-	
0.00	WL	Water level, 0% of the vertical dimension	00:00:01	FWMH2X_ec042548-a515-4205	
9.00	MHF	Finish node, manhole, reference: FWMH2	00:01:02	a9ad20ed-5963-477c-ada5-32f7	
		FWMH2			
		Depth: m			

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 21/09/2024 - FWMH2X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
7	Upstream	FWMH2X		

FWMH2X_aa963c10-c128-4f11-905d-d98281da8b31_20240922_124517_203.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: Interceptor

FWMH2X_ec042548-a515-4205-bbdd-a3d21bd212fa_20240922_124520_575.jpg, 00:00:01, 0.00 m
Water level, 0% of the vertical dimension

a9ad20ed-5963-477c-ada5-32f789414d7a.png, 00:01:02, 9.00 m
Finish node, manhole, reference: FWMH2

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Section Inspection - 21/09/2024 - FWMH3X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
8	1	21/09/24	15:51	Not Specified	No Rain Or Snow	Unknown	FWMH3X

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	0.20 m	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	FWMH3
Road:	Platts Lane	**Inspected Length:**	6.36 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	6.36 m	**Downstream Node:**	FWMH2
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Complete, no defects
Recommendations: None

Scale: 1:56

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: FWMH2	00:00:00	FWMH3X_c4bc48de-c0dc-4c9c-	
0.00	WL	Water level, 0% of the vertical dimension	00:00:02	FWMH3X_328538a0-1892-4cb2	
6.36	MHF	Finish node, manhole, reference: FWMH3	00:02:49	5aedf74f-88a5-4976-afdf-3cda2	

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Happy Drains
Unit 12B Chalex Industrial Estate, Manor Hall Road, Southwick
Tel. 08008498099

Section Pictures - 21/09/2024 - FWMH3X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
8	Upstream	FWMH3X		

FWMH3X_c4bc48de-c0dc-4c9c-9de3-39b2400c1c88_20240922_124532_142.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH2

FWMH3X_328538a0-1892-4cb2-a994-308f94411719_20240922_124544_343.jpg, 00:00:02, 0.00 m
Water level, 0% of the vertical dimension

5aedf74f-88a5-4976-afdf-3cda24e694d6.png, 00:02:49, 6.36 m
Finish node, manhole, reference: FWMH3

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Tel. 08008498099

Section Inspection - 21/09/2024 - AX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
9	1	21/09/24	15:53	Not Specified	No Rain Or Snow	Unknown	AX

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	0.20 m	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	A
Road:	Platts Lane	**Inspected Length:**	1.62 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	1.62 m	**Downstream Node:**	FWMH3
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Debris in line
Recommendations: Line clean

Scale: 1:50

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: FWMH3	00:00:00	AX_ac8cd9ed-97ea-4f14-bfe1-	
0.00	WL	Water level, 0% of the vertical dimension	00:00:00	AX_bea1b3f1-d0ba-47b6-8eb1-	
1.20	DES	Settled deposits, fine, 15% cross-sectional area loss	00:00:09	87a894b7-0156-42bd-9139-531	3
1.62	OCF	Finish node, other special chamber, reference: A: Downpipe	00:00:14	76b5bf84-be92-46c0-b679-635	

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	1	2.0	1.2	2.0	3.0

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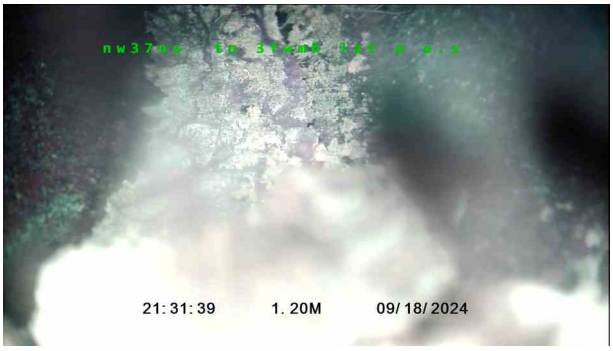
Tel. 08008498099

Section Pictures - 21/09/2024 - AX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
9	Upstream	AX		

AX_ac8cd9ed-97ea-4f14-bfe1-7682d8d4aac3_20240922_124806_879.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH3

AX_bea1b3f1-d0ba-47b6-8eb1-630b301e0136_20240922_124810_536.jpg, 00:00:00, 0.00 m
Water level, 0% of the vertical dimension



87a894b7-0156-42bd-9139-5314e2be234a.png, 00:00:09, 1.20 m
Settled deposits, fine, 15% cross-sectional area loss

76b5bf84-be92-46c0-b679-635ab064f888.png, 00:00:14, 1.62 m
Finish node, other special chamber, reference: A, Downpipe

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Section Inspection - 21/09/2024 - BX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
10	1	21/09/24	15:53	Not Specified	No Rain Or Snow	Unknown	BX

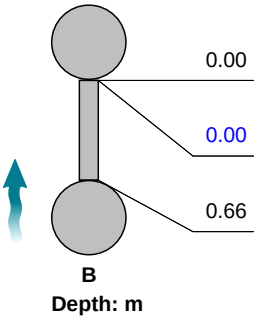
Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	Not Specified	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	B
Road:	Platts Lane	**Inspected Length:**	0.66 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	0.66 m	**Downstream Node:**	FWMH3
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Complete, no defects
Recommendations: None

Scale: 1:50



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: FWMH3	00:00:00	BX_e3ceaddc-6c6a-42aa-8a74	
0.00	WL	Water level, 0% of the vertical dimension	00:00:00	BX_9bd0341b-d7c1-42d4-bef4-	
0.66	OCF	Finish node, other special chamber, reference: B: Downpipe	00:00:07	3209b333-d151-4a5f-9277-4b51	

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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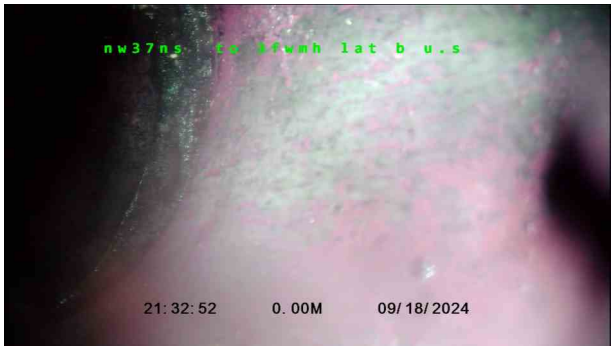
Section Pictures - 21/09/2024 - BX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
10	Upstream	BX		

BX_e3ceaddc-6c6a-42aa-8a74-01ea3157009c_20240922_124823_491.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH3



BX_9bd0341b-d7c1-42d4-bef4-95c8c0eed3ce_20240922_124827_174.jpg, 00:00:00, 0.00 m
Water level, 0% of the vertical dimension

3209b333-d151-4a5f-9277-4b518c39258d.png, 00:00:07, 0.66 m
Finish node, other special chamber, reference: B, Downpipe

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Section Inspection - 21/09/2024 - CX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
11	1	21/09/24	15:53	Not Specified	No Rain Or Snow	Unknown	CX

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	0.20 m	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	C
Road:	Platts Lane	**Inspected Length:**	1.28 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	1.28 m	**Downstream Node:**	FWMH3
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Complete, no defects
Recommendations: None

Scale: 1:50

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: FWMH3	00:00:00	CX_142534f0-107b-4de2-a719-	
0.00	WL	Water level, 0% of the vertical dimension	00:00:01	CX_5077d3d9-44c0-4501-b08d	
1.28	OCF	Finish node, other special chamber, reference: C: Downpipe	00:00:21	77f305b3-29ef-45f8-bfef-f0df4b	

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 21/09/2024 - CX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
11	Upstream	CX		

CX_142534f0-107b-4de2-a719-1bf22820c6d7_20240922_124839_530.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH3

CX_5077d3d9-44c0-4501-b08d-78f4bcd68e0f_20240922_124843_143.jpg, 00:00:01, 0.00 m
Water level, 0% of the vertical dimension

77f305b3-29ef-45f8-bfef-f0df4b8f19d9.png, 00:00:21, 1.28 m
Finish node, other special chamber, reference: C, Downpipe

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Section Inspection - 31/12/1979 - FWMH4X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
12	1	31/12/79	23:00	Not Specified	No Rain Or Snow	Unknown	FWMH4X

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	Not Specified	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Downstream	**Upstream Node:**	FWMH4
Road:	Platts Lane	**Inspected Length:**	1.60 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	1.60 m	**Downstream Node:**	FWMH5
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Grease Throughout
Recommendations: HPWJ to remove Grease

Scale: 1:50

Position [m]		Code	Observation	MPEG	Photo	Grade
Depth: m						
FWMH4						
0.00		MH	Start node, manhole, reference: FWMH4	00:00:00	FWMH4X_c8c40d6b-469b-4a22	
0.00		WL	Water level, 5% of the vertical dimension	00:00:01		
0.00	S01	DEG	Attached deposits, grease from 12 o'clock to 12 o'clock, 15% cross-sectional area loss, start	00:00:17	FWMH4X_94a2c97c-eaee-4857	
1.50	F01	DEG	Attached deposits, grease from 12 o'clock to 12 o'clock, 15% cross-sectional area loss, finish	00:00:32		3
1.60		MHF	Finish node, manhole, reference: FWMH5	00:00:32		
FWMH5						
Depth: m						

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	1	4.0	5.0	8.0	5.0

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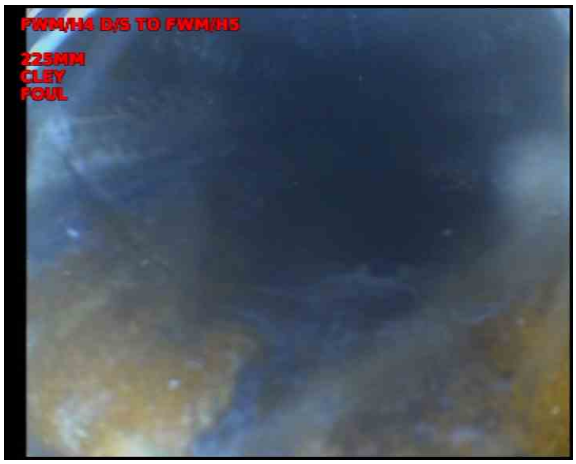
Section Pictures - 31/12/1979 - FWMH4X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
12	Downstream	FWMH4X		

FWMH4X_c8c40d6b-469b-4a22-bcc3-93ee2a049102_20241007_013123_193.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH4



FWMH4X_92b6c406-38bd-46ac-bc18-7620f114b33a_20241007_013144_754.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH4

FWMH4X_94a2c97c-eaee-4857-9370-c830deeef467_20241007_013211_693.jpg, 00:00:17, 0.00 m
Attached deposits, grease from 12 o'clock to 12 o'clock, 15% cross-sectional area loss, start

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Section Inspection - 31/12/1979 - FWMH5X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
13	1	31/12/79	23:00	Not Specified	No Rain Or Snow	Unknown	FWMH5X

Operator	Vehicle	Camera	Preset Length	Criticality Grade	Alternative ID
Not Specified	Not Specified	Push Camera	Not Specified	Category C	Not Specified

Town or Village:	London	**Inspection Direction:**	Downstream	**Upstream Node:**	FWMH5
Road:	Platts Lane	**Inspected Length:**	7.95 m	**Upstream Pipe Depth:**	
Location:	Property or buildings	**Total Length:**	7.95 m	**Downstream Node:**	MAIN
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments: Mass root ingress noted
Recommendations: Root cut and install 5 x CIPR Patches

Scale: 1:69

Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		MH	Start node, manhole, reference: FWMH5	00:00:00	FWMH5X_50f5f175-83b9-48ed-	
0.00		WL	Water level, 5% of the vertical dimension	00:00:00		
0.50		RMJ	Roots, mass at joint, 20% cross-sectional area loss	00:00:11	FWMH5X_4012fe3c-2693-4359	5
0.60	S01	RF	Roots, fine, start	00:00:14	FWMH5X_b43a86fe-5da2-4c1a	
2.30	F01	RF	Roots, fine, finish	00:00:53		2
6.00		RFJ	Roots, fine at joint	00:00:36	FWMH5X_8aaea2d5-d64c-4bc7	2
7.90		RM	Roots, mass, 90% cross-sectional area loss	00:00:53	FWMH5X_da81ad58-43de-48ab	5
7.95		OCF	Finish node, other special chamber, reference: End of Survey: End of Survey	00:00:53		

Construction Features / Structural Defects

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade
0	0.0	0.0	0.0	1.0

Miscellaneous Features / Service & Operational Observations

SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
4	20.0	4.2	33.0	5.0

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Tel. 08008498099

Section Pictures - 31/12/1979 - FWMH5X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
13	Downstream	FWMH5X		

FWMH5X_50f5f175-83b9-48ed-bd47-e08b24fcfa8d_20241007_013455_553.jpg, 00:00:00, 0.00 m
Start node, manhole, reference: FWMH5

FWMH5X_4012fe3c-2693-4359-b224-8d47829c168f_20241007_013558_121.jpg, 00:00:11, 0.50 m
Roots, mass at joint, 20% cross-sectional area loss

FWMH5X_b43a86fe-5da2-4c1a-85a0-939ac1816a89_20241007_013630_449.jpg, 00:00:14, 0.60 m
Roots, fine, start

FWMH5X_8aaea2d5-d64c-4bc7-8aee-dac7876d4129_20241007_013734_189.jpg, 00:00:36, 6.00 m
Roots, fine at joint

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Section Pictures - 31/12/1979 - FWMH5X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
13	Downstream	FWMH5X		

FWMH5X_da81ad58-43de-48ab-ac0c-af8977441448_20241007_013825_178.jpg, 00:00:53, 7.90 m
Roots, mass, 90% cross-sectional area loss

Appendix D - Brownfield Calculations

Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Aegaea		

Brownfield area

Type : Catchment Area

Area (ha)	0.016

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address: Aegaea		

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Diameter (mm)	Min. Slope (1:X)	Max. Slope (1:X)
100	0.00	0.00
150	0.00	0.00

Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address: Aegaea		

Manhole Options

Apply Offset	☐

Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Title: Rainfall Analysis Criteria	Company Address: Aegaea		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	10
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FSR

Type: FSR

Region	England And Wales
M5-60 (mm)	21.0
Ratio R	0.436
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
1.0	0.000
30.0	0.000
100.0	0.000
30.0	35.000
100.0	40.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Title: UK and Ireland Rural Runoff Calculator	Company Address: Aegaea		

ICP SUDS / IH 124

Details

Method	ICP SUDS
Area (ha)	0.023
SAAR (mm)	622.0
Soil	0.47
Region	Region 6
Urban	0
Return Period (years)	0

Results

Region	QBAR Rural (L/s)	QBAR Urban (L/s)	Q 1 (years) (L/s)	Q 30 (years) (L/s)	Q 100 (years) (L/s)
Region 6	0.1	0.1	0.1	0.2	0.3

Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Brownfield area	FSR: 1 years: +0 %: 15 mins: Summer	0.02	3.0	1.329

Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Brownfield area	FSR: 30 years: +0 %: 15 mins: Summer	0.02	7.2	3.264

Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Brownfield area	FSR: 100 years: +0 %: 15 mins: Summer	0.02	9.4	4.251

Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 30 years: Increase Rainfall (%): +35: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Brownfield area	FSR: 30 years: +35 %: 15 mins: Summer	0.02	9.8	4.407

Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Brownfield area	FSR: 100 years: +40 %: 15 mins: Summer	0.02	13.2	5.949

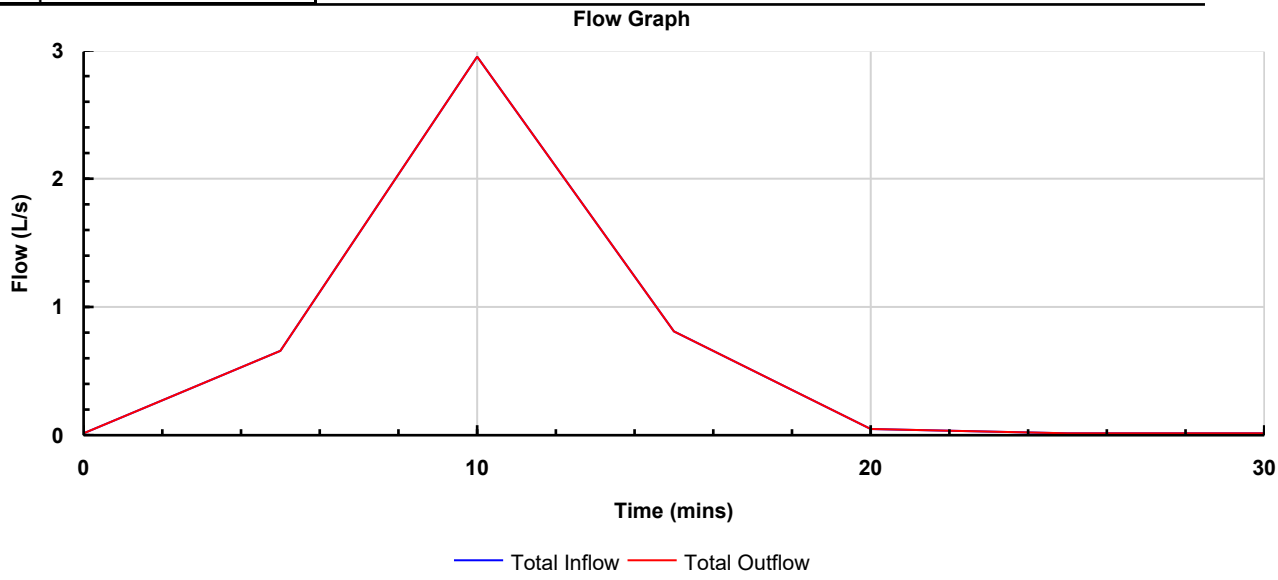
Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Aegaea		

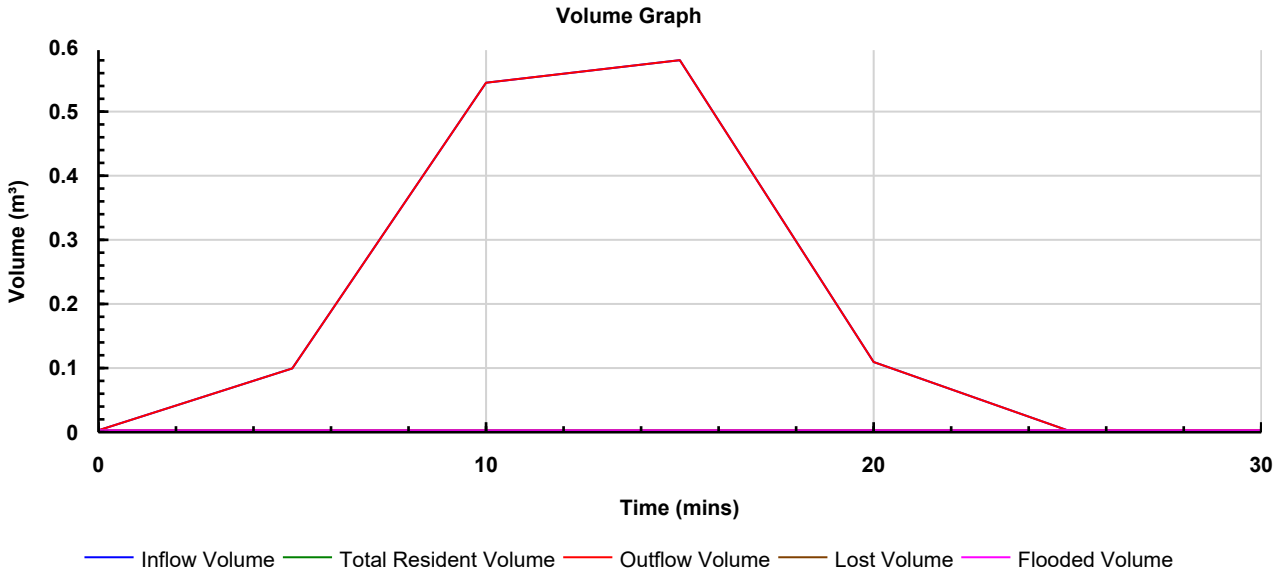
Phase
FSR: 1 years: Increase Rainfall (%): +0: 15 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	3.0	1.329	3.0	1.329

Graphs





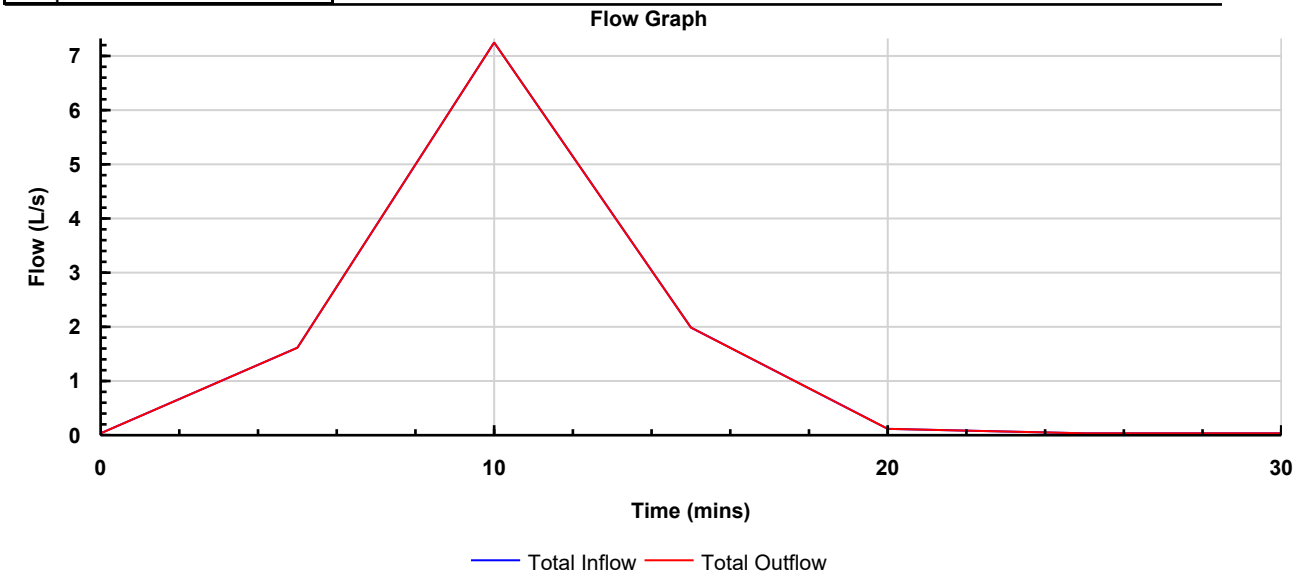
Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Aegaea		

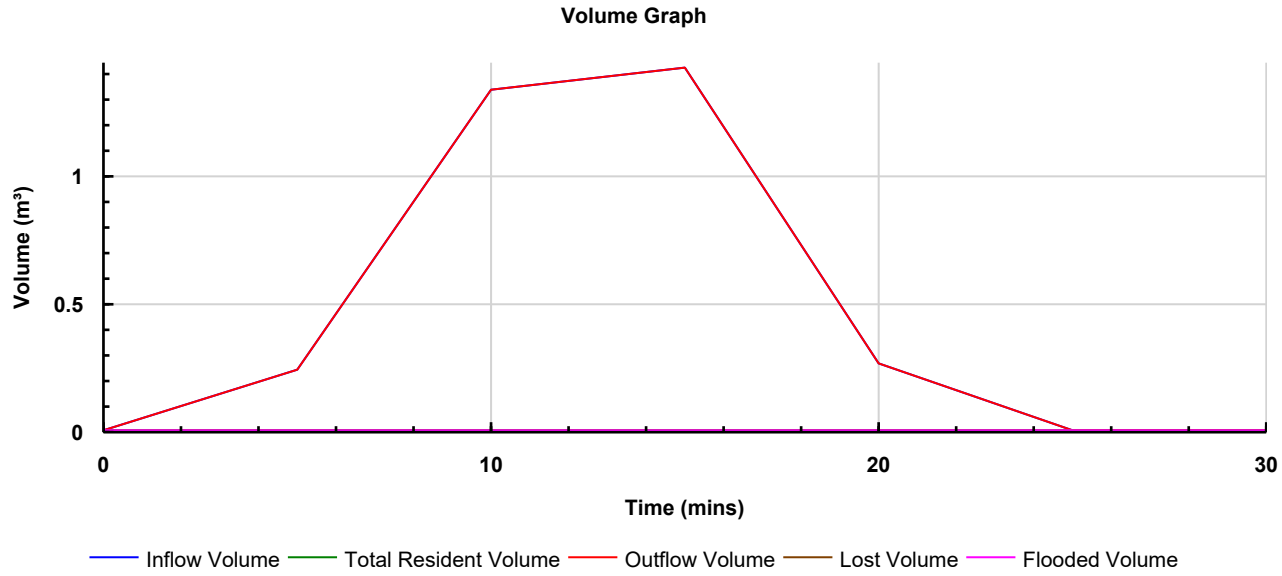
Phase
FSR: 30 years: Increase Rainfall (%): +0: 15 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	7.2	3.264	7.2	3.264

Graphs





Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Aegaea		

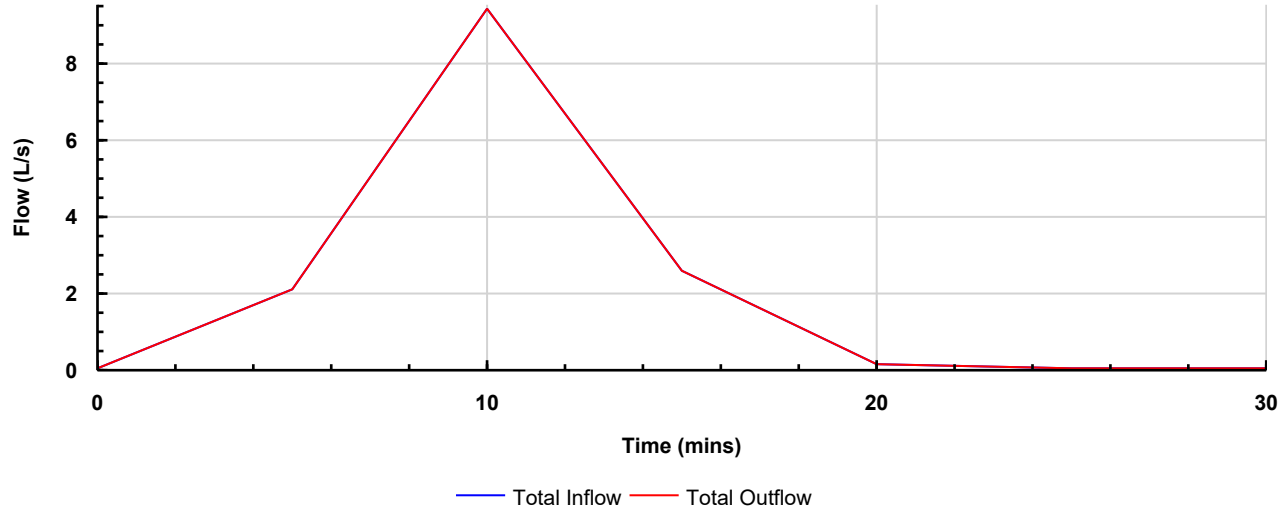
Phase
FSR: 100 years: Increase Rainfall (%): +0: 15 mins: Summer

Tables

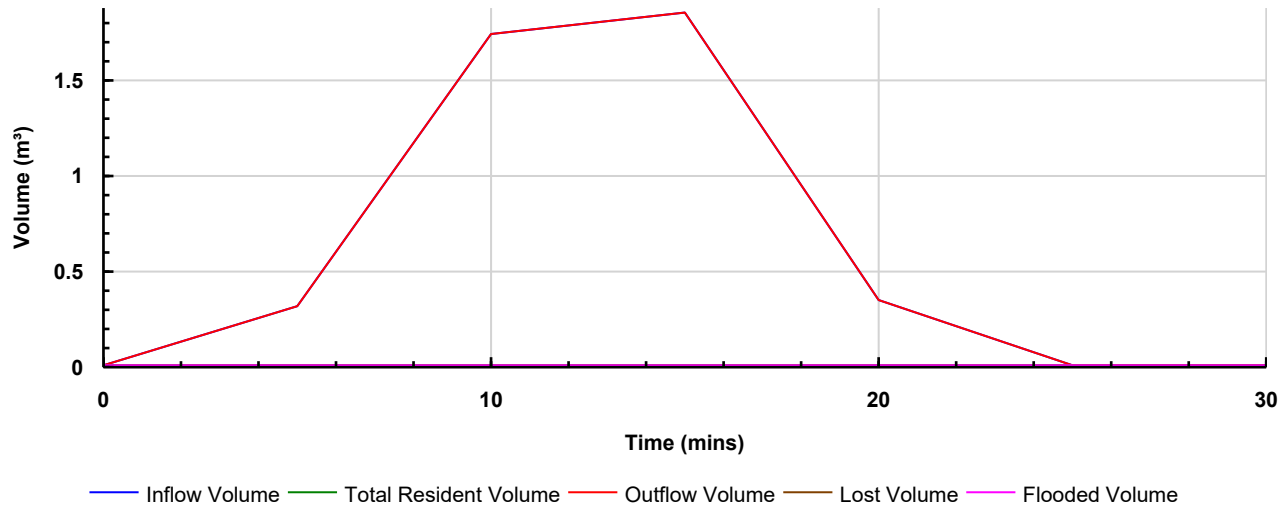
Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	9.4	4.251	9.4	4.251

Graphs

Flow Graph



Volume Graph



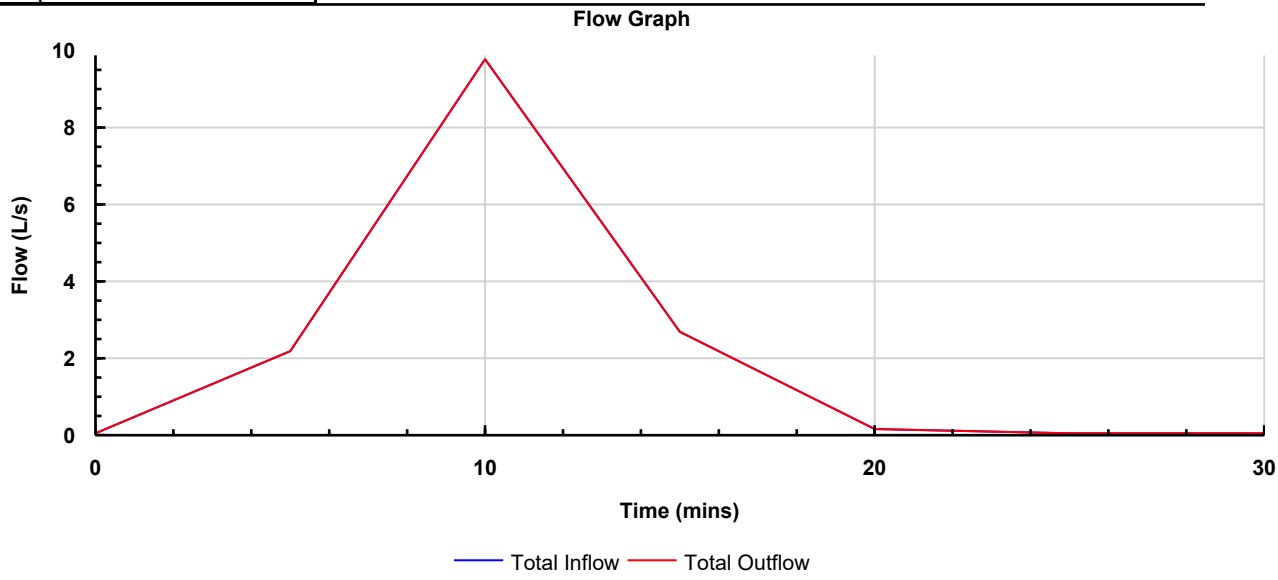
Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Aegaea		

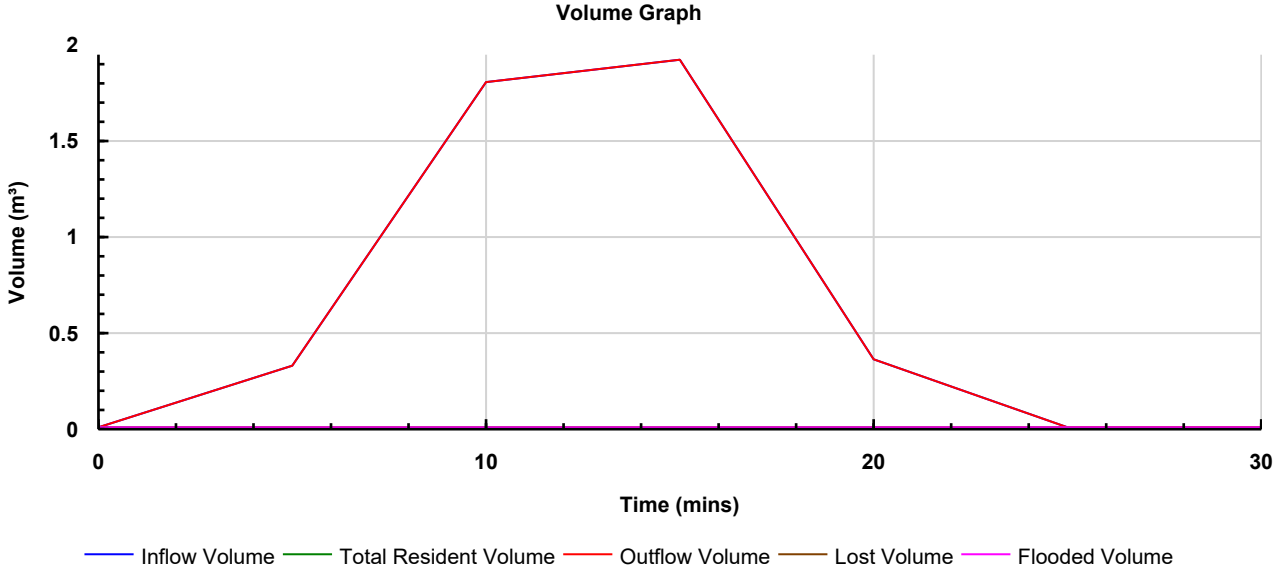
Phase
FSR: 30 years: Increase Rainfall (%): +35: 15 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	9.8	4.407	9.8	4.407

Graphs





Project:	Date:		
Flat 1, 18 Platt's Lane, Hampstead, NW3 7NS Brownfield Calculations	11/11/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Aegaea		

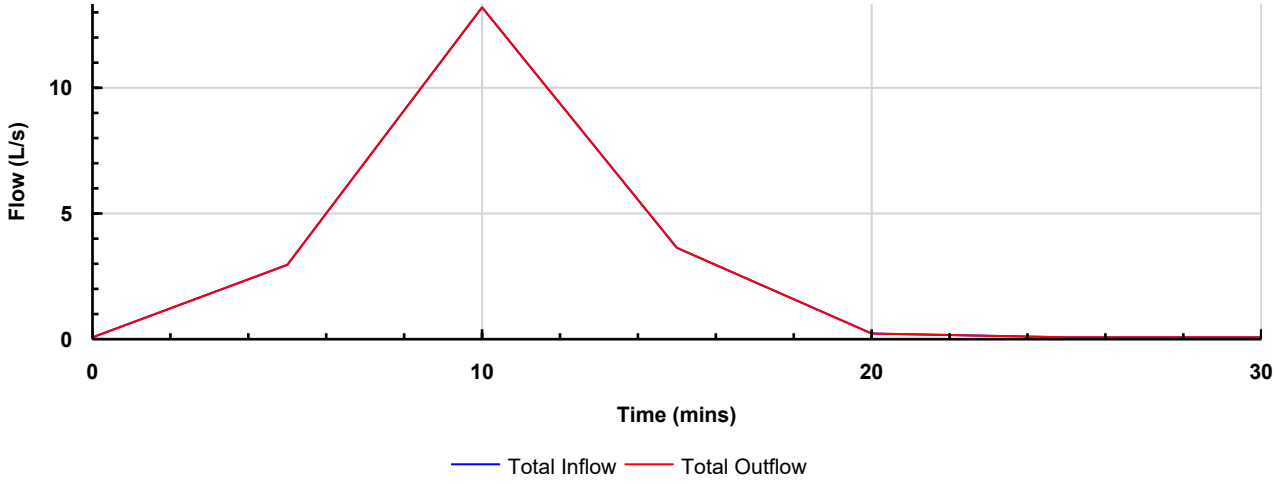
Phase
FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

Tables

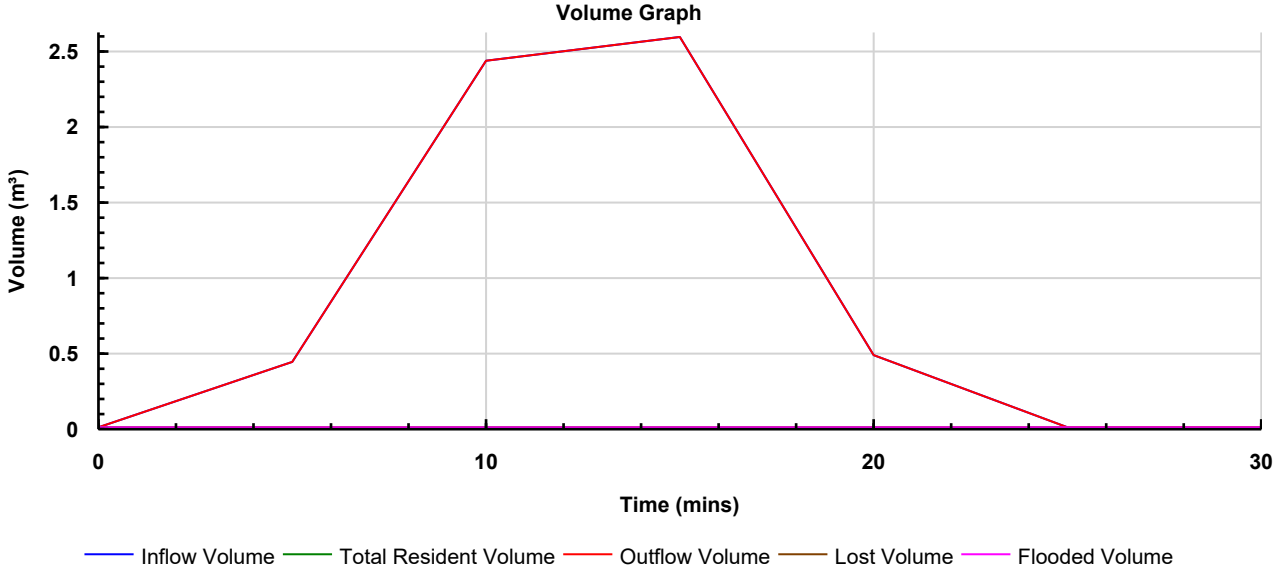
Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	13.2	5.949	13.2	5.949

Graphs

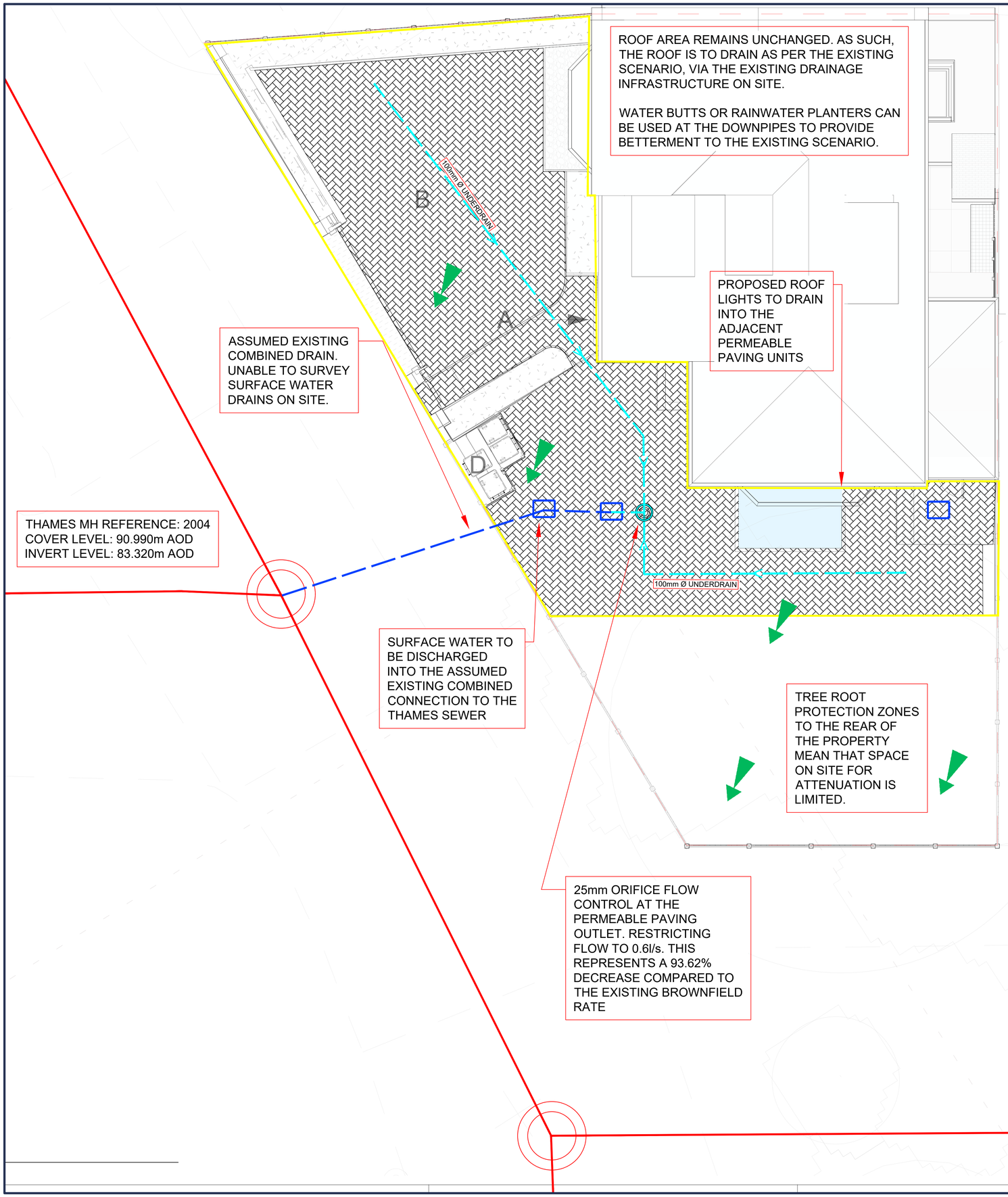
Flow Graph



Volume Graph



Appendix E - Surface Water Drainage Layout



TYPE C PERMEABLE TARMAC CONSTRUCTION - FOR ALL PAVING STRUCTURES

VOID RATIO: 30%

TO BE UTILISED FOR CONVEYANCE AND TREATMENT. SURFACE WATER TO BE CONVEYED INTO THE UNDERGROUND DRAINAGE NETWORK

SUB-BASE TO BE LAID FLAT

BOTH UNITS TO HAVE A 25mm ORIFICE PLATE AT THE OUTLET TO RETAIN SURFACE WATER IN THE SUB-BASE.

FINISHED SUBJECT TO ARCHITECTS SPECIFICATION - BLOCK PAVING OR SIMILAR. SUB-BASE TO BE LINED (NO INFILTRATION)

1. PERMEABLE BLOCK PAVING FINISH
2. LAYING COURSE MATERIAL
3. GEOTEXTILE
4. SUB-BASE 6-20mm CLEAN CRUSHED STONE
5. IMPERMEABLE MEMBRANE

PLAN AREA: 130m^2

SUB-BASE DEPTH: 0.35m

TOTAL ATTENUATION AVAILABLE: 13.65m^3

NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT REPORTS, PLANS AND ARCHITECTURAL DRAWINGS
2. THIS DRAWING SHOULD NOT BE SCALED. THERE SHOULD BE NO RELIANCE ON THIS DRAWING WITH REGARDS TO DIMENSIONS. ALL DIMENSIONS SHOULD BE CONFIRMED ON SITE.
3. ANY DISCREPANCY ON THIS DRAWING SHOULD BE REPORTED TO AEGAEA IMMEDIATELY FOR CLARIFICATION.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORKS AND FOR THE STABILITY, INSTALLATION AND HEALTH AND SAFETY OF THE WORKS.
5. AEGAEA HAVE PRODUCED THIS DRAWING BASED ON THE DRAWINGS AND INFORMATION PROVIDED BY THE CLIENT AVAILABLE AT THE TIME OF PRODUCTION. WE CANNOT ACCEPT RESPONSIBILITY FOR DISCREPANCIES RESULTING FROM NEW PLANS/ INFORMATION BEING ISSUED POST-ISSUE OF THIS DRAWING. THE CONTRACTOR SHOULD REVIEW THIS DRAWING IN LIGHT OF WIDER SITE INFORMATION SUCH AS CONTAMINATION, UTILITIES SURVEYS AND SITE INVESTIGATIONS
6. IT IS THE RESPONSIBILITY OF THE PRINCIPLE CONTRACTOR TO MAKE THE DESIGNER AND CLIENT AWARE OF SITE-SPECIFIC RISKS AND HAZARDS THAT MAY AFFECT THE DRAWING AND SPECIFICATION

LEGEND

- PUBLIC SURFACE WATER SEWER
- EXISTING COMBINED WATER DRAIN
- PROPOSED SURFACE WATER DRAIN
- FLOW CONTROL DEVICE
- PERMEABLE PAVING
- RAINWATER PIPE
- RAINWATER SuDS PLANTER
- PUBLIC COMBINED SEWER MANHOLE
- EXISTING COMBINED MANHOLE
- CATCHMENT AREA
- EXCEEDANCE FLOW ROUTES

CLIENT: TOBY VANHEGAN

SITE: FLAT 1, 18 PLATT'S LANE, HAMPSTEAD, NW3 7NS.

DRAWING: SURFACE WATER DRAINAGE LAYOUT

DRAWING NUMBER: 5524_DR01

DATE: 09/12/2024 | **REV: THIRD ISSUE**

DRAWN BY: JA

DRAWING SCALE: 1:100

PRELIMINARY DRAWING FOR PLANNING ONLY - NOT FOR CONSTRUCTION

aegaea
water, civils and environment

Appendix F - InfoDrainage Calculations

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Aegaea		

Hardstanding area

Type : Catchment Area

Area (ha)	0.016

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (mins)	5
Percentage Impervious (%)	100

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by:	Checked by:	Approved By:
	JA		
Report Details:	Company Address:		
Type: Stormwater Controls Storm Phase: Phase	Aegaea		

Patio Permeable Paving

Type : Porous Paving

Dimensions

Exceedance Level (m)	92.000
Depth (m)	0.350
Base Level (m)	91.650
Paving Layer Depth (mm)	70
Membrane Percolation (m/hr)	3.0
Porosity (%)	30
Length (m)	11.400
Long. Slope (1:X)	2000.00
Width (m)	11.400
Total Volume (m³)	10.979

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	Hardstanding area
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe
Outlet Type	Orifice

Diameter (m)	0.025
Coefficient of Discharge	0.600
Invert Level (m)	91.650

Advanced

Conductivity (m/hr)	500.0

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by:	Checked by:	Approved By:
	JA		
Report Title:	Company Address:		
Rainfall Analysis Criteria	Aegaea		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	10
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FSR

Type: FSR

Region	England And Wales
M5-60 (mm)	21.0
Ratio R	0.436
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
1.0	0.000
30.0	0.000
100.0	0.000
30.0	35.000
100.0	40.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

ICP SUDS / IH 124

Details

Method	ICP SUDS
Area (ha)	0.03
SAAR (mm)	622.0
Soil	0.47
Region	Region 6
Urban	0
Return Period (years)	0

Results

Region	QBAR Rural (L/s)	QBAR Urban (L/s)	Q 1 (years) (L/s)	Q 30 (years) (L/s)	Q 100 (years) (L/s)
Region 6	0.1	0.1	0.1	0.3	0.4

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Hardstanding area	FSR: 1 years: +0 %: 15 mins: Summer	0.02	3.1	1.329

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Hardstanding area	FSR: 30 years: +0 %: 15 mins: Summer	0.02	7.5	3.264

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Hardstanding area	FSR: 100 years: +0 %: 15 mins: Summer	0.02	9.8	4.251

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 30 years: Increase Rainfall (%): +35: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Hardstanding area	FSR: 30 years: +35 %: 15 mins: Summer	0.02	10.1	4.407

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Hardstanding area	FSR: 100 years: +40 %: 15 mins: Summer	0.02	13.7	5.949

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
2004	FSR: 1 years: +0 %: 240 mins: Summer	90.990	83.320	83.325	0.005	0.2	0.000	0.000	0.2	2.928	OK

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
2004	FSR: 30 years: +0 %: 120 mins: Summer	90.990	83.320	83.326	0.006	0.4	0.000	0.000	0.4	4.177	OK

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
2004	FSR: 100 years: +0 %: 120 mins: Summer	90.990	83.320	83.327	0.007	0.5	0.000	0.000	0.5	5.064	OK

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 30 years: Increase Rainfall (%): +35: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
2004	FSR: 30 years: +35 %: 120 mins: Summer	90.990	83.320	83.327	0.007	0.5	0.000	0.000	0.5	5.159	OK

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
2004	FSR: 100 years: +40 %: 120 mins: Winter	90.990	83.320	83.327	0.007	0.6	0.000	0.000	0.6	6.340	OK

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Lost Volume (m³)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Patio Permeable Paving	FSR: 1 years: +0 %: 240 mins: Summer	91.699	91.699	0.044	0.049	0.8	1.812	0.000	0.2	0.000	2.930	83.497	OK

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Lost Volume (m³)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Patio Permeable Paving	FSR: 30 years: +0 %: 120 mins: Summer	91.766	91.766	0.110	0.116	2.9	4.418	0.000	0.4	0.000	4.183	59.764	OK

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Lost Volume (m³)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Patio Permeable Paving	FSR: 100 years: +0 %: 120 mins: Summer	91.805	91.805	0.149	0.155	3.8	5.935	0.000	0.5	0.000	5.071	45.943	OK

FSR: 30 years: Increase Rainfall (%): +35: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Lost Volume (m³)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Patio Permeable Paving	FSR: 30 years: +35 %: 120 mins: Summer	91.810	91.810	0.154	0.160	3.9	6.114	0.000	0.5	0.000	5.167	44.310	OK

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Lost Volume (m³)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Patio Permeable Paving	FSR: 100 years: +40 %: 120 mins: Winter	91.874	91.873	0.218	0.223	3.8	8.607	0.000	0.6	0.000	6.349	21.608	OK

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe	FSR: 1 years: +0 %: 240 mins: Summer	Pipe	Patio Permeable Paving	2004	92.006	91.696	0.005	2.928	1.6	0.01	0.2	OK

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe	FSR: 30 years: +0 %: 120 mins: Summer	Pipe	Patio Permeable Paving	2004	92.006	91.763	0.007	4.177	1.9	0.01	0.4	Surcharged

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe	FSR: 100 years: +0 %: 120 mins: Summer	Pipe	Patio Permeable Paving	2004	92.006	91.802	0.007	5.064	2.0	0.01	0.5	Surcharged

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 30 years: Increase Rainfall (%): +35: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe	FSR: 30 years: +35 %: 120 mins: Summer	Pipe	Patio Permeable Paving	2004	92.006	91.807	0.007	5.159	2.0	0.01	0.5	Surcharged

Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address: Aegaea		

FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe	FSR: 100 years: +40 %: 120 mins: Winter	Pipe	Patio Permeable Paving	2004	92.006	91.871	0.008	6.340	2.2	0.01	0.6	Surcharged

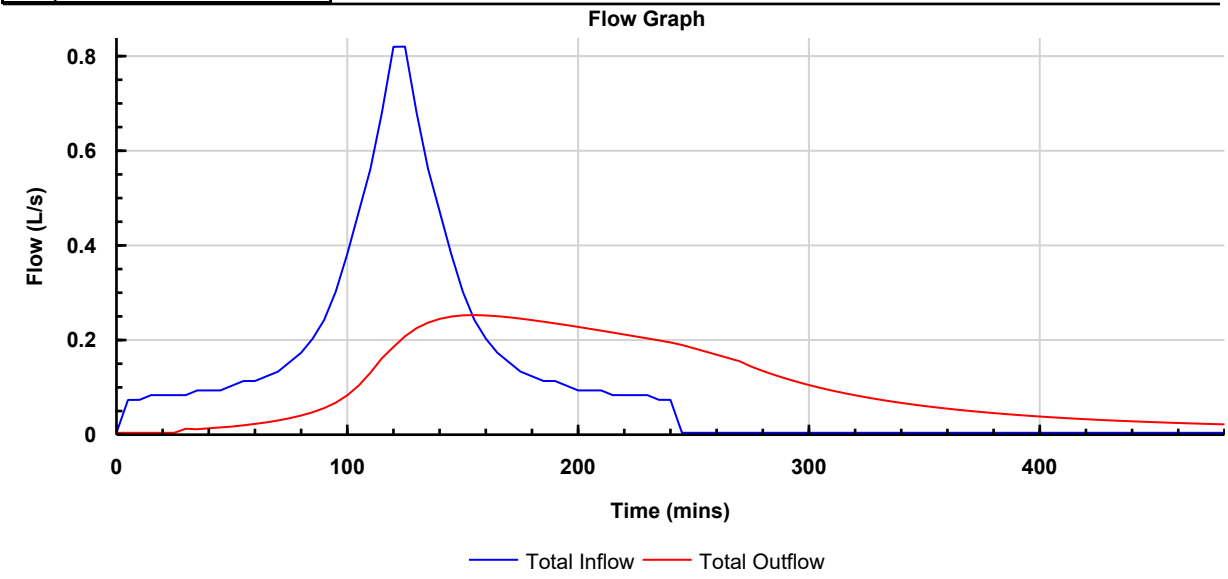
Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Aegaea		

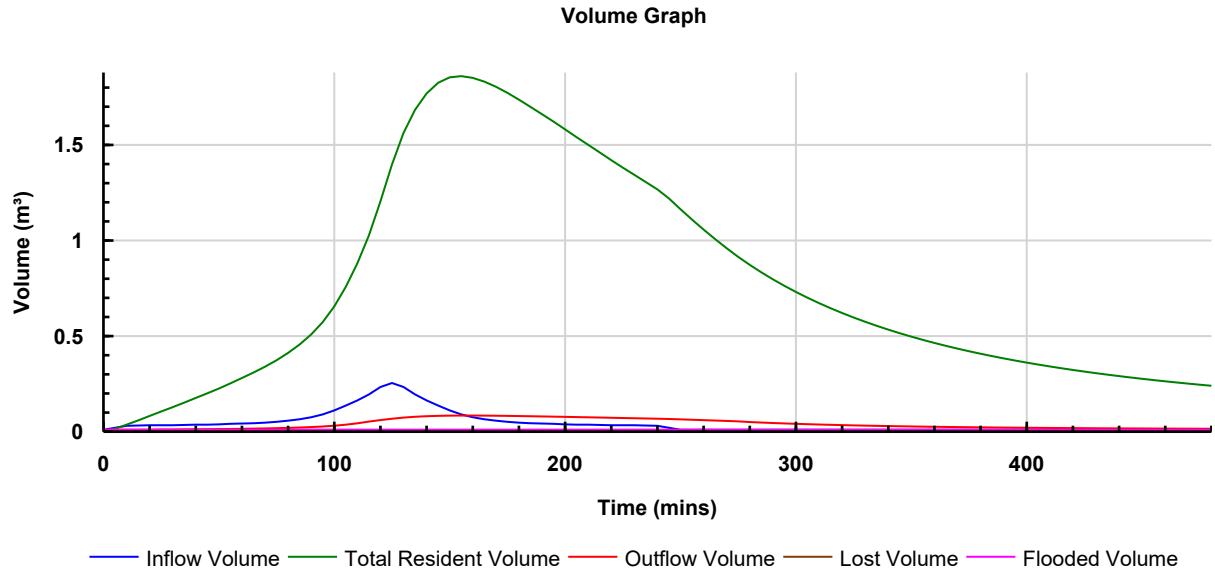
Phase
FSR: 1 years: Increase Rainfall (%): +0: 240 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
2004			0.2	2.928
TOTAL	0.8	3.162	0.2	2.928

Graphs





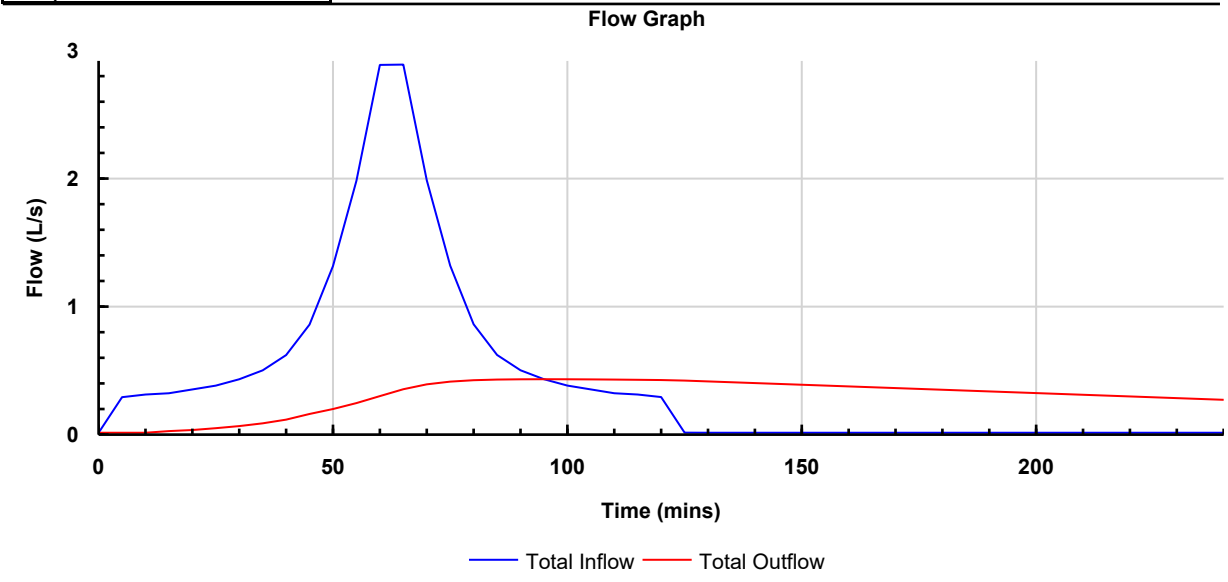
Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Aegaea		

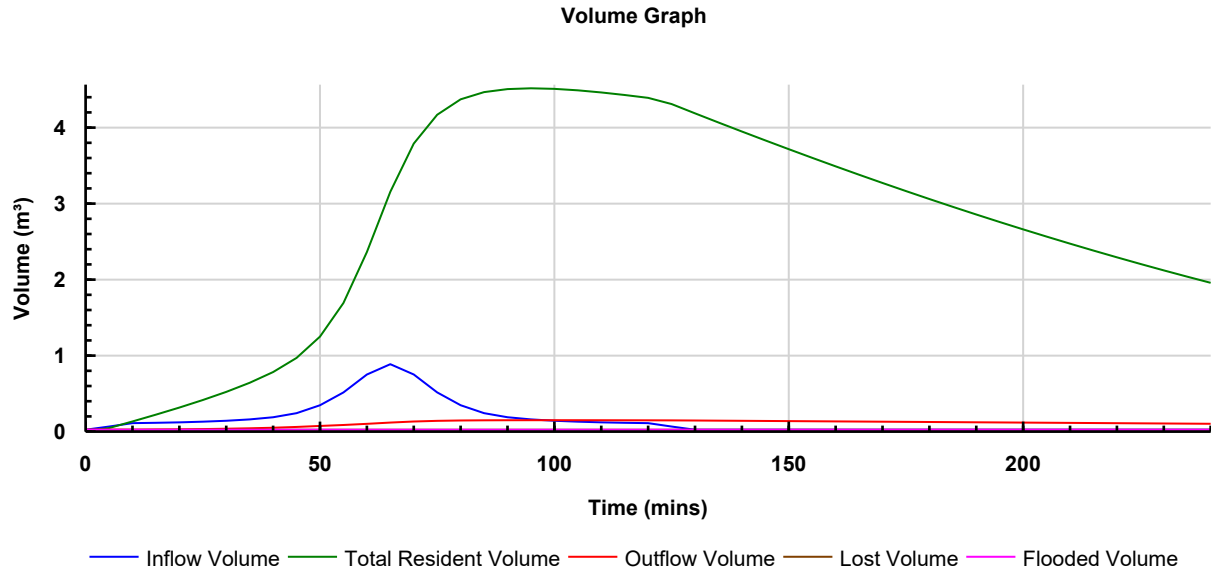
Phase
FSR: 30 years: Increase Rainfall (%): +0: 120 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
2004			0.4	4.177
TOTAL	2.9	6.090	0.4	4.177

Graphs





Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Aegaea		

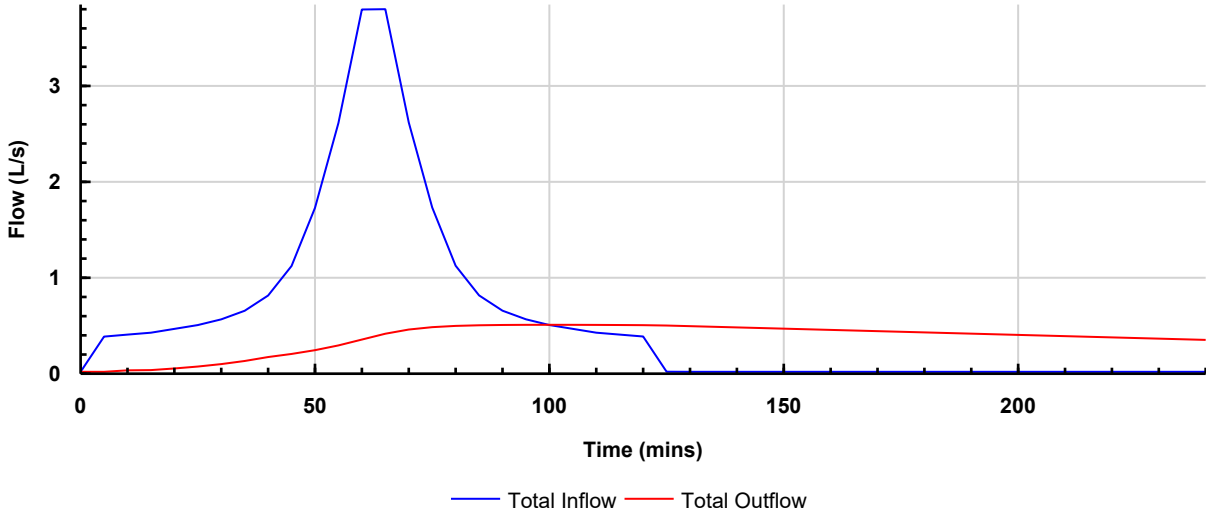
Phase
FSR: 100 years: Increase Rainfall (%): +0: 120 mins: Summer

Tables

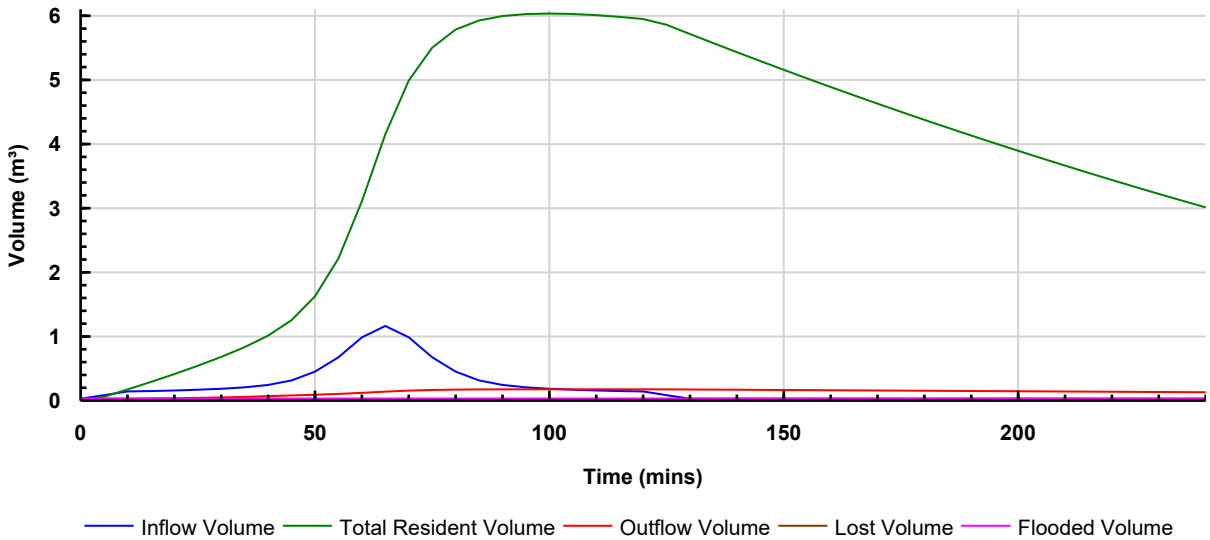
Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
2004			0.5	5.064
TOTAL	3.8	8.004	0.5	5.064

Graphs

Flow Graph



Volume Graph



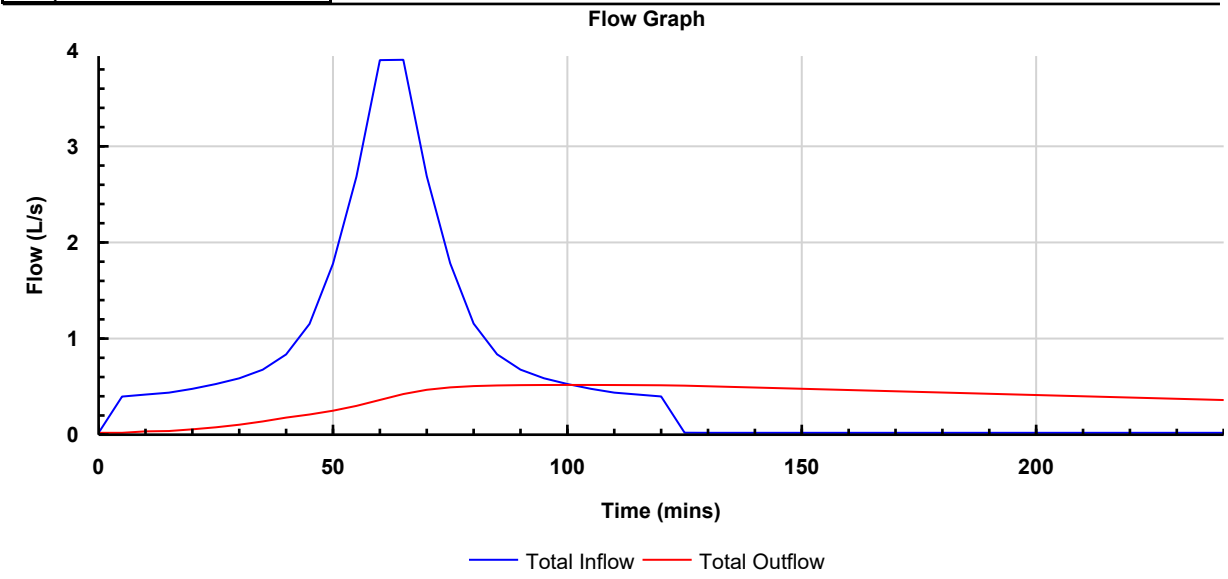
Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Aegaea		

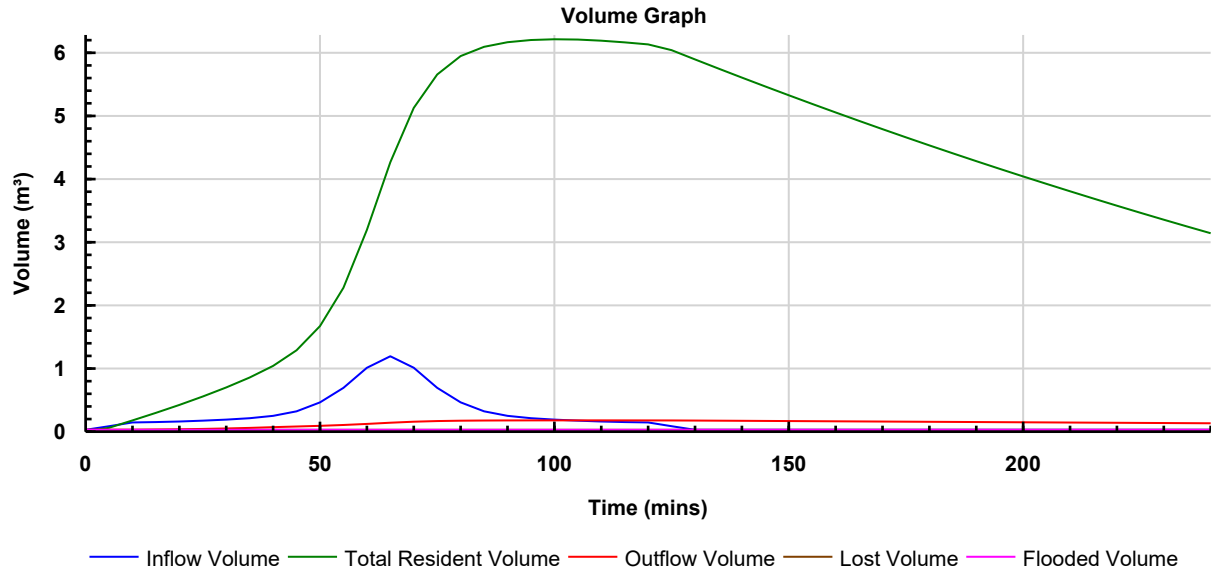
Phase
FSR: 30 years: Increase Rainfall (%): +35: 120 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
2004			0.5	5.159
TOTAL	3.9	8.226	0.5	5.159

Graphs





Project:	Date:		
Flat 1, 18 Platts Lane, Hampstead, NW3 7NS Surface Water Drainage Network	04/12/2024		
	Designed by: JA	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address: Aegaea		

Phase
FSR: 100 years: Increase Rainfall (%): +40: 120 mins: Winter

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
2004			0.6	6.340
TOTAL	3.8	11.196	0.6	6.340

Graphs