

FLOOD RISK ASSESSMENT

Caversham Park, Peppard Road, Caversham, Reading, RG4 8TZ



Prepared for: Beechcroft Developments Ltd
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1.0 Introduction

- 1.1 This Flood Risk Assessment has been prepared by Glanville Consultants on behalf of Beechcroft Developments Ltd to accompany an application for the conversion and redevelopment of Caversham Park , Peppard Road, Caversham, Reading, RG4 8TZ (the 'Site'), to create a mixture of affordable, private, assisting living and care home accommodation.
- 1.2 The purpose of this document is to assess the existing level of flood risk to the site and its surroundings within the context of the development proposals and to demonstrate a suitable drainage strategy for the disposal of surface water from the site.
- 1.3 This assessment has been prepared in accordance with the National Planning Policy Framework (NPPF), the Planning Practice Guidance (PPG) to the NPPF and with reference to Reading Borough Council (RBC) Strategic Flood Risk Assessment (SFRA) report Level 1, published in June 2017.
- 1.4 This report concludes that the development is not at risk of flooding and the site can be developed safely without increasing flood risk elsewhere, and, therefore, the development proposals comply with relevant planning policy concerning flood risk. The report demonstrates that suitable provision for the disposal of surface water from the proposed development can be provided.

Planning Description of Proposed Development

- 1.5 Redevelopment of Caversham Park for assisted living accommodation (Class C2) for over 55's through conversion of Caversham Park House, erection of a care home (Class C2) and age-restricted retirement dwellings (Class C3) including conversion of existing buildings Bursars House and The Lodge. Erection of affordable housing (Class C3 non-age restricted) and refurbishment/extension of existing pavilion to provide changing facilities, café/studio/interpretation hub, sports provision of 1 croquet lawn and 1 cricket ground, refurbishment of tennis court, footpath access to Lowfield Road, associated parking and landscaping following demolition of extensions/outbuildings to the main house (amended description).
- 1.6 Listed Consent - Works associated with the redevelopment of Caversham Park to provide assisted living units including alterations to the main house and demolition of existing extensions and outbuildings. Works associated with the residential conversion of Bursars House, The Lodge and 2 Caversham Park Drive (amended description).

2.0 Site Description

Site Location

- 2.1 The site is the whole of Caversham Park in Reading. It comprises the existing manor house, various outbuildings, associated car parking areas and the access road previously owned by British Broadcasting Company (BBC).
- 2.2 The site is bounded by residential houses to the south-west, west, north and east, and by green field to south-east. The approximate centre of the site is located at Ordnance Survey National Grid reference SU 72459 76262 and the postcode is RG4 8TZ. The site location plan is included in Appendix A.

Site Context

Topographical Survey

- 2.3 A topographical survey was carried out by Midland Survey Ltd indicating that the site's high point is located slightly north-west of the centre of the site (circa 83.70m AOD). The ground slopes in all four directions away from the high point at various slopes. The lowest point in the east of where the proposed development ends is around 80.30m AOD.
- 2.4 A copy of the topographical survey map is included in Appendix B.

Watercourses

- 2.5 There is an existing pond with an overflow located south of the manor house, which accepts surface water runoff flows from the Manor House, adjacent building and the associated hardstanding areas.
- 2.6 There is also a network of ditches in the east and north of the site. One ditch stretches from the east of the Manor House towards the eastern site boundary before bending towards south and reversing to the west. Another ditch bends around the northern boundary of the site before joining the aforementioned ditch in the east.
- 2.7 The closest main watercourse to the site is Berry Brook situated approximately 1km south from the site.

Geological Mapping

- 2.8 Geological records published by the British Geological Survey (BGS) indicate that the site north of the pond is partially underlain by a superficial geology of Black Park Gravel Member, comprising sand and gravel. The same part of the site is located above bedrock geology of Lambeth Group, which consists of clay, silt and sand. South of the pond the site is underlain by bedrock geology of Seaford Chalk Formation and Newhaven Chalk Formation. There is no superficial geology south of the pond within the site boundary. Extracts from BGS mapping are attached to Appendix C.

Groundwater Vulnerability

- 2.9 The Environment Agency (EA) defines Source Protection Zones (SPZs) for groundwater sources such as wells, boreholes and springs used for public drinking water supply. These zones show the risk of contamination from any activities that might cause pollution in the area. The SPZs mapping indicates that the eastern part of the site is located within Zone 2 source protection zone, whilst the western part of the site is within Zone 3.
- 2.10 A Nitrate Vulnerable Zone (NVZ) is a conservative designation for areas of land that drain to nitrate polluted waters or waters which could become polluted by nitrates. The NVZs mapping indicates that the site is mainly situated outside of the NVZ with only a very minor portion of land within the western part of the site being located within a Surface Water NVZ.
- 2.11 The EA defines Drinking Water Safeguard Zones (SgZs) for water sources used for public drinking water supply. SgZs are catchment areas that influence the water quality for their respective Drinking Water Protected Area (Surface Water), which are at risk of failing the drinking water protection objectives. The site is located within a SgZ (Surface Water).
- 2.12 The bedrock Aquifer Designation Map published by EA indicates that the site superficial and bedrock geologies are underlain by a Secondary A aquifer. Secondary A aquifers are permeable geological strata capable of supporting water supplies at a local rather than strategic scale and in some cases forming an important source of base flow to rivers.

Existing Drainage Regime

- 2.13 The existing site is classed as a brownfield site.
- 2.14 Thames Water records, included in Appendix D, only indicate the presence of foul and surface water sewers within Peppard Road and an overflow within the pond.
- 2.15 A CCTV survey of the drainage within the site was carried out by Metro Rod in June 2019, which has shown that the site is served by private gravity-driven surface water and foul water drainage networks. Runoff from the roof of the existing manor house, associated buildings and hardstanding areas is drained uncontrollably into the pond located south of the manor house.
- 2.16 The CCTV report is provided in Appendix E.
- 2.17 The results of the CCTV survey were found insufficient to assess the existing surface water drainage arrangement for the whole site. Therefore, a walkover survey was required.

Walkover Survey

- 2.18 On the 23rd of November, Glanville Consultants attended the site in order to observe the existing drainage arrangement within the site. There was no rain on the day or the day before the survey took place.

- 2.19 It was found that the majority of the car parks and the access road drain into the concrete ring soakaways, some of which were found either completely silted up or filled with water. This suggested that some areas of the site do not provide sufficient infiltration or do not support the infiltration at all. Further discussions with the site manager have revealed that occasional ponding occurs within the car park in front of the main access to the Manor House.
- 2.20 Some of the existing buildings, for example the buildings south of the site main access, were found to be served by soakaways as well.
- 2.21 Some parts of the roads and car parks were found to be draining freely into the ground through outlets in the kerbs.
- 2.22 During the walkover survey it was also confirmed that the overflow from the pond comprises a 150mm diameter pipe, which runs in a southerly direction into the field located south of the pond. Further investigation has proved that overflows from the pond discharge freely into the field at ground level.
- 2.23 Based on the findings from the walkover survey, an existing catchment plan has been produced, which demonstrates the site's current surface water drainage arrangement. This catchment plan is provided in Appendix F.

Infiltration Testing & Groundwater

- 2.24 In November 2021 a series of falling head infiltration tests were carried out within five boreholes across the site as part of the site investigation. The obtained infiltration rates varied from 6.16×10^{-6} m/s (SA1 borehole) in the west of the site to 4.62×10^{-9} m/s (SA5 borehole) in the eastern part of the site. The variation in infiltration rates is mainly due to variable geology of the site. However, these infiltration rates should be confirmed by the infiltration testing in accordance with BRE 365 guidance.
- 2.25 The site infiltration test results are attached to Appendix G.
- 2.26 Groundwater was encountered in four out of five boreholes with the highest groundwater level being approximately 1.72m bgl (SA1 borehole). The boreholes were left for future groundwater monitoring visits in January and March 2022.

3.0 Development Proposals

3.1 The proposals comprise redevelopment of Caversham Park for:

- 65 assisted living units (class C2) for the over 55's through conversion of Caversham Park House;
- 64 bed care home (Class C2);
- 45 age restricted retirement dwellings (Class C3), including conversion of the existing buildings The Bursars House and The Lodge (Class C3)
- 5 DMS dwellings (class C3)
- 22 affordable dwellings (Class C3); and
- refurbishment and extension of the existing pavilion to provide changing facilities, café/studio/interpretation hub and sports provision comprising 1 no. croquet lawns, 1 Cricket ground, refurbishment of the existing tennis court and associated parking.

3.2 The proposed site layout is provided in Appendix H.



4.0 Planning Policy and Guidance

- 4.1 Set out below is a summary of the national and local planning policy and guidance relating to flood risk and surface water management that are relevant to the development proposals.

National

- 4.2 At a national level, the National Planning Policy Framework (NPPF) and the Planning Practice Guidance (PPG) to the NPPF ensure flood risk is taken into account at all stages of the planning process, to avoid inappropriate development in areas at risk of flooding and to direct development towards areas at lowest flood risk. The NPPF retains a risk-based approach to the planning process and defines four Flood Zones to be used as the basis for applying the sequential test to consider a development in terms of Flood Risk Vulnerability Classifications, which define the type of development that is considered appropriate within each zone.
- 4.3 The NPPF establishes the Flood Zones as the starting point for assessment with the overarching aim to steer new development to areas with the lowest probability of flooding. The Flood Zones are defined as follows:
- Flood Zone 1 (Low Probability) comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).
 - Flood Zone 2 (Medium Probability) comprises land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year.
 - Flood Zone 3a (High Probability) comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
 - Flood Zone 3b (The Functional Floodplain) comprises land where water has to flow or be stored in times of flood.

Local Policy and Guidance

Reading Borough Council Strategic Flood Risk Assessment Level 1 – June 2017.

- 4.4 The strategic flood risk assessment (SFRA) level 1, prepared by Peter Brett Associates, is a planning tool that assists the Council in its selection and development of sustainable development sites away from vulnerable flood risk areas in accordance with the NPPF and its associated Planning Practice Guidance on Flood Risk and Coastal Change.

5.0 Sources of Potential Flooding

- 5.1 Flood risk to the site has been considered from all likely sources of flooding, as defined in the NPPF and the Planning Practice Guidance to the NPPF. These include tidal, fluvial, surface water, artificial sources (reservoir), sewer and groundwater. The following paragraphs consider flood risk to the site from all of these sources.

Tidal

- 5.2 Given that there is no tidally influenced watercourse on or within the vicinity of the site, tidal flooding is not an issue that would prevent the development of the site.

Fluvial

- 5.3 The EA publishes interactive flood zone mapping on the GOV.UK website which shows the modelled extents of fluvial flooding. The flood zone mapping indicates that the site is entirely located within Flood Zone 1, at the lowest risk of fluvial flooding. Table 1 of the PPG to the NPPF defines land located within Flood Zone 1 as areas which are outside the floodplain and have little or no chance of flooding. An extract from the EA mapping is included in Appendix I.

Surface Water

- 5.4 The EA publishes a Flood Risk from Surface Water map on the GOV.UK website which indicates the predicted risk of surface water flooding in the event that rainwater does not drain away through normal drainage systems or soak into the ground. The mapping indicates that the site is located entirely with the area of 'very low' risk of surface water flooding, with an annual probability of flooding of less than 1:1,000. Based on the mapping, surface water flood risk is not an issue that would prevent the development of the site. An extract from the GOV.UK surface water flood map is included within Appendix J.

Reservoir

- 5.5 The EA publishes indicative mapping on the GOV.UK website which shows the maximum extent of reservoir flooding in the unlikely event that a reservoir should fail. The mapping indicates that the entire site is located outside of a reservoir flood risk area. Therefore, reservoir flooding is not considered to be an issue that would prevent the development of the site for its intended end use.

Sewer

- 5.6 The SFRA Level 1 provides data on historical sewer flooding within RBC area, in the form of mapping, which is based on Thames Water DG5 records. The SFRA mapping shows that the site falls within two postcode areas RG4 8 and RG4 6, which experienced over 101 and between 51-100 sewer flooding incidents, respectively. However, it's worth noting that it's difficult to relate these records to a particular site, as incidents could have happened anywhere across the postcode areas, which cover large areas of the city. Furthermore, these records are dated to February 2016 and cover historical incidents that happened before that date. It is likely that maintenance work may have been undertaken by Thames Water since the flooding incidents occurred and, therefore, the risk may have been reduced or removed. As such, these records do not necessarily represent the current or future sewer flood risk situation.

- 5.7 It is therefore reasonable to conclude that the risk of sewer flooding within the site is very low and is not an issue that would prevent the development of the site.

Groundwater

- 5.8 The SFRA provides a map which shows the areas susceptible to groundwater flooding (AStGWF). This map indicates that the site is located within the area of less than 25% chance of groundwater flooding. AStGWF mapping is based on the underlying geology across a 1km square grid, which means this dataset covers a large area of land and only isolated locations within the overall susceptible area are actually likely to suffer from the consequences of groundwater flooding. No historic groundwater flooding has been recorded by the site manager either. Therefore, it is reasonable to assume that risk of groundwater flooding within the site is very low.

Historic Flooding

- 5.9 The SFRA Level 1 includes historical flood records which indicate that no historical flood incidents have been recorded within the site boundary.

Summary

- 5.10 The study has concluded that the site is at very low risk from all sources of flooding. The impact of flooding on the proposed development is discussed in more details in Section 6 of this report.

6.0 Flood Risk Assessment

- 6.1 The NPPF encourages a sequential, risk-based approach to determine the suitability of land for development. This document advises that the development of sites within Flood Zone 1 should be given preference where available.
- 6.2 Table 2 of the Planning Practice Guidance (PPG) to the NPPF categorises different types of development into five flood risk vulnerability classifications:
- Essential Infrastructure;
 - Highly Vulnerable;
 - More Vulnerable;
 - Less Vulnerable; and
 - Water Compatible Development.
- 6.3 The NPPF classifies the proposed residential use of the site as being 'More Vulnerable'.
- 6.4 As discussed in Section 5, the site is located entirely within Flood Zone 1. Table 3 of the PPG states that all uses of land are appropriate for Flood Zone 1. Therefore, the proposed development use is compatible with the flood zone of the site and developing the site for its intended purpose is considered appropriate in terms of flood risk. As such, the Sequential Test and Exception Test are not required to be applied to this development.
- 6.5 The site is considered to be at low or very low risk from all sources of flooding.
- 6.6 New on-site surface water drainage will be designed to accommodate a 1 in 100 year with a 40% allowance for climate change without creating a flood hazard.
- 6.7 The development is proposed to be accessed from Peppard Road, which is a public highway located entirely within Flood Zone 1. As such, safe, dry access and egress will be provided to the entirety of the development during times of fluvial flooding.

7.0 Surface Water Drainage

7.1 The PPG recommends that priority should be given to the use of Sustainable Drainage Systems (SuDS) as they are designed to control surface water runoff where it falls and mimic natural drainage characteristics as closely as possible. Source control techniques will be incorporated into the drainage strategy to ensure that surface water runoff is managed as close to source as possible. Sustainable drainage systems (SuDS) also provide opportunities for the following:

- Reducing the causes and impacts of flooding;
- Removing pollutants from urban runoff; and
- Combining water management and green space with benefits for amenity, recreation and wildlife.

7.2 SuDS encompass a wide range of drainage techniques intended to minimise the rate of discharge, volume and environmental impact of runoff and include:

- pervious pavements;
- swales and basins;
- green roofs and rainwater reuse;
- infiltration trenches and filter drains; and
- ponds and wetlands.

7.3 When used across the site these techniques control the rate of discharge, attenuate flow, provide storage and improve water quality. The combination of techniques that are appropriate will be dependent upon ground conditions, topography and other site-specific characteristics.

7.4 The Building Regulations part H3 stipulates that rainwater from roofs and paved areas is to be carried away from surface and to discharge to one of the following, listed in order of priority:

- a) An adequate soakaway or some other adequate infiltration system; where this is not practical;
- b) A watercourse; or, where this is not practical;
- c) A sewer.

Surface Water Disposal Method

7.5 A hierarchical approach has been followed with regards to the method of disposal of surface water runoff from the development, in accordance with the Building Regulations.

7.6 As discussed in Section 2 of this report, the infiltration rates vary across the site, meaning that runoff from only some areas of the site could be disposed of by means of infiltration. Following the hierarchy, some areas of the site will have to drain runoff into the ditch in the east of the site at a controlled rate, whilst some portions of the site will continue following the existing surface water drainage arrangement. The future drainage serving the development has therefore been split into five sub-catchments (Western, Central, Cricket Pavilion, Eastern and Existing access road) based on the runoff disposal methods assigned for each. The proposed catchment plan is attached to Appendix K.

7.7 The following sections of the report will describe the surface water drainage strategy for the site on a catchment basis. The proposed drainage layouts with typical drainage construction details are provided in Appendix L.

Western Catchment

- 7.8 As discussed in section 2, this part of the site should support infiltration, therefore, the access road and parking bays within this catchment will be designed as permeable pavement which will drain runoff under their own footprint.
- 7.9 Private soakaways will be installed in the back gardens of some houses where the soakaways can be located outside of the tree root protection areas and at a minimum 5m offset distance from the face of the foundations. Runoff from the roofs of the remaining buildings will drain into the shared soakaway.

Central Catchment

- 7.10 This catchment covers the proposed care home building and the Manor House.
- 7.11 As described above in this report, this catchment drains runoff into the pond south-west of the Manor House. Runoff from the pond is then discharged freely into the field south of the pond via 150mm diameter pipe.
- 7.12 An area assessment has demonstrated that the catchment area served by this surface water network will be reduced by 2,055m² as a result of the proposed works. Therefore, runoff from the roofs of the Manor House and the proposed care home building will be draining into the pond, thus following the existing drainage arrangement whilst providing a significant drainage betterment for the catchment.

Eastern Catchment

- 7.13 This catchment covers the proposed age restricted blocks of flats in the east of the site along with a major portion of the access road (which is currently served by a series of soakaways) and the parking bays. It also includes a proposed car park and the access road to the proposed care home. Runoff from this catchment will be discharged into the ditch in the east of the site at a controlled rate.

Greenfield and Brownfield Runoff Calculations (Eastern Catchment)

- 7.14 Findings during the site walkover survey demonstrated that a number of the soakaways in this area were not operational as they were filled with water on the day the survey took place. This area overlies a clay geology and likely perched water table. Considering that no rainfall occurred on the day or in the period leading up to the day of the visit, this suggests that these soakaways are not functioning as intended or suitable in their current condition for the future disposal of surface water runoff.
- 7.15 It was therefore proposed to treat the areas of the access road and the car park shown on the existing catchment plan (Appendix F) as "Brownfield Catchment" (7490m² in total), which has been used in combination with greenfield runoff to calculate flows.
- 7.16 Greenfield runoff rate of 1.4 l/s has been calculated for the eastern catchment, whilst brownfield runoff for 1 in 1 year 60 minute rainfall event has been calculated as 25 l/s. Greenfield and brownfield runoff calculations are provided in Appendix M.

- 7.17 Due to the size of the Eastern Catchment it is not practically possible to provide sufficient attenuation storage within the site to discharge runoff from this catchment at the existing greenfield runoff rate. Following the guidance for brownfield sites provided in the non-statutory technical standards for sustainable drainage systems, it was decided to set the outflow rate from the catchment as close to greenfield runoff rate as practically possible whilst not increasing the existing brownfield runoff rate. The outflow was therefore restricted to 12.5 l/s, which is a half of the existing brownfield runoff rate, thus representing significant betterment and a reduction in flood risk.

Surface Water Drainage Strategy (Eastern Catchment)

- 7.18 Runoff from this catchment will be collected by a piped/culverted network. A flow control chamber will be installed at the downstream end of the system, which will release runoff from the site at a controlled rate of 12.5 l/s.
- 7.19 Attenuation will be provided within the lined geocellular storage crate system located at the upstream end of the proposed network. Runoff from the catchment will enter the system and then back up into the attenuation tank.
- 7.20 Runoff from the roofs will be collected by a pipe network, whilst runoff from the roads will be picked up by a series of road gullies.
- 7.21 Parking bays will be constructed as permeable pavement with lined sub-bases and with the outfalls into the main system. This will slow runoff flows down before entering the system, whilst providing water treatment to runoff.
- 7.22 A section of a swale will be installed at the outfall to provide smooth discharge into the existing ditch. The swale will be installed at an angle in the direction of fall of the existing ditch and will be reinforced with rip-rap (or similar construction) to minimise the risk of scouring and loss of material during the operation of the proposed drainage system.
- 7.23 A section of the main drainage run will be constructed of a 1.2m x 0.6m high concrete box culvert, which will provide sufficient capacity to back runoff up to the attenuation system.

Cricket Pavilion Catchment

- 7.24 This catchment currently comprises the car park and a building with changing rooms and showers. The catchment is served by a concrete ring soakaway north-east of the car park, which was found dry, but silted up, during the site visit. This suggests that this soakaway is functional.
- 7.25 As a result of the proposed development, the existing car park within this catchment will be extended with Pavilion building being increased in size as well.
- 7.26 Therefore, based on the information above, it was assumed that the existing soakaway can be re-used to serve the proposed car park. This way the impermeable catchment area currently served by this soakaway will see a reduction of 152m².
- 7.27 Runoff from the roof of the proposed Pavilion building will be directed into the new surface water drainage system, which will serve the Eastern Catchment.

Western Access Road Catchment

- 7.28 This catchment comprises the access road, associated footpaths and the existing buildings. No increase in impermeable area or change of use is proposed within this area of the site. Therefore, the current surface water drainage arrangement will be preserved.
- 7.29 The hydraulic calculations for the above catchments are attached to Appendix N.

Sustainable Drainage Pollution Control and Maintenance

Pollution Control

- 7.30 Pollution control measures are designed to minimise the transmittal of any pollutants collected by runoff flowing over impermeable areas.
- 7.31 Table 26.2 of The SuDS Manual indicates the minimum treatment indices for contributing pollution hazards for different land use classifications. The treatment indices for the land uses proposed within the development are shown in Table 1. In order to deliver adequate treatment, the selected SuDS components should have a total pollution mitigation index (for each contaminant type) that equates to or exceeds the pollution hazard index. Table 2 indicates the SuDS mitigation indices for the permeable pavement and the swale.
- 7.32 The pollution indices in Table 1 should be compared with the mitigation indices in Table 2 and the following formulae applied:

Total SuDS Mitigation Index $\geq$ Pollution Hazards Index (for each contaminant type)

Total SuDS Mitigation Index = 1st Stage Mitigation Index + 0.5 (2nd Stage Mitigation Index)

- 7.33 For a residential development, roof runoff has very low hazard potential and runoff from lightly trafficked roads has a low hazard potential.
- 7.34 The proposed car parking bays will be constructed of permeable materials whilst the access roads will be constructed of impermeable materials. From inspection of Tables 1 and 2, it can be seen that permeable pavement in combination with the swale are sufficient to mitigate pollution risk from individual driveways, residential car parks, low traffic roads and non-residential car parking with infrequent change.
- 7.35 In addition, sediment sumps or catchpits will be installed immediately upstream of the SuDS features, which may thereby improve the quality of runoff to surface waters.

Table 1: Pollution Hazard Indices

Catchment Type	Pollution Hazard Level	Requirements for Discharge to groundwater	Pollution Hazard Indices		
			Suspended solids	Metals	Hydrocarbons
Residential roofs	Very low	Removal of gross solids and sediments only	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads (e.g. cul-de-sacs, home zones and general access roads)	Low	Simple index approach	0.5	0.4	0.4

Table 2: SuDS Mitigation Indices

Type of SuDS	SuDS Mitigation Indices		
	Suspended solids	Metals	Hydrocarbons
Permeable pavement	0.7	0.6	0.7
Swale	0.5	0.6	0.6

Maintenance

- 7.36 Maintenance of proposed SuDS and drainage networks serving a single property will be the responsibility of the future owners.
- 7.37 Drainage within the shared areas, such as car parking spaces, access roads, etc. will be managed by a private management company.
- 7.38 SuDS management and maintenance plan is provided in Appendix O.

Exceedance Flows

- 7.39 In the unlikely event of exceedance (events greater than the 1 in 100 year plus climate change), flows would be routed away from buildings as indicated on the drawing included at Appendix P.

8.0 Summary and Conclusions

Summary

- 8.1 This Flood Risk Assessment has been prepared by Glanville Consultants on behalf of Beechcroft Developments Ltd to accompany an application for the conversion and redevelopment of Caversham Park, Peppard Road, Reading, RG4 8TZ, to create a mixture of affordable, private, assisting living and care home accommodation.
- 8.2 This assessment has been prepared in accordance with the requirement of National Planning Policy Framework (NPPF), Planning Practice Guidance (PPG), flood risk and drainage guidance, and with reference to the relevant Strategic Flood Risk Assessments.
- 8.3 The site is located entirely within Flood Zone 1, beyond the limits of the 1 in 1,000 year fluvial flood event (<0.1%).
- 8.4 The proposed development site is considered to be at very low risk of flooding from all sources examined.
- 8.5 The proposed drainage strategy will offer protection against surface water flooding by providing a positive drainage system, which will intercept runoff generated within the site. The drainage system will be designed to accommodate the design rainfall event (1 in 100-year return period with a 40% allowance for climate change). As such, surface water flooding is not considered to be an issue that would prevent the development of the site for its intended end use.
- 8.6 The infiltration testing and groundwater monitoring results have shown that the disposal of runoff from the site by means of infiltration is feasible for the Western Catchment and a portion of the Cricket Pavilion Catchment, subject to further infiltration testing carried out in accordance with BRE 365 and positive infiltration results.
- 8.7 Following the drainage hierarchy, runoff from the Eastern Catchment will be discharged into the existing ditch at a controlled rate of 12.5l/s (50% betterment to existing brownfield runoff situation), which will provide significant drainage improvement whilst reducing flood risk to the site and surrounding area.
- 8.8 The Central Catchment, which will be reduced as a result of the proposed works and thus will provide betterment to the site drainage, will follow the existing drainage arrangement and will discharge runoff into the pond.
- 8.9 The proposed drainage strategy will also provide opportunities to degrade pollutants, thereby improving the quality of surface water discharging from the site.
- 8.10 A maintenance plan has been provided in order to ensure the proposed drainage features are maintained in perpetuity in accordance with the appropriate guidance and standards.

Conclusion

8.11 In conclusion, this report has demonstrated that the proposed development:

- is in accordance with the National Planning Policy Framework;
- will not be at an unacceptable risk from fluvial flooding or other sources;
- will not increase flood risk elsewhere;
- will employ a surface water drainage strategy based on the principles of sustainable drainage.

8.12 Therefore, the proposals are considered to fully comply with National, Regional and Local planning policy in respect of flood risk and surface water drainage.



Appendices





Appendix A

Location Plan



NOTES		
DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION WITHOUT THE WRITTEN PERMISSION OF BHP HARWOOD ARCHITECTS		
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REVISIONS		
Rev.	Date	Description

Client :
Beechcroft
Developments

Job :
Caversham Park
Reading

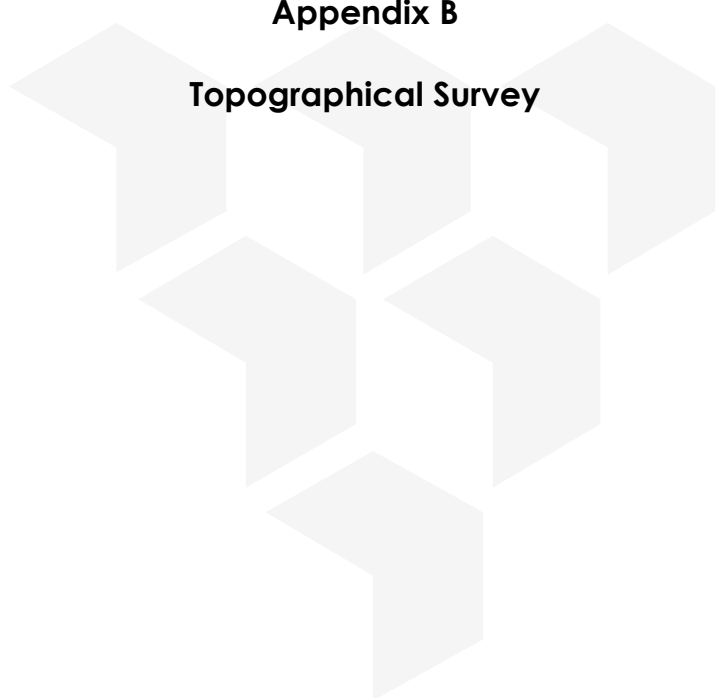
Drawing Title:
Topo / Title Plan
Overlay

Scale:
1:1250 @ A0
Date:
Nov 2021
Drawn By
RN
Checked

Revision:
Drawing No.
3251.P.1000

PRELIMINARY
The White Barn, Manor Farm, Manor Road
Wantage, Oxfordshire, OX12 6YE
T: 01235 763322 F: 01235 763373
The Mansion House, Hartman Park, Caversham,
Windsor, SL13 1BB
T: 01249 700489 F: 01249 470077
info@bpharwood.co.uk www.bpharwood.co.uk





Appendix B

Topographical Survey

Appendix C

British Geological Survey Mapping

KEY

Approximate site boundary ———

Superficial Geology



Black Park Gravel Member - Sand and Gravel



Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated) - Chalk



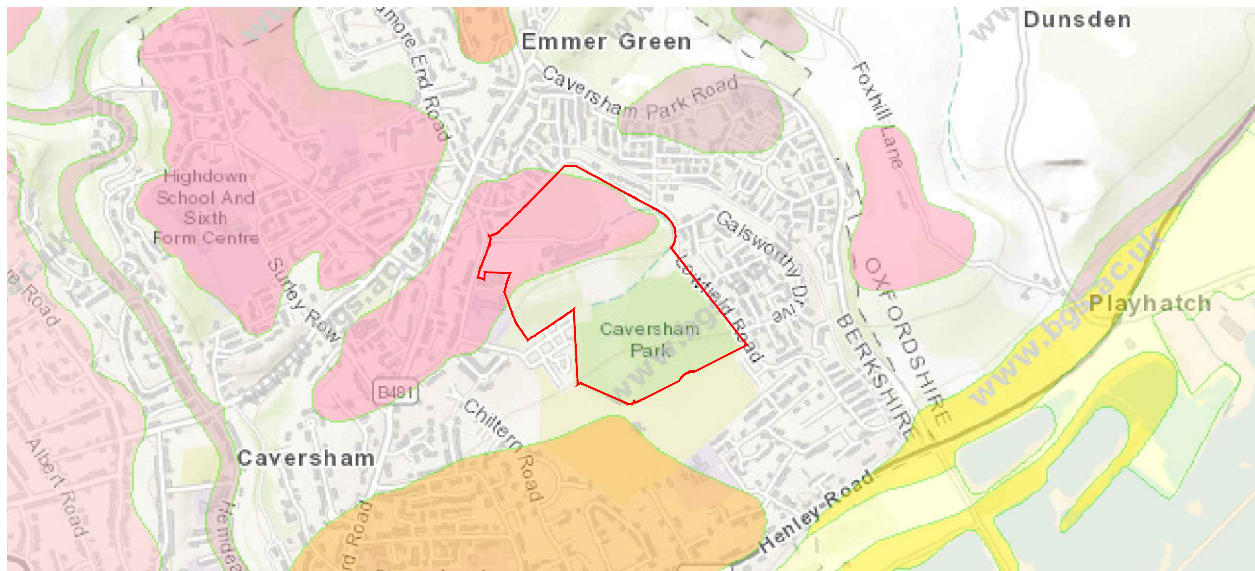
Lambeth Group - Clay, Silt And Sand

NOTES

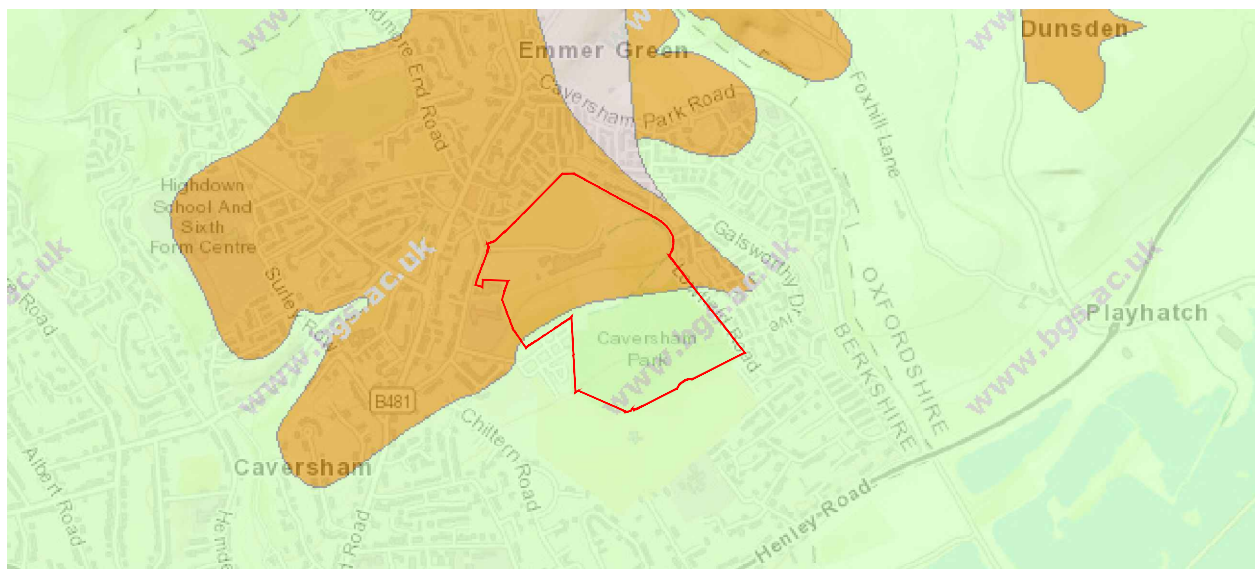
1. This drawing is to be read in conjunction with all other documents and specifications
2. Dimensions not to be scaled from drawing



Superficial Deposits



Bedrock Geology



Project :

Caversham Park, Reading, RG4 8TZ

Title :

British Geological Survey Mapping

Project Engineer : A. Persins

Scale : NTS

Project Director : J. Hanlon

Date : December 2021

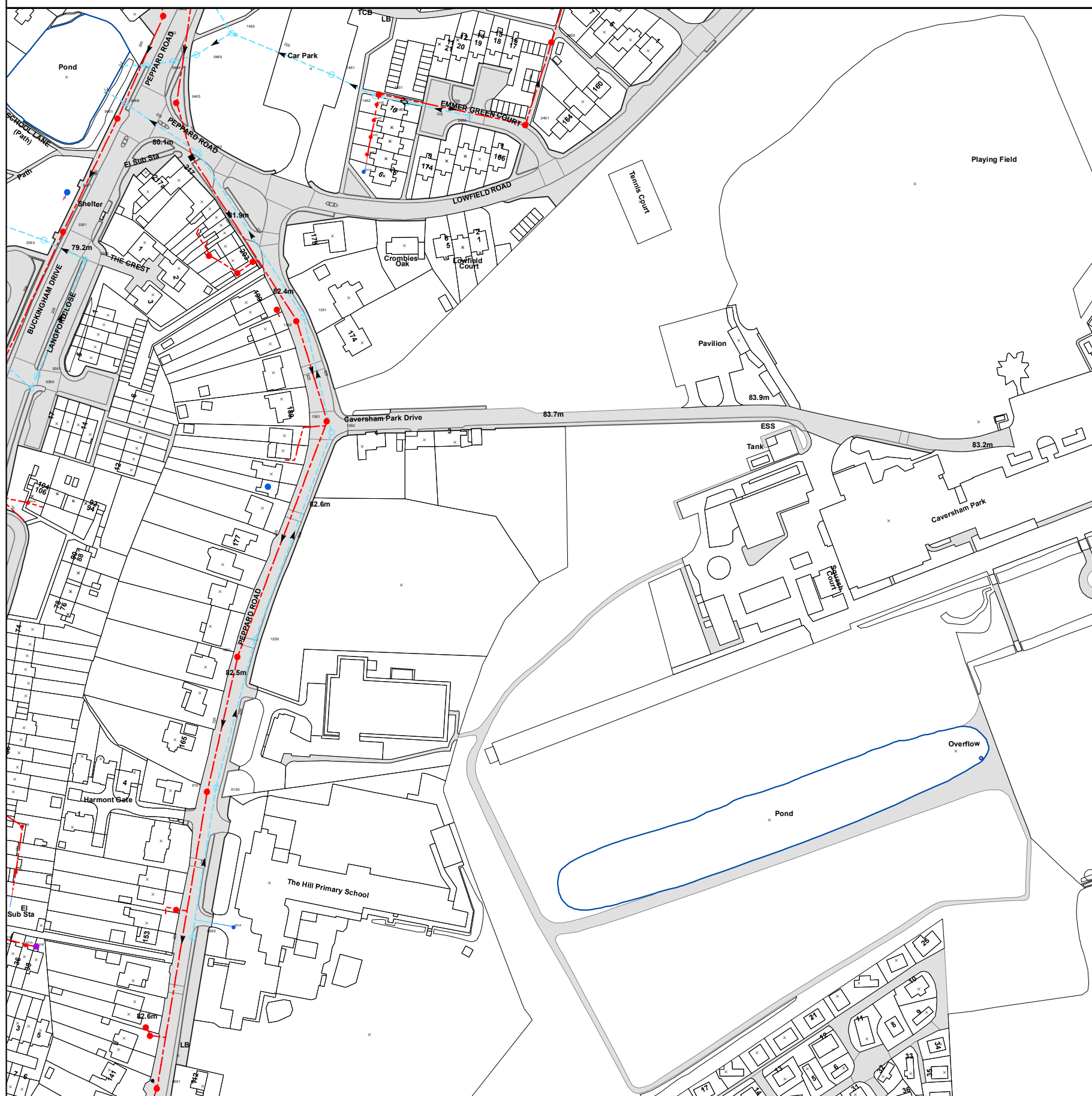
Drawing No. 8210940 - SK04

Rev -

Appendix D

Thames Water Records

CDWS/CDWS Standard/2020_4167880



A scale bar labeled 'Meters' with markings at 0, 10, 20, 40, 60, and 80.

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 before any works are undertaken. Crown copyright Reserved

Scale: 1:1792
Width: 500m
Printed By: G1KANAGA
Print Date: 18/03/2020
Map Centre: 472250,176250
Grid Reference: SU7276SW

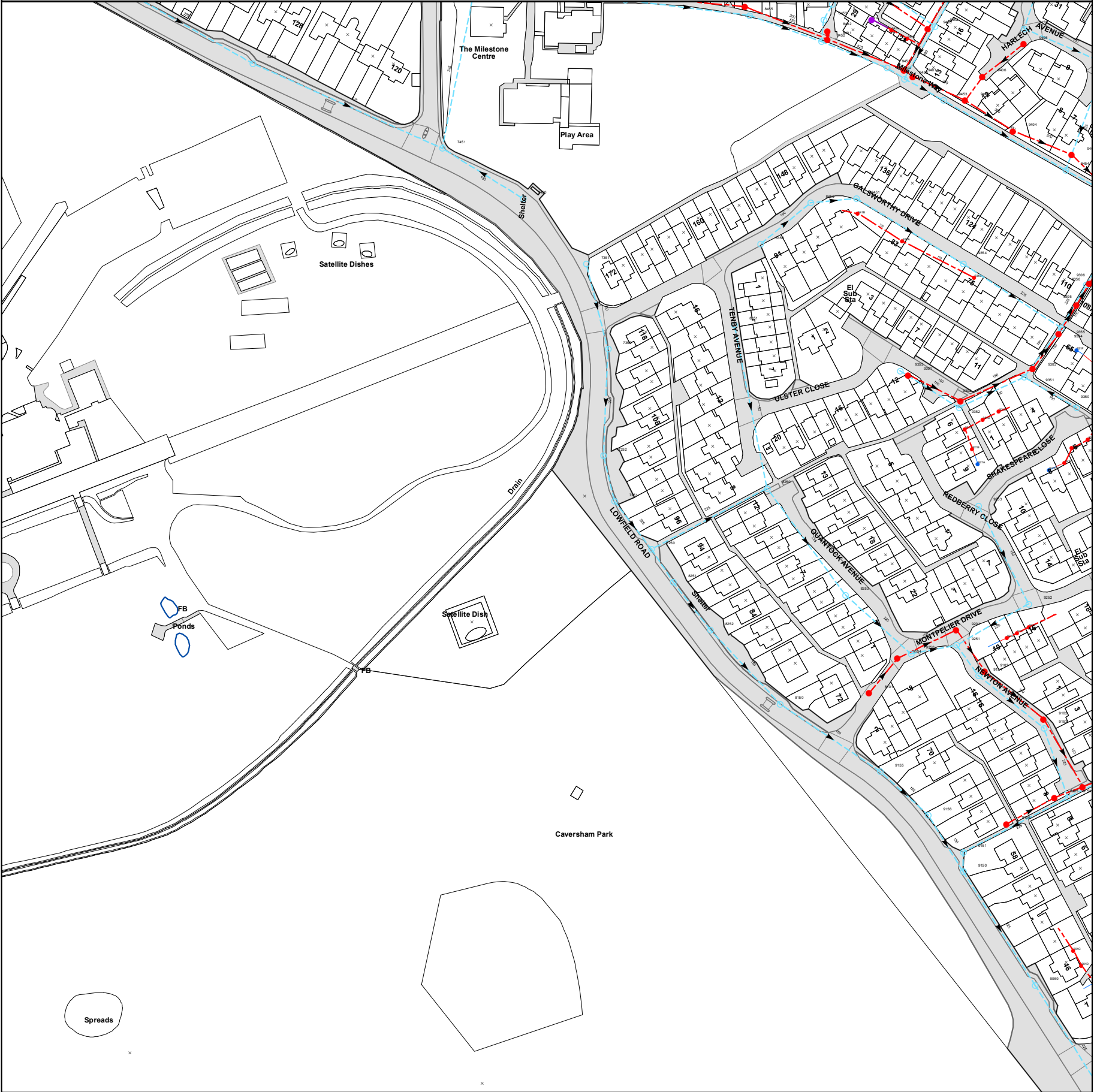
Comments:

CDWS/CDWS Standard/2020_4167880

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
0350	79.44	77.77
1450	81.27	79.25
13ZW		
0450	81.2	79.59
2450	82.72	80.91
0353	79.04	76.54
0101	82.57	77.57
0454	80.35	78.45
0403	80.56	78.84
00ZT		
0452	80.44	78.48
1451	81.63	80.18
1301	82.78	78.18
1401	82.85	82.05
0401	80.03	78.45
0458		
2401	82.78	81.53
13YY		
141A		
101A		
141E		
1250	82.44	80.56
0050	82.65	81.04
021A		
001A		
011B		

REFERENCE	COVER LEVEL	INVERT LEVEL
0351	79.29	77.74
1201	82.47	77.77
0455	80.79	78.8
0301	79.38	78.43
0451	78.91	76.86
1453	82.94	80.61
13ZV		
00YY		
0352	79.15	76.85
0001	82.04	77.12
1350	82.81	80.17
0402	80.79	78.45
1452	82.85	80.44
2402	82.64	81.21
1351	82.4	79.97
1302	82.41	78.34
12ZV		
141C		
141B		
141D		
03ZT		
00ZV		
0150	82.55	80.77
001B		
011A		



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 before any works are undertaken. Crown copyright Reserved

Scale: 1:1792
Width: 500m
Printed By: G1KANAGA
Print Date: 18/03/2020
Map Centre: 472750,176250
Grid Reference: SU7276SE

Comments:

CDWS/CDWS Standard/2020_4167880

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
921A		
8350	77.73	76.16
8252		
9050	62	60.64
9102	70.36	68.04
9350	73.96	72.57
9101	68.48	66.48
9351	74.54	72.31
9455	70.54	68.83
9303	74.24	72.4
9152	67.59	66.02
9304	72.64	71.13
9105		
8403	70.24	68.04
9106		
6450	78.88	76.25
7252	78.34	76.75
8451		
8253	72.65	70.69
9301	75.98	74.47
9406	67.63	66.11
9253	74.78	73.71
7351	79.57	78.04
8101	70.11	69.09
9201	71.74	68.63
9150	65.26	63.74
8453	69.46	68.58
8402	69.07	67.99
9354	73.57	71.81
8450	76.31	74.68
9451	68.4	65.38
9453	67.54	64.83
931F		
931D		
8250	76.52	74.15
9404	66.9	65.32
9407	67.29	65.79
7450	79.02	77.82
841B		
931B		
941A		
841A		
921F		
921E		
921I		
901D		

REFERENCE	COVER LEVEL	INVERT LEVEL
931C		
8351	78.79	77.42
7451	78.61	75.14
9153	69.96	67.9
8455	69.82	67.42
9305	71.07	69.17
9356		
9405	69.63	67.85
9252	72.41	70.89
9454	66.09	64.02
9306		
9355		
8150	71.13	69.44
8251	75.41	73.43
7250	76.19	74.52
7251	77.57	76.15
7350	79.41	77.6
8454	69.75	68.67
9450	68.23	65.21
9250	71.18	69.48
9103	71.64	68.46
9154	71.54	68.74
9353	76.22	74.39
9251	71.7	68.92
9302	75.76	73.59
8452	69.07	66.9
8401	69	67.01
9151	65.86	64.26
9104	71.03	68.88
9155	68.28	66.6
9452	69.39	66.4
9403	69.28	67.8
921B		
931E		
9156	66.88	65.3
9408	66.19	
9401	68.15	66.26
9352	75.74	73.74
931A		
9402	68.28	66.28
941B		
921G		
921D		
921H		
921C		
901C		



Sewer Key - Commercial Drainage and Water Enquiry

Public Sewer Types (Operated & Maintained by Thames Water)

	Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
	Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
	Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
	Trunk Surface Water
	Trunk Foul
	Storm Relief
	Trunk Combined
	Vent Pipe
	Bio-solids (Sludge)
	Proposed Thames Surface Water Sewer
	Proposed Thames Water Foul Sewer
	Gallery
	Foul Rising Main
	Surface Water Rising Main
	Sludge Rising Main
	Proposed Thames Water Rising Main
	Vacuum

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate 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 level indicates that data is unavailable.

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
	Dam Chase
	Fitting
	Meter
	Vent Column

Operational Controls

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

	Control Valve
	Drop Pipe
	Ancillary
	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.

	Outfall
	Undefined End
	Inlet

Other Symbols

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

	Public/Private Pumping Station
	Change of characteristic indicator (C.O.C.I.)
	Invert Level
	Summit

Areas

Lines denoting areas of underground surveys, etc.

	Agreement
	Operational Site
	Chamber
	Tunnel
	Conduit Bridge

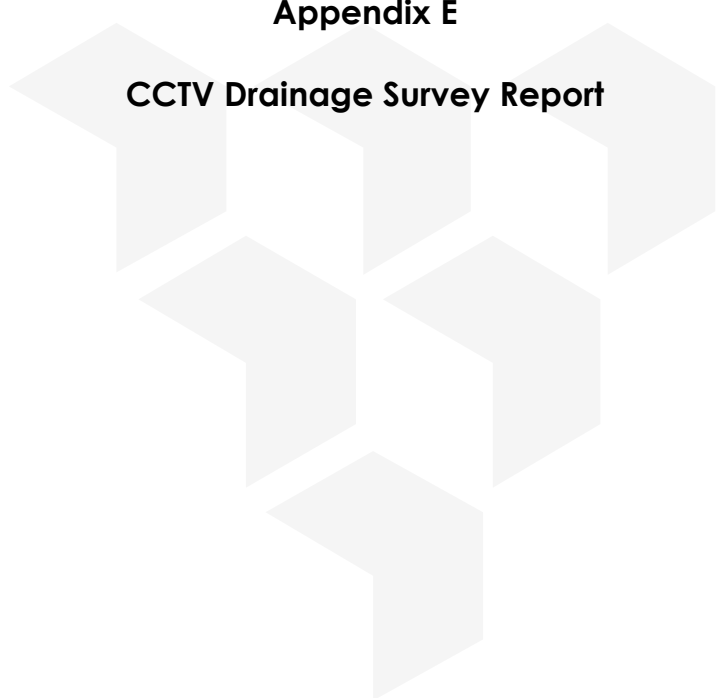
Other Sewer Types (Not Operated or Maintained by Thames Water)

	Foul Sewer		Surface Water Sewer
	Combined Sewer		Gulley
	Culverted Watercourse		Proposed
			Abandoned Sewer

- 6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. 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 present on the plan, please contact a member of Property Searches on 0118 925 1504.

Appendix E

CCTV Drainage Survey Report





CCTV Inspection Report



Reading Office

Unit B9, Great Knollys Street, Reading, Berkshire, RG1 7HN
Tel: 0118 950 4477

Contents Page

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
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Page 1	Cover Page
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Page 6	Site Drawings
Page 7	Site Photos
Page 15	Survey Run Sheet(Survey 1 - SWMH2 to SWMH1)
Page 16	Survey Run Sheet(Survey 2 - SWMH2 to SWMH3)
Page 17	Survey Run Sheet(Survey 3 - SWMH4 to SWMH3)
Page 18	Survey Run Sheet(Survey 4 - SWMH4 to SWMH5)
Page 19	Survey Run Sheet(Survey 5 - SWMH5 to SWMH18)
Page 21	Survey Run Sheet(Survey 6 - FWMH2 to FWMH1)
Page 22	Survey Run Sheet(Survey 7 - FWMH1 to PUMP STATION)
Page 23	Survey Run Sheet(Survey 8 - FWMH3 to FWMH4)
Page 24	Survey Run Sheet(Survey 9 - FWMH3 to FWMH2)
Page 25	Survey Run Sheet(Survey 10 - FWMH5 to FWMH4)
Page 26	Survey Run Sheet(Survey 11 - FWMH5 to FWMH6)
Page 28	Survey Run Sheet(Survey 12 - FWMH1B to PUMP STATION)
Page 30	Survey Run Sheet(Survey 13 - FWMH1A to PUMP STATION)
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Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
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Page 35	Survey Run Sheet(Survey 16 - FWMH10 to FWMH9)
Page 37	Survey Run Sheet(Survey 17 - FWMH12 to FWMH13)
Page 38	Survey Run Sheet(Survey 18 - SWMH10 to SWMH9)
Page 40	Survey Run Sheet(Survey 19 - SWMH10 to SWMH11)
Page 41	Survey Run Sheet(Survey 20 - SWMH12 to SWMH11)
Page 42	Survey Run Sheet(Survey 21 - SWMH12 to RWP)
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Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
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Page 59	Survey Run Sheet(Survey 35 - FWMH7 to FWMH9)
Page 60	Survey Run Sheet(Survey 36 - FWMH8 to FWMH7)
Page 61	Survey Run Sheet(Survey 37 - FWMH8 to FWMH20)
Page 62	Survey Run Sheet(Survey 38 - FWMH16 to FWMH19)
Page 63	Survey Run Sheet(Survey 39 - FWMH16 to FWMH23)
Page 65	Survey Run Sheet(Survey 40 - FWMH16 to FWMH17)
Page 67	Survey Run Sheet(Survey 41 - FWMH18 to FWMH17)
Page 69	Survey Run Sheet(Survey 42 - FWMH20 to FWMH23)
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Page 77	Survey Run Sheet(Survey 47 - SWMH18 to SWMH6)
Page 79	Survey Run Sheet(Survey 48 - FWMH27 to TANK)
Page 80	Defect Summary
Page 84	Job Summary

Defect Grade Descriptions

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
1: Occurences without damage. For example, laterals, joints,etc. NO DEFECTS WERE DETECTED.			
2: Constructional deficiencies or occurences with insignificant influence to tightness, hydraulic or static pressure or pipe: Eg. wide joints, badly torched intakes, minor deformation of plastic pipes, minor erosions etc. REHABILITATION CAN BE SCHEDULED LONG-TERM.			
3: Constructional deficiencies diminishing static, hydraulic and tightness: Eg. untorched intakes, cracks, minor drainage obstructions such as calcite build ups, protruding laterals, minor damages to pipe wall, individual root penetrations, corroded pipe walls etc. REHABILITATION IS NECESSARY MEDIUM-TERM WITHIN 3 TO 5 YEARS.			
4: Constructional damages with insufficient static safety, hydraulic or tightness: Eg. axial/radial pipe bursts, pipe deformations, visually noticeable infiltration/exfiltration, cavities, in pipe-wall, severe protruding, laterals severe root penetrations, severe corrosion of pipe wall etc. REHABILITATION PROCEDURE IS URGENT AND HAS TO BE COMPLETED WITHIN 1 TO 2 YEARS. NECESSITY FOR EMERGENCY OPERATIONS HAS TO BE EXAMINED.			
5: Pipe is already or will shortly be impermeable: Eg. collapsed pipe, deeply rooted pipe or other drainage obstructions. Pipe loses water or danger of backwater in basements etc. REHABILITATION IS URGENT AND SHORT-TERM. IN ORDER TO PREVENT FURTHER DAMAGE, NECESSARY TEMPORARY SPOT REPAIR HAS TO BE CONDUCTED ON EMERGENCY LEVEL.			

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
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This sketch is not to scale and does not represent the exact routing of the drainage system



Site Photos

Job Number
780878

Surveyed by (Operator)
PAUL BAYNHAM

Base Unit
DDFRT6A12S

Date
13/06/2019



Manhole / Access Point: SWMH2 Internal



Manhole / Access Point: SWMH4 Internal



Manhole / Access Point: SWMH5 Internal



Manhole / Access Point: FWMH1 Internal



Manhole / Access Point: FWMH2 Internal



Manhole / Access Point: FWMH3 Internal

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
 Manhole / Access Point: FWMH5 Internal		 Manhole / Access Point: PUMP STATION Internal	
 Manhole / Access Point: FWMH1B Internal		 Manhole / Access Point: FWMH1A Internal	
 Manhole / Access Point: FWMH10 Internal		 Manhole / Access Point: FWMH12 Internal	

Job Number
780878

Surveyed by (Operator)
PAUL BAYNHAM

Base Unit
DDFRT6A12S

Date
13/06/2019



Manhole / Access Point: FWMH11 Internal



Manhole / Access Point: FWMH13 Internal



Manhole / Access Point: RWP Location



Manhole / Access Point: SWMH10 Internal



Manhole / Access Point: SWMH12 Internal



Manhole / Access Point: SWMH14 Internal

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
 Manhole / Access Point: FWMH15 Internal		 Manhole / Access Point: FWMH21 Internal	
 Manhole / Access Point: FWMH22 Internal		 Manhole / Access Point: SWMH17 Internal	
 Manhole / Access Point: SWMH7 Internal		 Manhole / Access Point: SWMH18 Internal	

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
 Manhole / Access Point: SWMH19 Internal		 Manhole / Access Point: FWMH7 Internal	
 Manhole / Access Point: FWMH8 Internal		 Manhole / Access Point: FWMH16 Internal	
 Manhole / Access Point: FWMH18 Internal		 Manhole / Access Point: FWMH25 Internal	

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
 Manhole / Access Point: SWMH9 Internal		 Manhole / Access Point: SWMH11 Internal	
 Manhole / Access Point: FWMH14 Internal		 Manhole / Access Point: SWMH16 Internal	
 Manhole / Access Point: FWMH19 Internal		 Manhole / Access Point: FWMH24 Internal	

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
 Manhole / Access Point: FWMH23 Internal		 Manhole / Access Point: SWMH15 Internal	
 Manhole / Access Point: SWMH3 Internal		 Manhole / Access Point: SWMH1 Internal	
 Manhole / Access Point: FWMH4 Internal		 Manhole / Access Point: FWMH6 Internal	

Job Number
780878

Surveyed by (Operator)
PAUL BAYNHAM

Base Unit
DDFRT6A12S

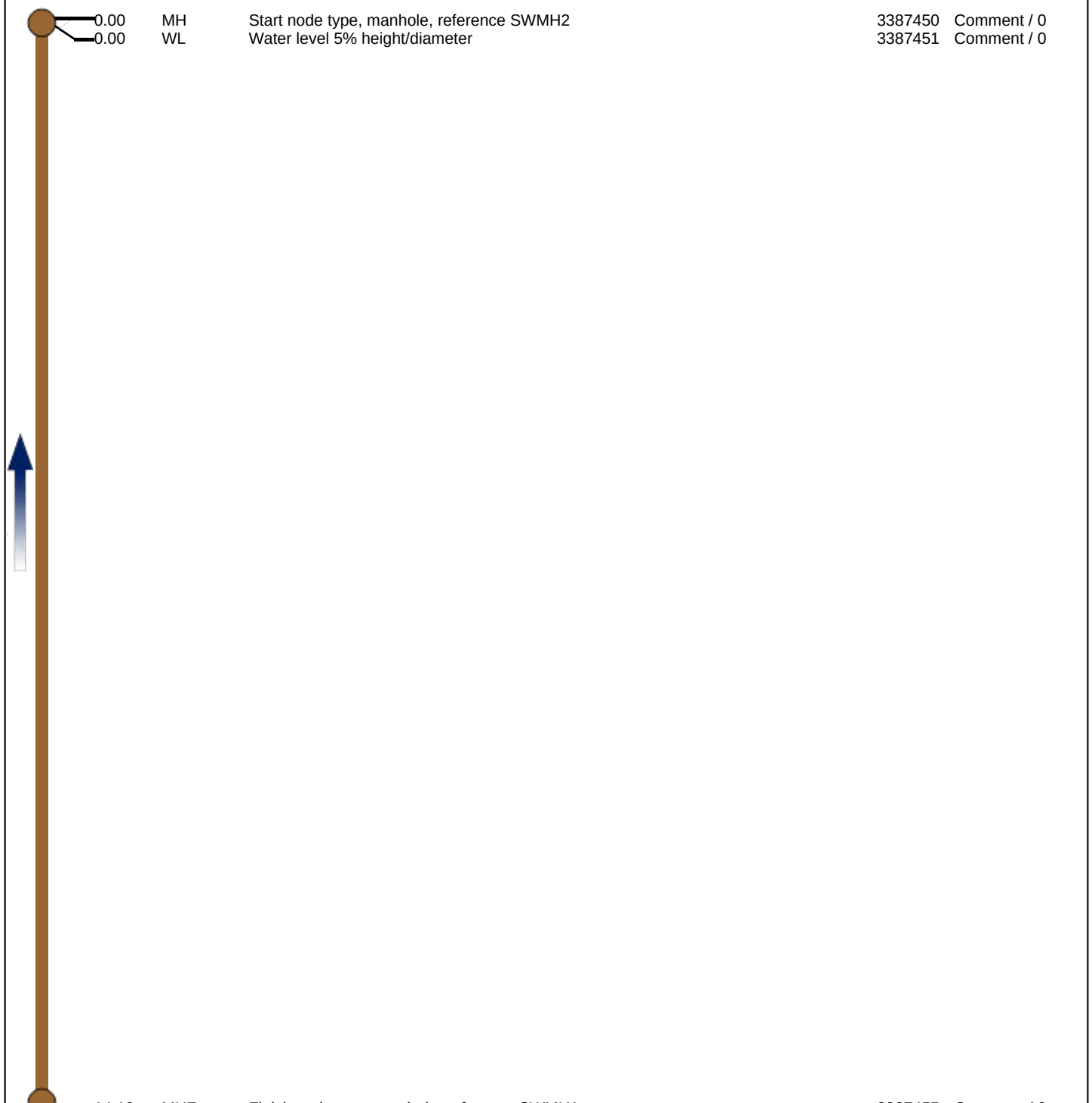
Date
13/06/2019



Manhole / Access Point: FWMH9 Internal

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH1 X	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 1
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 150mm Material Vitrified clay Category		Start MH SWMH2 End MH SWMH1 Total length 14.1 metres	
Scale 1:0.73 Direction Upstream				

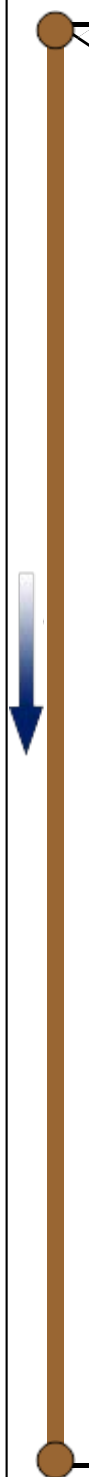
M/H Ref: SWMH2 | I/L : metres | M/H Depth: 1600 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH2	3387450	Comment / 0
0.00	WL	Water level 5% height/diameter	3387451	Comment / 0
				
14.10	MHF	Finish node type, manhole, reference SWMH1	3387455	Comment / 0

M/H Ref: SWMH1 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH2 X	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 2
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 150mm Material Vitrified clay Category		Start MH SWMH2 End MH SWMH3 Total length 19.67 metres	
Scale 1:1.00 Direction Downstream				

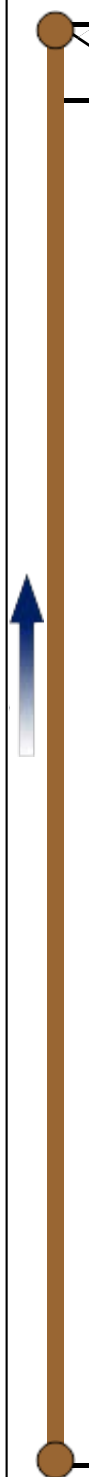
M/H Ref: SWMH2 | I/L : metres | M/H Depth: 1600 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH2	3387480	Comment / 0
0.00	WL	Water level 5% height/diameter	3387481	Comment / 0
				
19.67	MHF	Finish node type, manhole, reference SWMH3	3387497	Comment / 0

M/H Ref: SWMH3 | I/L : metres | M/H Depth: 1960 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH3 X	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 3
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 225mm Material Vitrified clay Category		Start MH SWMH4 End MH SWMH3 Total length 40.05 metres	
Scale 1:2.10 Direction Upstream				

M/H Ref: SWMH4 | I/L : metres | M/H Depth: 2310 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH4	3387541	Comment / 0
0.00	WL	Water level 5% height/diameter	3387542	Comment / 0
2.10	JN	Junction at 12 o'clock, diameter 100mm	3387546	Comment / 0
				
40.05	MHF	Finish node type, manhole, reference SWMH3	3387561	Comment / 0

M/H Ref: SWMH3 | I/L : metres | M/H Depth: 1960 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH4 X	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 4
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 225mm Material Vitrified clay Category		Start MH SWMH4 End MH SWMH5 Total length 23.11 metres	
Scale 1:1.21 Direction Downstream				

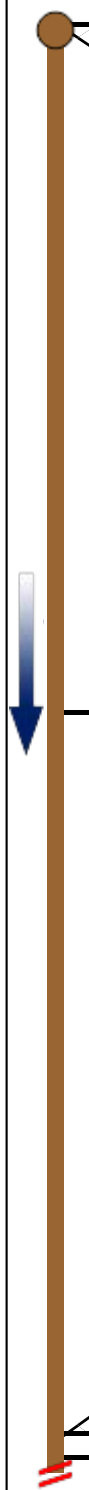
M/H Ref:SWMH4 | I/L : metres | M/H Depth: 2310 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH4	3387584	Comment / 0
0.00	WL	Water level 5% height/diameter	3387586	Comment / 0
4.11	JN	Junction at 2 o'clock, diameter 150mm	3387591	Comment / 0
23.11	MHF	Finish node type, manhole, reference SWMH5	3387606	Comment / 0

M/H Ref:SWMH5 | I/L : metres | M/H Depth: 2410 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH5 X	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 5/0	Base Unit DDFRT6A12S	Section Number 5
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 225mm Material Vitrified clay Category		Start MH SWMH5 End MH SWMH18 Total length 25.89 metres	
Scale 1:1.31 Direction Downstream				

M/H Ref: SWMH5 | I/L : metres | M/H Depth: 2410 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH5	3387753	Comment / 0
0.00	WL	Water level 5% height/diameter	3387754	Comment / 0
				
12.36	JN	Junction at 1 o'clock, diameter 100mm	3387758	Comment / 0
25.57	JN	Junction at 1 o'clock, diameter 100mm	3387779	Comment / 0
25.57	OBC	Other obstacles through connection/junction at 1 o'clock 50% cross-sectional area loss	3387791	Service / 5
25.89	SA	Survey abandoned - Remark: ABANDONED SURVEY DUE TO ROD PROTRUDING THROUGH JUNCTION UNABLE TO GET CAMERA PAST ROD.	3387830	Comment / 0

M/H Ref: SWMH18 | I/L : metres | M/H Depth: 2700 metres

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
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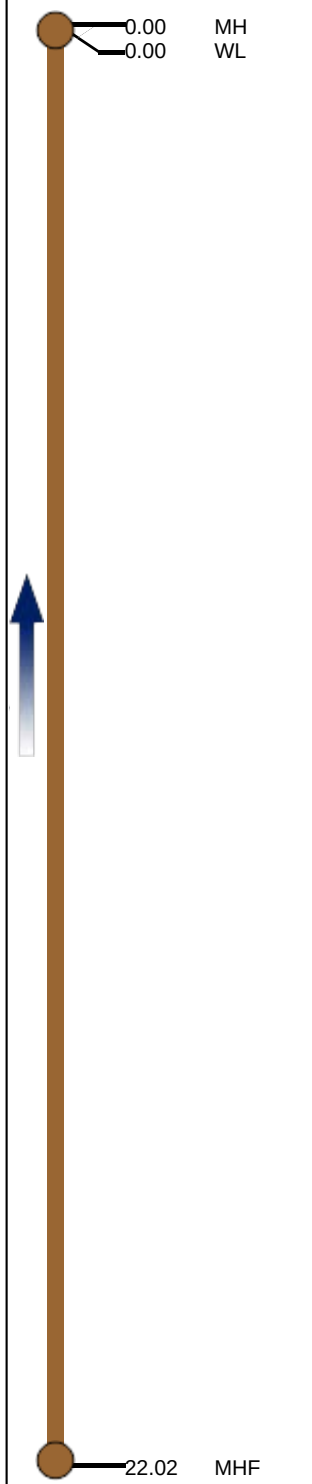
Other obstacles through connection/junction at 1 o'clock 50% cross-sectional area loss



Survey abandoned - Remark: ABANDONED SURVEY DUE TO ROD PROTRUDING THROUGH JUNCTION UNABLE TO GET CAMERA PAST ROD.

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH1 X	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 6
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Cast iron Category		Start MH FWMH2 End MH FWMH1 Total length 22.02 metres	
Scale 1:1.15 Direction Upstream				

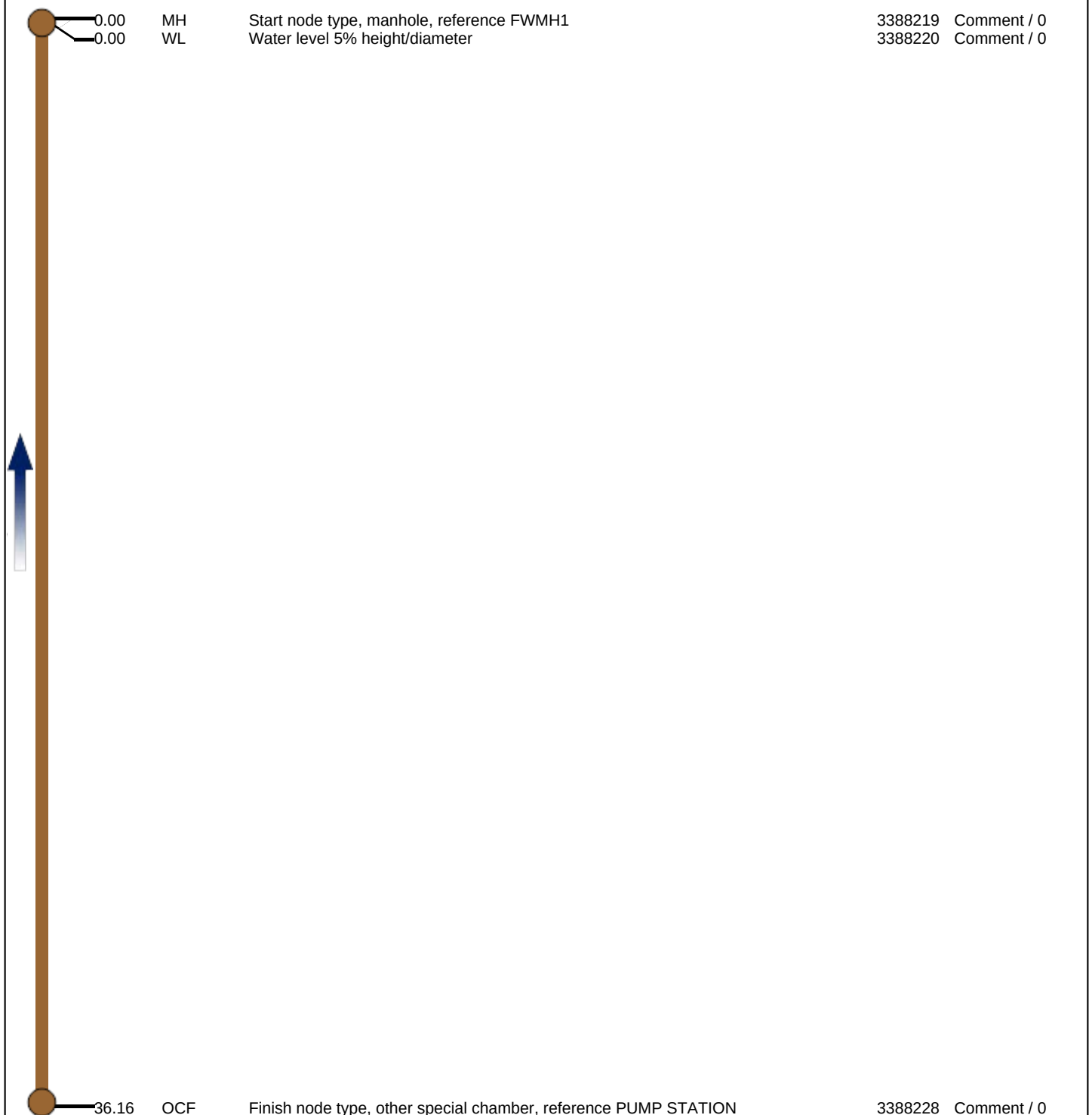
M/H Ref:FWMH2 | I/L : metres | M/H Depth: 1070 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH2	3388119	Comment / 0
0.00	WL	Water level 5% height/diameter	3388120	Comment / 0
				
22.02	MHF	Finish node type, manhole, reference FWMH1	3388129	Comment / 0

M/H Ref:FWMH1 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) PUMP STATIX	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 7
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Cast iron Category		Start MH FWMH1 End MH PUMP STATION Total length 36.16 metres	
Scale 1:1.89 Direction Upstream				

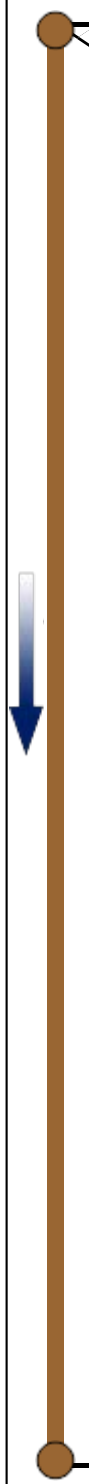
M/H Ref:FWMH1 | I/L : metres | M/H Depth: 910 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH1	3388219	Comment / 0
0.00	WL	Water level 5% height/diameter	3388220	Comment / 0
				
36.16	OCF	Finish node type, other special chamber, reference PUMP STATION	3388228	Comment / 0

M/H Ref:PUMP STATION | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH3 X	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 8
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 150mm Material Cast iron Category		Start MH FWMH3 End MH FWMH4 Total length 22.02 metres	
Scale 1:1.15 Direction Downstream				

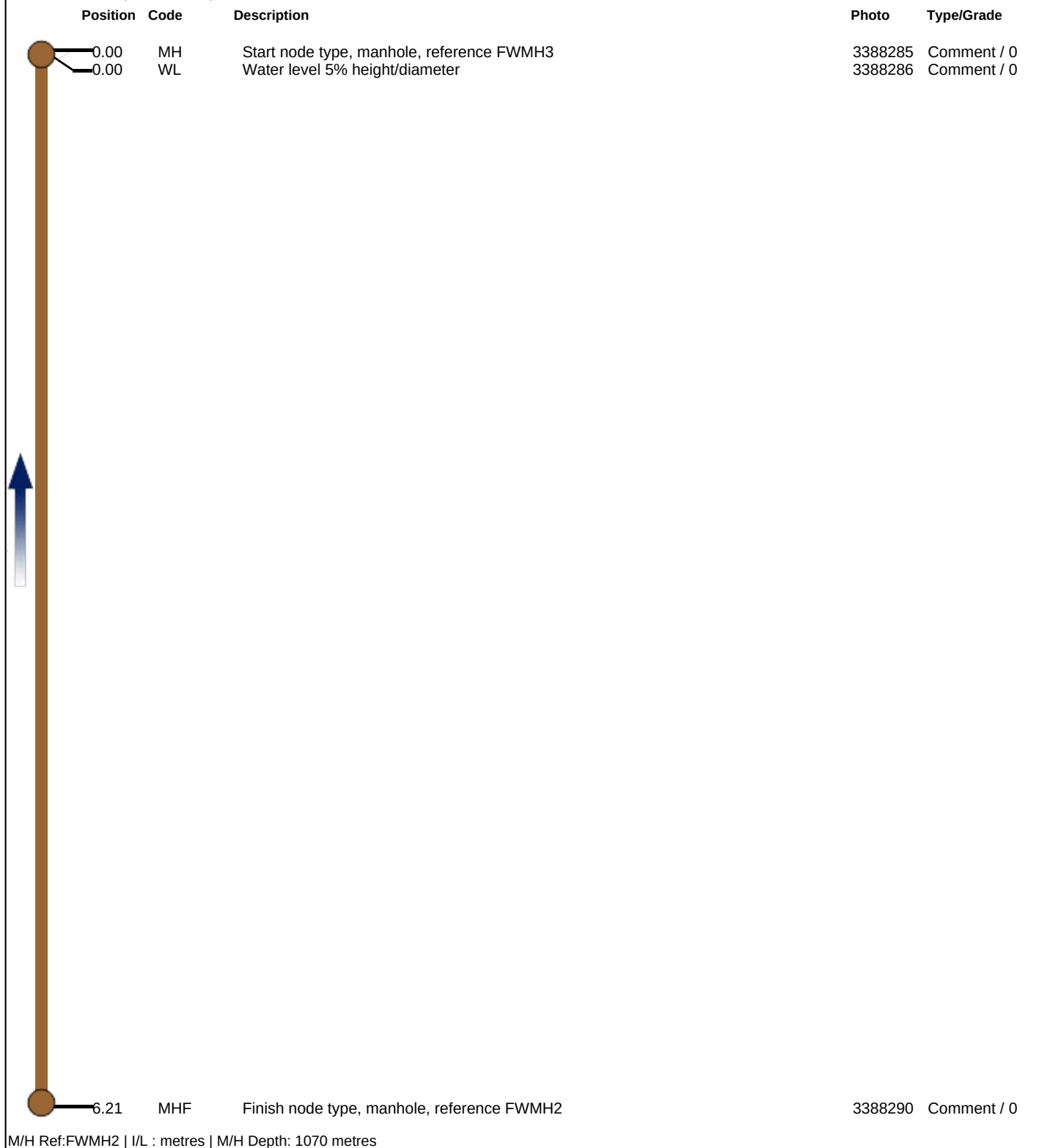
M/H Ref:FWMH3 | I/L : metres | M/H Depth: 1150 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH3	3388245	Comment / 0
0.00	WL	Water level 5% height/diameter	3388246	Comment / 0
				
22.02	MHF	Finish node type, manhole, reference FWMH4	3388257	Comment / 0

M/H Ref:FWMH4 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH2 X	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 9
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 150mm Material Cast iron Category		Start MH FWMH3 End MH FWMH2 Total length 6.21 metres	
Scale 1:0.31 Direction Upstream				

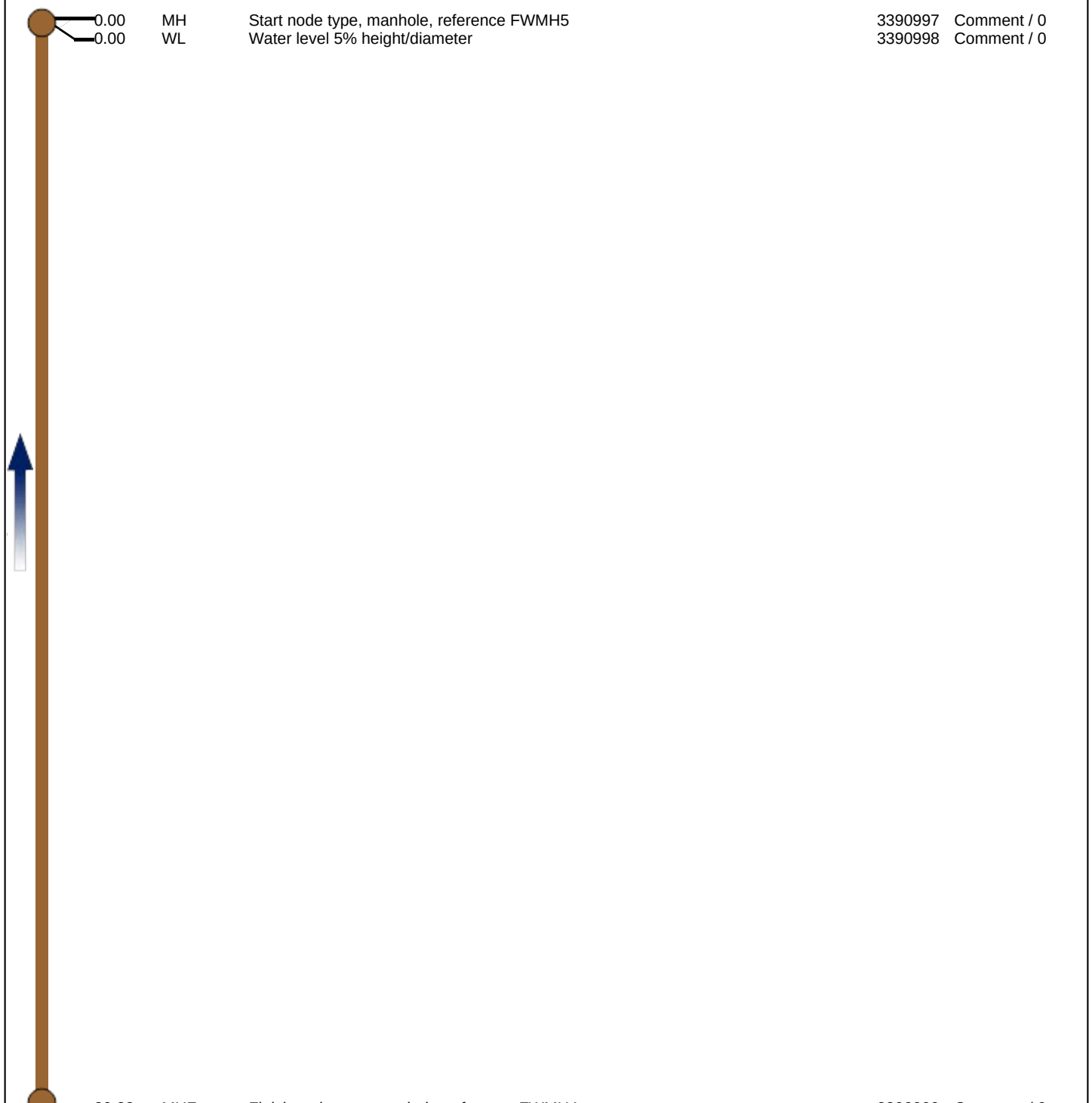
M/H Ref:FWMH3 | I/L : metres | M/H Depth: 1150 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH3	3388285	Comment / 0
0.00	WL	Water level 5% height/diameter	3388286	Comment / 0
				
6.21	MHF	Finish node type, manhole, reference FWMH2	3388290	Comment / 0

M/H Ref:FWMH2 | I/L : metres | M/H Depth: 1070 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH4 X	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 10
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 150mm Material Cast iron Category		Start MH FWMH5 End MH FWMH4 Total length 30.38 metres	
Scale 1:1.57 Direction Upstream				

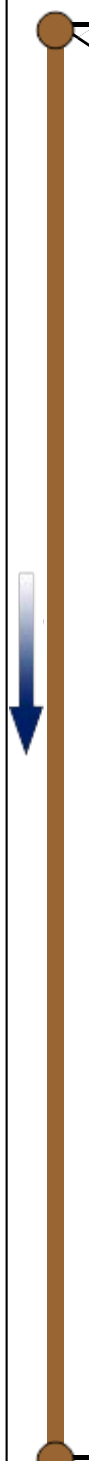
M/H Ref:FWMH5 | I/L : metres | M/H Depth: 1710 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH5	3390997	Comment / 0
0.00	WL	Water level 5% height/diameter	3390998	Comment / 0
				
30.38	MHF	Finish node type, manhole, reference FWMH4	3390999	Comment / 0

M/H Ref:FWMH4 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH5 X	Date 13/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 11
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 150mm Material Cast iron Category		Start MH FWMH5 End MH FWMH6 Total length 14.34 metres	
Scale 1:0.73 Direction Downstream				

M/H Ref:FWMH5 | I/L : metres | M/H Depth: 1710 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH5	3391000	Comment / 0
0.00	WL	Water level 5% height/diameter	3391001	Comment / 0
				
14.34	REM	NOW AT RUNNING TRAP AT FWMH6	3391002	Comment / 0
14.34	WRF	Finish node type, Winser trap, reference FWMH6	3391003	Comment / 0

M/H Ref:FWMH6 | I/L : metres | M/H Depth: 0 metres

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
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NOW AT RUNNING TRAP AT FWMH6

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH1B X	Date 14/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/3	Base Unit DDFRT6A12S	Section Number 12
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 150mm Material Vitrified clay Category		Start MH FWMH1B End MH PUMP STATION Total length 1.67 metres	
Scale 1:0.05 Direction Downstream				

M/H Ref:FWMH1B | I/L : metres | M/H Depth: 1180 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH1B	3391006	Comment / 0
0.00	WL	Water level 5% height/diameter	3391012	Comment / 0
0.44	CM	Cracks multiple from 1 to 5 o'clock	3391031	Structural / 3
1.67	ICF	Finish node type, inspection chamber, reference PUMP STATION	3391043	Comment / 0

M/H Ref:PUMP STATION | I/L : metres | M/H Depth: 0 metres

Job Number
780878

Surveyed by (Operator)
PAUL BAYNHAM

Base Unit
DDFRT6A12S

Date
14/06/2019



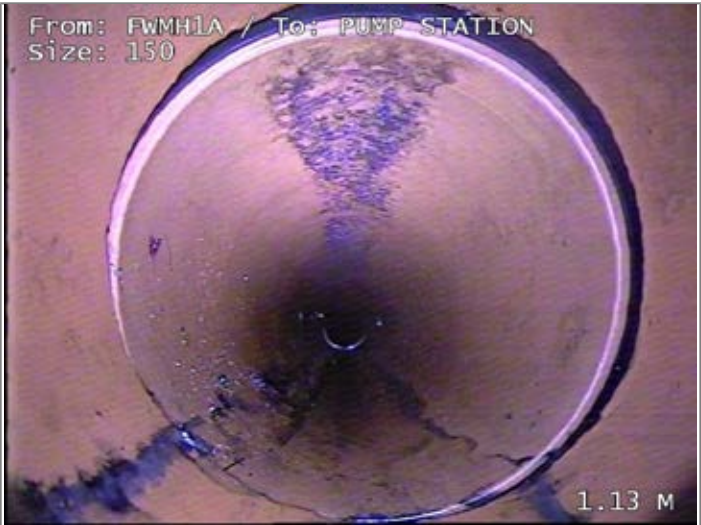
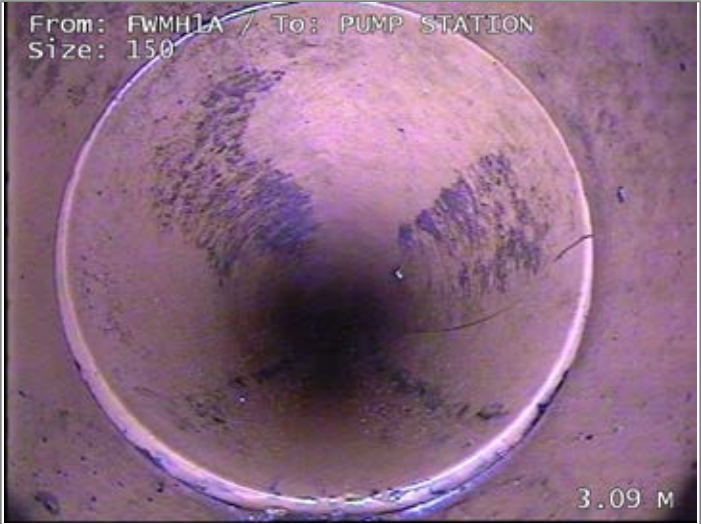
Cracks multiple from 1 to 5 o'clock

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH1A X	Date 14/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/2	Base Unit DDFRT6A12S	Section Number 13
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment		Shape/Size 150mm Material Vitrified clay Category		Start MH FWMH1A End MH PUMP STATION Total length 16.49 metres
Scale 1:0.84 Direction Downstream				

M/H Ref:FWMH1A | I/L : metres | M/H Depth: 1500 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH1A	3391087	Comment / 0
0.00	WL	Water level 5% height/diameter	3391088	Comment / 0
1.13	CL (S1)	Crack longitudinal at 7 o'clock, Start	3391094	Structural / 2
3.09	CL (F1)	Crack longitudinal at 7 o'clock, Start, Finished	3391095	Structural / 2
3.09	CL (S2)	Crack longitudinal at 3 o'clock, Start	3391096	Structural / 2
4.95	CL (F2)	Crack longitudinal at 3 o'clock, Start, Finished	3391098	Structural / 2
5.01	CL (S3)	Crack longitudinal at 7 o'clock, Start	3391099	Structural / 2
6.76	CL (F3)	Crack longitudinal at 7 o'clock, Start, Finished	3391101	Structural / 2
6.76	CL (S4)	Crack longitudinal at 5 o'clock, Start	3391102	Structural / 2
7.01	CL (S5)	Crack longitudinal at 9 o'clock, Start	3391103	Structural / 2
8.79	CL (F4)	Crack longitudinal at 5 o'clock, Start, Finished	3391106	Structural / 2
8.79	CL (F5)	Crack longitudinal at 9 o'clock, Start, Finished	3391107	Structural / 2
16.49	ICF	Finish node type, inspection chamber, reference PUMP STATION	3391409	Comment / 0

M/H Ref:PUMP STATION | I/L : metres | M/H Depth: 0 metres

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 14/06/2019
From: FWMH1A / To: PUMP STATION Size: 150  1.13 M Crack longitudinal at 7 o'clock, Start			
From: FWMH1A / To: PUMP STATION Size: 150  3.09 M Crack longitudinal at 7 o'clock, Start, Finished			
From: FWMH1A / To: PUMP STATION Size: 150  3.09 M Crack longitudinal at 3 o'clock, Start			
From: FWMH1A / To: PUMP STATION Size: 150  4.95 M Crack longitudinal at 3 o'clock, Start, Finished			
From: FWMH1A / To: PUMP STATION Size: 150  5.01 M Crack longitudinal at 7 o'clock, Start			
From: FWMH1A / To: PUMP STATION Size: 150  6.76 M Crack longitudinal at 7 o'clock, Start, Finished			

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 14/06/2019
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Crack longitudinal at 5 o'clock, Start



Crack longitudinal at 9 o'clock, Start



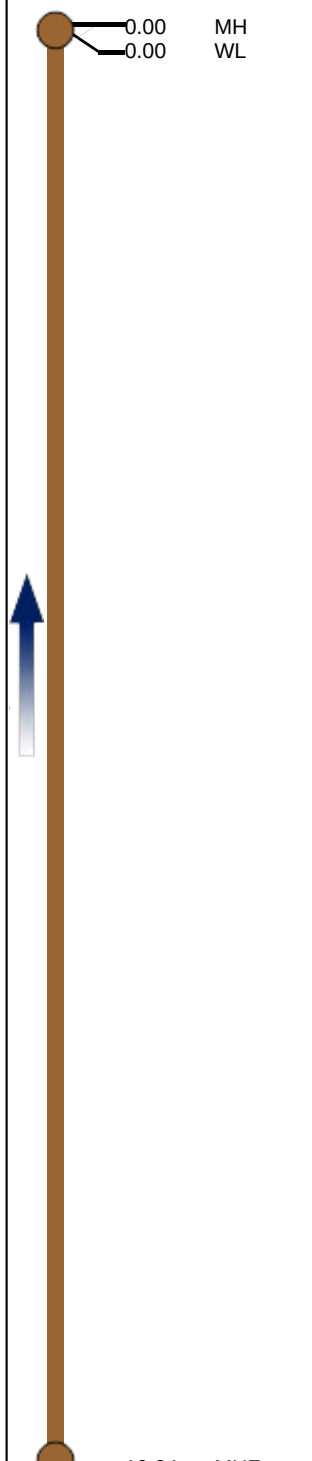
Crack longitudinal at 5 o'clock, Start, Finished



Crack longitudinal at 9 o'clock, Start, Finished

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH11 X	Date 14/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 14
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Vitrified clay Category		Start MH FWMH10 End MH FWMH11 Total length 10.04 metres	
Scale 1:0.52 Direction Upstream				

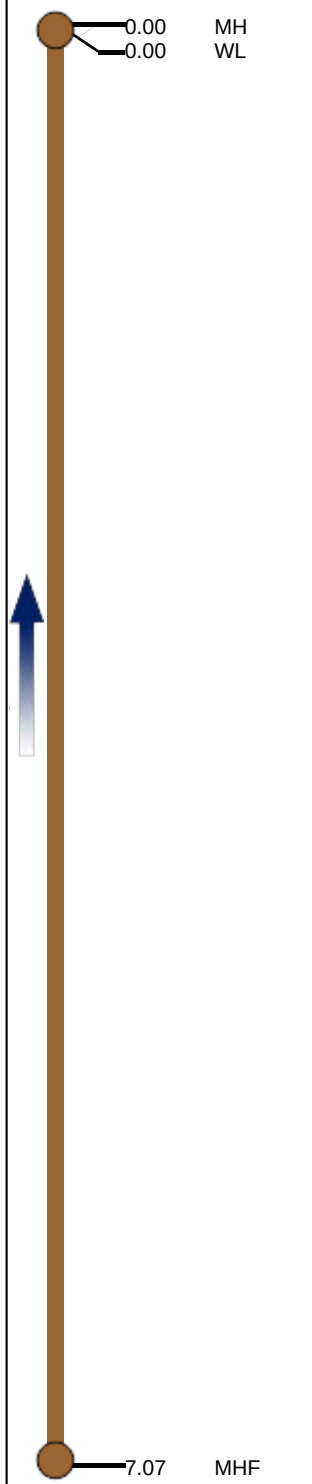
M/H Ref:FWMH10 | I/L : metres | M/H Depth: 1360 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH10	3391531	Comment / 0
0.00	WL	Water level 5% height/diameter	3391532	Comment / 0
				
10.04	MHF	Finish node type, manhole, reference FWMH11	3391533	Comment / 0

M/H Ref:FWMH11 | I/L : metres | M/H Depth: 1000 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH12 X	Date 14/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 15
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Vitrified clay Category		Start MH FWMH11 End MH FWMH12 Total length 7.07 metres	
Scale 1:0.37 Direction Upstream				

M/H Ref:FWMH11 | I/L : metres | M/H Depth: 1000 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH11	3391534	Comment / 0
0.00	WL	Water level 5% height/diameter	3391535	Comment / 0
				
7.07	MHF	Finish node type, manhole, reference FWMH12	3391536	Comment / 0

M/H Ref:FWMH12 | I/L : metres | M/H Depth: 840 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH10 X	Date 14/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/3	Base Unit DDFRT6A12S	Section Number 16
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Vitrified clay Category		Start MH FWMH10 End MH FWMH9 Total length 10.73 metres	
Scale 1:0.52 Direction Downstream				

M/H Ref:FWMH10 | I/L : metres | M/H Depth: 1360 metres

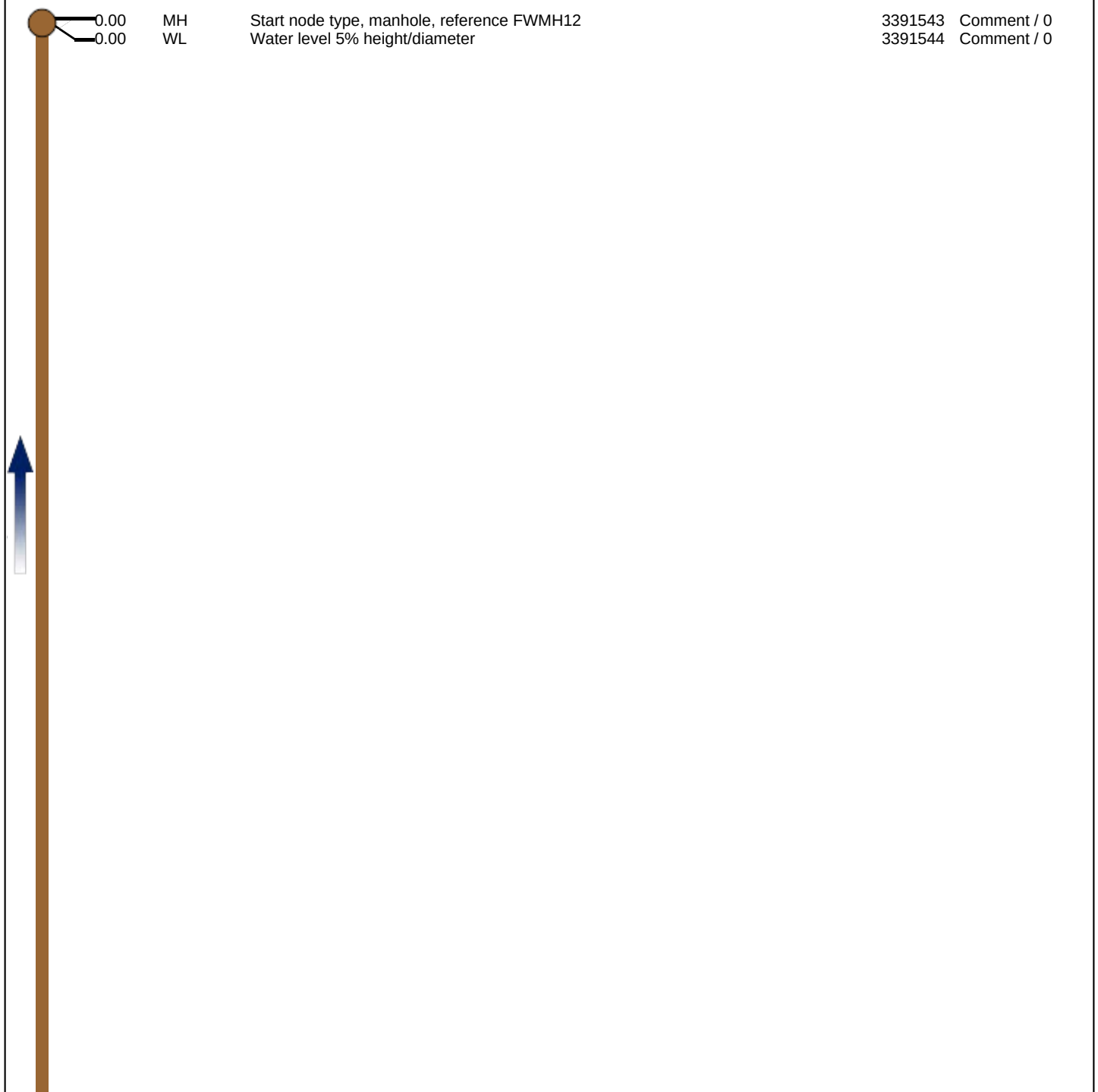
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH10	3391537	Comment / 0
0.00	WL	Water level 5% height/diameter	3391538	Comment / 0
9.09	CC	Crack circumferential from 1 to 11 o'clock	3391540	Structural / 2
10.21	CM	Cracks multiple from 9 to 5 o'clock	3391541	Structural / 3
10.73	MHF	Finish node type, manhole, reference FWMH9	3391542	Comment / 0

M/H Ref:FWMH9 | I/L : metres | M/H Depth: 0 metres

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 14/06/2019
From: FWMH10 / To: FWMH9 Size: 100  9.09 M Crack circumferential from 1 to 11 o'clock From: FWMH10 / To: FWMH9 Size: 100  10.21 M Cracks multiple from 9 to 5 o'clock			

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH13 X	Date 14/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 17
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Vitrified clay Category		Start MH FWMH12 End MH FWMH13 Total length 6.36 metres	
Scale 1:0.31 Direction Upstream				

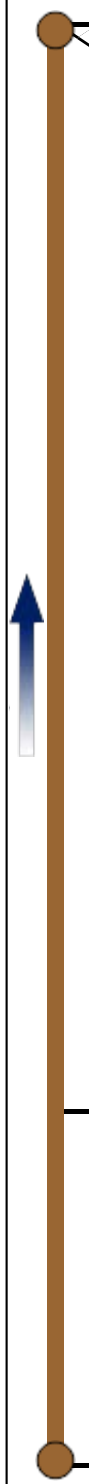
M/H Ref:FWMH12 | I/L : metres | M/H Depth: 840 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH12	3391543	Comment / 0
0.00	WL	Water level 5% height/diameter	3391544	Comment / 0
				
6.36	MHF	Finish node type, manhole, reference FWMH13	3391545	Comment / 0

M/H Ref:FWMH13 | I/L : metres | M/H Depth: 750 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH9 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/4	Base Unit DDFRT6A12S	Section Number 18
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 150mm Material Vitrified clay Category		Start MH SWMH10 End MH SWMH9 Total length 11.36 metres	
Scale 1:0.58 Direction Upstream				

M/H Ref: SWMH10 | I/L : metres | M/H Depth: 640 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH10	3394644	Comment / 0
0.00	WL	Water level 5% height/diameter	3394645	Comment / 0
				
8.57	B	Broken pipe from 8 to 4 o'clock	3394653	Structural / 4
11.36	MHF	Finish node type, manhole, reference SWMH9	3394654	Comment / 0

M/H Ref: SWMH9 | I/L : metres | M/H Depth: 0 metres

Job Number
780878

Surveyed by (Operator)
PAUL BAYNHAM

Base Unit
DDFRT6A12S

Date
17/06/2019



Broken pipe from 8 to 4 o'clock

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH10 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 19
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 150mm Material Vitrified clay Category		Start MH SWMH10 End MH SWMH11 Total length 26.41 metres	
Scale 1:1.36 Direction Downstream				

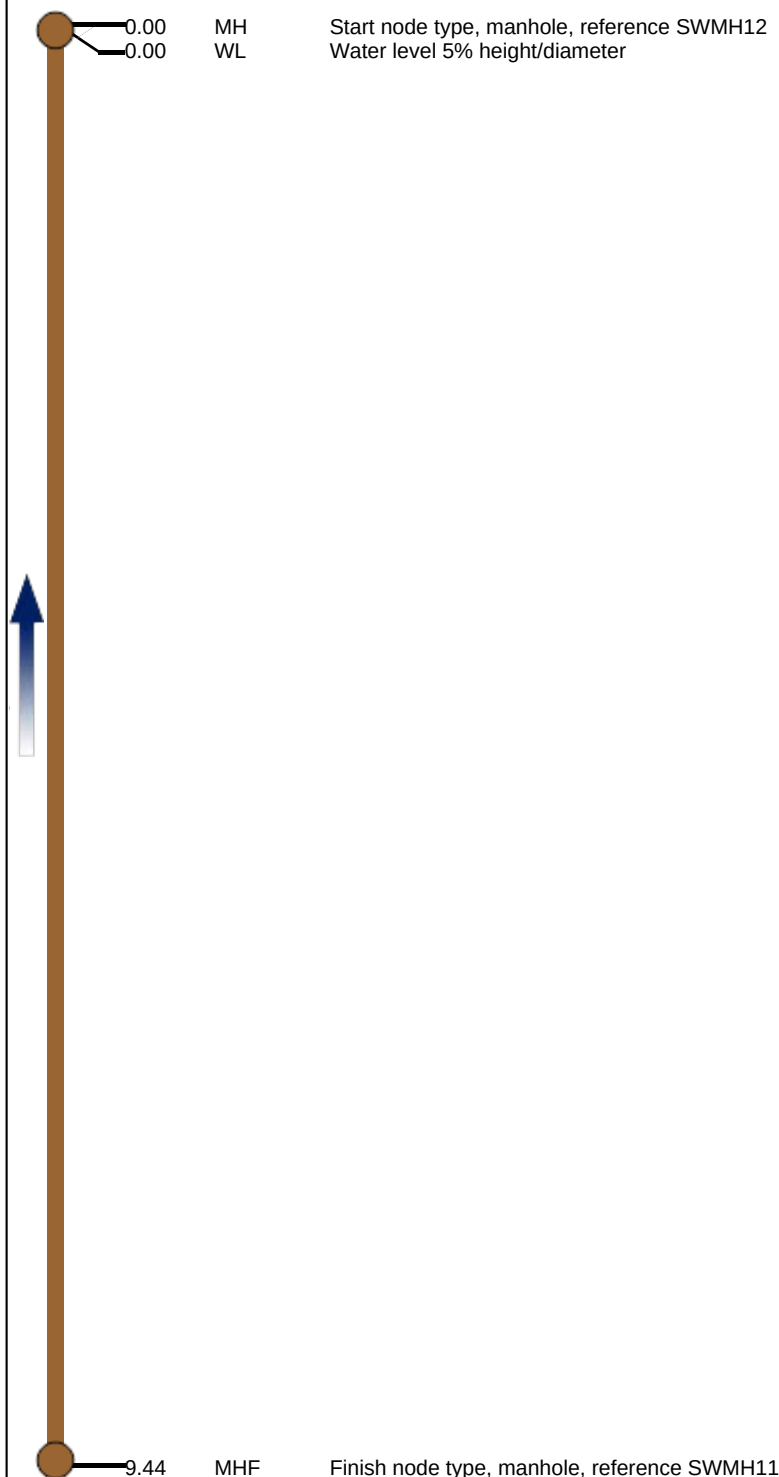
M/H Ref: SWMH10 | I/L : metres | M/H Depth: 640 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH10	3394667	Comment / 0
0.00	WL	Water level 5% height/diameter	3394668	Comment / 0
9.08	JN	Junction at 10 o'clock, diameter 100mm	3394669	Comment / 0
9.44	JN	Junction at 10 o'clock, diameter 100mm	3394670	Comment / 0
26.41	MHF	Finish node type, manhole, reference SWMH11	3394694	Comment / 0

M/H Ref: SWMH11 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH11 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 20
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 150mm Material Vitrified clay Category		Start MH SWMH12 End MH SWMH11 Total length 9.44 metres	
Scale 1:0.47 Direction Upstream				

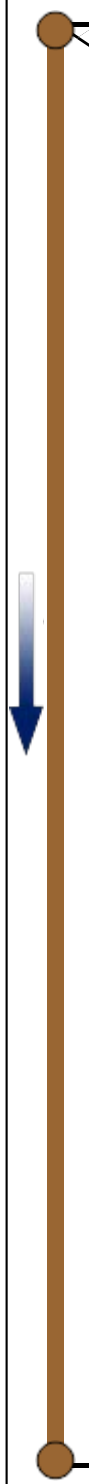
M/H Ref: SWMH12 | I/L : metres | M/H Depth: 1320 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH12	3394840	Comment / 0
0.00	WL	Water level 5% height/diameter	3394842	Comment / 0
				
9.44	MHF	Finish node type, manhole, reference SWMH11	3394848	Comment / 0

M/H Ref: SWMH11 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH12 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 21
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 150mm Material Vitrified clay Category		Start MH SWMH12 End MH RWP Total length 1.87 metres	
Scale 1:0.05 Direction Downstream				

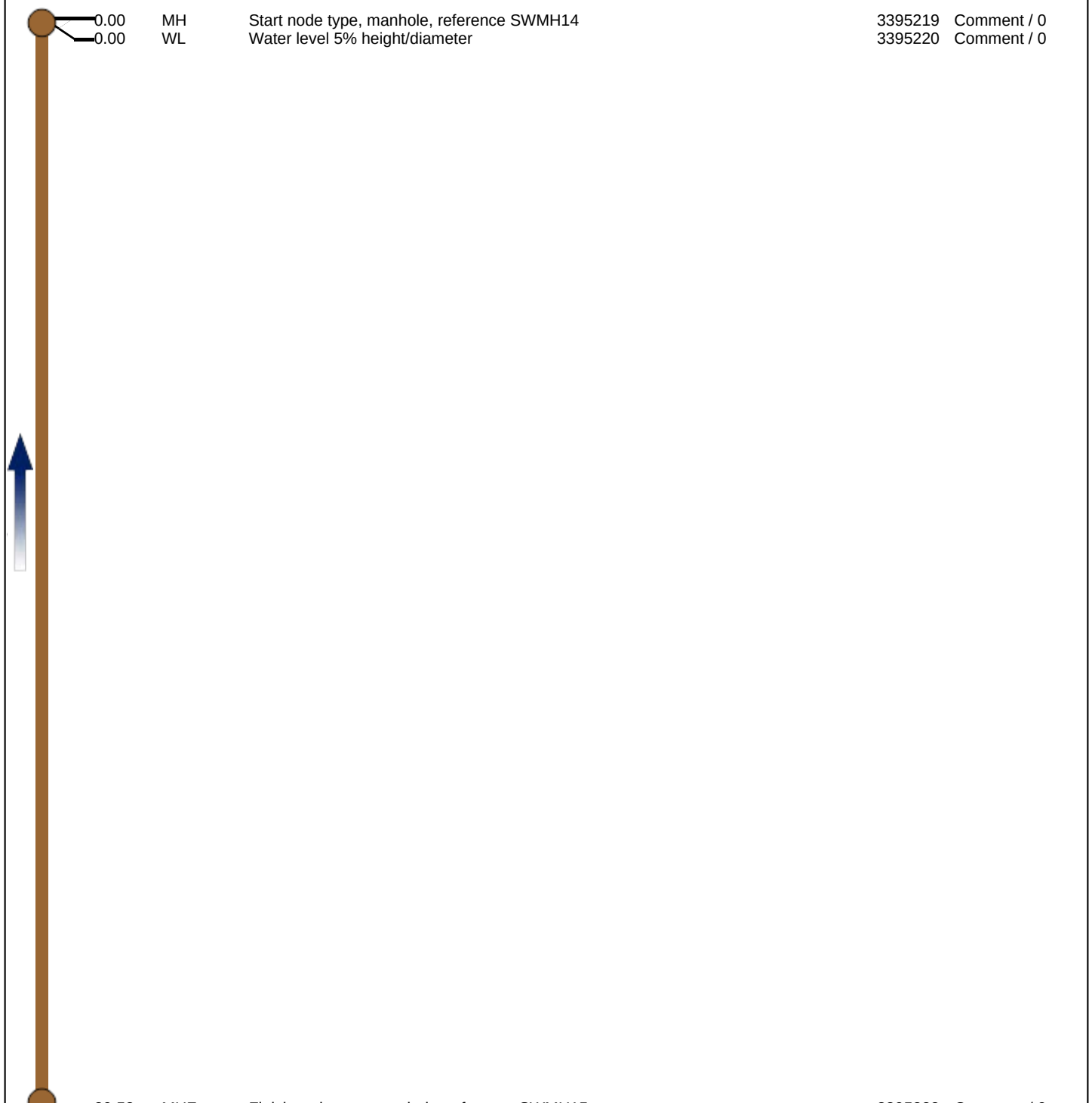
M/H Ref: SWMH12 | I/L : metres | M/H Depth: 1320 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH12	3394917	Comment / 0
0.00	WL	Water level 5% height/diameter	3395141	Comment / 0
				
1.87	OFF	Finish node type, outfall, reference RWP	3395146	Comment / 0

M/H Ref: RWP | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH15 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 22
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 225mm Material Vitrified clay Category		Start MH SWMH14 End MH SWMH15 Total length 20.52 metres	
Scale 1:1.05 Direction Upstream				

M/H Ref: SWMH14 | I/L : metres | M/H Depth: 2360 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH14	3395219	Comment / 0
0.00	WL	Water level 5% height/diameter	3395220	Comment / 0
				
20.52	MHF	Finish node type, manhole, reference SWMH15	3395222	Comment / 0

M/H Ref: SWMH15 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH14 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 23
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 225mm Material Vitrified clay Category		Start MH SWMH14 End MH SWMH16 Total length 32.75 metres	

 Scale **1:1.68**
 Direction **Downstream**

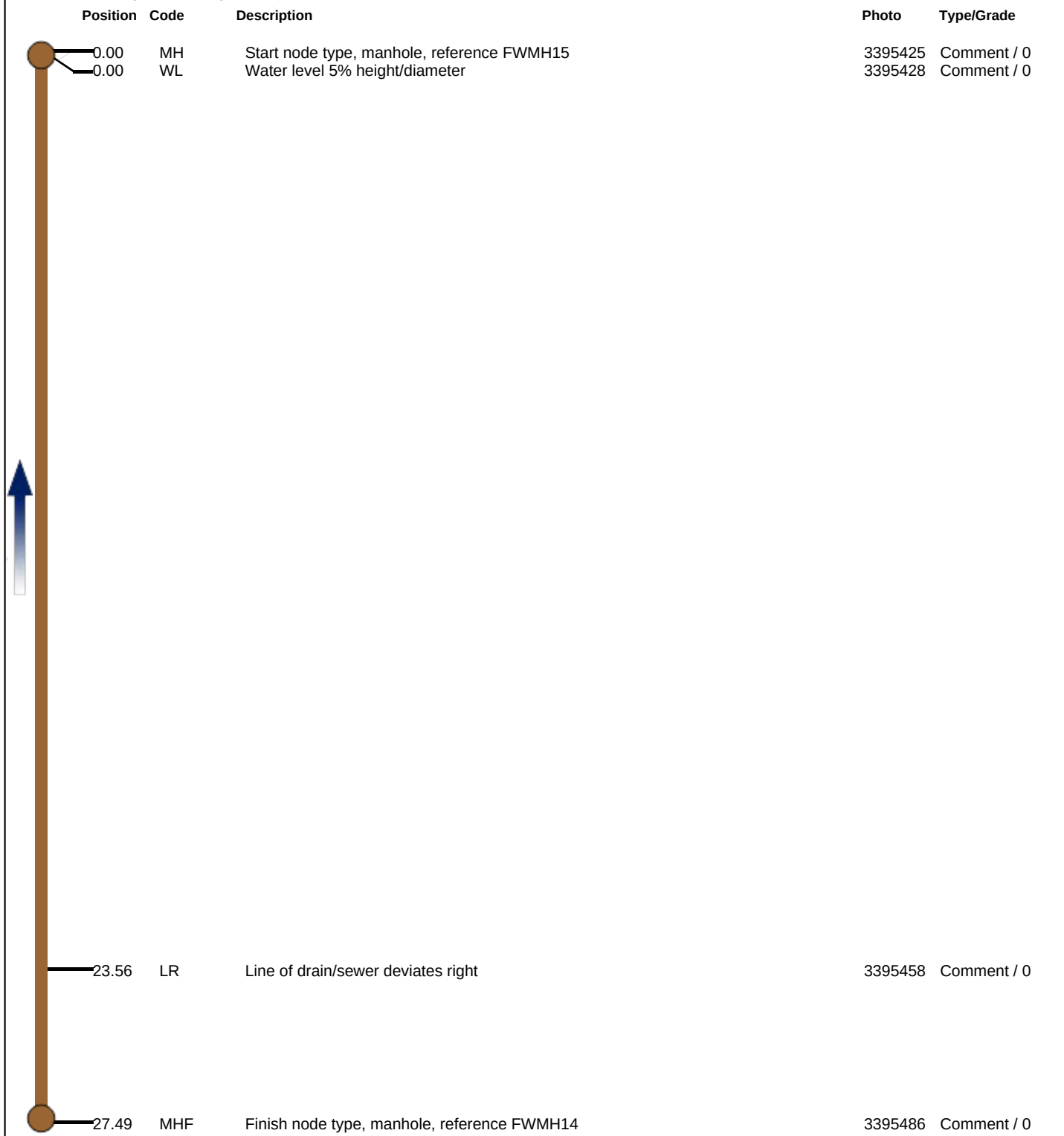
M/H Ref: SWMH14 | I/L : metres | M/H Depth: 2360 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH14	3395247	Comment / 0
0.00	WL	Water level 5% height/diameter	3395248	Comment / 0
1.49	LL	Line of drain/sewer deviates left	3395252	Comment / 0
2.77	JN	Junction at 11 o'clock, diameter 100mm	3395253	Comment / 0
8.46	JN	Junction at 9 o'clock, diameter 100mm	3395257	Comment / 0
28.51	JN	Junction at 3 o'clock, diameter 100mm	3395269	Comment / 0
32.75	MHF	Finish node type, manhole, reference SWMH16	3395270	Comment / 0

M/H Ref: SWMH16 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH14 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 24
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Cast iron Category		Start MH FWMH15 End MH FWMH14 Total length 27.49 metres	
Scale 1:1.42 Direction Upstream				

M/H Ref:FWMH15 | I/L : metres | M/H Depth: 1050 metres

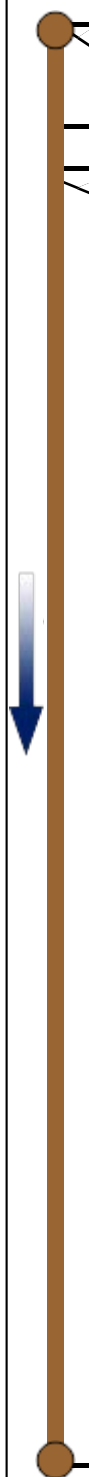


M/H Ref:FWMH14 | I/L : metres | M/H Depth: 780 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH15 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 25
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Cast iron Category		Start MH FWMH15 End MH FWMH3 Total length 36.31 metres	

Scale **1:1.89**
Direction **Downstream**

M/H Ref:FWMH15 | I/L : metres | M/H Depth: 1050 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH15	3395685	Comment / 0
0.00	WL	Water level 5% height/diameter	3395686	Comment / 0
2.56	LL	Line of drain/sewer deviates left	3395687	Comment / 0
3.63	REM	JOINING ANOTHER PIPE	3395688	Comment / 0
3.95	LR	Line of drain/sewer deviates right	3395689	Comment / 0
				
36.31	MHF	Finish node type, manhole, reference FWMH3	3395726	Comment / 0

M/H Ref:FWMH3 | I/L : metres | M/H Depth: 1150 metres

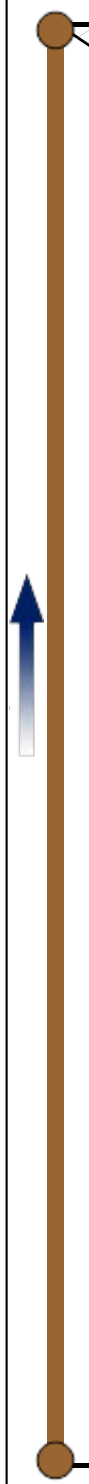
Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 17/06/2019
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JOINING ANOTHER PIPE

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH22 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 26
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Polyvinyl chloride Category		Start MH FWMH21 End MH FWMH22 Total length 4.95 metres	
Scale 1:0.21 Direction Upstream				

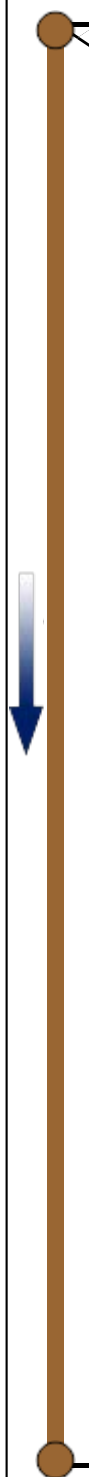
M/H Ref:FWMH21 | I/L : metres | M/H Depth: 850 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH21	3395852	Comment / 0
0.00	WL	Water level 5% height/diameter	3395853	Comment / 0
				
4.95	MHF	Finish node type, manhole, reference FWMH22	3395856	Comment / 0

M/H Ref:FWMH22 | I/L : metres | M/H Depth: 740 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH21 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 27
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Liner Category		Start MH FWMH21 End MH FWMH20 Total length 18.81 metres	
Scale 1:0.94 Direction Downstream				

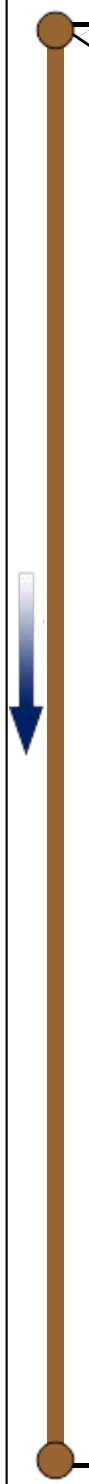
M/H Ref:FWMH21 | I/L : metres | M/H Depth: 850 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH21	3395877	Comment / 0
0.00	WL	Water level 5% height/diameter	3395879	Comment / 0
				
18.81	MHF	Finish node type, manhole, reference FWMH20	3395882	Comment / 0

M/H Ref:FWMH20 | I/L : metres | M/H Depth: 1170 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH17 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 28
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 100mm Material Polyvinyl chloride Category		Start MH SWMH17 End MH SWMH6 Total length 12.69 metres	
Scale 1:0.63 Direction Downstream				

M/H Ref: SWMH17 | I/L : metres | M/H Depth: 1100 metres

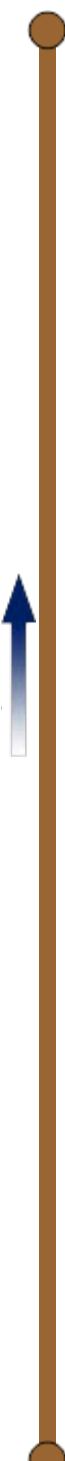
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH17	3395911	Comment / 0
0.00	WL	Water level 5% height/diameter	3395912	Comment / 0
				
12.69	MHF	Finish node type, manhole, reference SWMH6	3395913	Comment / 0

M/H Ref: SWMH6 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH16 X	Date 17/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade /0	Base Unit DDFRT6A12S	Section Number 29
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 225mm Material Vitrified clay Category		Start MH SWMH7 End MH SWMH16 Total length 0 metres	

Scale **1:0.00**
Direction **Upstream**

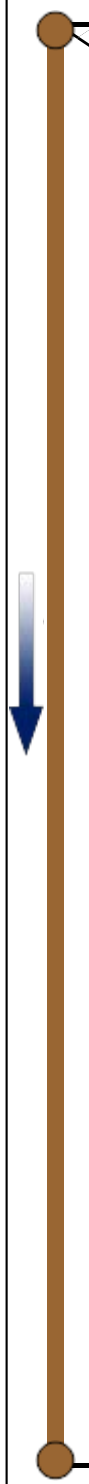
M/H Ref:SWMH7 | I/L : metres | M/H Depth: 2490 metres

	Position	Code	Description	Photo	Type/Grade
	0.00	MH	Start node type, manhole, reference SWMH7	3395973	Comment / 0
	0.00	WL	Water level 5% height/diameter	3395981	Comment / 0

M/H Ref:SWMH16 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH7 X	Date 18/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 30
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 300mm Material Vitrified clay Category		Start MH SWMH7 End MH SWMH8 Total length 8.95 metres	
Scale 1:0.42 Direction Downstream				

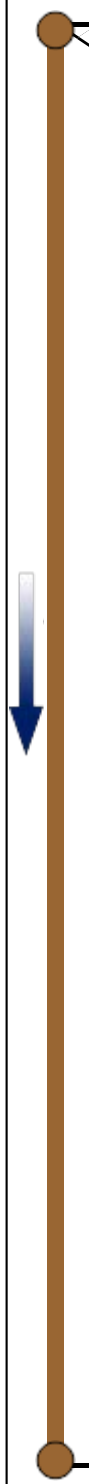
M/H Ref:SWMH7 | I/L : metres | M/H Depth: 2490 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH7	3397159	Comment / 0
0.00	WL	Water level 5% height/diameter	3397161	Comment / 0
				
8.95	MHF	Finish node type, manhole, reference SWMH8	3397163	Comment / 0

M/H Ref:SWMH8 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH8 X	Date 18/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 31
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 300mm Material Vitrified clay Category		Start MH SWMH8 End MH SWMH18 Total length 26.43 metres	
Scale 1:1.36 Direction Downstream				

M/H Ref:SWMH8 | I/L : metres | M/H Depth: 2660 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH8	3397174	Comment / 0
0.00	WL	Water level 5% height/diameter	3397175	Comment / 0
				
26.43	MHF	Finish node type, manhole, reference SWMH18	3397211	Comment / 0

M/H Ref:SWMH18 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH18 X	Date 18/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 32
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 300mm Material Vitrified clay Category		Start MH SWMH18 End MH SWMH19 Total length 28.02 metres	
Scale 1:1.47 Direction Downstream				

M/H Ref: SWMH18 | I/L : metres | M/H Depth: 2700 metres

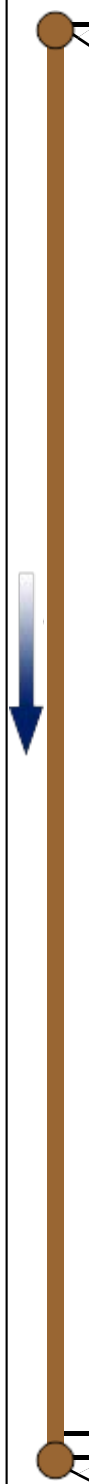
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH18	3397606	Comment / 0
0.00	WL	Water level 5% height/diameter	3397609	Comment / 0
7.51	REM	HIDDEN MANHOLE UNDER GRAVEL ACCESS ROAD	3397613	Comment / 0
28.02	REM	NOW AT BACK DROP INTO SWMH19	3397627	Comment / 0
28.02	MHF	Finish node type, manhole, reference SWMH19	3397697	Comment / 0

M/H Ref: SWMH19 | I/L : metres | M/H Depth: 0 metres

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 18/06/2019
From: SWMH18 / To: SWMH19 Size: 300  7.51 M HIDDEN MANHOLE UNDER GRAVEL ACCESS ROAD		From: SWMH18 / To: SWMH19 Size: 300  28.02 M NOW AT BACK DROP INTO SWMH19	

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH19 X	Date 18/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 33
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 300mm Material Vitrified clay Category		Start MH SWMH19 End MH LAKE Total length 49.11 metres	
Scale 1:2.57 Direction Downstream				

M/H Ref:SWMH19 | I/L : metres | M/H Depth: 3250 metres

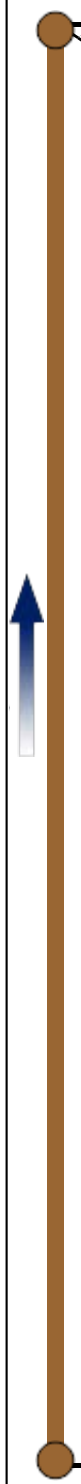
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH19	3397864	Comment / 0
0.00	WL	Water level 5% height/diameter	3397865	Comment / 0
				
48.25	REM	HIDDEN MANHOLE	3397889	Comment / 0
49.11	REM	HIGH WATER LEVELS DUE TO LAKE LEVELS UNABLE TO SURVEY FURTHER	3397891	Comment / 0
49.11	OFF	Finish node type, outfall, reference LAKE	3397893	Comment / 0

M/H Ref:LAKE | I/L : metres | M/H Depth: 0 metres

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 18/06/2019
From: SWMH19 / To: LAKE Size: 300  48.25 M HIDDEN MANHOLE		From: SWMH19 / To: LAKE Size: 300  49.10 M HIGH WATER LEVELS DUE TO LAKE LEVELS UNABLE TO SURVEY FURTHER	

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH6 X	Date 18/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 34
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 150mm Material Cast iron Category		Start MH FWMH7 End MH FWMH6 Total length 7.13 metres	
Scale 1:0.37 Direction Upstream				

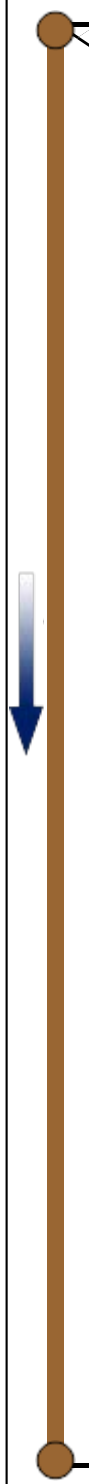
M/H Ref:FWMH7 | I/L : metres | M/H Depth: 1580 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH7	3398047	Comment / 0
0.00	WL	Water level 5% height/diameter	3398054	Comment / 0
				
7.13	MHF	Finish node type, manhole, reference FWMH6	3398065	Comment / 0

M/H Ref:FWMH6 | I/L : metres | M/H Depth: 1560 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH7 X	Date 18/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 35
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 150mm Material Cast iron Category		Start MH FWMH7 End MH FWMH9 Total length 42.9 metres	
Scale 1:2.20 Direction Downstream				

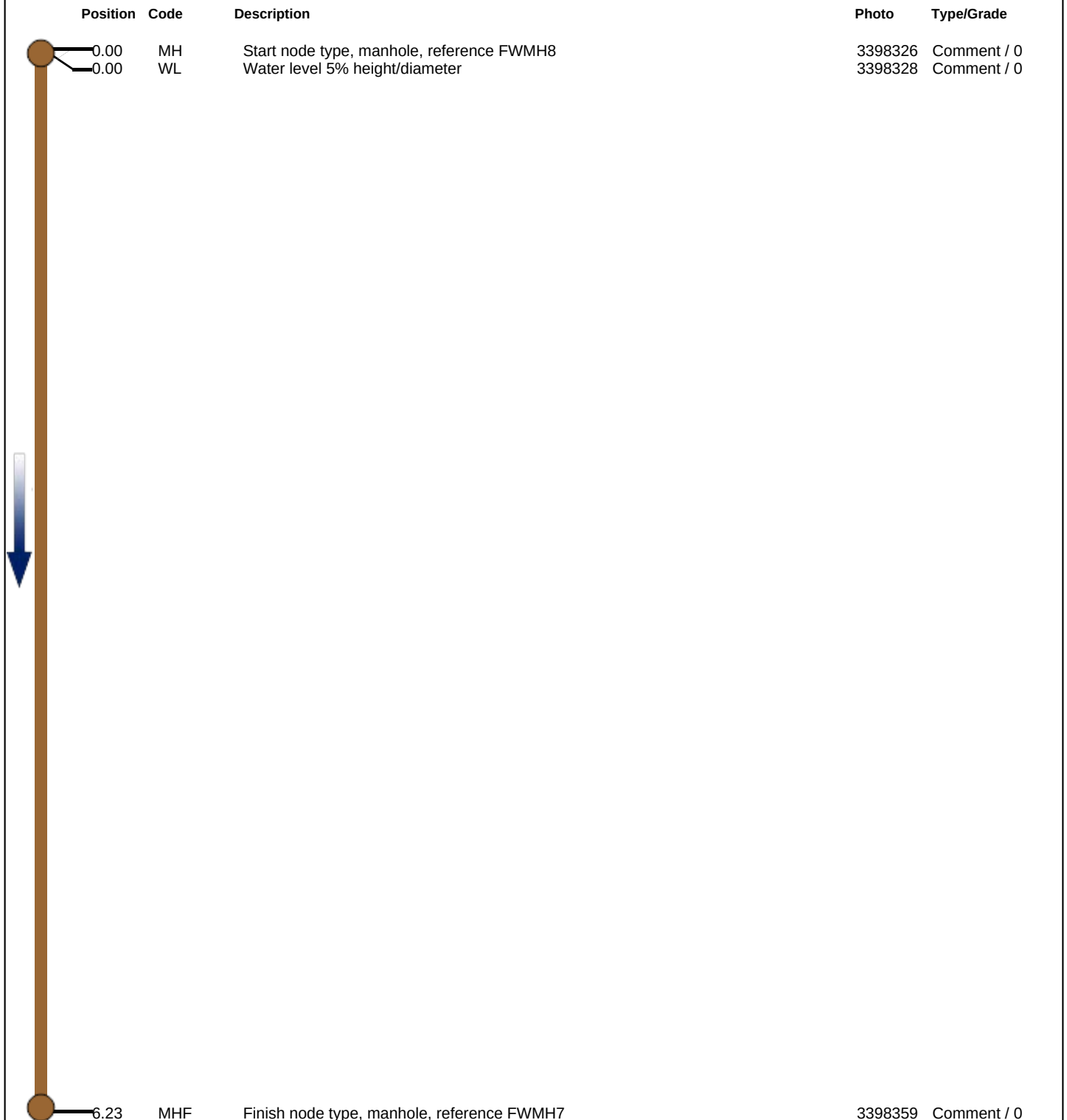
M/H Ref:FWMH7 | I/L : metres | M/H Depth: 1580 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH7	3398118	Comment / 0
0.00	WL	Water level 5% height/diameter	3398119	Comment / 0
				
42.90	MHF	Finish node type, manhole, reference FWMH9	3398175	Comment / 0

M/H Ref:FWMH9 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH8 X	Date 18/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 36
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Liner Category		Start MH FWMH8 End MH FWMH7 Total length 6.23 metres	
Scale 1:0.31 Direction Downstream				

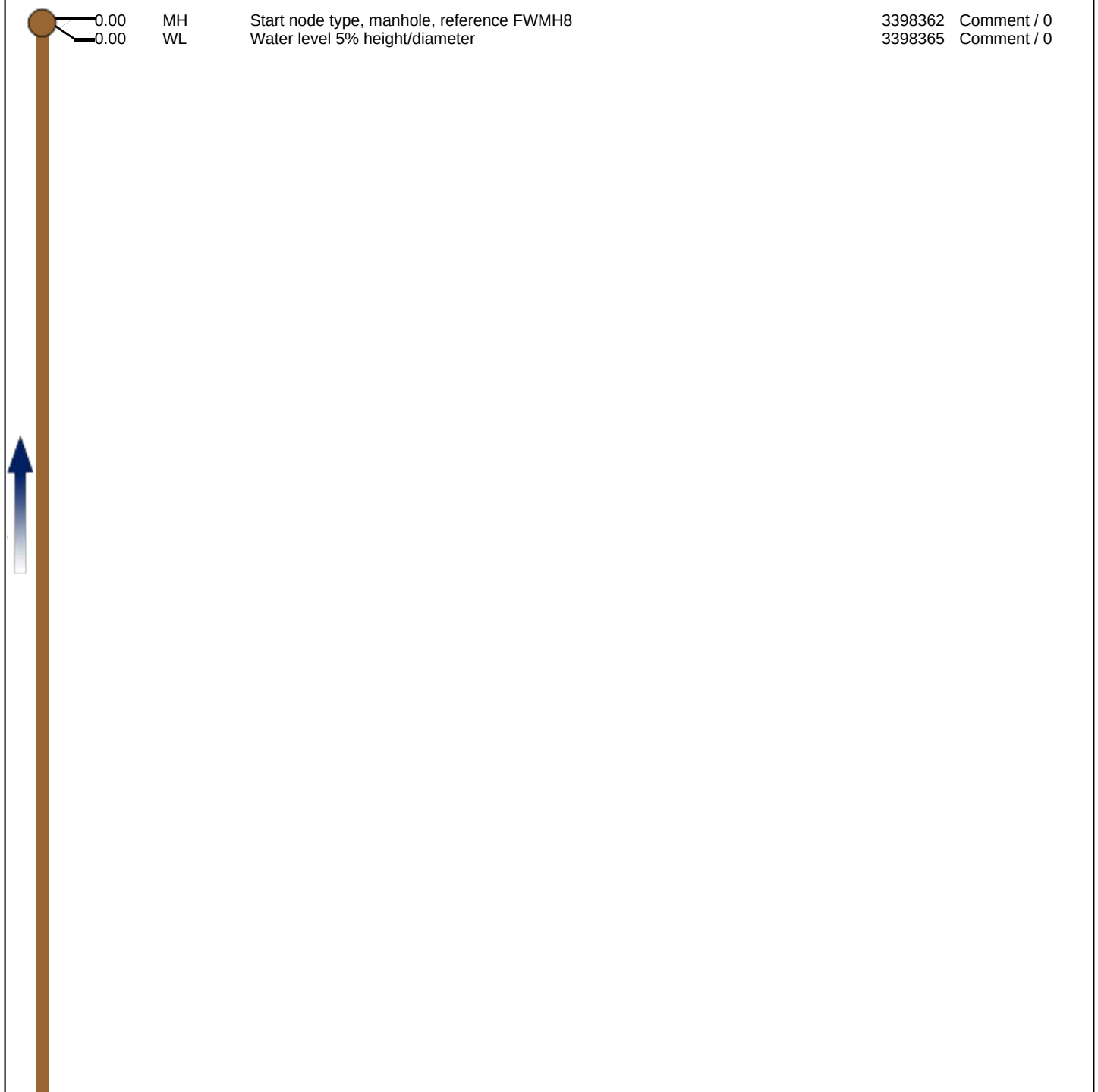
M/H Ref:FWMH8 | I/L : metres | M/H Depth: 1400 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH8	3398326	Comment / 0
0.00	WL	Water level 5% height/diameter	3398328	Comment / 0
				
6.23	MHF	Finish node type, manhole, reference FWMH7	3398359	Comment / 0

M/H Ref:FWMH7 | I/L : metres | M/H Depth: 1580 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH20 X	Date 18/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 37
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Liner Category		Start MH FWMH8 End MH FWMH20 Total length 25.31 metres	
Scale 1:1.31 Direction Upstream				

M/H Ref:FWMH8 | I/L : metres | M/H Depth: 1400 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH8	3398362	Comment / 0
0.00	WL	Water level 5% height/diameter	3398365	Comment / 0
				
25.31	MHF	Finish node type, manhole, reference FWMH20	3398376	Comment / 0

M/H Ref:FWMH20 | I/L : metres | M/H Depth: 1170 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH19 X	Date 18/06/2019	Pre Cleaned Not Cleaned
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 38
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Vitrified clay Category	Start MH FWMH16 End MH FWMH19 Total length 9.16 metres		
Scale 1:0.47 Direction Upstream				

M/H Ref:FWMH16 | I/L : metres | M/H Depth: 860 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH16	3399678	Comment / 0
0.00	WL	Water level 5% height/diameter	3399679	Comment / 0
				
9.16	MHF	Finish node type, manhole, reference FWMH19	3399680	Comment / 0

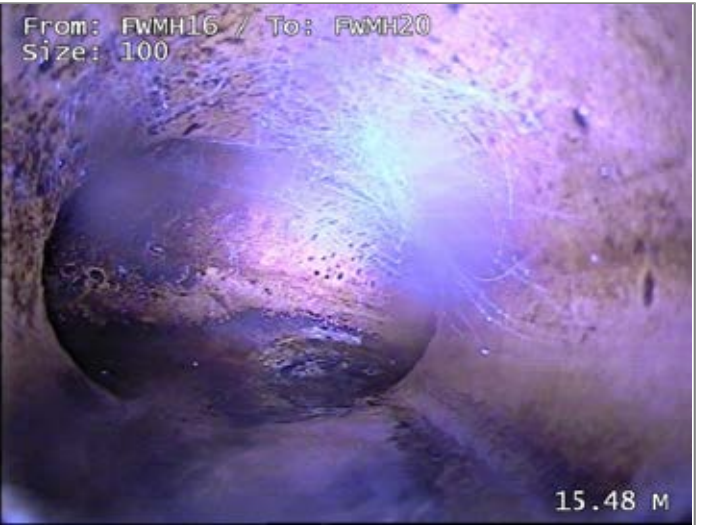
M/H Ref:FWMH19 | I/L : metres | M/H Depth: 0 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH16 X	Date 18/06/2019	Pre Cleaned Not Cleaned
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 39
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Vitrified clay Category	Start MH FWMH16 End MH FWMH23 Total length 25.72 metres		
Scale 1:1.31 Direction Downstream				

M/H Ref:FWMH16 | I/L : metres | M/H Depth: 860 metres

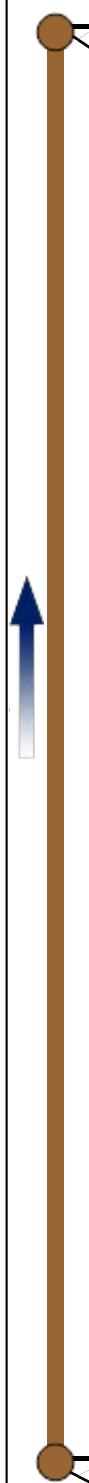
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH16	3399682	Comment / 0
0.00	WL	Water level 5% height/diameter	3399683	Comment / 0
7.79	REM	JOINS ANOTHER PIPE	3399684	Comment / 0
15.48	REM	JOINS ANOTHER PIPE	3399685	Comment / 0
25.72	MHF	Finish node type, manhole, reference FWMH23	3399686	Comment / 0

M/H Ref:FWMH23 | I/L : metres | M/H Depth: 0 metres

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 18/06/2019
From: FWMH16 / To: FWMH20 Size: 100  8.07 M JOINS ANOTHER PIPE		From: FWMH16 / To: FWMH20 Size: 100  15.48 M JOINS ANOTHER PIPE	

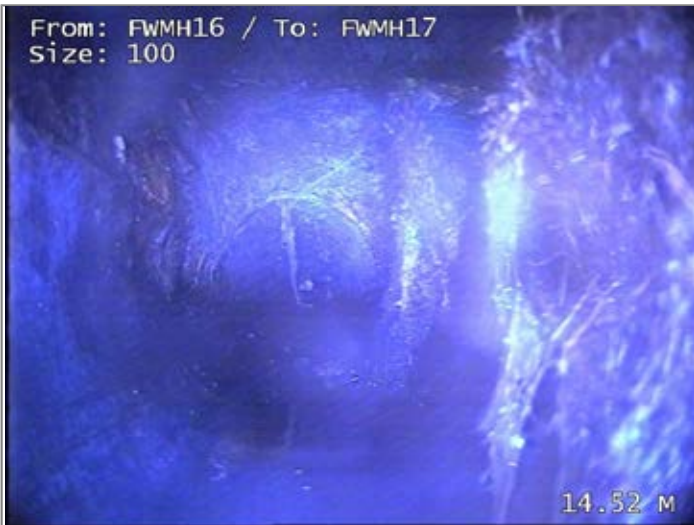
Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH17 X	Date 18/06/2019	Pre Cleaned Not Cleaned
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 3/0	Base Unit DDFRT6A12S	Section Number 40
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment		Shape/Size 100mm Material Vitrified clay Category		Start MH FWMH16 End MH FWMH17 Total length 14.52 metres
Scale 1:0.73 Direction Upstream				

M/H Ref:FWMH16 | I/L : metres | M/H Depth: 860 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH16	3399688	Comment / 0
0.00	WL	Water level 5% height/diameter	3399690	Comment / 0
				
14.52	RM	Roots mass 10% cross-sectional area loss	3399691	Service / 3
14.52	MHF	Finish node type, manhole, reference FWMH17	3399692	Comment / 0

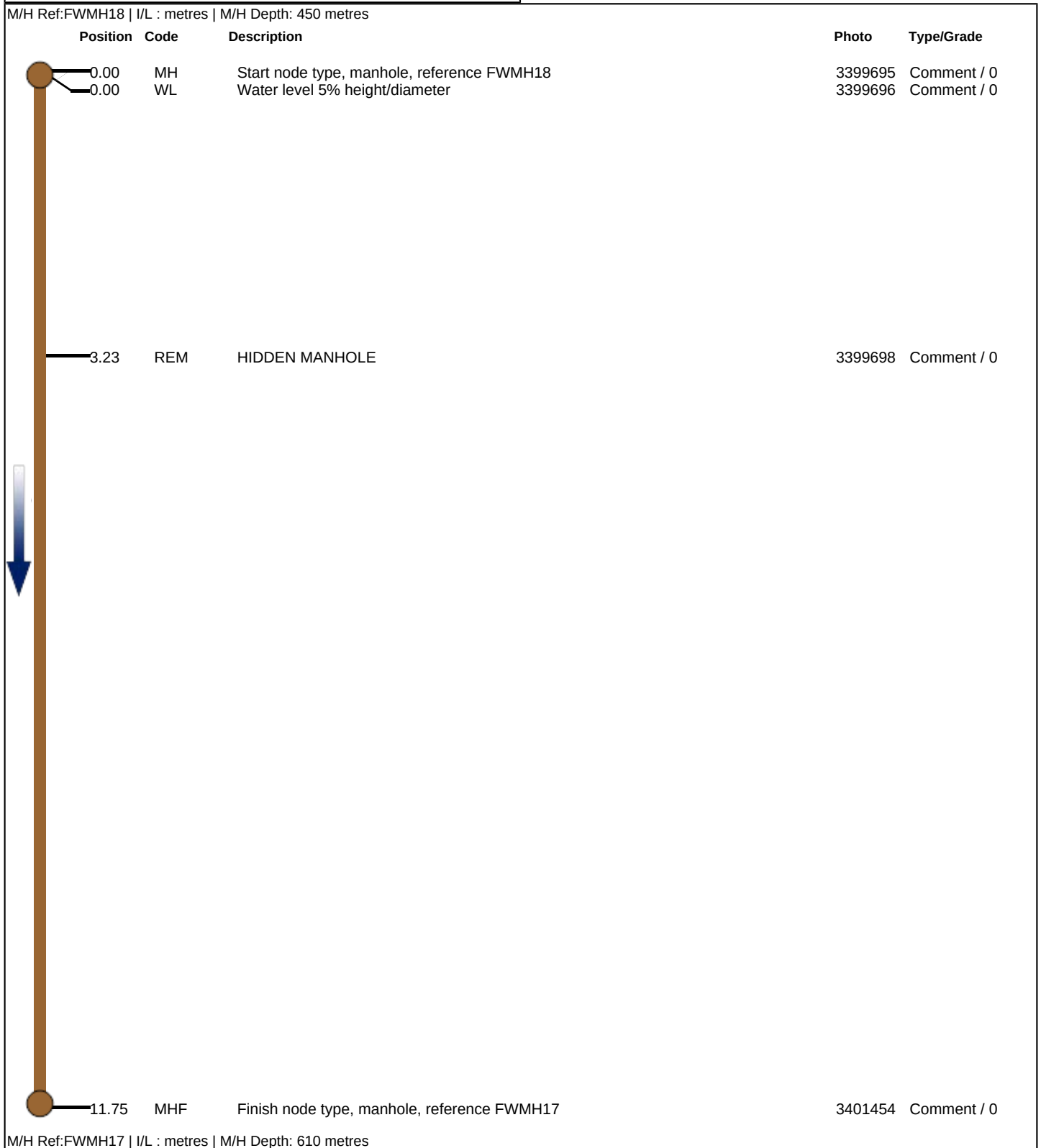
M/H Ref:FWMH17 | I/L : metres | M/H Depth: 610 metres

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 18/06/2019
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Roots mass 10% cross-sectional area loss

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH18 X	Date 18/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 41
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Polyvinyl chloride Category		Start MH FWMH18 End MH FWMH17 Total length 11.75 metres	
Scale 1:0.58 Direction Downstream				



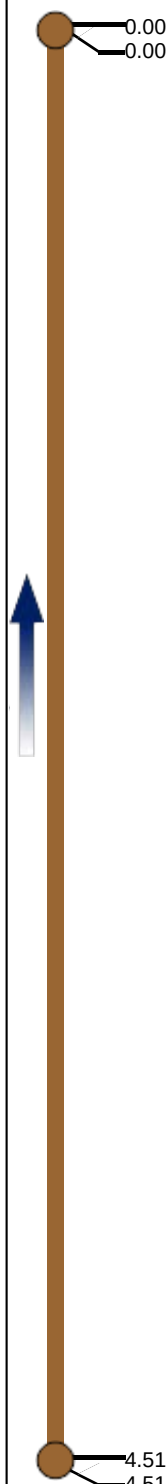
Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 18/06/2019
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HIDDEN MANHOLE

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH23 X	Date 20/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 42
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Vitrified clay Category		Start MH FWMH20 End MH FWMH23 Total length 4.51 metres	
Scale 1:0.21 Direction Upstream				

M/H Ref:FWMH20 | I/L : metres | M/H Depth: 1170 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH20	3404870	Comment / 0
0.00	WL	Water level 5% height/diameter	3404871	Comment / 0
				
4.51	REM	UNABLE TO GET CAMERA THROUGH LINER WITH SKID ON	3404873	Comment / 0
4.51	MCZ	Material of drain/sewer changes to LINER at this point	3404879	Comment / 0

M/H Ref:FWMH23 | I/L : metres | M/H Depth: 0 metres

Job Number
780878

Surveyed by (Operator)
PAUL BAYNHAM

Base Unit
DDFRT6A12S

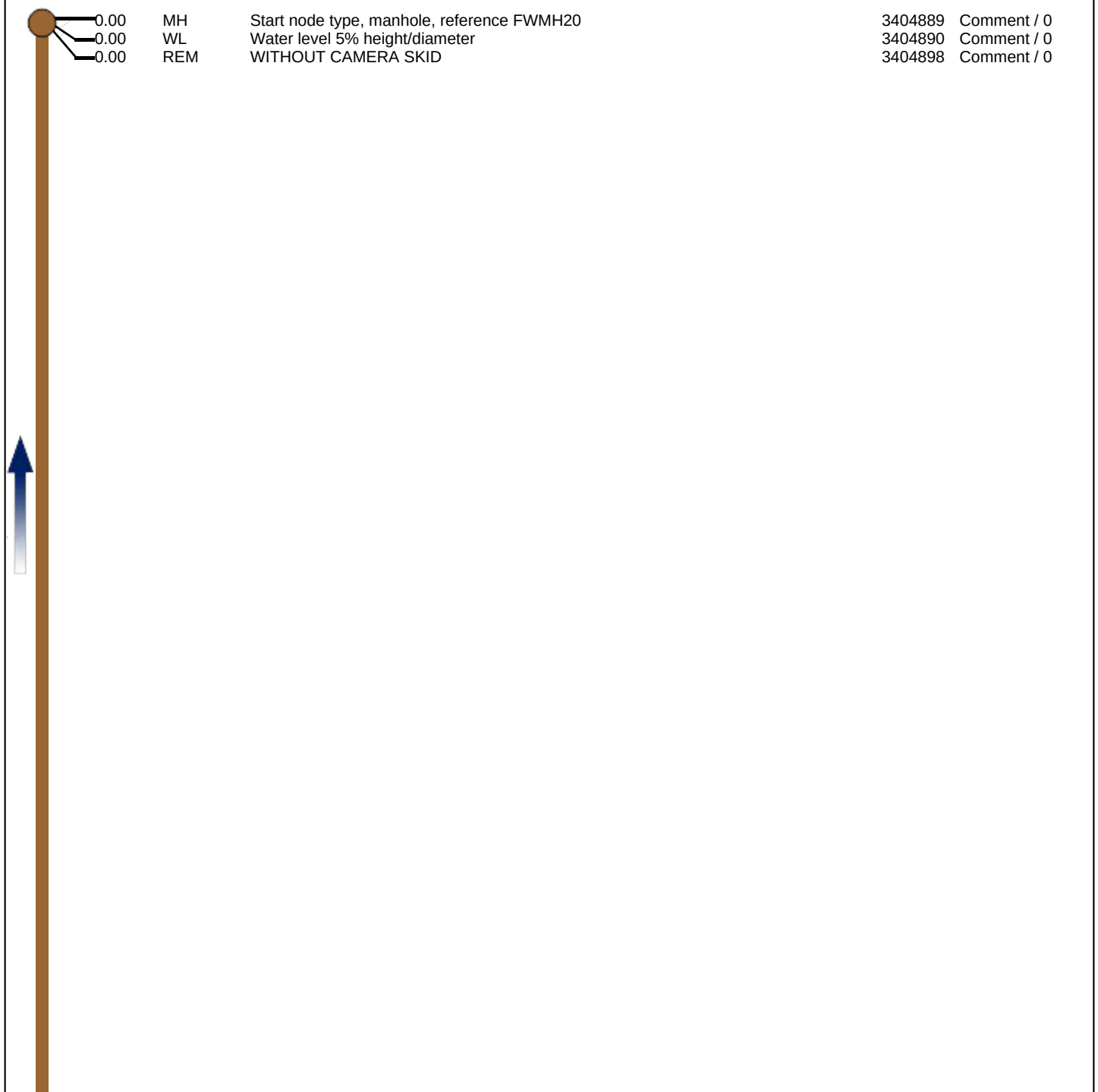
Date
20/06/2019



UNABLE TO GET CAMERA THROUGH LINER WITH SKID ON

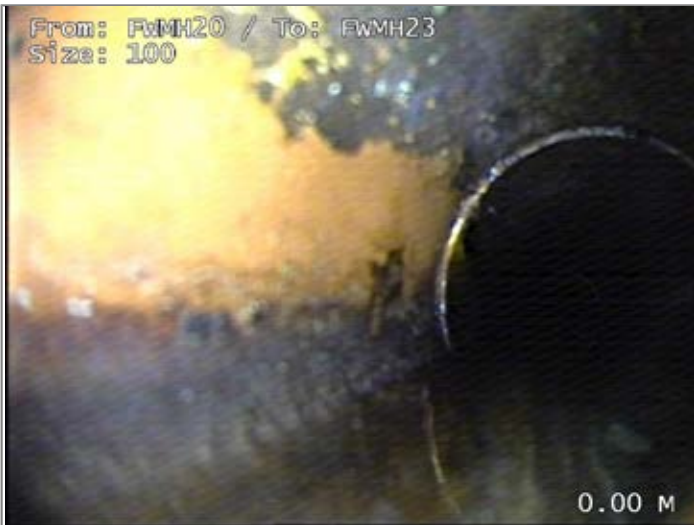
Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH23 X	Date 20/06/2019	Pre Cleaned Flushed through to enable survey
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 43
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Vitrified clay Category		Start MH FWMH20 End MH FWMH23 Total length 31.98 metres	
Scale 1:1.63 Direction Upstream				

M/H Ref:FWMH20 | I/L : metres | M/H Depth: 1170 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH20	3404889	Comment / 0
0.00	WL	Water level 5% height/diameter	3404890	Comment / 0
0.00	REM	WITHOUT CAMERA SKID	3404898	Comment / 0
				
31.98	MHF	Finish node type, manhole, reference FWMH23	3405333	Comment / 0

M/H Ref:FWMH23 | I/L : metres | M/H Depth: 0 metres

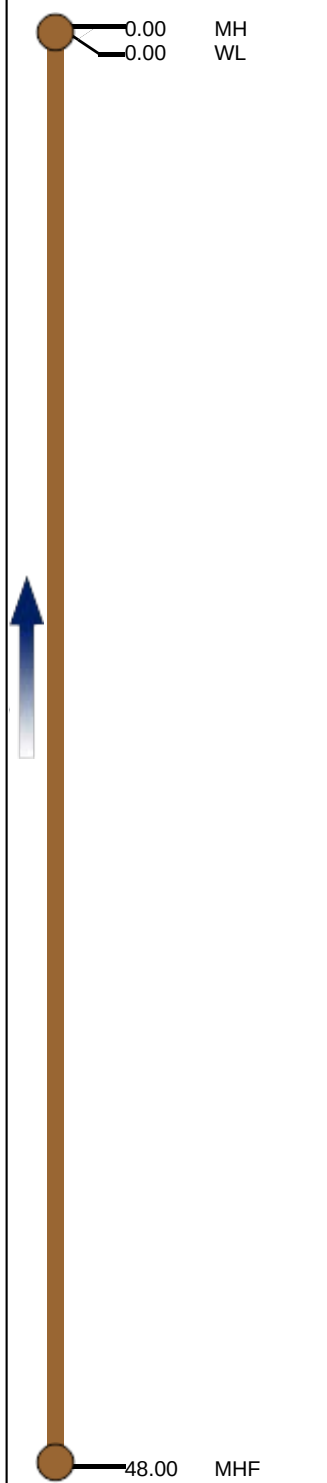
Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 20/06/2019
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WITHOUT CAMERA SKID

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH9 X	Date 20/06/2019	Pre Cleaned Not Cleaned
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 44
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 150mm Material Cast iron Category	Start MH FWMH25 End MH FWMH9 Total length 48 metres		
Scale 1:2.52 Direction Upstream				

M/H Ref:FWMH25 | I/L : metres | M/H Depth: 2480 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH25	3405344	Comment / 0
0.00	WL	Water level 5% height/diameter	3405347	Comment / 0
				
48.00	MHF	Finish node type, manhole, reference FWMH9	3405430	Comment / 0

M/H Ref:FWMH9 | I/L : metres | M/H Depth: 0 metres

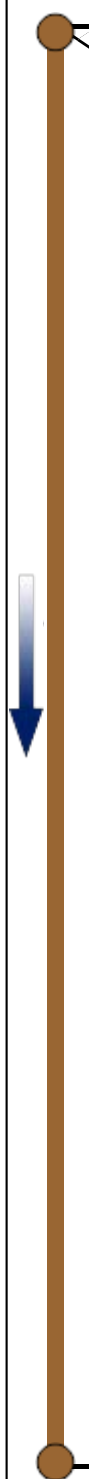
Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH25 X	Date 20/06/2019	Pre Cleaned Not Cleaned
Weather 3 - Light Rain	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 45

Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD	Division District Location Details
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Purpose Duty Foul Catchment	Shape/Size 150mm Material Cast iron Category	Start MH FWMH25 End MH FWMH26 Total length 81.08 metres
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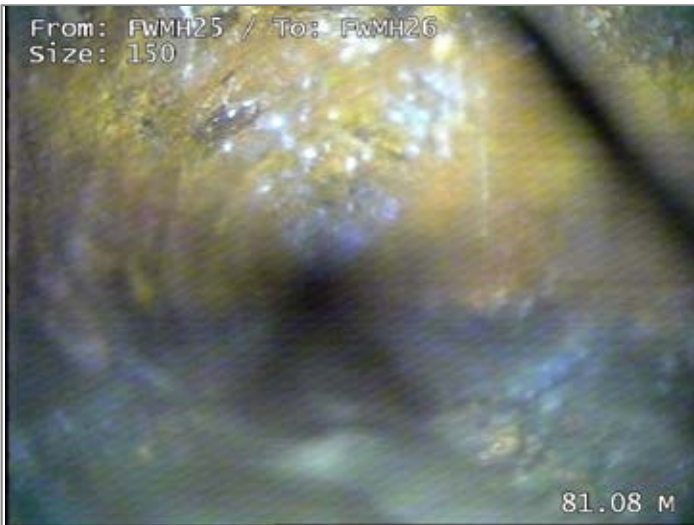
Scale 1:4.25 Direction Downstream	
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M/H Ref:FWMH25 | I/L : metres | M/H Depth: 0 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH25	3405462	Comment / 0
0.00	WL	Water level 5% height/diameter	3405463	Comment / 0
				
81.08	REM	UNABLE TO PUSH ANY FURTHER AND LOCATE MANHOLE RAN OUT OF CABLE	3405507	Comment / 0

M/H Ref:FWMH26 | I/L : metres | M/H Depth: 0 metres

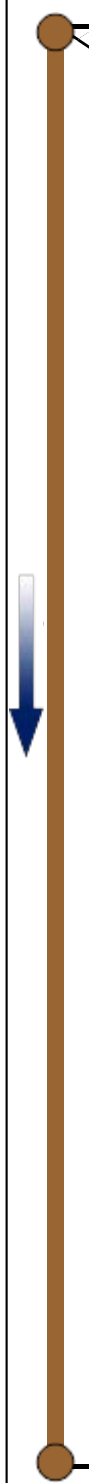
Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 20/06/2019
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UNABLE TO PUSH ANY FURTHER AND LOCATE MANHOLE RAN
OUT OF CABLE

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH24 X	Date 20/06/2019	Pre Cleaned Not Cleaned
Weather 1 - Dry	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 46
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Vitrified clay Category	Start MH FWMH24 End MH FWMH19 Total length 11.82 metres		
Scale 1:0.58 Direction Downstream				

M/H Ref:FWMH24 | I/L : metres | M/H Depth: 1180 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH24	3406492	Comment / 0
0.00	WL	Water level 5% height/diameter	3406494	Comment / 0
				
11.82	MHF	Finish node type, manhole, reference FWMH19	3406495	Comment / 0

M/H Ref:FWMH19 | I/L : metres | M/H Depth: 1390 metres

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) SWMH6 X	Date 20/06/2019	Pre Cleaned Not Cleaned
Weather 1 - Dry	Customer Present	Service Grade/Structural Grade 0/5	Base Unit DDFRT6A12S	Section Number 47
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Surface water Catchment	Shape/Size 150mm Material Vitrified clay Category		Start MH SWMH18 End MH SWMH6 Total length 8.57 metres	
Scale 1:0.42 Direction Upstream				

M/H Ref:SWMH18 | I/L : metres | M/H Depth: 2700 metres

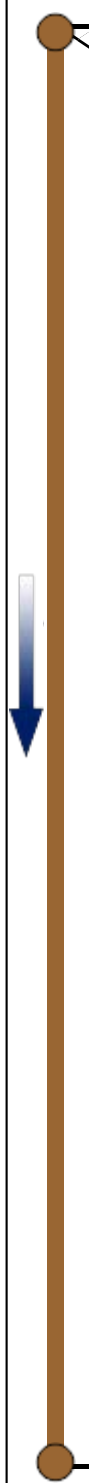
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference SWMH18	3406760	Comment / 0
0.00	WL	Water level 5% height/diameter	3406762	Comment / 0
				
8.57	XP	Collapsed drain/sewer 100%	3406763	Structural / 5
8.57	SA	Survey abandoned - Remark: ABANDONED SURVEY DUE TO COLLAPSED PIPE	3406764	Comment / 0

M/H Ref:SWMH6 | I/L : metres | M/H Depth: 0 metres

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 20/06/2019
From: SWMH18 / To: SWMH6 Size: 150  8.59 M Collapsed drain/sewer 100%		From: SWMH18 / To: SWMH6 Size: 150  8.57 M Survey abandoned - Remark: ABANDONED SURVEY DUE TO COLLAPSED PIPE	

Surveyed by (Operator) PAUL BAYNHAM	Job Number 780878	Pipe Length Reference(PLR) FWMH27 X	Date 21/06/2019	Pre Cleaned Not Cleaned
Weather 1 - Dry	Customer Present	Service Grade/Structural Grade 0/0	Base Unit DDFRT6A12S	Section Number 48
Road BBC Place CAVERSHAM PARK Location PEPPARD ROAD		Division District Location Details		
Purpose Duty Foul Catchment	Shape/Size 100mm Material Polyvinyl chloride Category	Start MH FWMH27 End MH TANK Total length 16 metres		
Scale 1:0.84 Direction Downstream				

M/H Ref:FWMH27 | I/L : metres | M/H Depth: 650 metres

Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference FWMH27	3408427	Comment / 0
0.00	WL	Water level 5% height/diameter	3408428	Comment / 0
				
16.00	ICF	Finish node type, inspection chamber, reference TANK	3408432	Comment / 0

M/H Ref:TANK | I/L : metres | M/H Depth: 3700 metres

Structural Defects (SRM 4)

Job Number 780878				Surveyed by (Operator) PAUL BAYNHAM			Base Unit DDFRT6A12S			Date 13/06/2019			
No.	PLR	Dir.	Use	Shape/Size	Date	Mat.	Total Length	Inspection Length	Cat.	Peak Score	Grade	Mean Score	Total Score
1	SWMH1 X	U	S	150	13/06/2019	Vitrified clay	14.1 metres	14.1		0	1	0	0
2	SWMH2 X	D	S	150	13/06/2019	Vitrified clay	19.67 metres	19.67		0	1	0	0
3	SWMH3 X	U	S	225	13/06/2019	Vitrified clay	40.05 metres	40.05		0	1	0	0
4	SWMH4 X	D	S	225	13/06/2019	Vitrified clay	23.11 metres	23.11		0	1	0	0
5	SWMH5 X	D	S	225	13/06/2019	Vitrified clay	25.89 metres	25.89		0	1	0	0
6	FWMH1 X	U	F	100	13/06/2019	Cast iron	22.02 metres	22.02		0	1	0	0
7	PUMP STATIX	U	F	100	13/06/2019	Cast iron	36.16 metres	36.16		0	1	0	0
8	FWMH3 X	D	F	150	13/06/2019	Cast iron	22.02 metres	22.02		0	1	0	0
9	FWMH2 X	U	F	150	13/06/2019	Cast iron	6.21 metres	6.21		0	1	0	0
10	FWMH4 X	U	F	150	13/06/2019	Cast iron	30.38 metres	30.38		0	1	0	0
11	FWMH5 X	D	F	150	13/06/2019	Cast iron	14.34 metres	14.34		0	1	0	0
12	FWMH1B X	D	F	150	13/06/2019	Vitrified clay	1.67 metres	1.67		40	3	23.95	40
13	FWMH1A X	D	F	150	13/06/2019	Vitrified clay	16.49 metres	16.49		10	2	6.06	100
14	FWMH11 X	U	F	100	13/06/2019	Vitrified clay	10.04 metres	10.04		0	1	0	0
15	FWMH12 X	U	F	100	13/06/2019	Vitrified clay	7.07 metres	7.07		0	1	0	0
16	FWMH10 X	D	F	100	13/06/2019	Vitrified clay	10.73 metres	10.73		40	3	4.66	50
17	FWMH13 X	U	F	100	13/06/2019	Vitrified clay	6.36 metres	6.36		0	1	0	0
18	SWMH9 X	U	S	150	13/06/2019	Vitrified clay	11.36 metres	11.36		80	4	7.04	80
19	SWMH10 X	D	S	150	13/06/2019	Vitrified clay	26.41 metres	26.41		0	1	0	0
20	SWMH11 X	U	S	150	13/06/2019	Vitrified clay	9.44 metres	9.44		0	1	0	0
21	SWMH12 X	D	S	150	13/06/2019	Vitrified clay	1.87 metres	1.87		0	1	0	0
22	SWMH15 X	U	S	225	13/06/2019	Vitrified clay	20.52 metres	20.52		0	1	0	0
23	SWMH14 X	D	S	225	13/06/2019	Vitrified clay	32.75 metres	32.75		0	1	0	0
24	FWMH14 X	U	F	100	13/06/2019	Cast iron	27.49 metres	27.49		0	1	0	0
25	FWMH15 X	D	F	100	13/06/2019	Cast iron	36.31 metres	36.31		0	1	0	0
26	FWMH22 X	U	F	100	13/06/2019	Polyvinyl chloride	4.95 metres	4.95		0	1	0	0
27	FWMH21 X	D	F	100	13/06/2019	Liner	18.81 metres	18.81		0	1	0	0
28	SWMH17 X	D	S	100	13/06/2019	Polyvinyl chloride	12.69 metres	12.69		0	1	0	0
29	SWMH16 X	U	S	225	13/06/2019	Vitrified clay	0 metres	29.64		0	1	0	0

Structural Defects (SRM 4)

Job Number 780878				Surveyed by (Operator) PAUL BAYNHAM		Base Unit DDFRT6A12S			Date 13/06/2019				
No.	PLR	Dir.	Use	Shape/Size	Date	Mat.	Total Length	Inspection Length	Cat.	Peak Score	Grade	Mean Score	Total Score
30	SWMH7 X	D	S	300	13/06/2019	Vitrified clay	8.95 metres	8.95		0	1	0	0
31	SWMH8 X	D	S	300	13/06/2019	Vitrified clay	26.43 metres	26.43		0	1	0	0
32	SWMH18 X	D	S	300	13/06/2019	Vitrified clay	28.02 metres	28.02		0	1	0	0
33	SWMH19 X	D	S	300	13/06/2019	Vitrified clay	49.11 metres	49.11		0	1	0	0
34	FWMH6 X	U	F	150	13/06/2019	Cast iron	7.13 metres	7.13		0	1	0	0
35	FWMH7 X	D	F	150	13/06/2019	Cast iron	42.9 metres	42.9		0	1	0	0
36	FWMH8 X	D	F	100	13/06/2019	Liner	6.23 metres	6.23		0	1	0	0
37	FWMH20 X	U	F	100	13/06/2019	Liner	25.31 metres	25.31		0	1	0	0
38	FWMH19 X	U	F	100	13/06/2019	Vitrified clay	9.16 metres	9.16		0	1	0	0
39	FWMH16 X	D	F	100	13/06/2019	Vitrified clay	25.72 metres	25.72		0	1	0	0
40	FWMH17 X	U	F	100	13/06/2019	Vitrified clay	14.52 metres	14.52		0	1	0	0
41	FWMH18 X	D	F	100	13/06/2019	Polyvinyl chloride	11.75 metres	11.75		0	1	0	0
42	FWMH23 X	U	F	100	13/06/2019	Vitrified clay	4.51 metres	4.51		0	1	0	0
43	FWMH23 X	U	F	100	13/06/2019	Vitrified clay	31.98 metres	31.98		0	1	0	0
44	FWMH9 X	U	F	150	13/06/2019	Cast iron	48 metres	48		0	1	0	0
45	FWMH25 X	D	F	150	13/06/2019	Cast iron	81.08 metres	81.08		0	1	0	0
46	FWMH24 X	D	F	100	13/06/2019	Vitrified clay	11.82 metres	11.82		0	1	0	0
47	SWMH6 X	U	S	150	13/06/2019	Vitrified clay	8.57 metres	8.57		165	5	19.25	165
48	FWMH27 X	D	F	100	13/06/2019	Polyvinyl chloride	16 metres	16		0	1	0	0

Service Defects (SRM 4)

Job Number 780878				Surveyed by (Operator) PAUL BAYNHAM			Base Unit DDFRT6A12S			Date 13/06/2019			
No.	PLR	Dir.	Use	Shape/Size	Date	Mat.	Total Length	Inspection Length	Cat.	Peak Score	Grade	Mean Score	Total Score
1	SWMH1 X	U	S	150	13/06/2019	Vitrified clay	14.1 metres	14.1		0	1	0	0
2	SWMH2 X	D	S	150	13/06/2019	Vitrified clay	19.67 metres	19.67		0	1	0	0
3	SWMH3 X	U	S	225	13/06/2019	Vitrified clay	40.05 metres	40.05		0	1	0	0
4	SWMH4 X	D	S	225	13/06/2019	Vitrified clay	23.11 metres	23.11		0	1	0	0
5	SWMH5 X	D	S	225	13/06/2019	Vitrified clay	25.89 metres	25.89		10	5	0.39	10
6	FWMH1 X	U	F	100	13/06/2019	Cast iron	22.02 metres	22.02		0	1	0	0
7	PUMP STATIX	U	F	100	13/06/2019	Cast iron	36.16 metres	36.16		0	1	0	0
8	FWMH3 X	D	F	150	13/06/2019	Cast iron	22.02 metres	22.02		0	1	0	0
9	FWMH2 X	U	F	150	13/06/2019	Cast iron	6.21 metres	6.21		0	1	0	0
10	FWMH4 X	U	F	150	13/06/2019	Cast iron	30.38 metres	30.38		0	1	0	0
11	FWMH5 X	D	F	150	13/06/2019	Cast iron	14.34 metres	14.34		0	1	0	0
12	FWMH1B X	D	F	150	13/06/2019	Vitrified clay	1.67 metres	1.67		0	1	0	0
13	FWMH1A X	D	F	150	13/06/2019	Vitrified clay	16.49 metres	16.49		0	1	0	0
14	FWMH11 X	U	F	100	13/06/2019	Vitrified clay	10.04 metres	10.04		0	1	0	0
15	FWMH12 X	U	F	100	13/06/2019	Vitrified clay	7.07 metres	7.07		0	1	0	0
16	FWMH10 X	D	F	100	13/06/2019	Vitrified clay	10.73 metres	10.73		0	1	0	0
17	FWMH13 X	U	F	100	13/06/2019	Vitrified clay	6.36 metres	6.36		0	1	0	0
18	SWMH9 X	U	S	150	13/06/2019	Vitrified clay	11.36 metres	11.36		0	1	0	0
19	SWMH10 X	D	S	150	13/06/2019	Vitrified clay	26.41 metres	26.41		0	1	0	0
20	SWMH11 X	U	S	150	13/06/2019	Vitrified clay	9.44 metres	9.44		0	1	0	0
21	SWMH12 X	D	S	150	13/06/2019	Vitrified clay	1.87 metres	1.87		0	1	0	0
22	SWMH15 X	U	S	225	13/06/2019	Vitrified clay	20.52 metres	20.52		0	1	0	0
23	SWMH14 X	D	S	225	13/06/2019	Vitrified clay	32.75 metres	32.75		0	1	0	0
24	FWMH14 X	U	F	100	13/06/2019	Cast iron	27.49 metres	27.49		0	1	0	0
25	FWMH15 X	D	F	100	13/06/2019	Cast iron	36.31 metres	36.31		0	1	0	0
26	FWMH22 X	U	F	100	13/06/2019	Polyvinyl chloride	4.95 metres	4.95		0	1	0	0
27	FWMH21 X	D	F	100	13/06/2019	Liner	18.81 metres	18.81		0	1	0	0
28	SWMH17 X	D	S	100	13/06/2019	Polyvinyl chloride	12.69 metres	12.69		0	1	0	0
29	SWMH16 X	U	S	225	13/06/2019	Vitrified clay	0 metres	29.64		0	1	0	0

Service Defects (SRM 4)

Job Number 780878				Surveyed by (Operator) PAUL BAYNHAM		Base Unit DDFRT6A12S			Date 13/06/2019				
No.	PLR	Dir.	Use	Shape/Size	Date	Mat.	Total Length	Inspection Length	Cat.	Peak Score	Grade	Mean Score	Total Score
30	SWMH7 X	D	S	300	13/06/2019	Vitrified clay	8.95 metres	8.95		0	1	0	0
31	SWMH8 X	D	S	300	13/06/2019	Vitrified clay	26.43 metres	26.43		0	1	0	0
32	SWMH18 X	D	S	300	13/06/2019	Vitrified clay	28.02 metres	28.02		0	1	0	0
33	SWMH19 X	D	S	300	13/06/2019	Vitrified clay	49.11 metres	49.11		0	1	0	0
34	FWMH6 X	U	F	150	13/06/2019	Cast iron	7.13 metres	7.13		0	1	0	0
35	FWMH7 X	D	F	150	13/06/2019	Cast iron	42.9 metres	42.9		0	1	0	0
36	FWMH8 X	D	F	100	13/06/2019	Liner	6.23 metres	6.23		0	1	0	0
37	FWMH20 X	U	F	100	13/06/2019	Liner	25.31 metres	25.31		0	1	0	0
38	FWMH19 X	U	F	100	13/06/2019	Vitrified clay	9.16 metres	9.16		0	1	0	0
39	FWMH16 X	D	F	100	13/06/2019	Vitrified clay	25.72 metres	25.72		0	1	0	0
40	FWMH17 X	U	F	100	13/06/2019	Vitrified clay	14.52 metres	14.52		4	3	0.28	4
41	FWMH18 X	D	F	100	13/06/2019	Polyvinyl chloride	11.75 metres	11.75		0	1	0	0
42	FWMH23 X	U	F	100	13/06/2019	Vitrified clay	4.51 metres	4.51		0	1	0	0
43	FWMH23 X	U	F	100	13/06/2019	Vitrified clay	31.98 metres	31.98		0	1	0	0
44	FWMH9 X	U	F	150	13/06/2019	Cast iron	48 metres	48		0	1	0	0
45	FWMH25 X	D	F	150	13/06/2019	Cast iron	81.08 metres	81.08		0	1	0	0
46	FWMH24 X	D	F	100	13/06/2019	Vitrified clay	11.82 metres	11.82		0	1	0	0
47	SWMH6 X	U	S	150	13/06/2019	Vitrified clay	8.57 metres	8.57		0	1	0	0
48	FWMH27 X	D	F	100	13/06/2019	Polyvinyl chloride	16 metres	16		0	1	0	0

Report Summary

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
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Job Information

Total Distance Surveyed: **966.1 metres**
Engineer: **PAUL BAYNHAM**
Number of Surveys: **48**
Number of Surveys grade 4 or above: **2**

Section 1 Overview (13/06/2019)

Manholes: **SWMH2 to SWMH1**
Pipe Length: **14.1 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Surface water**

Section 2 Overview (13/06/2019)

Manholes: **SWMH2 to SWMH3**
Pipe Length: **19.67 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **150mm**
Use: **Surface water**

Section 3 Overview (13/06/2019)

Manholes: **SWMH4 to SWMH3**
Pipe Length: **40.05 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **225mm**
Use: **Surface water**

Section 4 Overview (13/06/2019)

Manholes: **SWMH4 to SWMH5**
Pipe Length: **23.11 metres**
Structural Grade: **0**
Service Grade: **0**
Material: **Vitrified clay**
Pipe Size: **225mm**
Use: **Surface water**

Section 5 Overview (13/06/2019)

Manholes: **SWMH5 to SWMH18**
Pipe Length: **25.89 metres**
Structural Grade: **0**
Service Grade: **5**
Material: **Vitrified clay**
Pipe Size: **225mm**
Use: **Surface water**

Report Summary

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
Section 6 Overview (13/06/2019) Manholes: FWMH2 to FWMH1 Pipe Length: 22.02 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 100mm Use: Foul			
Section 7 Overview (13/06/2019) Manholes: FWMH1 to PUMP STATION Pipe Length: 36.16 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 100mm Use: Foul			
Section 8 Overview (13/06/2019) Manholes: FWMH3 to FWMH4 Pipe Length: 22.02 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 150mm Use: Foul			
Section 9 Overview (13/06/2019) Manholes: FWMH3 to FWMH2 Pipe Length: 6.21 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 150mm Use: Foul			
Section 10 Overview (13/06/2019) Manholes: FWMH5 to FWMH4 Pipe Length: 30.38 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 150mm Use: Foul			
Section 11 Overview (13/06/2019) Manholes: FWMH5 to FWMH6 Pipe Length: 14.34 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 150mm Use: Foul			

Report Summary

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
Section 12 Overview (14/06/2019) Manholes: FWMH1B to PUMP STATION Pipe Length: 1.67 metres Structural Grade: 3 Service Grade: 0 Material: Vitrified clay Pipe Size: 150mm Use: Foul			
Section 13 Overview (14/06/2019) Manholes: FWMH1A to PUMP STATION Pipe Length: 16.49 metres Structural Grade: 2 Service Grade: 0 Material: Vitrified clay Pipe Size: 150mm Use: Foul			
Section 14 Overview (14/06/2019) Manholes: FWMH10 to FWMH11 Pipe Length: 10.04 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 100mm Use: Foul			
Section 15 Overview (14/06/2019) Manholes: FWMH11 to FWMH12 Pipe Length: 7.07 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 100mm Use: Foul			
Section 16 Overview (14/06/2019) Manholes: FWMH10 to FWMH9 Pipe Length: 10.73 metres Structural Grade: 3 Service Grade: 0 Material: Vitrified clay Pipe Size: 100mm Use: Foul			
Section 17 Overview (14/06/2019) Manholes: FWMH12 to FWMH13 Pipe Length: 6.36 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 100mm Use: Foul			

Report Summary

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
Section 18 Overview (17/06/2019) Manholes: SWMH10 to SWMH9 Pipe Length: 11.36 metres Structural Grade: 4 Service Grade: 0 Material: Vitrified clay Pipe Size: 150mm Use: Surface water			
Section 19 Overview (17/06/2019) Manholes: SWMH10 to SWMH11 Pipe Length: 26.41 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 150mm Use: Surface water			
Section 20 Overview (17/06/2019) Manholes: SWMH12 to SWMH11 Pipe Length: 9.44 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 150mm Use: Surface water			
Section 21 Overview (17/06/2019) Manholes: SWMH12 to RWP Pipe Length: 1.87 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 150mm Use: Surface water			
Section 22 Overview (17/06/2019) Manholes: SWMH14 to SWMH15 Pipe Length: 20.52 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 225mm Use: Surface water			
Section 23 Overview (17/06/2019) Manholes: SWMH14 to SWMH16 Pipe Length: 32.75 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 225mm Use: Surface water			

Report Summary

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
Section 24 Overview (17/06/2019) Manholes: FWMH15 to FWMH14 Pipe Length: 27.49 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 100mm Use: Foul			
Section 25 Overview (17/06/2019) Manholes: FWMH15 to FWMH3 Pipe Length: 36.31 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 100mm Use: Foul			
Section 26 Overview (17/06/2019) Manholes: FWMH21 to FWMH22 Pipe Length: 4.95 metres Structural Grade: 0 Service Grade: 0 Material: Polyvinyl chloride Pipe Size: 100mm Use: Foul			
Section 27 Overview (17/06/2019) Manholes: FWMH21 to FWMH20 Pipe Length: 18.81 metres Structural Grade: 0 Service Grade: 0 Material: Liner Pipe Size: 100mm Use: Foul			
Section 28 Overview (17/06/2019) Manholes: SWMH17 to SWMH6 Pipe Length: 12.69 metres Structural Grade: 0 Service Grade: 0 Material: Polyvinyl chloride Pipe Size: 100mm Use: Surface water			
Section 29 Overview (17/06/2019) Manholes: SWMH7 to SWMH16 Pipe Length: 0 metres Structural Grade: 0 Service Grade: Material: Vitrified clay Pipe Size: 225mm Use: Surface water			

Report Summary

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
Section 30 Overview (18/06/2019) Manholes: SWMH7 to SWMH8 Pipe Length: 8.95 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 300mm Use: Surface water			
Section 31 Overview (18/06/2019) Manholes: SWMH8 to SWMH18 Pipe Length: 26.43 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 300mm Use: Surface water			
Section 32 Overview (18/06/2019) Manholes: SWMH18 to SWMH19 Pipe Length: 28.02 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 300mm Use: Surface water			
Section 33 Overview (18/06/2019) Manholes: SWMH19 to LAKE Pipe Length: 49.11 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 300mm Use: Surface water			
Section 34 Overview (18/06/2019) Manholes: FWMH7 to FWMH6 Pipe Length: 7.13 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 150mm Use: Foul			
Section 35 Overview (18/06/2019) Manholes: FWMH7 to FWMH9 Pipe Length: 42.9 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 150mm Use: Foul			

Report Summary

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
Section 36 Overview (18/06/2019) Manholes: FWMH8 to FWMH7 Pipe Length: 6.23 metres Structural Grade: 0 Service Grade: 0 Material: Liner Pipe Size: 100mm Use: Foul			
Section 37 Overview (18/06/2019) Manholes: FWMH8 to FWMH20 Pipe Length: 25.31 metres Structural Grade: 0 Service Grade: 0 Material: Liner Pipe Size: 100mm Use: Foul			
Section 38 Overview (18/06/2019) Manholes: FWMH16 to FWMH19 Pipe Length: 9.16 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 100mm Use: Foul			
Section 39 Overview (18/06/2019) Manholes: FWMH16 to FWMH23 Pipe Length: 25.72 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 100mm Use: Foul			
Section 40 Overview (18/06/2019) Manholes: FWMH16 to FWMH17 Pipe Length: 14.52 metres Structural Grade: 0 Service Grade: 3 Material: Vitrified clay Pipe Size: 100mm Use: Foul			
Section 41 Overview (18/06/2019) Manholes: FWMH18 to FWMH17 Pipe Length: 11.75 metres Structural Grade: 0 Service Grade: 0 Material: Polyvinyl chloride Pipe Size: 100mm Use: Foul			

Report Summary

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
Section 42 Overview (20/06/2019) Manholes: FWMH20 to FWMH23 Pipe Length: 4.51 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 100mm Use: Foul			
Section 43 Overview (20/06/2019) Manholes: FWMH20 to FWMH23 Pipe Length: 31.98 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 100mm Use: Foul			
Section 44 Overview (20/06/2019) Manholes: FWMH25 to FWMH9 Pipe Length: 48 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 150mm Use: Foul			
Section 45 Overview (20/06/2019) Manholes: FWMH25 to FWMH26 Pipe Length: 81.08 metres Structural Grade: 0 Service Grade: 0 Material: Cast iron Pipe Size: 150mm Use: Foul			
Section 46 Overview (20/06/2019) Manholes: FWMH24 to FWMH19 Pipe Length: 11.82 metres Structural Grade: 0 Service Grade: 0 Material: Vitrified clay Pipe Size: 100mm Use: Foul			
Section 47 Overview (20/06/2019) Manholes: SWMH18 to SWMH6 Pipe Length: 8.57 metres Structural Grade: 5 Service Grade: 0 Material: Vitrified clay Pipe Size: 150mm Use: Surface water			

Report Summary

Job Number 780878	Surveyed by (Operator) PAUL BAYNHAM	Base Unit DDFRT6A12S	Date 13/06/2019
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Section 48 Overview (21/06/2019)

Manholes: **FWMH27 to TANK**
 Pipe Length: **16 metres**
 Structural Grade: **0**
 Service Grade: **0**
 Material: **Polyvinyl chloride**
 Pipe Size: **100mm**
 Use: **Foul**

Appendix F

Existing Drainage Catchment Plan



1. This drawing to be read in conjunction with all relevant documents and specifications.
2. Dimensions are scalable for 'Planning' purposes only.
3. Any discrepancies found between information shown on this or any other drawing shall be reported to the Engineer immediately and prior to works commencing on site.

	Existing catchment area assumed to drain to SA (7473m ²)
	Existing catchment area draining to Pond (9103m ²)
	Existing catchment area assumed to drain to Peppard Road (106m ²)
	Existing catchment area assumed to drain to ground (2635m ²)
	Existing catchment area assumed to drain to ditch (1889m ²)
	Brownfield Catchment (7490m ²)

P1	Project title changed in the title box.	-- A. Persins	JH
A1	First issue for APPROVAL.	25/11/2021 J. Dunesby	JH
Rev.	Description	Date	Chkd



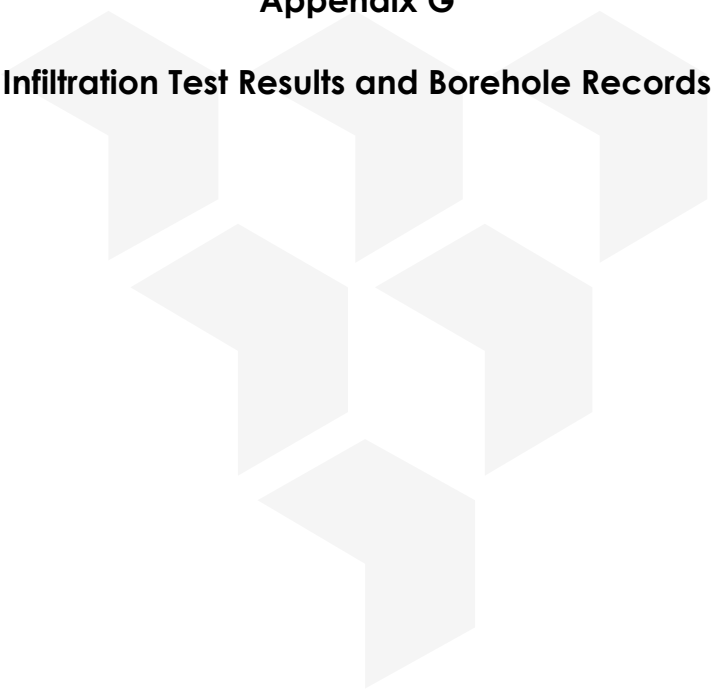
Client :
Beechcroft Developments Ltd

Project : Caversham Park
Peppard Road, Reading
RG4 8TZ

Title : Existing Drainage Catchment Analysis Plan

Project Engineer :	A. Persins	Scale :	1:1000 @ A1
Project Director :	J. Hanlon	Date :	November 2021
Status :	PLANNING		

Drawing No.	8210940-SK02	Rev	P1
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Appendix G

Infiltration Test Results and Borehole Records

KEY



Borehole location

Within the grass verge

SA3

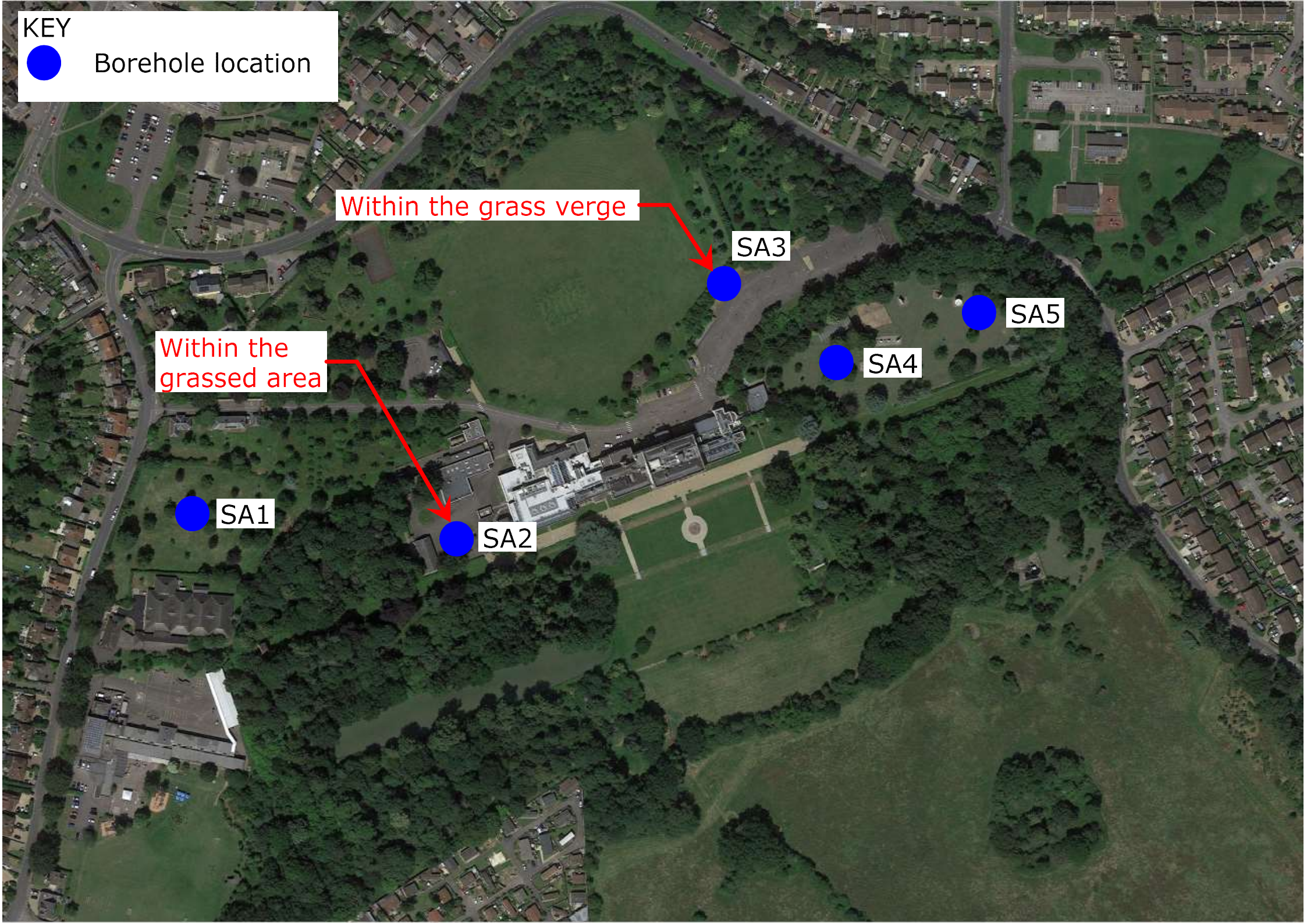
SA5

Within the
grassed area

SA4

SA1

SA2



Logger:

Hole Details		Casing Details		Waterstrike (m bgl)						Standing/Chiselling (m bgl)			
Depth (m bgl)	Dia. (mm)	Depth (m bgl)	Dia. (mm)	Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	From	To	Time	Remarks
				09-11-2021	2.10			1.80	30				

Southern Testing ST Consult					Start - End Date		Project ID:		Hole Type:		SA2	
www.southerntesting.co.uk tel:01342 333100 www.stconsult.co.uk tel:01604 500020					09/11/2021		JT0443		WLS		Sheet 1 of 2	
Project Name: Caversham Park					Remarks:		Co-ordinates:		Level:		Logger:	
											JB	
Location: Caversham Park, Reading												
Client: Beachcroft Developments Ltd												
Well	Water Strikes	Samples and Insitu Testing			Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description			
		Depth (m bgl)	Type	Results								

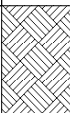
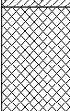
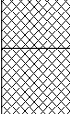
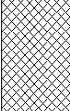
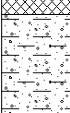
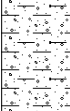
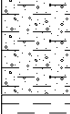
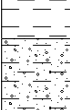
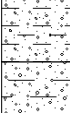
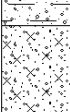
Project Name:	Caversham Park
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Client:	Beachcroft Developments Ltd
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Hole Details		Casing Details		Waterstrike (m bgl)						Standing/Chiselling (m bgl)			
Depth (m bgl)	Dia. (mm)	Depth (m bgl)	Dia. (mm)	Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	From	To	Time	Remarks
				09-11-2021	2.75			3.45	30				

JB

Client:	Beachcroft Developments Ltd
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Well	Water Strikes	Samples and Insitu Testing			Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description	
		Depth (m bgl)	Type	Results						
		0.10 - 0.20	ES			(0.30)		0.30	TOPSOIL. Grass over soft brown slightly sandy slightly gravelly CLAY with occasional roots (<2mm x 30mm). Sand is fine to coarse. Gravel is subangular and subrounded fine and medium of flint.	
		0.40 - 0.50	ES			(0.40)		0.70	MADE GROUND. Soft brown slightly sandy slightly gravelly CLAY with frequent angular and subangular fragments (<35mm x 40mm x 55mm) of brick. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint and chalk.	
		0.80 - 0.90	ES			(0.50)		1.20	MADE GROUND. Soft greyish brown slightly sandy gravelly CLAY with rare angular and subangular fragments (<5mm x 10mm x 20mm) of brick. Sand is fine to coarse. Gravel is angular to subrounded gine to coarse of flint.	1
		1.40 - 1.60	D						MADE GROUND	
		1.50	HP	UCS(kPa)=200 UCS(kPa)=320 UCS(kPa)=380		(0.80)			Firm orangish brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular and subangular fine to coarse of flint.	
		1.80	HP	UCS(kPa)=240 UCS(kPa)=350 UCS(kPa)=400						
		2.10	HP	UCS(kPa)=160 UCS(kPa)=180 UCS(kPa)=200		(0.15)		2.00	Stiff bluesih grey mottled brown CLAY.	2
		2.30	HP	UCS(kPa)=140 UCS(kPa)=220 UCS(kPa)=260		(0.35)		2.15	LAMBETH GROUP	
						(0.20)		2.50	Firm bluish grey mottled orangish brown slightly gravelly sandy CLAY with occasional shell fragments (<1mm) and occasional dark grey fragments (<6mm x 20mm) of partially decomposed plant matter. Sand is fine to coarse. Gravel is angular and subangular fine and medium of flint.	
						(0.30)		2.70	LAMBETH GROUP	
								3.00	Orangish brown sandy very clayey GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint.	3
									LAMBETH GROUP	
									Orangish brown silty gravelly SAND with occasional shell fragments (<1mm). Sand is fine to coarse. Gravel is angular to subrounded fine and medium of flint.	
									LAMBETH GROUP	
									End of Borehole at 3.00m	4

[illegible]

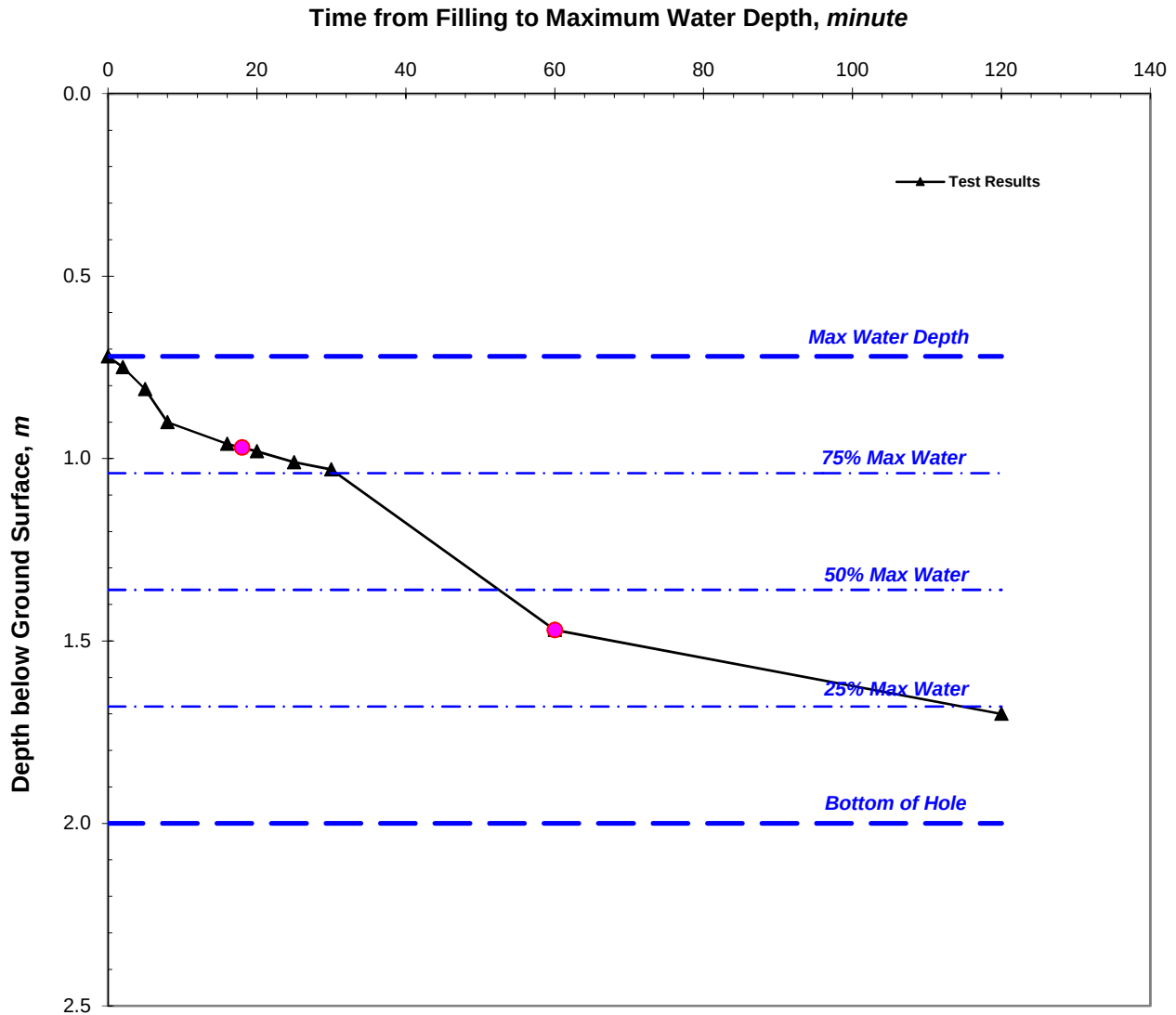
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www.southerntesting.co.uk tel:01342 333100 www.stconsult.co.uk tel:01604 500020				10/11/2021		JT0443		WLS		Sheet 1 of 1	
Project Name:				Remarks:		Co-ordinates:		Level:		Logger:	
Caversham Park										JB	
Location:											
Caversham Park, Reading											
Client:											
Beachcroft Developments Ltd											
Well	Water Strikes	Samples and Insitu Testing			Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description		
		Depth (m bgl)	Type	Results							
		0.00 - 0.10	ES			(0.10)		0.10	TOPSOIL. Grass over soft grey slightly sandy slightly gravelly CLAY with frequent roots (<1mm x 20mm). Sand is fine to coarse. Gravel is subangular to rounded fine and medium of flint.		
		0.20 - 0.30	ES			(0.30)					
		0.50 - 0.60	D ES			(0.60)		0.40	MADE GROUND. Soft brown slightly sandy slightly gravelly CLAY with occasional subangular to rounded fragments (<25mm x 40mm x 50mm) of brick, ceramic and wood. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint.		
		1.00	SPT(S)	N=40 (6,10/12,10,10,8)				1.00	MADE GROUND	1	
		1.10 - 1.40	D			(0.60)			Brown clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to rounded fine to coarse, predominantly fine and medium, of flint.		
		1.60 - 1.80	D					1.60	Orangish brown sandy very clayey GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse, predominantly fine and medium, of flint and chalk.		
		1.62	HP	UCS(kPa)=260 UCS(kPa)=290 UCS(kPa)=300		(0.20)		1.80	Firm light bluish grey mottled orange slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of chalk and flint.		
		1.75	HP	UCS(kPa)=310 UCS(kPa)=360 UCS(kPa)=380		(0.20)		2.00	LAMBETH GROUP	2	
		2.00 - 2.20	D			(0.40)			1.65m to 1.70m; thin bed of orange silty sandy. Sand is fine to coarse.		
		2.00	SPT(S)	N=33 (9,10/10,6,7,10)				2.40	Brown mottled black clayey very gravelly SAND. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint and chalk.		
		2.40 - 2.50	D						LAMBETH GROUP		
		2.60 - 2.90	D						Dark brown mottled dark grey clayey sandy GRAVEL with occasional fragments (<10mm x 30mm) of partially decomposed plant matter.		
		2.80	D			(1.20)			LAMBETH GROUP	3	
		3.00	SPT(S)	N=39 (9,9/10,8,10,11)					Orangish brown sandy clayey GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint.		
		3.70 - 3.90	D			(0.30)		3.60	2.40m to 2.50m; medium bed of orangish brown silty sand. Sand is fine to coarse.		
							3.90	Greyish brown mottled dark grey silty SAND. Sand is fine to coarse, predominantly fine and medium. LAMBETH GROUP	4		
								End of Borehole at 3.90m	5		

Hole Details		Casing Details		Waterstrike (m bgl)						Standing/Chiselling (m bgl)			
Depth (m bgl)	Dia. (mm)	Depth (m bgl)	Dia. (mm)	Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	From	To	Time	Remarks
				10-11-2021	3.45			1.80	20				

 www.southerntesting.co.uk tel:01342 333100 www.stconsult.co.uk tel:01604 500020						Start - End Date		Project ID:		Hole Type:		SA05	
						10/11/2021		JT0443		WLS		Sheet 1 of 1	
Project Name: Caversham Park						Remarks:		Co-ordinates:		Level:		Logger:	
												JB	
Location: Caversham Park, Reading													
Client: Beachcroft Developments Ltd													
Well	Water Strikes	Samples and Insitu Testing			Level (m AOD)	Thickness (m)	Legend	Depth (m bgl)	Stratum Description				
		Depth (m bgl)	Type	Results									
</													

Preliminary Falling-Head Soakage Test

Test Hole No: SA1
Test No: Test No 1 (Initial)



Diameter of Borehole, m	0.100	Depth to Water at Start of Test, m	0.720
Depth to End of Borehole Casing, m		Max Water Dropdown during Test, m	0.980
Depth to Borehole Base, m	2.000	Total Soakage Test Time, min	120.0
Depth to Top of Permeable Soils, m		Mean Internal Discharge Area, m ²	0.253
Depth to Groundwater Surface, m	1.720	Discharge Rate, litre/min	0.093
Depth to Top of Granular Fill, m		Soakage Rate, litre/m ² /min	0.370
Voids Assumed within Borehole, %	100%	BRE Soil Infiltration Rate, m/sec	6.16E-06

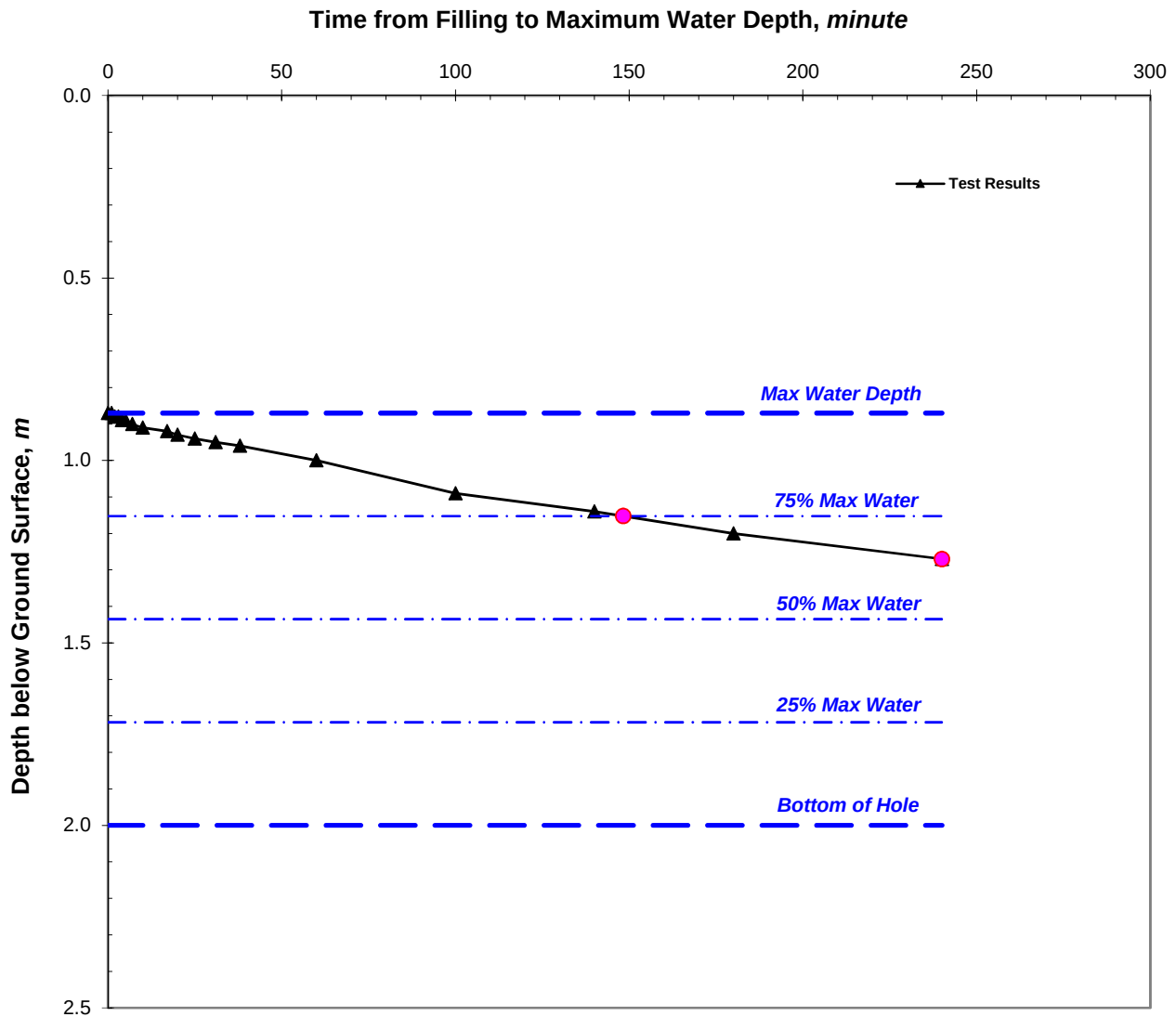
Comments:

Pit was nearly emptied at finish of test.

Client: Beechcroft Developments Ltd	Job No: JT0443	Test Date: 10/Nov/2021
Site: Caversham Park, Peppard Road, Caversham	Tested By: RJ	Engineer: RJ
		Fig. S1

Preliminary Falling-Head Soakage Test

Test Hole No: SA2
Test No: Test No 1 (Initial)



Diameter of Borehole, m	0.100	Depth to Water at Start of Test, m	0.870
Depth to End of Borehole Casing, m		Max Water Dropdown during Test, m	0.400
Depth to Borehole Base, m	2.000	Total Soakage Test Time, min	240.0
Depth to Top of Permeable Soils, m		Mean Internal Discharge Area, m ²	0.256
Depth to Groundwater Surface, m		Discharge Rate, litre/min	0.010
Depth to Top of Granular Fill, m		Soakage Rate, litre/m ² /min	0.039
Voids Assumed within Borehole, %	100%	BRE Soil Infiltration Rate, m/sec	6.56E-07

Comments:

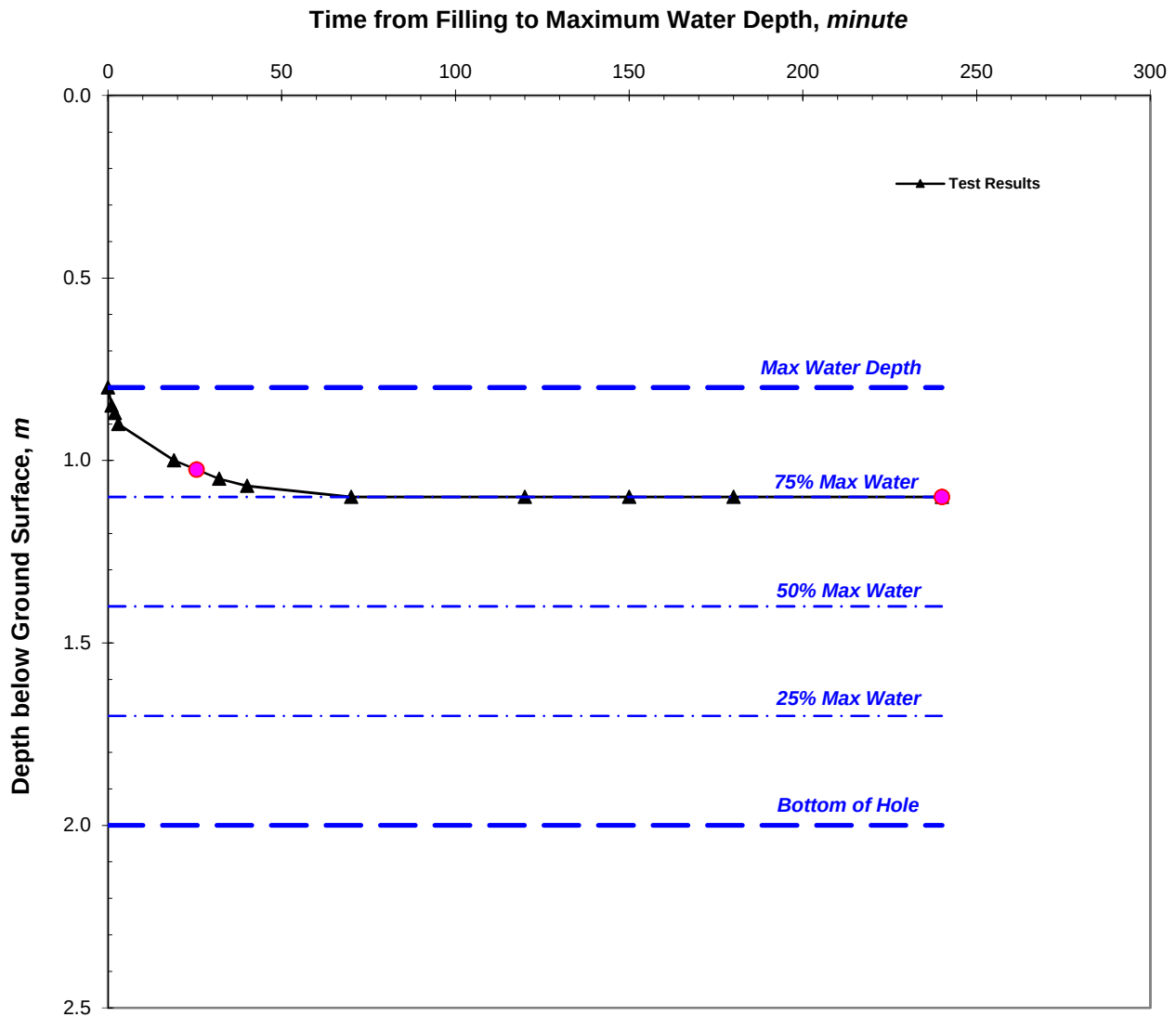
Water level fell to 75% -- 50% max water depth, calculations were based on actual fall of water level achieved.
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client: Beechcroft Developments Ltd	Job No: JT0443	Test Date: 09/Nov/2021
Site: Caversham Park, Peppard Road, Caversham	Tested By: RJ	Engineer: RJ
		Fig. S2

Preliminary Falling-Head Soakage Test

Test Hole No: SA3

Test No: Test No 1 (Initial)



Diameter of Borehole, m	0.100	Depth to Water at Start of Test, m	0.800
Depth to End of Borehole Casing, m		Max Water Dropdown during Test, m	0.300
Depth to Borehole Base, m	2.000	Total Soakage Test Time, min	240.0
Depth to Top of Permeable Soils, m		Mean Internal Discharge Area, m ²	0.302
Depth to Groundwater Surface, m		Discharge Rate, litre/min	0.003
Depth to Top of Granular Fill, m		Soakage Rate, litre/m ² /min	0.0091
Voids Assumed within Borehole, %	100%	BRE Soil Infiltration Rate, m/sec	1.51E-07

Comments:

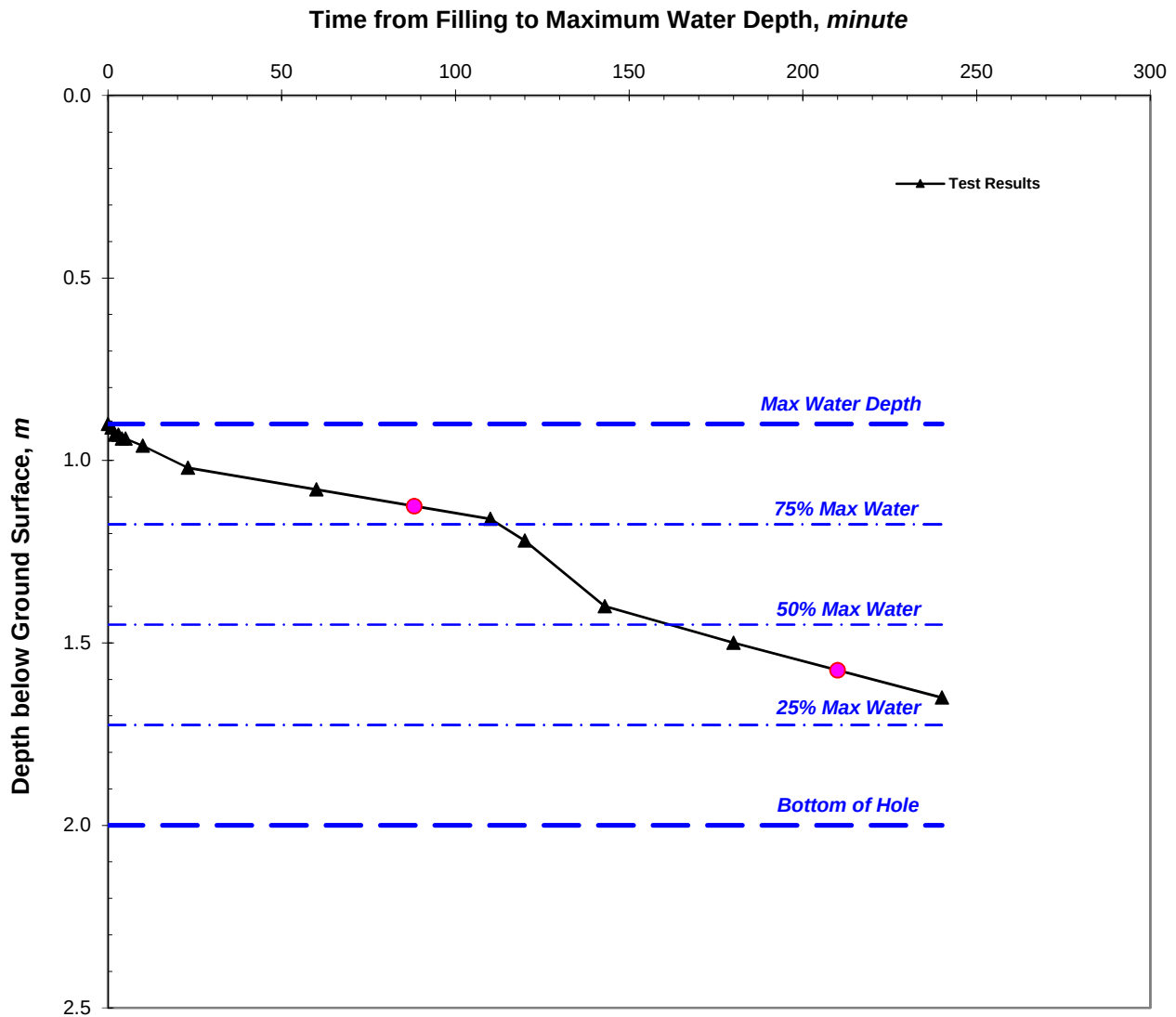
Water level fell to 75% -- 50% max water depth, calculations were based on actual fall of water level achieved.

Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client: Beechcroft Developments Ltd	Job No: JT0443	Test Date: 10/Nov/2021
Site: Caversham Park, Peppard Road, Caversham	Tested By: RJ	Engineer: RJ
		Fig. S3

Preliminary Falling-Head Soakage Test

Test Hole No: SA4
Test No: Test No 1 (Initial)



Diameter of Borehole, m	0.100	Depth to Water at Start of Test, m	0.900
Depth to End of Borehole Casing, m		Max Water Dropdown during Test, m	0.750
Depth to Borehole Base, m	2.000	Total Soakage Test Time, min	240.0
Depth to Top of Permeable Soils, m		Mean Internal Discharge Area, m ²	0.212
Depth to Groundwater Surface, m	1.800	Discharge Rate, litre/min	0.029
Depth to Top of Granular Fill, m		Soakage Rate, litre/m ² /min	0.137
Voids Assumed within Borehole, %	100%	BRE Soil Infiltration Rate, m/sec	2.28E-06

Comments:

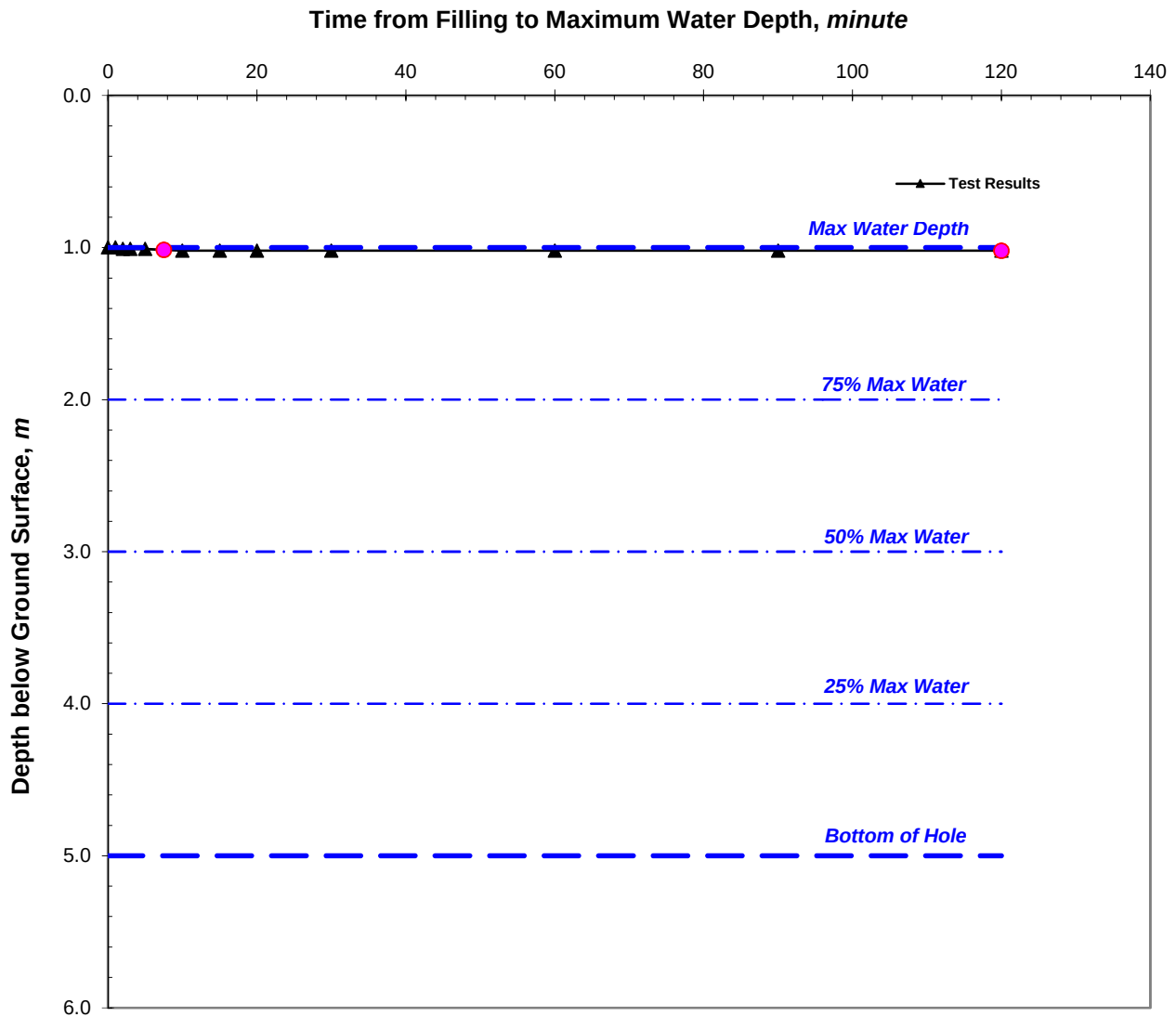
Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level achieved.
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client: Beechcroft Developments Ltd	Job No: JT0443	Test Date: 10/Nov/2021
Site: Caversham Park, Peppard Road, Caversham	Tested By: RJ	Engineer: RJ
		Fig. S4

Preliminary Falling-Head Soakage Test

Test Hole No: SA5

Test No: Test No 1 (Initial)

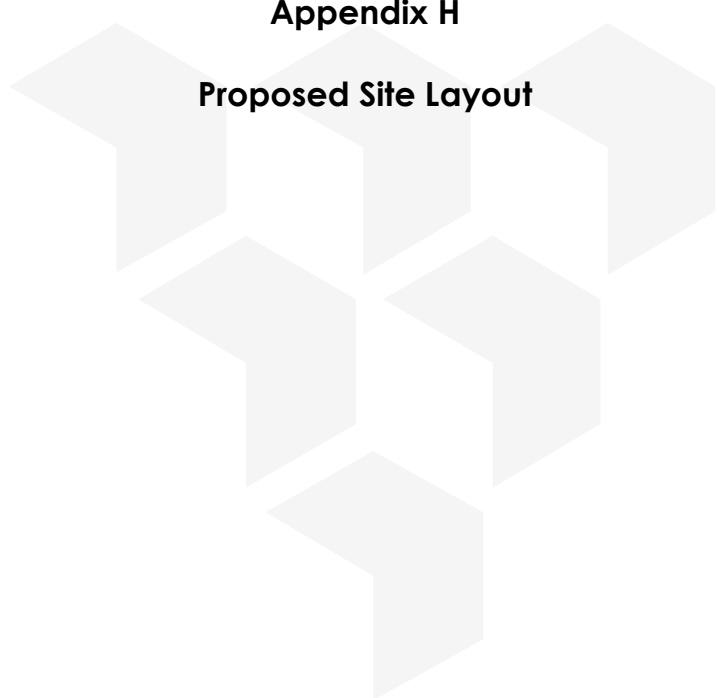


Diameter of Borehole, m	0.100	Depth to Water at Start of Test, m	1.000
Depth to End of Borehole Casing, m		Max Water Dropdown during Test, m	0.020
Depth to Borehole Base, m	5.000	Total Soakage Test Time, min	120.0
Depth to Top of Permeable Soils, m		Mean Internal Discharge Area, m ²	1.259
Depth to Groundwater Surface, m		Discharge Rate, litre/min	0.000
Depth to Top of Granular Fill, m		Soakage Rate, litre/m ² /min	0.0003
Voids Assumed within Borehole, %	100%	BRE Soil Infiltration Rate, m/sec	4.62E-09

Comments:

Water level did not fall to 75% max water depth, calculations were based on actual fall of water level achieved.
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client: Beechcroft Developments Ltd	Job No: JT0443	Test Date: 10/Nov/2021
Site: Caversham Park, Peppard Road, Caversham	Tested By: RJ	Engineer: RJ
		Fig. S5



Appendix H

Proposed Site Layout

