BRIGHT PLAN CIVILS

Friday 9th June 2023
Our Ref: D1886

RE: LAND ADJACENT TO CHURCH LANE, CLIMPING, WEST SUSSEX

At the request of our client, Vivid and Climping Homes Ltd, the Flood Risk Assessment and Drainage Strategy report has been updated to incorporate changes made to the 'central green' area of the site, which has been enhanced in respect of ecology, drainage and landscaping.

As a result of the re-design of the central basin on the site, changes to the surface water drainage design have been made. Two basins to the east of the site have been removed, as these were no longer required given the increase in storage provided by the revised central basin. A further basin has also been reduced marginally in size also in respect of this change.

Assessment has been undertaken in respect of the revised impermeable area, as a result in the changes to basin extents. A revised impermeable area assessment drawing has been prepared, and greenfield run-off rates associated with this revised area have been provided.

The surface water drainage design has been simulated using FEH-13 rainfall data, as previously requested by Arun District Council. Calculations are provided which include results for the following scenarios:

- 1 in 2 Year (+40% Climate Change)
- 1 in 10 Year (+40% Climate Change)
- 1 in 30 Year (+40% Climate Change)
- 1 in 100 Year (+40% Climate Change)
- 1 in 100 Year (+40% Climate Change, +10% Urban Creep).

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LAND ADJACENT TO CHURCH LANE, CLIMPING, WEST SUSSEX

PROPOSED RESIDENTIAL DEVELOPMENT

Flood Risk Assessment & Drainage Strategy Report

Prepared on Behalf of

Vivid and Climping Homes Ltd.

D1886/FRA1.5

June 2023

Bright Plan Civils – Transport Planning and Civil Engineering Consultants
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DOCUMENT CONTROL

Project: Land adjacent to Church Lane, Climping, West Sussex
Proposed Residential Development

Document: Flood Risk Assessment & Drainage Strategy Report

Client: Vivid and Climping Homes Ltd.

Reference: D1886/FRA1.5

Document Checking:

Author: SPB [redacted] **Date:** 08/06/2023

Checked by: MJA [redacted] **Date:** 09/06/2023

Approved by: MJA [redacted] **Date:** 09/06/2023

Status:

Issue	Date	Status	Issued by
1.0	30/07/2021	DRAFT	SPB
1.1	11/08/2021	FIRST	SPB
1.2	16/08/2021	SECOND	MJA
1.3	14/04/2022	THIRD	MJA
1.4	27/04/2022	FOURTH	SPB
1.5	09/06/2023	FINAL	SPB

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1 INTRODUCTION

1.1 Background

1.1.1 Bright Plan Civils is instructed by Vivid and Climping Homes Ltd. to prepare a Drainage Strategy Report to support a planning application for a proposed residential development at the Land adjacent to Church Lane, Climping, West Sussex.

1.1.2 This report has been undertaken in accordance with National Planning Policy Framework (NPPF) and The Planning Practice Guidance on the use of SuDS for achieving sustainable development.

1.1.3 The proposed development will involve construction of 300 dwellings and two buildings within use class A1 and D1, together with public open space, LAPs, LEAP and ancillary works, including car parking and drainage arrangements, with access off Church Lane and Horsemere Green Lane as demonstrated by the architectural development proposals, contained within **Appendix A**.

1.1.4 In preparing this report, Bright Plan Civils has referred to the following documents and information:

- Arun District Council Drainage Records
- British Geological Survey Records
- Environment Agency Flood Maps for Planning
- Long Terms Flood Risk Maps
- Southern Water Drainage Records
- West Sussex County Council Drainage Records

1.1.5 This document has been prepared to assess the risks of flooding relative to the site, as well as to identify and assess drainage constraints and propose a drainage strategy that is appropriate for the design life of the development, without causing offsite impacts from run-off in a design event.

1.1.6 This report has been prepared for the benefit of the named Client only.

1.2 Site Location and Description

1.2.1 The site is an undeveloped 'greenfield' location located immediately to the west of Church Lane, Climping, measuring 27.15Ha.

1.2.2 The site is bound to the north by Horsemere Green Lane, Yapton Road (B2233) to the west and A259 to the south.

1.2.3 A topographical survey has been undertaken at the site by Encompass Surveys, dated September 2020, and is included within **Appendix B**.

1.2.4 The topographical survey demonstrates levels broadly in the range of 5.00m AOD to 6.75m AOD. Despite this range in levels, the site can be largely considered flat. A localised high point (7.00m AOD) is identified towards the western boundary of the site, with the low point located towards the eastern boundary (4.75m AOD).

1.2.5 An existing watercourse exists along the southern boundary of the site, which assists in draining A259.

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The site, at present, drains largely via infiltration, with no existing 'formal' drainage infrastructure present to support the dispersal of run-off. Despite the flat nature of the site, run-off will also follow the natural topography, to lower lying land.

1.2.6 In addition to the watercourse identified in 1.2.5, to the south of the site, an additional watercourse is present to the east of Church Lane, immediately to the south of 'Field Place' (existing property). It would appear that this watercourse has downstream connectivity with Ryebank Rife and its minor tributaries, which in turn discharge to River Arun, which is located approximately 1.20km to the east.

1.3 Ground Conditions

1.3.1 Site-specific ground investigation has been undertaken at the site, inclusive of infiltration testing and groundwater monitoring.

1.3.2 The client has provided trial pit logs and infiltration test results as undertaken by Soils Ltd. This information can be found within **Appendix C**.

1.3.3 A summary of the encountered geology as per the trail pit logs (contained within **Appendix C**) is provided, below;

Trial Pit	Pit Depth	Encountered Geology	Depth	Water Strike
TPA	1.50m	Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL.	0.50m Below Ground Level	N/A
		Brown slightly gravelly silty CLAY with rare rootlets and black discolouration. Gravel is sub-angular to sub-rounded fine to medium flint. RAISED BEACH DEPOSITS.	0.50m to 1.50m Below Ground Level.	
TPB	1.60m	Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded find to	0.40m Below Ground Level	N/A

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		medium flint. TOPSOIL.		
		Orangish brown slightly gravelly sandy CLAY with rare rootlets and black discolouration. Gravel is sub-angular to sub-rounded fine to medium flint. RAISED BEACH DEPOSITS.	0.40m – 1.60m Below Ground Level	
TPC	1.00m	Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL.	0.50m Below Ground Level	N/A
		Orangish brown slightly gravelly sandy CLAY with rare rootlets and black discolouration. Gravel is sub-angular to sub-rounded fine to medium flint. RAISED BEACH DEPOSITS.	0.50m to 1.00m Below Ground Level	
TPD	1.00m	Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL.	0.50m Below Ground Level	N/A
		Orange brown slightly gravelly	0.50m to 1.00m Below Ground	

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		sandy CLAY with rare rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS.	Level	
TPE	1.50m	Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL.	0.50m Below Ground Level	N/A
		Orangish brown slightly gravelly sandy CLAY with rare rootlets and black discolouration. Gravel is sub-angular to sub-rounded fine to medium flint. RAISED BEACH DEPOSITS.	0.50m to 1.50m Below Ground Level	
TPF	1.00m	Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL.	0.50m Below Ground Level	N/A
		Mottled orangish brown grey slightly gravelly sandy CLAY with occasional rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS.	0.50m to 1.00m Below Ground Level	

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TPG	1.00m	Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL.	0.50m Below Ground Level	N/A
		Mottled orangish brown grey slightly gravelly sandy CLAY with occasional rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS.	0.50m to 1.00m Below Ground Level	
TPH	1.00m	Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL.	0.50m Below Ground Level	N/A
		Mottled orangish brown grey slightly gravelly sandy CLAY with occasional rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS.	0.50m to 1.00m Below Ground Level	
TPI	1.00m	Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL.		N/A

		Orangish brown slightly gravelly sandy CLAY with rare rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS.	0.50m to 1.00m Below Ground Level	
TPJ	1.00m	Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL.		N/A
		Orangish brown slightly gravelly sandy CLAY with rare rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS.		

1.3.4 The exploratory works established in the above table were undertaken in June 2020.

1.3.5 Infiltration testing, in accordance with BRE365 has also been undertaken at the site. Full results of the infiltration tests undertaken at the site are also contained within **Appendix C**, although a summary is provided in the table, below;

Trial Pit	**Infiltration Rate**
TPA	$8.209x10^{-6}$
TPB	$7.596x10^{-6}$
TPC	$8.363x10^{-6}$
TPD	$8.670x10^{-6}$

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TPE	$2.996x10^{-6}$
TPF	$2.799x10^{-6}$
TPG	$7.647x10^{-6}$
TPH	$4.532x10^{-6}$
TPI	TEST FAILED
TPJ	$1.524X10^{-6}$

1.3.6 The above infiltration rates were established further to testing undertaken in June 2020.

1.3.7 In addition to the site-specific investigatory works undertaken, reference has also been made to the British Geological Survey (BGS) website in order to verify the findings of the works undertaken on site.

1.3.8 The BGS Geology of Britain Viewer confirms a bedrock geology consisting of 'Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (undifferentiated) – Chalk', as shown in **Figure 1**.

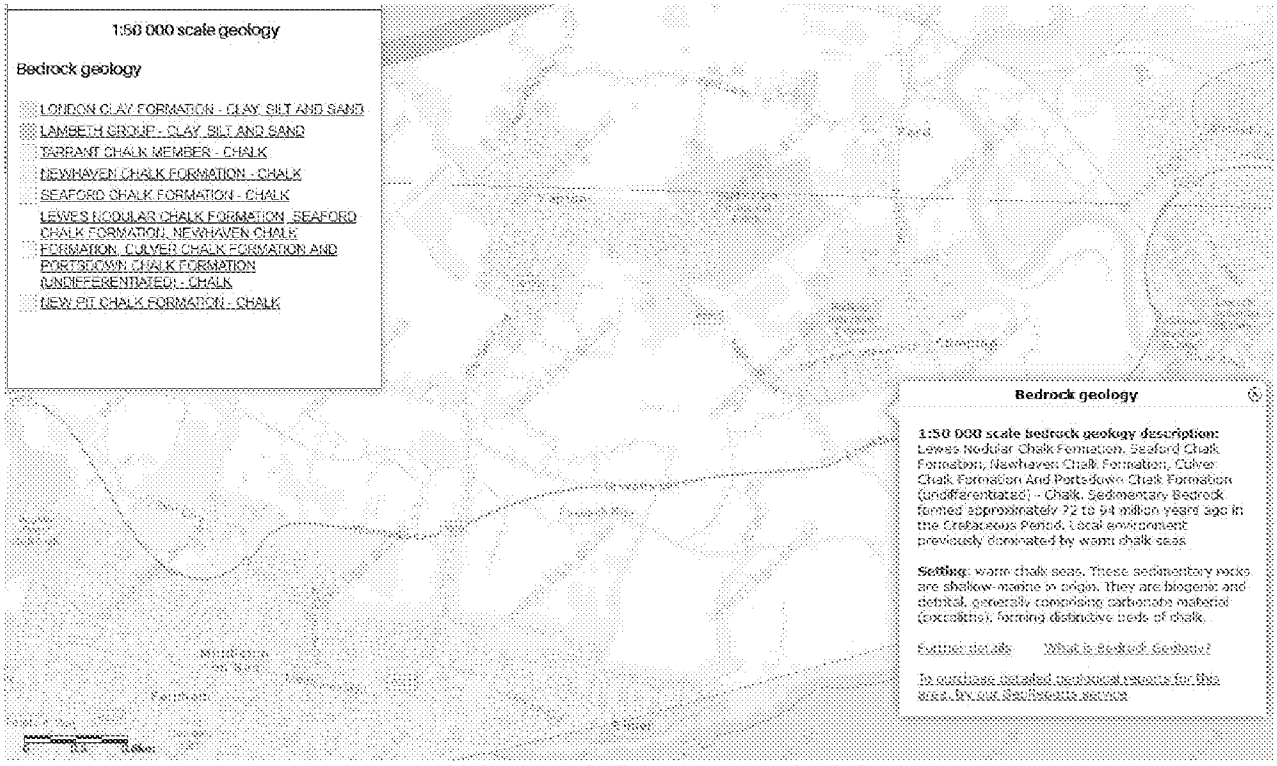


Figure 1. BGS Geology of Britain Viewer – Bedrock Geology

1.3.9 Superficial Deposits are recorded as 'Raised Beach Deposits, 1 - Sand and Gravel' for the eastern half

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of the site, with 'River Terrace Deposits (undifferentiated) – Sand, Silt and Clay' identified to the west of the site.

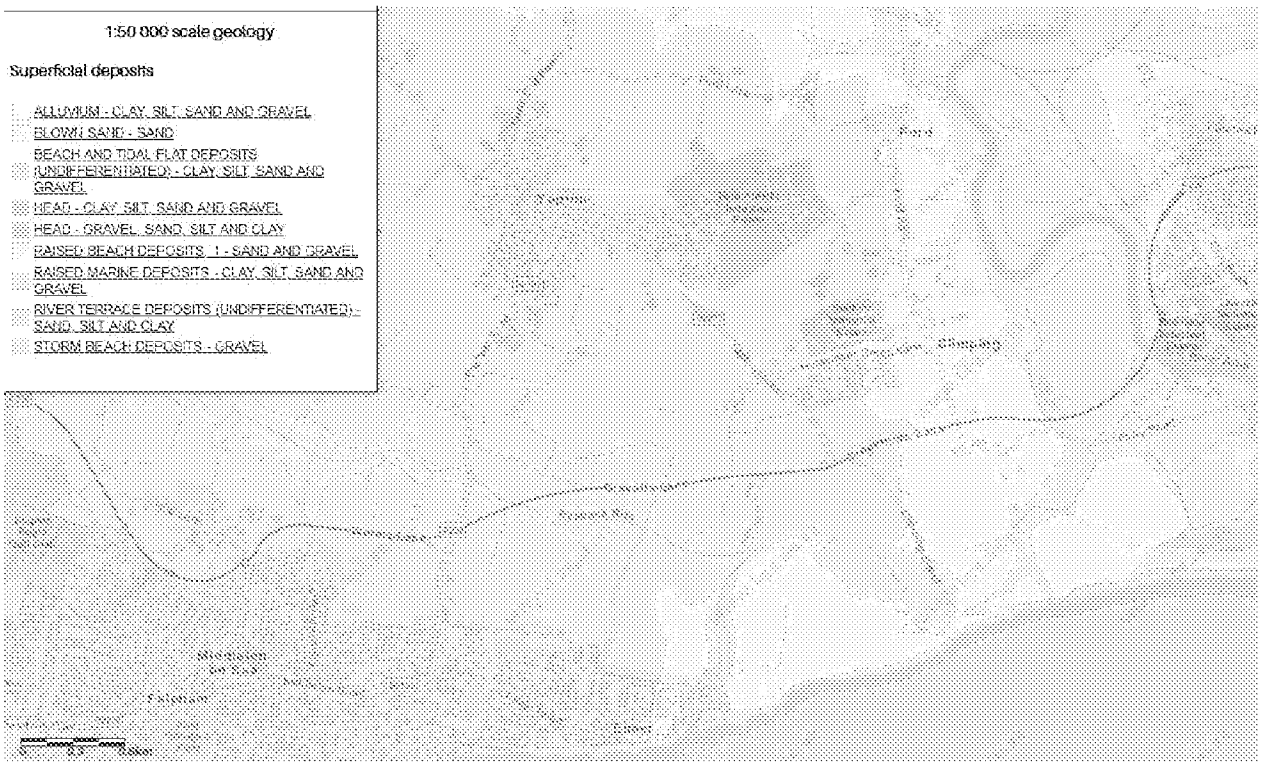


Figure 2. BGS Geology of Britain Viewer – Superficial Deposits

1.4 Groundwater

1.4.1 Winter groundwater monitoring has been undertaken at the site, the results of which can be found within **Appendix D**.

1.4.2 A summary of the winter groundwater monitoring results is contained within the table, below;

	Groundwater Level (m Below Ground Level)				
Location	September	October	November	December	January
WS101	3.97	3.42	2.70	2.02	2.17
WS103	4.25	4.00	3.28	2.24	2.61
WS107	3.44	3.07	1.91	0.56	0.67
WS114	3.45	3.24	2.00	0.22	0.20

WS115	-	4.20	3.36	1.53	1.53

1.4.3 Additional groundwater monitoring has been undertaken between 29th October 2021 and 28th March 2022, with the results also contained within **Appendix D**. This additional groundwater monitoring was co-ordinated with Arun District Council's Drainage Officers (26th October 2021).

1.4.4 Mapping managed by MAGIC (magic.defra.gov.uk) provides geographic information concerning the natural environment from across government. This mapping tool has been referred to in order to confirm whether the site is located within either any groundwater source protection zones or groundwater vulnerability zones.

1.4.5 The site is situated within a 'Principal' Bedrock Aquifer and a 'Secondary A' Superficial Drift Aquifer, as seen in **Figure 4**.

1.4.6 A 'Principal' aquifer provides significant quantities of drinking water, and water for business needs, whilst may also support rivers, lakes and wetlands. A 'Secondary A' aquifer comprises permeable layers that can support local water supplies and may form an important source of base flow to rivers.

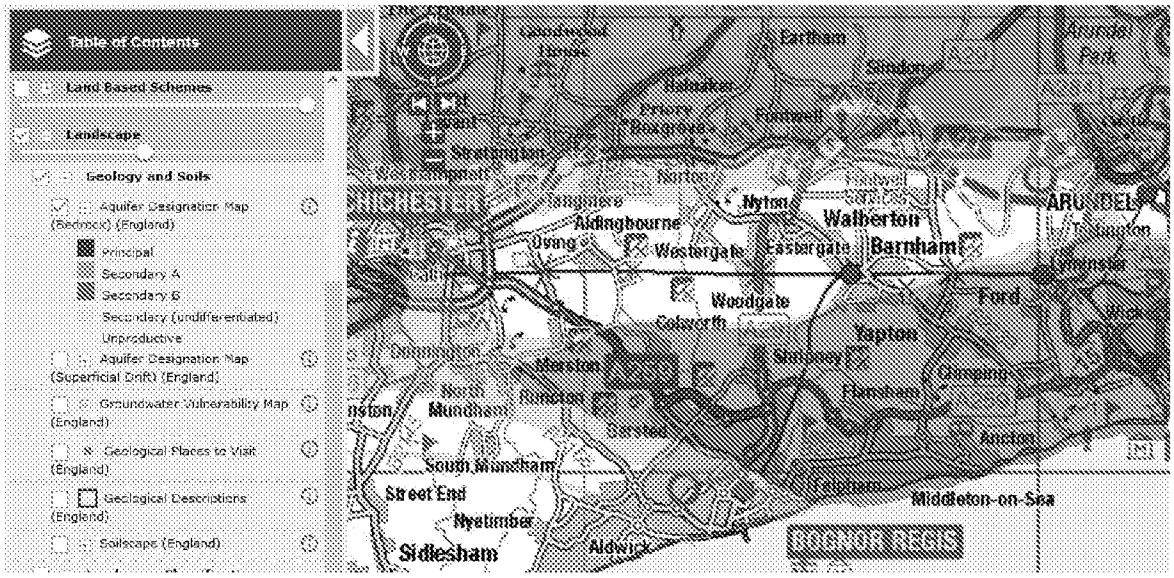


Figure 4. Bedrock Aquifer Designation Map (DEFRA)

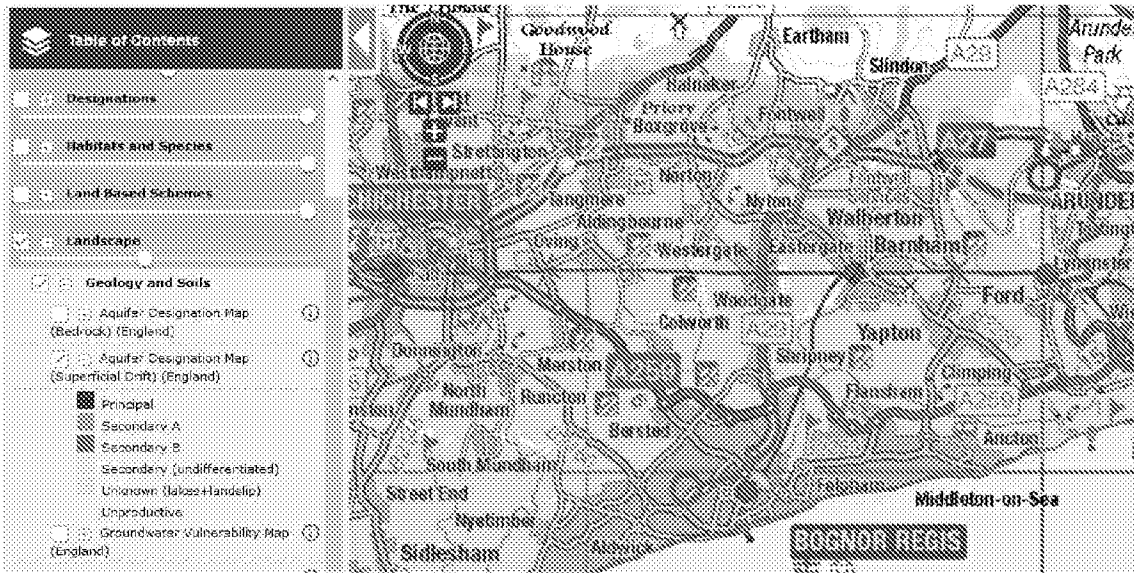


Figure 5. Superficial Drift Aquifer Designation Map (DEFRA)

1.4.7 The site falls within both a 'Medium-High' (west of the site) and also a 'Medium' (east of the site) Groundwater Vulnerability Zone. A 'Soluble Rock Risk' is also identified.

1.4.8 Areas deemed to present a 'Soluble Rock Risk' are defined as areas where solution features that enable rapid movement of a pollutant may be present.

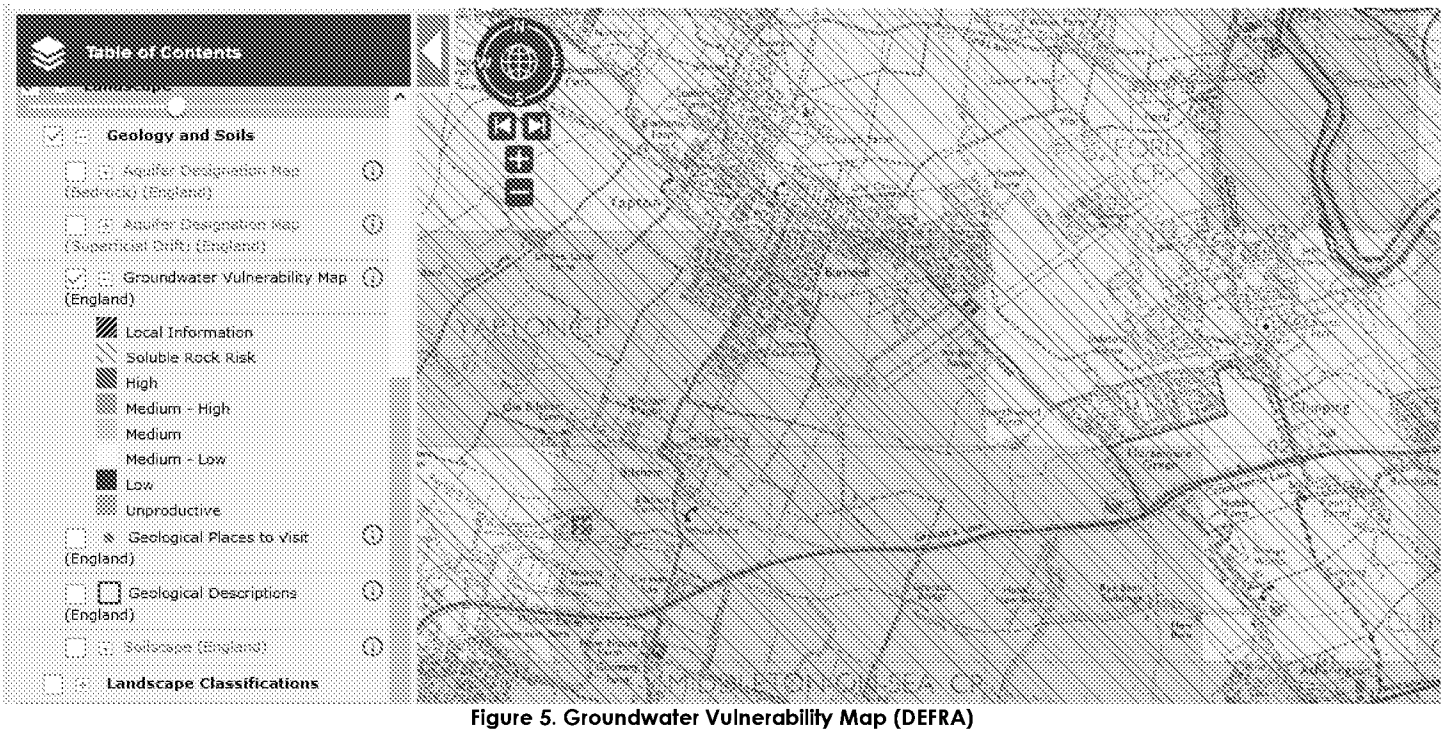


Figure 5. Groundwater Vulnerability Map (DEFRA)

1.4.9 The site is not identified as falling directly within or within the vicinity of any Drinking Water Safeguard Zones or Groundwater Source Protection Zones.

1.5 Existing Drainage

1.5.1 The local Water Authority is Southern Water, who provide sewerage services within the area. Public sewer records have been obtained from Southern Water, as contained within this report in **Appendix E**.

1.5.2 Surface Water:

i. The Southern Water public sewer records do not show any public surface water sewers within the bounds of the site or within the immediate vicinity of the site to which a connection could be established.

ii. The site currently drains via infiltration, with run-off also following the natural topography of the site, to lower lying areas.

iii. An open watercourse exists beyond the southern boundary of the site, which assists in providing drainage to A259.

iv. An open watercourse, with downstream connectivity to Climping Church Farm Ditch (which in turn discharges to River Arun) is located to the east of the site and Church Lane, south of the existing property known as 'Field Place'.

v. The estimated greenfield run-off rate (QBar) has been calculated to be 80.87l/s using the Wallingford Greenfield Run-off Calculator.

1.5.3 Foul Water:

- The Southern Water public sewer records confirm the presence of a 700mm dia. Treated Effluent Rising Main which passes through the bounds of the site.

- A 500mm dia. Foul Water Rising Main also passes through the bounds of the site, with records indicating this following the same route as the Treated Effluent Rising Main.

- An additional 100mm dia. Foul Water Rising Main also passes through the bounds of the site, towards the north-western corner of the site.

- Southern Water has confirmed that no development or new tree planting shall take place within 4.00m (either side) of the 700mm dia. Treated Effluent Rising Main, within 3.50m (either side) of the 500mm dia. Foul Water Rising Main or within 3.00m (either side) of the 100mm dia. Foul Water Rising Main.

- There are no public foul water sewers located within the bounds of the site, with the nearest within the vicinity of the site being located in Horsemere Green Lane, to the north of the site.

- The nearest point of connection is manhole 0302, located on Horsemere Green Lane, at the junction of Cropthorne Drive.

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1.5.4 Highway Drainage:

vi. Arun District Council and West Sussex County Council have both provided existing drainage records for the site and surrounding areas. These records are contained within **Appendix F** and **Appendix G** respectively.

vii. Investigation into the existing highway drainage infrastructure has been undertaken, with CCTV survey works undertaken by Ultraflow. Records from these survey works can be found within **Appendix H**.

viii. Drawing **D1886-PL102 Rev. A 'Existing Impermeable Areas and Drainage Catchments'** has been prepared to demonstrate the existing drainage arrangement supporting the public highway.

ix. Church Lane is served by traditional road gullies, which are collected and discharge to the watercourse to the south of 'Field Place' (to the east of the site and Church Lane).

x. A259 drains predominantly 'over the edge', either to the adjacent verge(s) and/or to the watercourse which abuts the southern boundary of the site.

xi. Drawing **D1886-PL102 Rev. A - 'Existing Impermeable Areas and Drainage Catchments'** provides an assessment of drainage catchments relating to A259 and Church Lane.

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2 PROBABILITY

2.1 Sources of Information

2.1.1 The NPPF requires that all sources of flooding are considered being Tidal, Fluvial, Pluvial, Groundwater, Sewers and Man-made reservoirs/canals.

2.1.2 The likelihood of the site flooding has been established by reviewing the following information:

- Environment Agency Flood Maps for Planning
- Long Term Flood Risk Assessment Surface Water Flood Risk Maps
- Long Term Flood Risk Assessment Reservoir Flood Risk Maps
- Arun District Council and West Sussex County Council Strategic Flood Risk Assessments
- Consultation with Arun District Council (Local Planning Authority)
- Consultation with West Sussex County Council (Lead Local Flood Authority)

2.2 Flood Maps and Modelling

2.2.1 The Environment Agency's online Flood Map for Planning (Rivers and Sea) shows that the site is located fully within Flood Zone 1, as depicted below;



Figure 6 – Flood Maps for Planning (Gov.uk)

2.2.2 Flood Zone 1 is defined as 'Land having a less than 1 in 1,000 annual probability of river or sea flooding, as confirmed in the table, below.

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3)
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

2.2.3 The Environment Agency's Long-Term Flood Risk Map for Rivers or the Sea does not identify the site as being at risk of flooding from such sources.

2.2.4 An area to the east of the site, marginally capturing Church Lane, is identified as being at 'Low' to 'Medium' risk of flooding from such sources, specifically in relation to River Arun.

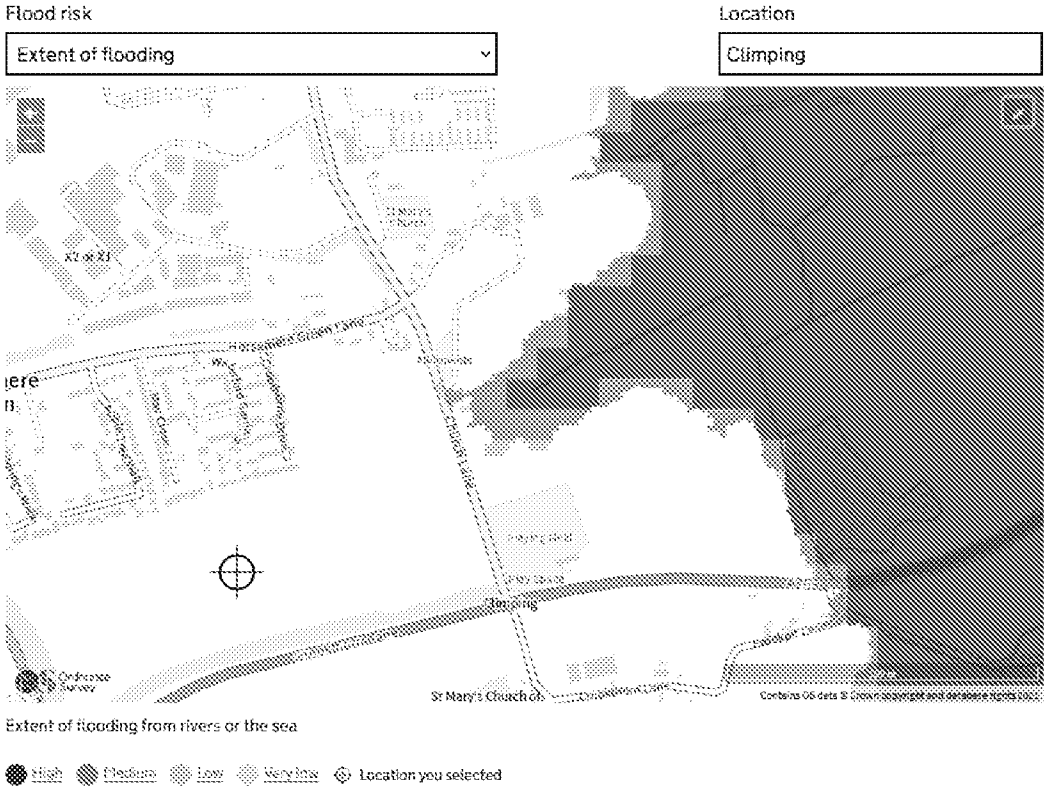


Figure 7. Long-Term Flood Risk Map – Rivers or the Sea (Gov.uk)

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2.2.5 The Long-Term Flood Risk Map for Surface Water largely identifies a 'Very Low' risk of surface water flooding, with isolated pockets identified as being at 'Low' risk of surface water flooding.

2.2.6 In 'Low' risk scenarios, it is deemed that each year there is a chance of flooding in the range of 0.1% and 1%.

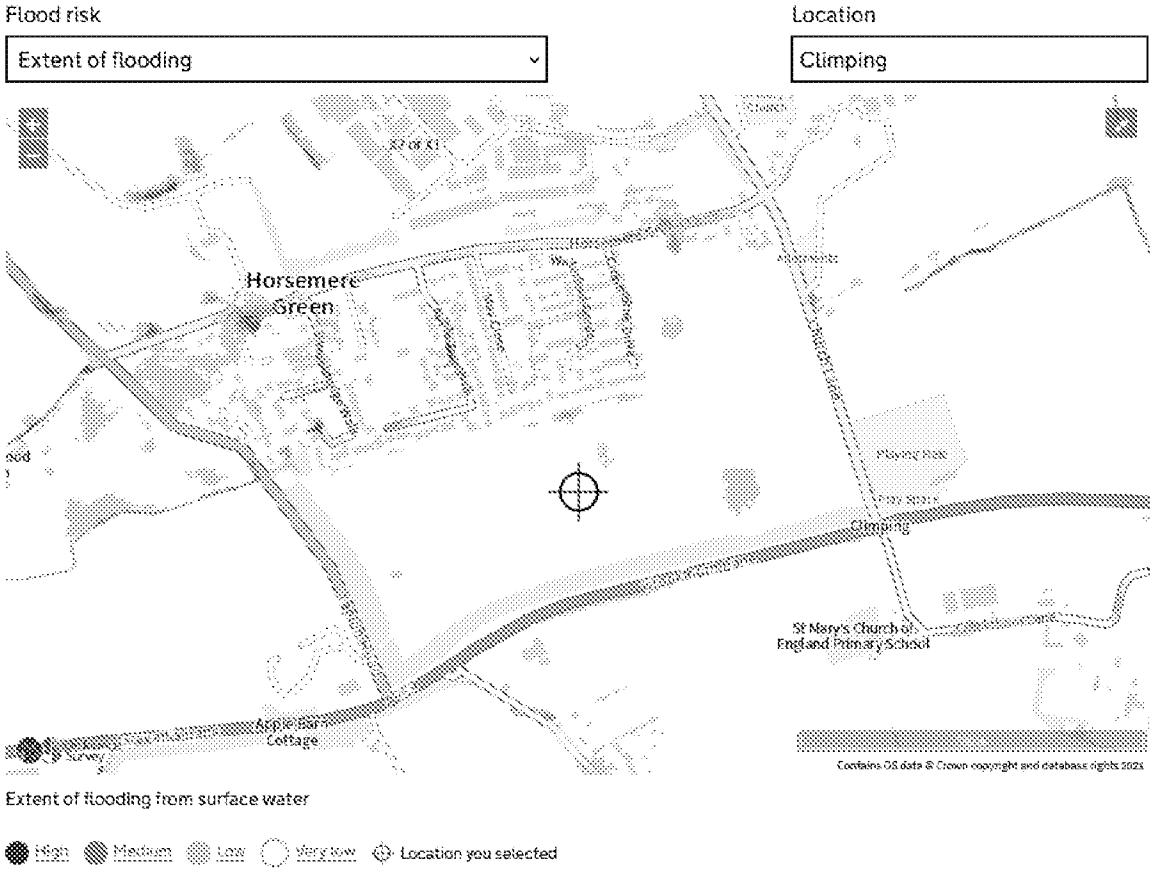


Figure 8. Long-Term Flood Risk Map – Surface Water (Gov.uk)

2.2.7 The anticipated depths of flooding relating to the areas identified as being at 'Low' risk of surface water flooding have also been assessed and are identified as falling within the 'Below 300mm' classification, as shown in **Figure 9**.

2.2.8 The Long-Term Flood Risk Map for Reservoirs confirms that the site is not at risk of flooding from such sources, as shown in **Figure 10**.

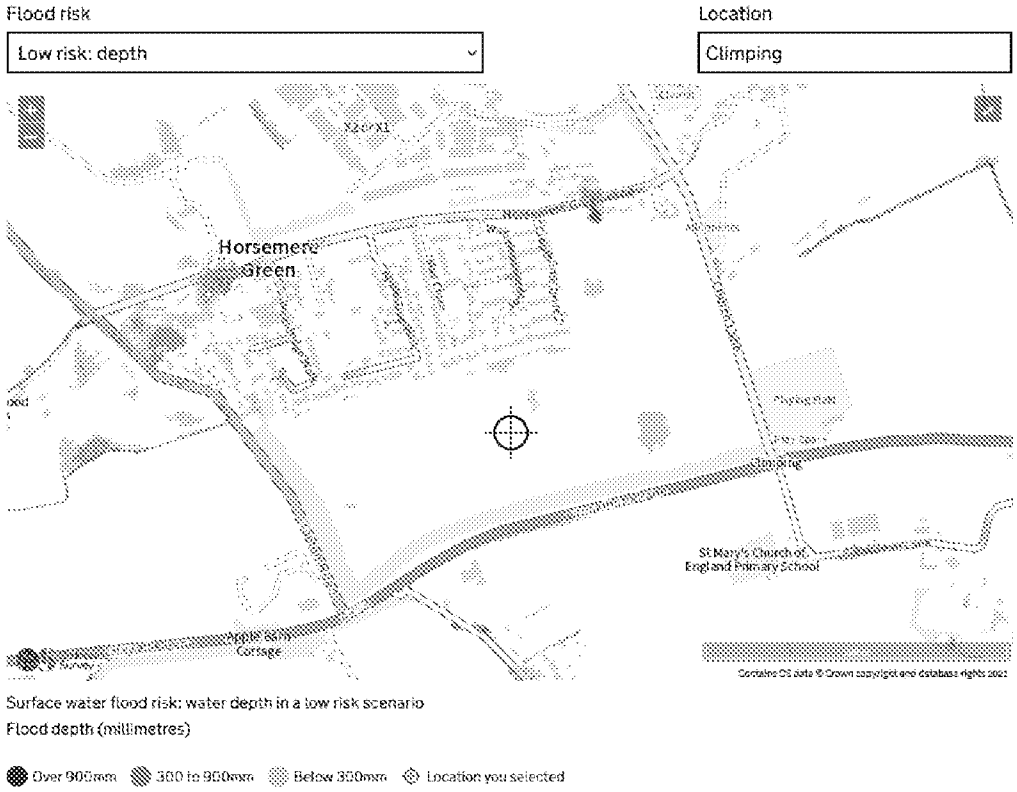


Figure 9. Long-Term Flood Risk Map – Surface Water; 'Low' Risk Scenarios (Gov.uk)

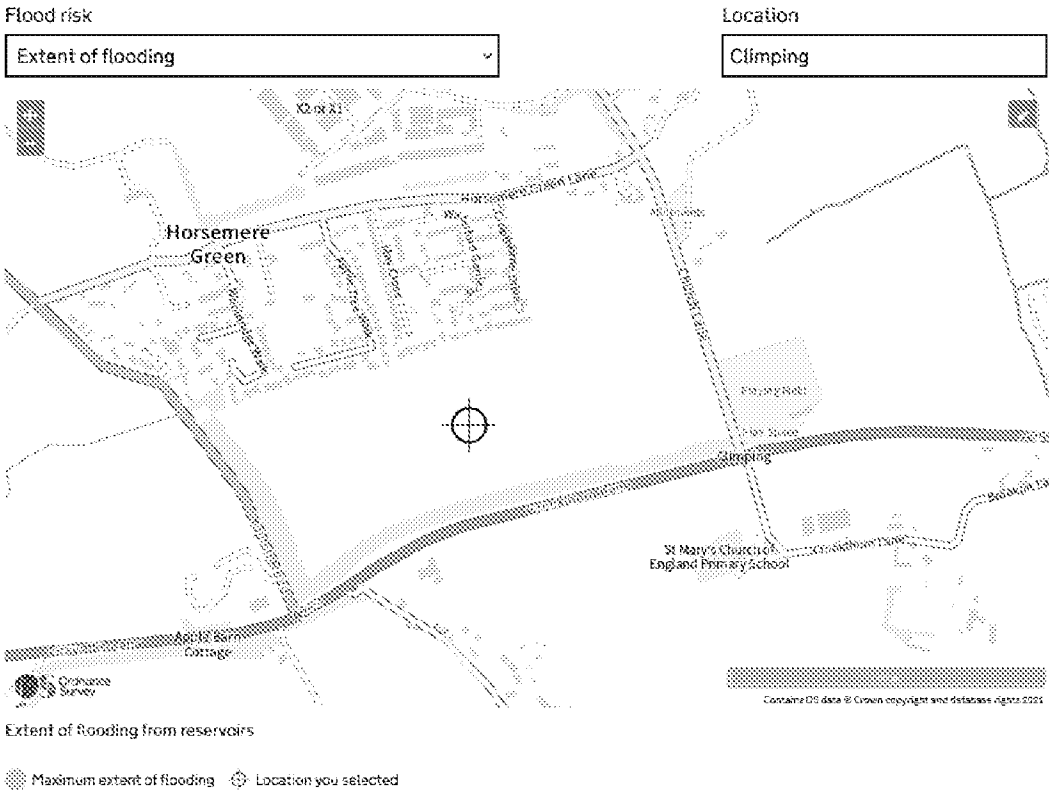


Figure 10. Long-Term Flood Risk Map – Reservoirs (Gov.uk)

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2.3 Strategic Flood Risk Assessment

2.3.1 The Arun District Council Strategic Flood Risk Assessment acknowledges Climping Church Farm Ditch as a recognised watercourse within the Arun District and River Arun catchment.

2.3.2 The Arun District Council Strategic Flood Risk Assessment make reference to the Lidsey Surface Water Management Plan (SWMP42), which covers Southern Water's Lidsey wastewater drainage catchment and includes parts of Climping. The site itself falls outside of this area, although marginally (the south-west corner of the site abuts the catchment, which captures the Oystercatcher Public House and a section of A259 to the south-west of the site).

2.3.3 West Sussex County Council's Strategic Flood Risk Assessment does not make specific reference to the site.

2.4 Historic Flooding

2.4.1 Arun District Council and West Sussex County Council have both been consulted in relation to the site and proposed development, and neither have confirmed any history of flooding having occurred at the site in the past.

2.4.2 In addition to Arun District Council and West Sussex County Council, the Environment Agency has also been consulted. The Environment Agency has also confirmed that they are not aware of any historic records of flooding affecting the site.

2.5 Summary of Flood Risk

2.5.1 The potential sources of flooding are:

Source of Flooding	Level of Risk
Rivers and Coastal	**Very Low** The site falls fully within Flood Zone 1 and is not identified as being at risk of flooding from Rivers or the Sea as per the current day Long-Term Flood Risk Map.
Surface Water	**Very Low** The long-term flood risk for surface water is classified as 'Very Low' across the site location. Surface water flooding within the adjacent highway is also generally 'Very Low' to 'Low' with depths indicated to be a maximum of 300mm, which not impact access or egress. Surface Water flooding on Horsemere Green Lane is identified as being at increased risk of flooding, indicated as being 'Low' to 'Medium' risk.
Groundwater	**Medium to High** Groundwater monitoring during winter months has established groundwater at shallow depths in places across the site; as shallow as 200mm below ground level. Elsewhere on site, groundwater was encountered at much greater depths, in excess of 2.50m below ground level during winter months.
Sewers	**Very Low** There are no surface water sewers located within close proximity of the site, whilst the nearest foul water sewer is located in Horsemere Green Lane, to the north of the site. There is no known history of flooding from sewers having affected the site historically. There are 3 No. rising mains (Treated Effluent and Foul Water) within the bounds of the site, which should be considered in the design of the site and associated drainage design.
Artificial Sources	**None** The site is not indicated as being at risk of flooding from artificial sources.

2.5.2 The site is deemed to be at 'Very Low' risk of flooding from all sources, with the exception of groundwater

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flooding. Groundwater has been established at shallow depths across the site, and should be considered in view of the development proposals in order to provide sufficient mitigation.

2.5.3 The proposed drainage system for the proposed development should be designed in order to provide capacity up to the design event, whilst affording consideration towards potential exceedance routes and overland flow paths as so not to increase the risk of surface water flooding on or off site.

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3 PROPOSED DEVELOPMENT

3.1 Description of Development

3.1.1 The proposed development will involve the construction of 300 dwellings and two buildings within use class A1 and D1, together with public open space, LAPs, LEAP and ancillary works, including car parking and drainage arrangements, with access off Church Lane and Horsemere Green Lane as demonstrated by the architectural development proposals, contained within **Appendix A**.

3.1.2 The type of development falls within the 'More Vulnerable' classification (Flood Risk and Coastal Change Table 2) and is appropriate in Flood Zone 1 (Flood Risk and Coastal Change Table 3).

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	**Highly Vulnerable**	**More Vulnerable**	**Less Vulnerable**	**Water Compatible**
Flood Zone 1	✓	✓	✓	✓	✓
Flood Zone 2	✓	Exception Test Required	✓	✓	✓
Flood Zone 3a†	Exception Test Required †	✗	Exception Test Required	✓	✓
Flood Zone 3b*	Exceptions Test Required *	✗	✗	✗	✓*
✓ = Development is appropriate ✗ = Development should not be permitted					

3.1.3 The proposed development will result in the introduction of impermeable surfacing; however SuDS measures will be used where possible in order to prevent any increase in the rate of run-off generated by the site.

3.1.4 The proposed post-development impermeable area has been determined to be 6.85Ha, inclusive of the footprint(s) of the ponds/basins proposed across the site.

3.1.5 The use of Sustainable Drainage System (SuDS) methods and techniques (where site conditions and constraints allow) within the bounds of the site (whilst adhering to the SuDS hierarchy as stated within Building Regulations (Part H) and The CIRIA SuDS Manual C753) will be used to provide a betterment of surface water run-off compared to the existing site.

3.1.6 The specific Surface Water and Foul Water drainage proposals are detailed in **Section 4** of this report.

4 SEQUENTIAL AND EXCEPTION TESTS

4.1 Sequential Test

4.1.1 The Sequential test aims to steer new development to areas with the lowest probability of flooding, with the intention being to steer new development to Flood Zone 1.

4.1.2 Flood Risk and Coastal Change, Table 3 confirms that "More Vulnerable" development is 'appropriate' in Flood Zone 1.

4.1.3 As the site is located fully within Flood Zone 1, application of the Sequential test is not required.

4.2 Exception Test

4.2.1 The Exception test, as set out in Paragraph 160 of Flood Risk and Coastal Change, is a method to demonstrate and help ensure that flood risk to people and property will be managed satisfactorily, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available.

4.2.2 The Exception test, in two parts, firstly requires proposed development to show that it will provide wider sustainability benefits to the community that outweigh flood risk, but secondly, that it will be safe for its lifetime without increasing flood risk elsewhere and where possible reduce flood risk overall.

4.2.3 The site is located fully within Flood Zone 1, and as confirmed in 4.1.2, "More Vulnerable" development is 'appropriate' in Flood Zone 1.

4.2.4 As the site is located fully within Flood Zone 1, application of the Exception test is not required.

5 PROPOSED DRAINAGE STRATEGY

5.1 Surface Water

5.1.1 The SUDS manual and Building Regulations set out a hierarchy of drainage methods to ensure that developments maximise the use of sustainable drainage techniques. The hierarchy favours infiltration methods of disposal over other methods such as watercourse and sewers, as detailed below;

i. Utilise infiltration techniques

ii. Attenuate rainwater in ponds or open water features for gradual release

iii. Attenuate rainwater by storing in tanks or sealed water features for gradual release

iv. Discharge rainwater direct to a watercourse

v. Discharge rainwater to a surface water sewer/drain

vi. Discharge rainwater to a combined sewer

SUDS Technique	Suitable	Comments
Living Roof	No	Implementation not possible owing to client's development proposals.
Basins and Ponds (such as Wetlands, Balancing Ponds, Detention Basins, Retention Ponds)	Yes	Opportunities exist to provide such features and will be maximised in support of the proposed development.
Filter strips and swales	Yes	No initial constraints. Sufficient space available on site to utilise.
Infiltration Devices - Soakaways - Infiltration trenches and basins	Yes	The presence of groundwater at shallow depths across the site will restrict the use of infiltration, the introduction of shallow infiltration features and/or where ground conditions permit will however be considered and maximised.
Permeable surfaces and filter drains (such as gravelled areas and porous block paving	Yes	No initial constraints. Can be implemented to provide both treatment (water quality) as well as attenuation at shallow depths.
Tanked systems (such as oversized pipes or cellular tanks)	Yes	No initial constraints, although 'above ground', more sustainable means will

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		be maximised, meaning such features will likely be unnecessary.

5.1.2 Following the undertaking of groundwater monitoring and infiltration testing, there are limited opportunities to propose infiltration-based methods and techniques as a means of dealing with run-off generated by the development.

5.1.3 It is proposed that a 'hybrid' strategy will be implemented, with infiltration maximised where possible in view of site constraints, with a connection also to be established with a piped outfall to the manhole located to the east of the site and Church Lane which discharges to the watercourse adjacent to 'Field Place' (existing property).

5.1.4 It is proposed that attenutation will be provided on site in the form of 6 No. ponds/basins, designed as follows;

Pond/Basins	Top Level	Base Level	Depth	Banks
Pond #1	5.500m AOD	4.000m AOD	1.500m	Varies
Pond #2	5.300m AOD	3.500m AOD	1.800m	1:3 Slope
Pond #3	5.300m AOD	3.750m AOD	1.550m	1:3 Slope
Pond #5	4.850m AOD	3.250m AOD	1.600m	1:3 Slope
Pond #6	4.750m AOD	3.500m AOD	1.250m	1:3 Slope
Pond #8	4.700m AOD	2.750m AOD	1.950m	1:3 Slope

5.1.5 Permeable paving will be introduced covering a plan area to the order of 9,444m^2, providing a further 1,360m^3 of attenuated storage (based on a sub-base of 450mm with 32% voids).

5.1.6 In view of the proposed impermeable area (6.85Ha), a rate of greenfield run-off has been attributed to this area, in order to determine an appropriate rate of discharge from the development. Based on this impermeable area of 6.85Ha, QBar has been determined to be 20.50l/s.

5.1.7 Further to 5.1.6, the rate of discharge from the site will be restricted to QBar, at 20.50l/s.

5.1.8 It is proposed that all captured run-off from the proposed areas of impermeable surfacing is captured up to the 100-year event including 40% climate change without exceedance.

5.1.9 With regards to off-site works it will be necessary to realign Church Lane and construct a new roundabout junction with the A259. The existing highway drainage and ordinary watercourse routing in this vicinity will therefore be diverted accordingly thus maintaining connectivity towards the ultimate outfall along Church Lane. In addition new highway drainage apparatus will be provided inclusive of storage and attenuation to ensure the highway works comply with NPPF requirements. The highway

drainage will be designed for up to the 100-year event including 40% climate change; however the flow rates will be subject to agreement with West Sussex County Council highways team.

5.1.10 The strategy above will ensure that there is no increase in the rate of run-off leaving the site, therefore no increase in the risk of flooding from this source.

5.2 Treatment

5.2.1 The use of permeable paving will ensure that run-off from the site receives a level of treatment required by the SuDS manual, with hydrocarbons being filtered by the aggregate and geotextile layers.

5.2.2 In accordance with the CIRIA SuDS Manual C753 regarding methods for managing pollution risks, the risk posed by surface water runoff to the receiving environment depends on the pollution hazard at the site (the source), SuDS treatment techniques (the pathway), and the sensitivity of the environment (the receptor).

5.2.3 The simple index approach considers whether SuDS techniques are appropriate for the site. The states that for SuDS components to deliver adequate treatment, the total pollution mitigation index for each contaminant type should equal or exceed the pollution hazard index.

5.2.4 The SuDS Manual outlines three categories of pollution hazard identification, which vary depending on proposed land use, which are as follows:

- Total Suspended Solids (TSS).
- Metals (M).
- Hydrocarbons (H).

5.2.5 In accordance with C753 Table 26.2, the proposed land uses at the site are categorised as follows:

- Residential Roofs – Very Low/TSS=0.2/M=0.2/H=0.05
- Individual property driveways and low traffic roads - Low/TSS=0.5/M=0.4/H=0.4
- All roads except low traffic roads and trunk roads/motorways - Medium/TSS=0.7/M=0.6/H=0.7

5.2.6 In accordance with C753 Table 26.3, the values of SuDS Mitigation indices are provided for permeable paving:

- Permeable Pavement – TSS=0.7/M=0.6/H=0.7
- Pond/Basin – TSS=0.7/M=0.7/H=0.5
- Swale - TSS=0.5/M=0.6/H=0.6

5.2.7 As the pollution hazard index does not exceed any pollution mitigation index for any contaminant type, the proposed SuDS methods will provide sufficient treatment for the proposed development.

5.3 Foul Water Drainage

5.3.1 The proposed development will establish a new connection to the public foul water sewer located in Horsemere Green Lane. The nearest point of connection is manhole 0302.

5.3.2 It is proposed the flows from the site will be pumped, with a Type 3 adoptable pumping station required.

5.3.3 In relation to the proposed Type 3 pumping station, the wet well must be positioned at least 15.00m from habitable buildings.

5.3.4 Post development, there will be an estimated increase in peak foul water flows to 13.89l/s (based on Water UK Sewerage Sector Guidance, Design and Construction Guidance).

5.3.5 Recent changes to infrastructure and connection charges (OFWAT Charging Rules) place the onus on the sewerage undertaker to reinforce their network should there no longer be sufficient capacity to serve the new development. Funding for this is provided by revised charging arrangements for infrastructure and connection charges for each dwelling constructed comprising a Network Reinforcement Charge and Site-Specific Charges. The revised charging arrangement (funded by the developer) covers alterations to the Existing Sewer Network and the sewerage undertaker remains responsible for the cost of reinforcing their Strategic Assets. The developer is responsible for connecting the development to the public sewer network.

5.4 Climate Change

5.4.1 In July 2020 the Environment Agency updates the latest climate change allowances (available online at https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances), which supports the NPPF in making an allowance for climate change within flood risk assessment. The allowances provide predictions of anticipated change for peak river flow by river basin district and peak rainfall intensity.

5.4.2 The table below shows the anticipated changes in extreme rainfall intensity. For flood risk assessments, both the central and upper end allowances should be assessed to understand the range of impact.

Applies across all of England	Total potential change anticipated for the '2020s' (2015 to 2039)	Total potential change anticipated for the '2050s' (2040 to 2069)	Total potential change anticipated for the '2080s' (2070 to 2115)
Upper End	**10%**	**20%**	**40%**
Central	**5%**	**10%**	**20%**

5.4.3 Based on the latest allowances, an increase of 20% should be applied to peak rainfall to this development, with a review undertaken to determine the impact of a 40% increase.

5.4.4 Given the close proximity to Flood Zones 2 and 3, the Environment Agency has been contacted, with Product 4 data requested.

5.4.5 The site is on the proximity of the tidal influence (in relation to River Arun). The site is, however, located approximately 0.70km to 1.20km inland of this Main River. As a result, the increases in sea levels rising and tidal locking co-incidence scenarios are anticipated to be negligible. Owing to existing defences

in relation to River Arun, any risk of flooding would be as a result of 'overtopping' of the existing defences, which comes in the form of a residual risk. It should be noted that the proposed site is being elevated above the natural ground by at least 300mm, therefore providing mitigating the potential future allowances.

5.5 Urban Creep

5.5.1 West Sussex County Council's Policy for the Management of Surface Water confirms that urban creep shall be considered where residential development is proposed. Urban creep acknowledges that permeable surfacing can, over time, be replaced with impermeable surfacing, the impact of such should therefore be considered in the design of surface water drainage systems.

5.5.2 In view of the proposed development, which consists of the construction of 300 dwellings and two buildings within use class A1 and D1, together with public open space, LAPs, LEAP and ancillary works, including car parking and drainage arrangements, with access off Church Lane and Horsemere Green Lane, an allowance has been made of 10% to mitigate the potential change in impermeable area at the site.

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6 RESIDUAL RISK AND MITIGATION

6.1 Residual Risk

6.1.1 The following residual risks have been identified in relation to the proposed development:

i. Increased flow through watercourses as a result of climate change causing flooding to the site

ii. Blockage of watercourses as a result of debris or otherwise, causing flooding to the site

iii. Extreme rainfall events that exceed the design criteria used for the drainage system causing surface water flooding

iv. Blockage/failure of the proposed drainage system causing flooding to the site

v. Groundwater flooding to the site caused by groundwater levels exceeding the ground surface level

vi. Surface water flooding of proposed buildings

vii. Climate change resulting in increased flood zone extents resulting in flooding of the site

6.2 Mitigation

6.2.1 Consideration has been taken to the residual risks stated in Section 6.1, and the following mitigation measures are proposed:

i. The nearest watercourse to the site is located to the south of the site, which assists in providing drainage functionality to A259. In addition to this watercourse, a further watercourse is located to the east of Church Lane (south of 'Field Place') which has downstream connectivity with Climping Church Farm Ditch (which in turn discharges to River Arun). River Arun is tidally influenced, and the impacts of climate change have been considered as confirmed in Section 5.4 - 'Climate Change'.

ii. Riparian owners have a responsibility to ensure that any watercourse (including rivers, streams or ditches) that runs within or adjacent to the boundaries of their property is maintained, clear of obstruction(s) and able to convey flows without restriction. By conducting such duties will ensure that the risk of flooding is reduced. Section 8 'Maintenance' confirms standard actions which must be undertaken in order to ensure that the risk of blockage and/or potential flooding is both minimised and mitigated.

iii. The drainage strategy has been developed to capture run-off up to a 1 in 100-year critical rainfall event, with 40% allowance for climate change as well as an allowance for urban creep (10%). However, should a more extreme rainfall event occur, there is the potential for the drainage system to be exceeded. The existing topography of the site has been reviewed and the existing overland flow routes assessed. As has been established earlier in this report, the site can largely be considered flat, meaning that run-off would likely collect and 'pond' on site. Levels will be designed in order to ensure that run-off is directed away from properties, and into both existing and proposed drainage features on site. Existing and proposed drainage infrastructure should also be considered which can intercept run-off in an exceedance event, including gullies and channel drains.

iv. The proposed drainage system will attenuate and store run-off up to the design event. Blockage of the drainage system has the potential to cause flooding on the site, however maintenance measures proposed in Section 8 – 'Maintenance' will mitigate the risk of the system becoming blocked.

v. Due to the underlying ground conditions at the site and the presence of groundwater in the upper layers, there is a risk of groundwater exceeding the surface level and emerging on the site. There are no records of previous groundwater flooding, however. If groundwater flooding were to occur, it would follow the natural topography of the site, and either collect or 'pond' at the lower lying areas, and/or reach the watercourse to the south of this site, if not intercepted by proposed drainage infrastructure.

vi. The site is currently deemed to be at 'Very Low' risk of surface water flooding, with the exception of a number of isolated low points, which are identified as being at 'Low' risk of surface water flooding. The introduction of impermeable surfacing will result in an increase in surface water run-off, which will be collected by the proposed surface water drainage system. As referred to above, in the event of exceedance of the proposed surface water drainage system follow the natural topography of the site. It is proposed that finished floor levels will be set 150-300mm above the existing ground profile in order to mitigate the risk of potential surface water flooding at the site. Levels will also be designed across the site in order to convey flows away from thresholds and buildings.

vii. The effects and impacts of climate change have been considered, as detailed within Section 5.4 - 'Climate Change'. The site is on the proximity of the tidal influence (in relation to River Arun). The site is, however, located approximately 0.70km to 1.20km inland of this Main River. As a result, the increases in sea levels rising and tidal locking co-incidence scenarios are anticipated to be negligible. Owing to existing defences in relation to River Arun, any risk of flooding would be as a result of 'overtopping' of the existing defences, which comes in the form of a residual risk. It should be noted that the proposed site is being elevated above the natural ground by at least 300mm, therefore providing mitigating the potential future allowances.

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7 FLOOD RISK MANAGEMENT

7.1 Safe Access and Egress

7.1.1 The proposed access to the development will be via a newly constructed bellmouth on Church Lane, in conjunction with significant off-site highway works.

7.1.2 The proposed access falls within Flood Zone 1 and is therefore deemed to be at the lowest risk of flooding.

7.1.3 Church Lane is deemed to be at 'Very Low' risk of surface water flooding within the vicinity of the proposed access.

7.1.4 Pedestrian access to the site is available in several locations; via the vehicular access provided off of Church Lane, an additional pedestrian-only access also on Church Lane to the north of the proposed vehicular access, a link to the shared footway/cycleway to the south of the site adjacent to A259, in addition to pedestrian access points to the west (linking with Yapton Road B2233) and also to the north (Horsemere Green Lane). In all locations with the exception of Horsemere Green Lane, the risk of flooding is deemed to be 'Very Low'. In relation to the pedestrian access off of Horsemere Green Lane, there is an associated 'Low' to 'Medium' risk of surface water flooding in this location. The anticipated depths of flooding in both scenarios is stated to be between 'Below 300m' and '300 to 900mm'. Given that there are multiple points of access and egress to and from the site, should flooding occur on Horsemere Green Lane, this location can be avoided, with an alternative route in or out of the site available.

7.2 Flood Warning

7.2.1 The site is located fully within Flood Zone 1, therefore there is no requirement for a Flood Warning System to be implemented, or Flood Evacuation Plan to be prepared.

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8 MAINTENANCE

8.1 Proposed Maintenance Regime

8.1.1 Maintenance is required to ensure the long-term operational performance of the proposed surface water drainage system.

8.1.2 The drainage system has been designed to minimise maintenance requirements; however, a number of key tasks will need to be undertaken so that the system remains in optimal condition. These operations are summarised in the table below, along with the required frequency of works.

Drainage System feature	Proposed maintenance / remedial works	Required frequency of works
Permeable Paving	Surface sweeping to reduce silt and debris accumulation.	Every 8 to 12 weeks
	Removal / management of weed growth	At least once a year
	Silt removal from permeable surfaces, possibly involving raking out of joints, redressing, removal and remedial works.	As required / to be specified by manufacturer
Pond/Basin	Inspection, vegetation clearance and additional clearing/cleansing of potential blockages. Particular attention to incoming/outcoming connections.	At least once a year
	Inspection and clearance of blockages	After major storm events
Swale	Inspection and clearance	Annual, and after every storm event
	Desilting	Year 1, Year 3 then every 5 Years
Diffuser units & catch pits, gully sumps and drains	Inspection and additional cleansing as required.	Annual
	Desilting	Year 1, Year 3, then every 5 years
Inlets and Outfalls	Clearance of safety grilles and pipework	After every storm event/regularly/to be specified by manufacturer
Pipework	Jetting to clear blockages	As required
HydroBrake	As specified by manufacturer	As specified by manufacturer

8.1.3 The responsibility of maintenance regime will be determined by the Developer, by agreed appointment.

8.1.4 A detailed maintenance document shall be established prior to appointment in order to detail the roles and responsibilities where maintenance is concerned.

Permeable Paving / Diffuser Units

8.1.5 The areas of permeable paving are designed to allow infiltration of surface water run-off through the joints in the block paving surface course and into the sub-base below. The water is then collected and discharged into the positive drainage system.

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8.1.6 As part of the permeable paving system, diffuser units are used to discharge surface water run-off from roof areas into the sub-base, as well as forming links between areas of permeable paving. These diffuser units are small heavy-duty cellular units which allow more efficient discharge of surface water into the sub-base base of the permeable paved areas.

8.1.7 The areas of permeable paving will require additional maintenance measures to ensure they operate as designed. Failure in carrying out this maintenance, could increase the risk of flooding. The additional measures are as follow:

- Periodic surface sweeping to reduce silt and debris accumulation. The permeable surfaces should be swept at least every 8 to 12 weeks with additional sweeps in the autumn to clear fallen leaves

- Removal / management of weed growth, as required. Typically, once or twice a year for regularly used areas

- Periodic silt removal from permeable surfaces as described by the manufacturer. If any areas are showing signs of ponding, they shall be dealt with by raking out the joints and redressing. The entire surface shall be monitored and when there are signs of excessive siltation resulting in poor drainage over the whole area, the blocks shall be taken up and a replacement of bedding layer and geotextile shall be undertaken

- Redressing of joints on the block paving as required

- Catchpits upstream of diffuser units, should be emptied and inspected on the same regime as all catchpits specified previously set out in this document

HydroBrake (Flow Control Chamber)

8.1.8 It is proposed that HydroBrake (or similar) flow control unit will be introduced on site in order to restrict flows outfalling from the drainage system to the off-site point of discharge. The HydroBrake flow control system is self-activating, relying on upstream hydraulic head to generate an air-filled vortex within the centre of the casing. Once the vortex is initiated water drains down through a small opening in the back of the device at the designed restricted flow rate.

8.1.9 The flow control device has two measures in case of emergency (i.e. blockage). The first is a door situated in the front of the unit itself, this can be operated from the surface by a release cable situated just under the manhole cover which closes under its own weight and does not require any mechanism to operate. The second is a high-level overflow pipe situated with the flow control manhole. Both measures allow the system to drain down freely, until the blockage can be cleared.

8.1.10 The HydroBrake flow control chamber will require additional maintenance measures to ensure it operates as designed. The additional measures are as follows:

- The sump within the flow control chamber should be monitored for build-up of silts and should be emptied, as a minimum, on the same regime as specified for catchpits previously within this document

- The drain down door located on the centre of the unit will require inspection and opening annually, to ensure it is operating as intended

Remedial/Repair Actions

8.1.11 Significant storm events may cause considerable damage to SuDS and their associated components. As such, it may be necessary to inspect and carry out essential recovery works to return the feature to full working order.

8.1.12 Resetting of uneven blocks by lifting block area, removing bedding material and relaying to match original design are all actions which may need to be undertaken.

Accidental Spillages

8.1.13 It is not envisaged that any materials are to be stored onsite once the development has been completed, which could cause major spills and potential pollution issues within the drainage system. If this situation alters in the future consultation with a specialist will be required in order to confirm if any upgrades to the existing system are necessary.

8.1.14 Minor spillages of fuels and oils will be dealt with by the permeable paving and deep trapped gullies, by bio-degrading and collecting the hydrocarbons respectively.

Future Alterations to the Development

8.1.15 Any future alterations to the permeable paving should be confirmed by a specialist. Where possible any future services are to avoid being located through areas of permeable paving. If new services are required to run through areas of permeable paving, services should be installed below the depth of permeable paving with the permeable system reinstalled above.

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9 OFFSITE IMPACTS

9.1.1 The proposed development will not result in any increase in run-off from the site, and therefore will not cause an increase in flood risk off-site. Flows will be restricted to a total of 20.50l/s.

9.1.2 Post development foul water flows will contribute an increase to the sewer network compared to the previous use – it is expected that the foul sewer flow will be 13.89l/s.

9.1.3 The effects of climate change have been considered in the design of the proposed surface water drainage system, to ensure there is no off-site impact.

9.1.4 Significant off-site highway works are proposed in relation to this residential development, which will be supported by changes and improvements to the associated off-site drainage infrastructure.

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10 SUMMARY

10.1.1 In preparing this report, Bright Plan Civils has referred to the following documents and information; Arun District Council Drainage Records, British Geological Survey Records, Environment Agency Flood Maps for Planning, Long Terms Flood Risk Maps, Southern Water Drainage Records and West Sussex County Council Drainage Records.

10.1.2 The site is an undeveloped greenfield location, measuring 27.15Ha and is located fully within Flood Zone 1.

10.1.3 Levels on site fall broadly within the range of 5.00m AOD to 6.75m AOD. Despite this range in levels, the site can be largely considered flat. A localised high-point (7.00m AOD) is identified towards the western boundary of the site, with the low point located towards the eastern boundary (4.75m AOD).

10.1.4 The site, in its existing use is fully permeable, with no areas of impermeable surfacing located within the bounds of the site.

10.1.5 The proposed development will involve the construction of 300 dwellings and two buildings within use class A1 and D1, together with public open space, LAPs, LEAP and ancillary works, including car parking and drainage arrangements, with access off Church Lane and Horsemere Green Lane.

10.1.6 The risk of flooding from all sources has been determined as being 'Very Low' from all sources, with the exception of groundwater flooding. Groundwater has been identified as varying depths across the site, as shallow as 200mm below ground level following a period of winter groundwater monitoring.

10.1.7 The site currently drains via infiltration, with run-off also following the natural topography of the site. The site is largely considered to be flat, with ponding occurring at present at localised low points. There is no formal existing drainage instrastructure within the bounds of the site serving the site.

10.1.8 Southern Water records confirm the presence of 3 No. rising mains within the bounds of the site. 1 No. 700mm Treated Effluent Rising Main, 1 No. 500mm Foul Water Rising Main and also 1 No. 100mm Foul Water Rising Main.

10.1.9 Post-development, surface water run-off will be managed through sustainable means, with the provision of permeable paving, ponds/basins, swales and supplementary infrastructure. Run-off leaving the site will discharge to the existing manhole on Church Lane, to the south of the existing property 'Field Place'. This manhole discharges to the watercourse to the east. Flows will be restricted to a total of 20.50l/s (QBar).

10.1.10 The surface water drainage system has been designed to accommodate a 1-in-100-year storm event inclusive of an allowance for climate change (40%) as well as urban creep (10%).

10.1.11 Wastewater from the development will be pumped to the Southern Water public foul water sewer located in Horsemere Green Lane (existing manhole 0302). An adoptable pumping station (Type 3) is proposed to support the development.

10.1.12 The completion of the development will not increase flood risk on or off the site.

10.1.13 In conclusion, this development is suitable with regards to flood risk and surface water drainage.

DRAWINGS

PL102	Existing Impermeable Areas and Drainage Catchments
PL105	Proposed Impermeable Area
PL001	Proposed Drainage Sheet 1 of 4
PL002	Proposed Drainage Sheet 2 of 4
PL003	Proposed Drainage Sheet 3 of 4
PL004	Proposed Drainage Sheet 4 of 4
PL005	Proposed Levels & Contours Sheet 1 of 4
PL006	Proposed Levels & Contours Sheet 2 of 4
PL007	Proposed Levels & Contours Sheet 3 of 4
PL008	Proposed Levels & Contours Sheet 4 of 4
PL300	Proposed Basin Cross Sections Sheet 1 of 3
PL301	Proposed Basin Cross Sections Sheet 2 of 3
PL302	Proposed Basin Cross Sections Sheet 3 of 3

-CATCHMENTS KEY-

- Piped System (Church Lane Culvert Discharge) 10,560m² TBC
- IC — Verge Adjacent to Church Lane Roundabout 96m²
- RG — A259 Northern Ditch ('Over the Edge' Carriageway) 2,551m²
- A259 Southern Verge ('Over the Edge' Carriageway) 1,357m²
- A259 Aquatics Centre Basins / Verge 1,713m²
- Land rear of Bus Shelter (Ditch?) 213m²
- Climping Street Junction Catchment 1,958m²
- A259 Oystercatcher Ditch ('Over the Edge' Carriageway) 292m²
- A259 Oystercatcher Highways 1,816m²
- RG — Existing Road Gully
- IC — Existing Highway Drainage Infrastructure (TBC)
- Existing Culvert
- X HP — High Point
- X LP — Low Point

NOTES

A1

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4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

NO IMPERMEABLE SURFACES WITHIN THE BOUNDS OF THE SITE - GREENFIELD RUN-OFF RATES EQUIVALENT TO 2.97l/S PER HECTARE (77.31L/S TOTAL ACROSS 26.04HA)

Horsemere Green Lane drains to the pond located in land adjacent to Plettons

Pond survey required

Additional topographical survey information required - catchment extents further north.

Break point in catchment

Flat point in carriageway

Additional topographical survey information required to verify catchment

Assumption: Levels ***suggest*** ditch/ditches north of the A259, adjacent to the footway/cycleway, are linked (i.e. catchment all drains, potentially, to the Church Lane Culvert/Ditch. Verification required.

Assumption: Climping Street junction ***may*** discharge to the northern ditch - headwall identified in ditch, unconfirmed whether this is an incoming or outgoing connection. Verification required.

Assumption: Land within the vicinity of the bus shelter (footway/cycleway) drains to ditch (ditch TBC)

Additional topographical survey information required to verify catchment

Camber in carriageway transitions to cross fall - draining to the basin(s) / verge outside of the Aquatics Centre.

High point

Outfall location to Highway drainage unconfirmed. Verification required.

IC
CL 3.94
IL 1.89 (TBC)
D 2.25m (TBC)

IC
CL 5.60
IL 4.35 (TBC)
D 1.25m (TBC)

Manhole upstream of outfall location (culvert/ditch)

Outfall

1:1250@ A1
1:2500@ A3
0 20 40 60 80 100 120 m

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Rev.	Amendments	Date
A	Additional topo - catchments updated	09/09/2020
-	Original Issue	21/07/2020

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www.bpcivils.co.uk enquiries@bpcivils.co.uk

Drawing Status	Information
Client	Vivid and Climping Homes Ltd.
Project	Land West of Church Lane Climping, West Sussex
Drawing Title	Existing Impermeable Areas and Drainage Catchments

Scale	Date	Drawn By	Checked By
1:1250	July '20	SPB	MJA

Drawing No.	Rev.
D1886-PL102	A

ARUN DISTRICT COUNCIL CM4451-WEB

-IMPERMEABLE AREA KEY-

Total Site Extents - 27.15Ha

'300 Unit Scheme' Impermeable Area - 68,468m²/6.85Ha

NOTES

A1

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N

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Rev.	Amendments	Date
H	Revised layout	08/06/2023
G	Revised layout	15/02/2023
F	Revised layout	23/01/2023
E	Revised layout	14/04/2022

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Drawing Status: PLANNING

Client: Vivid and Climping Homes Ltd.

Project: Land West of Church Lane Climping, West Sussex

Drawing Title: Proposed Impermeable Area

Scale	Date	Drawn By	Checked By
1:1250	Dec. '20	SPB	MJA

Drawing No.: D1886-PL105 Rev.: H

1:1250@ A1
1:2500@ A3
0 20 40 60 80 100 120 m

ARUN DISTRICT COUNCIL DM/421/RES



-DRAINAGE KEY-

- Existing Foul Water Drain/Sewer
- Existing Foul Water Rising Main (100mm Ø)
- Existing Foul Water Rising Main (500mm Ø)
- Existing Treated Effluent Rising Main (700mm Ø)
- Proposed Culvert
- RG — Existing Road Gully
- Existing Highway Drainage
- Proposed Surface Water Sewer
- Proposed Surface Water Manhole
- Proposed Surface Water Outfall (Headwall)
- Proposed Surface Water Flow Control
- Proposed Surface Water Orifice Plate
- Proposed Permeable Paving (450mm Sub-Base)
- Proposed Basin (Pond)
- Proposed Watercourse
- Foul Water (Private Drain/Public Sewer)
- Proposed Private Pumping Station
- Proposed Foul Water Rising Main
- Proposed Root Protection Area
- Watercourse Building/Structure Buffer Zone (5.0m) (Measured from Top of Bank)
- SuDS Maintenance Buffer Zone (3.0m) (Measured from Top of Bank)

-SURFACE WATER DRAINAGE-

- Surface water disposal should be managed in view of the SuDS hierarchy;
  1. Infiltration
  2. Watercourse
  3. Public Surface Water Sewer(s)
- Following the undertaking of groundwater monitoring and infiltration testing, there are limited opportunities to propose infiltration-based methods and techniques as a means of dealing with run-off generated by the development.
- It is proposed that a 'hybrid' strategy will be implemented, with infiltration maximised where possible in view of site constraints, with a connection also to be established with a piped outfall to the manhole located to the eats of the site and Church Road which discharges to the watercourse adjacent to 'Field Place' (existing property).
- 7 No. ponds are proposed across the site, providing attenuation (as annotated on plan).
- Permeable paving will be introduced, with a total plan area of 9,444m².
- In view of the proposed impermeable area, a rate of greenfield run-off has been attributed to this area, in order to determine an appropriate rate of discharge from the development. Based on this impermeable area of 6.85Ha, QBar has been determined to be 20.50l/s.
- Further to the above, run-off from the development will be discharged at a rate of 20.50l/s.
- It is proposed that all captured run-off from the proposed areas of impermeable surfacing will be captured up to the in in 100 year storm event, including an allowance of 40% for Climate Change (without exceedance).
- An allowance has been made for Urban Creep at a rate of 10% (potential increase in the proposed impermeable area).

-FOUL WATER STRATEGY-

- Foul water disposal should adhere to the following hierarchy;
  1. Public Sewer
  2. Private Treatment Plant
  3. Septic Tank and Drainage Field
  4. Cesspool
- The proposed development will establish a new connection to the public foul water sewer located in Horsemere Green Lane. The nearest point of connection is Manhole 0302.
- It is proposed that flows from the site will be pumped, with a Type 3 adoptable pumping station required.
- In relation to the proposed Type 3 adoptable pumping station, the wet well much be positioned at least 15.00m from habitable buildings.
- Post developement, there will be an estimated peak foul water flow generation of 13.89l/s (based on Water UK Sewer Sector Guidance, Design and Construction Guidance).

A1

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Rev.	Amendments	Date
F	Basins revised	08/06/2023
E	Basin 5 revised	20/03/2023
D	Northern ditch revised	01/03/2023
C	Revised layout	14/02/2023
B	Revised layout	14/04/2022
A	3m buffer & RPZ added	05/11/2021
-	Original issue	05/08/2021

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Drawing Status	PLANNING
Client	Vivid and Climping Homes
Project	Land adjacent to Church Lane, Climping, West Sussex
Drawing Title	Proposed Drainage Sheet 1 of 4

Scale	Date	Drawn By	Checked By
1:500	Aug. '21	SPB	MJA

Drawing No. D1886-001 Rev. F

ARUN DISTRICT COUNCIL CM/422/RES

-DRAINAGE KEY-

- Existing Foul Water Drain/Sewer
- Existing Foul Water Rising Main (100mm Ø)
- Existing Foul Water Rising Main (500mm Ø)
- Existing Treated Effluent Rising Main (700mm Ø)
- Proposed Culvert
- RG — Existing Road Gully
- Existing Highway Drainage
- Proposed Surface Water Sewer
- Proposed Surface Water Manhole
- Proposed Surface Water Outfall (Headwall)
- Proposed Surface Water Flow Control
- Proposed Surface Water Orifice Plate
- Proposed Permeable Paving (450mm Sub-Base)
- Proposed Basin (Pond)
- Proposed Watercourse
- Foul Water (Private Drain/Public Sewer)
- Proposed Private Pumping Station
- Proposed Foul Water Rising Main
- Proposed Root Protection Area
- Watercourse Building/Structure Buffer Zone (5.0m) (Measured from Top of Bank)
- SuDS Maintenance Buffer Zone (3.0m) (Measured from Top of Bank)

-SURFACE WATER DRAINAGE-

- Surface water disposal should be managed in view of the SuDS hierarchy;
  1. Infiltration
  2. Watercourse
  3. Public Surface Water Sewer(s)
- Following the undertaking of groundwater monitoring and infiltration testing, there are limited opportunities to propose infiltration-based methods and techniques as a means of dealing with run-off generated by the development.
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- Foul water disposal should adhere to the following hierarchy;
  1. Public Sewer
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Rev.	Amendments	Date
E	Basins revised	08/06/2023
D	Basins 1 & 5 revised	20/03/2023
C	Revised layout	14/02/2023
B	Revised layout	14/04/2022
	Original Issue	05/08/2021

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Drawing Status: PLANNING

Client: Vivid and Climping Homes

Project: Land adjacent to Church Lane, Climping, West Sussex

Drawing Title: Proposed Drainage Sheet 2 of 4

Scale	Date	Drawn By	Checked By
1:500	Aug. '21	SPB	MJA

Drawing No. D1886-002 Rev. E

Proposed Drainage @ 1:500

1:500 @ A1
1:1000 @ A3

0 5 10 15 20 25 30 35 40 45 50 m

ARUN DISTRICT COUNCIL DM/62/19/RES



NOTES

A1

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-SURFACE WATER DRAINAGE-

- Surface water disposal should be managed in view of the SuDS hierarchy;
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  2. Watercourse
  3. Public Surface Water Sewer(s)
- Following the undertaking of groundwater monitoring and infiltration testing, there are limited opportunities to propose infiltration-based methods and techniques as a means of dealing with run-off generated by the development.
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-DRAINAGE KEY-

- Existing Foul Water Drain/Sewer
- Existing Foul Water Rising Main (100mm Ø)
- Existing Foul Water Rising Main (500mm Ø)
- Existing Treated Effluent Rising Main (700mm Ø)
- Proposed Culvert
- RG Existing Road Gully
- Existing Highway Drainage
- Proposed Surface Water Sewer
- Proposed Surface Water Manhole
- Proposed Surface Water Outfall (Headwall)
- Proposed Surface Water Flow Control
- Proposed Surface Water Orifice Plate
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- Watercourse Building/Structure Buffer Zone (5.0m) (Measured from Top of Bank)
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Proposed Drainage @ 1:500

1:500 @ A1
1:1000 @ A3

0 5 10 15 20 25 30 35 40 45 50 m

N

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Rev.	Amendments	Date
E	Basins revised	08/06/2023
D	Basin revised	20/03/2023
C	Revised layout	14/02/2023
B	Revised layout	14/04/2022
-	Original Issue	05/08/2021

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Drawing Status: PLANNING

Client: Vivid and Climping Homes

Project: Land adjacent to Church Lane, Climping, West Sussex

Drawing Title: Proposed Drainage Sheet 3 of 4

Scale	Date	Drawn By	Checked By
1:500	Aug. '21	SPB	MJA

Drawing No.: D1886-003 Rev.: E

ARUN DISTRICT COUNCIL CM/442/RES

-SURFACE WATER DRAINAGE-

- Surface water disposal should be managed in view of the SuDS hierarchy;

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  3. Public Surface Water Sewer(s)

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- Proposed Root Protection Area
- Watercourse Building/Structure Buffer Zone (5.0m) (Measured from Top of Bank)
- SuDS Maintenance Buffer Zone (3.0m) (Measured from Top of Bank)

NEW WATERCOURSE
- NO WORKS ARE PERMITTED UNTIL THE LPA HAS GRANTED LAND DRAINAGE CONSENT.
- BASE: 500mm
- SLOPE: 1:2 BOTH SIDES
- DEPTH: VARIES FROM 900mm TO 1900mm

POND #1
TOP 5.500
BASE 4.000
1.500m DEEP

Proposed Drainage @ 1:500

1:500 @ A1
1:1000 @ A3
0 5 10 15 20 25 30 35 40 45 50 m

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Rev.	Amendments	Date
F	Basins revised	08/06/2023
E	Basin revised	20/03/2023
D	Northern ditch revised	01/03/2023
C	Revised layout	14/02/2023
B	Revised layout	14/04/2022
A	3m buffer & RPZ added	05/11/2021
-	Original Issue	05/08/2021

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Drawing Status	PLANNING
Client	Vivid and Climping Homes
Project	Land adjacent to Church Lane, Climping, West Sussex
Drawing Title	Proposed Drainage Sheet 4 of 4

Scale	Date	Drawn By	Checked By
1:500	Aug. '21	SPB	MJA

Drawing No.	Rev.
D1886-004	F

ARUN DISTRICT COUNCIL CM/43/21/RES

NOTES

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Paddock
El Sub Sta
The Barn
The Waggoners
Flettons
Padang
Hobbitts
Church Farm Cottage
Church Farm House West
Church Farm House East
Allotment Gardens
CROPTHORNE DR
Field Place

NEW LOW POINT 'CONTROL'. EXCEEDENCE EVENT FLOW PATH TO ENTER BASIN AT THIS POINT BEHIND FLOW CONTROL.

POND #3
TOP 4.750
BASE 3.500
1.250m DEEP

NATURAL GROUND LEVELS TO BE RETAINED WITHIN CENTRAL ARCHEOLOGICAL CORRIDOR

APPROX AREA OF 2290SQM AVAILABLE AT EXISTING LEVEL (WITHOUT EXCAVATION) AVAILABLE STORAGE FROM 4.50-4.75m = 285m³

LOW POINT 'CONTROL'. EXCEEDENCE EVENT FLOW PATH TO ENTER CENTRAL AND UTILISE EXISTING ABOVE GROUND STORAGE

NATURAL GROUND LEVELS TO BE RETAINED WITHIN CENTRAL ARCHEOLOGICAL CORRIDOR

POND #8
TOP 4.700
BASE 2.750
1.950m DEEP

ULTIMATE OUTFALL BASIN TO BE DEEPENED FOR EXISTING RISING MAIN CONSTRAINT & CULVERTED OUTFALL UNDER CHURCH ROAD

NEW LOW POINT 'CONTROL'. EXCEEDENCE EVENT FLOW PATH TO ENTER BASIN AT THIS POINT BEHIND FLOW CONTROL.

POND #2
TOP 5.300
BASE 3.500
1.800m DEEP

POND #5
TOP 4.650
BASE 3.250
1.600m DEEP

END OF WATERCOURSE
TOP 5.700
BASE 4.275
1.425m DEEP

Proposed Drainage @ 1:500

1:500 @ A1
1:1000 @ A3

0 5 10 15 20 25 30 35 40 45 50 m

PLANNING

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Rev.	Amendments	Date
F	Basins revised site-wide	08/06/2023
E	Basins 1 and 5 revised	20/03/2023
D	Northern ditch revised	01/03/2023
C	Revised layout	14/02/2023
B	Revised layout	14/04/2022
A	Layout & levels updated	05/04/2022
-	Original issue	05/08/2021

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Drawing Status: PLANNING

Client: Vivid and Climping Homes

Project: Land adjacent to Church Lane, Climping, West Sussex

Drawing Title: Proposed Levels & Contours Sheet 1 of 4

Scale	Date	Drawn By	Checked By
1:500	Aug. '21	SPB	MJA

Drawing No.: D1886-005 Rev.: F

ARUN DISTRICT COUNCIL DRAWING

POND #2
TOP 5.300
BASE 3.550
1.800m DEEP

POND #5
TOP 4.850
BASE 3.250
1.600m DEEP

POND #3
TOP 5.300
BASE 3.750
1.550m DEEP

POND #1
TOP 5.500
BASE 4.000
1.500m DEEP

POND #4
TOP 5.100
BASE 4.100
1.000m DEEP
(Subject to WSCC Highways co-ordination)

LOW POINT 'CONTROL'. EXCEEDENCE EVENT FLOW PATH TO ENTER CENTRAL ARCHEOLOGICAL STRIP

NATURAL GROUND LEVELS TO BE RETAINED WITHIN CENTRAL ARCHEOLOGICAL CORRIDOR

LOW POINT 'CONTROL'. EXCEEDENCE EVENT FLOW PATH TO ENTER PERMEABLE PAVEMENT

NATURAL GROUND LEVELS TO BE RETAINED WITHIN CENTRAL ARCHEOLOGICAL CORRIDOR

LOW POINT 'CONTROL'. EXCEEDENCE EVENT FLOW PATH TO ENTER CENTRAL ARCHEOLOGICAL STRIP AND UTILISE EXISTING ABOVE GROUND STORAGE

APPROX AREA OF 1867SQM AVAILABLE AT EXISTING LEVEL (WITHOUT EXCAVATION) AVAILABLE STORAGE FROM 5.16-5.25m = 104m³

NATURAL GROUND LEVELS TO BE RETAINED WITHIN CENTRAL ARCHEOLOGICAL CORRIDOR

LOW POINT 'CONTROL'. EXCEEDENCE EVENT FLOW PATH TO ENTER CENTRAL ARCHEOLOGICAL STRIP.

NATURAL GROUND LEVELS TO BE RETAINED WITHIN SOUTHERN RPZ/POS

NEW LOW POINT 'CONTROL'. EXCEEDENCE EVENT FLOW PATH TO ENTER BASIN AT THIS POINT BEHIND FLOW CONTROL

NEW PUBLIC HIGHWAY ACCESS TO TIE-IN TO REALIGNMENT OF CHURCH ROAD. FINAL LEVELS MAY VARY TO SUIT WSCC APPROVED OFF-SITE SCHEME

NEW LOW POINT 'CONTROL'. EXCEEDENCE EVENT FLOW PATH TO ENTER BASIN AT THIS POINT BEHIND FLOW CONTROL.

OFF SITE SMALL PARCEL SITE

PROPOSED SURFACE PROFILE SUBJECT TO S278 HIGHWAY WORKS DESIGN.

EXISTING LEVELS ARE OF THE ORDER OF 5.8-6.2m AOD (ABOVE EXISTING HIGHWAY ELEVATION) THEREFORE EXCEEDANCE ROUTING WILL FOLLOW NATURAL TOPOGRAPHY.

OFF SITE HIGHWAY WORKS

EXISTING WATERCOURSE FRONTING A259 TO BE DIVERTED INTO NEW SURFACE WATER BASIN TO CATER FOR INCREASED IMPERMEABLE AREAS. ALL WORKS SUBJECT TO S278 HIGHWAY WORKS AGREEMENT & OWC.

Use Class A1

Use C

BCP

Proposed Drainage @ 1:500

1:500 @ A1
1:1000 @ A3

0 5 10 15 20 25 30 35 40 45 50 m

NOTES

A1

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Rev.	Amendments	Date
E	Basins revised site-wide	08/06/2023
D	Basins 1 and 5 revised	20/03/2023
C	Revised layout	14/02/2023
B	Revised layout	14/04/2022
A	Layout & levels updated	05/04/2022
-	Original issue	05/08/2021

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Drawing Status: PLANNING

Client: Vivid and Climping Homes

Project: Land adjacent to Church Lane, Climping, West Sussex

Drawing Title: Proposed Levels & Contours Sheet 2 of 4

Scale	Date	Drawn By	Checked By
1:500	Aug. '21	SPB	MJA

Drawing No.: D1886-006 Rev.: E

ARUN DISTRICT COUNCIL DM/21/1983

NATURAL GROUND LEVELS TO BE RETAINED WITHIN WESTERN POS

LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO ENTER WESTERN OPEN SPACE/LANDSCAPING.

LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO ENTER PERMEABLE PAVEMENT

LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO CENTRAL BASIN.

NATURAL GROUND LEVELS TO BE LOCALLY ADJUSTED TO FORM CONTROLLED LOW POINT

POND #1
TOP 5.500
BASE 4.000
1.500m DEEP

LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO ENTER PERMEABLE PAVEMENT

LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO ENTER WESTERN OPEN SPACE/LANDSCAPING.

NATURAL GROUND LEVELS TO BE RETAINED WITHIN WESTERN POS

LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO ENTER SOUTHERN OPEN SPACE/LANDSCAPING.

NATURAL GROUND LEVELS TO BE RETAINED WITHIN SOUTHERN RPZ/POS

LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO ENTER SOUTHERN OPEN SPACE/LANDSCAPING.

NATURAL GROUND LEVELS TO BE RETAINED WITHIN SOUTHERN RPZ/POS

Proposed Drainage @ 1:500

1:500 @ A1
1:1000 @ A3

0 5 10 15 20 25 30 35 40 45 50 m

NOTES

A1

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Rev.	Amendments	Date
E	Basins revised site-wide	08/06/2023
D	Basin revised	20/03/2023
C	Revised layout	14/02/2023
B	Revised layout	14/04/2022
A	Layout & levels updated	05/04/2022
-	Original Issue	05/08/2021

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Drawing Status: PLANNING

Client: Vivid and Climping Homes

Project: Land adjacent to Church Lane, Climping, West Sussex

Drawing Title: Proposed Levels & Contours Sheet 3 of 4

Scale	Date	Drawn By	Checked By
1:500	Aug. '21	SPB	MJA

Drawing No.: D1886-007

Rev.: E

ARUN DISTRICT COUNCIL CM/43/21/RES

A1

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Rev.	Amendments	Date
F	Basins revised site-wide	08/06/2023
E	Basin revised	20/03/2023
D	Northern ditch revised	01/03/2023
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Drawing Status	PLANNING
Client	Vivid and Climping Homes
Project	Land adjacent to Church Lane, Climping, West Sussex
Drawing Title	Proposed Levels & Contours Sheet 4 of 4

Scale	Date	Drawn By	Checked By
1:500	Aug. '21	SPB	MJA

Drawing No. D1886-008 Rev. F

Proposed Drainage @ 1:500

1:500 @ A1
1:1000 @ A3

0 5 10 15 20 25 30 35 40 45 50 m

NEW WATERCOURSE CARRIER TO NORTH BOUNDARY.

LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO ENTER WATERCOURSE.

NATURAL GROUND LEVELS TO BE RETAINED WITHIN WESTERN POS

LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO ENTER WESTERN OPEN SPACE/LANDSCAPING.

LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO ENTER PERMEABLE PAVEMENT

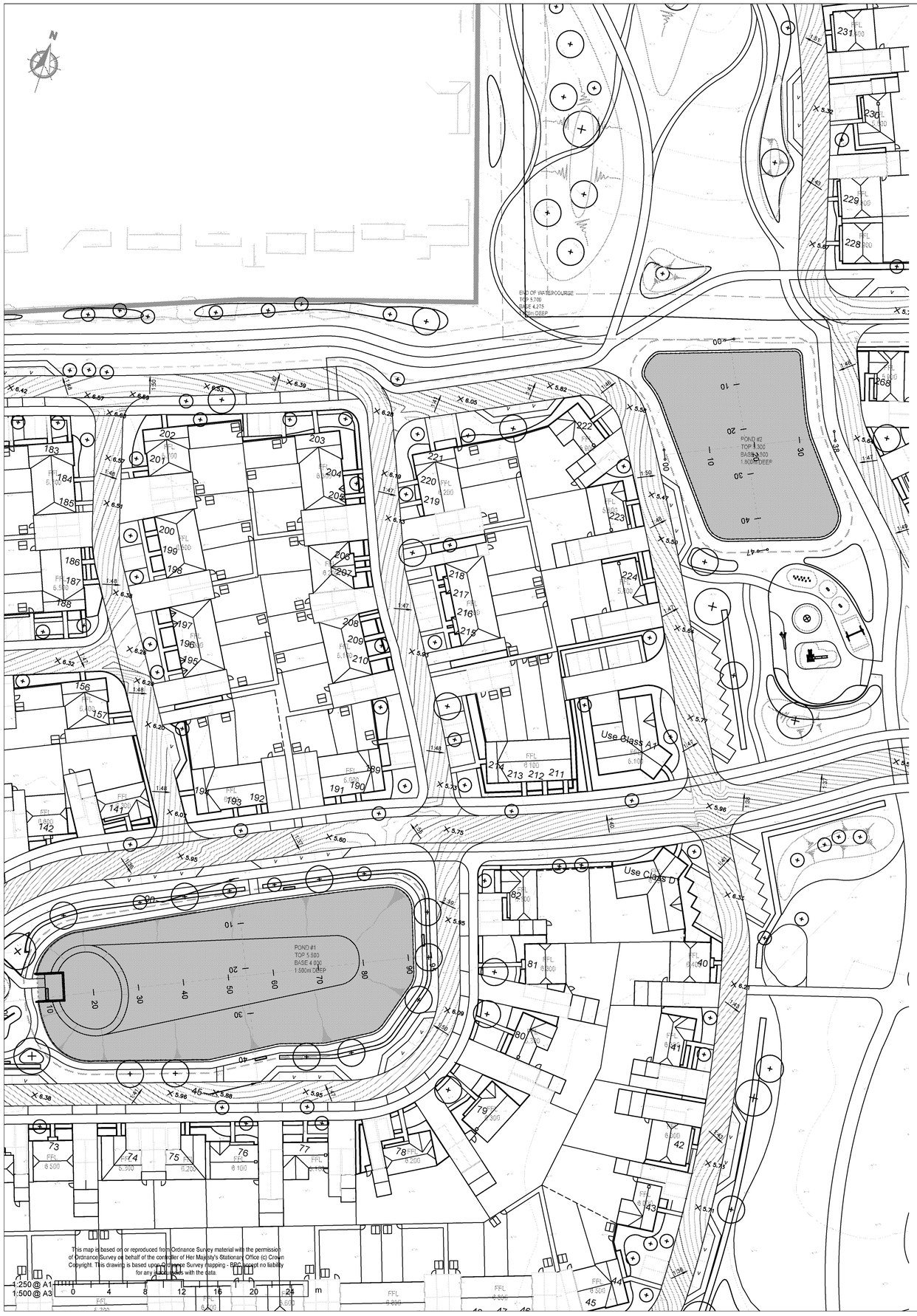
LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO ENTER PERMEABLE PAVEMENT

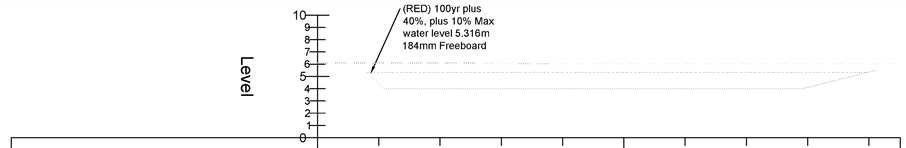
LOW POINT 'CONTROL' EXCEEDENCE EVENT FLOW PATH TO CENTRAL BASIN

NATURAL GROUND LEVELS TO BE LOCALLY ADJUSTED TO FORM CONTROLLED LOW POINT

POND #1
TOP 5.500
BASE 4.000
1.500m DEEP

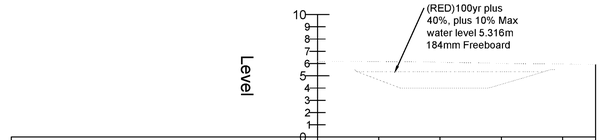
ARUN DISTRICT COUNCIL 03445219855





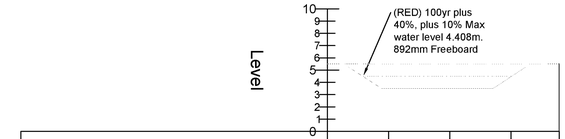
Existing Levels	6.086	6.089	6.062	6.048	6.061				
Proposed Levels	4.40	4.00	4.00	4.00	4.00	4.00	4.00	4.11	5.36
Level Difference	-1.686	-2.089	-2.062	-2.048	-2.061				

ALIGNMENT - BASIN 1 A-A - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



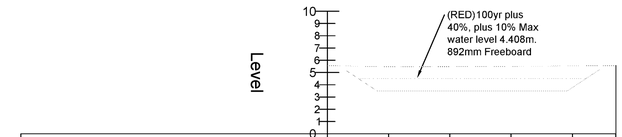
Existing Levels	6.167	6.106	6.020	5.952
Proposed Levels	4.67	4.00	4.30	
Level Difference	-1.501	-2.106	-1.716	

ALIGNMENT - BASIN 1 B-B - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



Existing Levels	5.483	5.490	5.489
Proposed Levels	3.50	3.50	4.47
Level Difference	-1.983	-1.990	-1.021

ALIGNMENT - BASIN 2 A-A - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



Existing Levels	5.477	5.485	5.503	5.535
Proposed Levels	3.50	3.50	3.50	3.77
Level Difference	-1.977	-1.985	-2.003	-1.766

ALIGNMENT - BASIN 2 B-B - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000

NOTES

A1

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10. All products specified shall be installed in strict accordance with the manufacturers recommendations and instructions. If there are discrepancies between that information and the details on any BPC drawings, the manufacturers instructions must be used.
11. All Earthworks in accordance with the Specification for Highway Works.

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Rev.	Amendments	Date
B	SW Basins updated	08/06/23
A	SW Basins updated	14/02/23
-	Original Issue	13/04/22

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www.brightplancivils.co.uk

Drawing Status: PLANNING

Client: Vivid & Climping Homes Ltd

Project: Land West of Church Lane, Climping, West Sussex

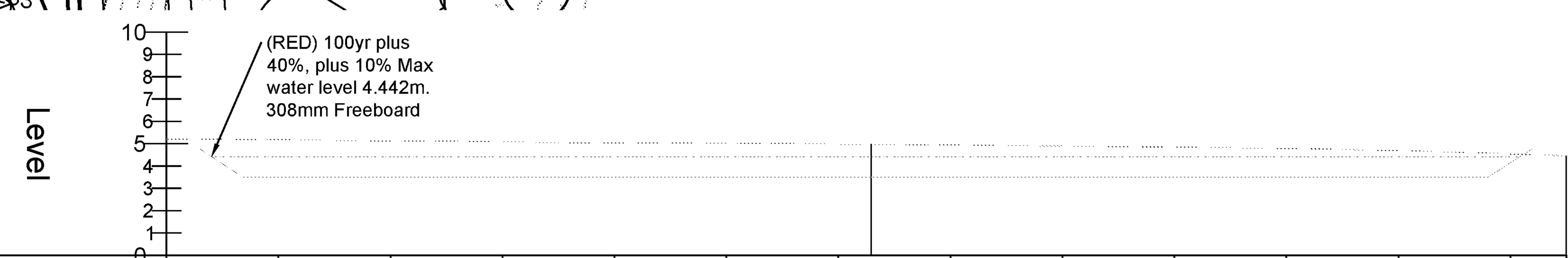
Drawing Title: Proposed Basin Cross Sections Sht 1

Scale	Date	Drawn By	Checked By
As Shown	Apr 22	MJA	MJA

Drawing No.: D1886-PL300 Rev.: B

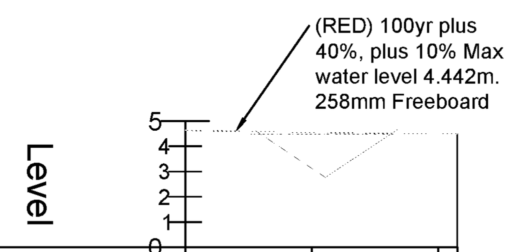
ARUN DISTRICT COUNCIL CM/453/RES





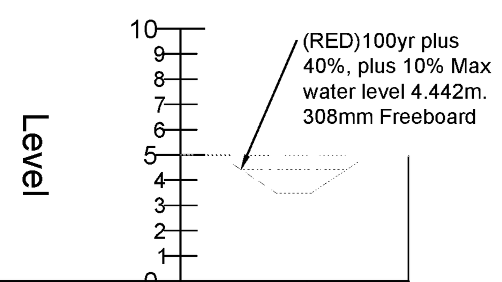
Existing Levels	5.182	5.118	5.089	5.030	5.021	4.976	4.940	4.891	4.842	4.784	4.682	4.542
Proposed Levels	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.497	4.141
Level Difference	-1.682	-1.618	-1.589	-1.530	-1.521	-1.476	-1.440	-1.391	-1.342	-1.284	-1.185	-0.401

ALIGNMENT - BASIN 6 A-A - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



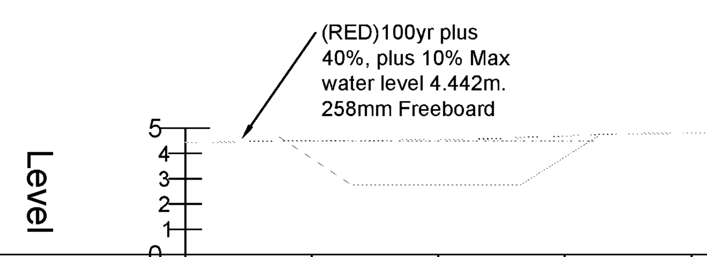
Existing Levels	4.553	4.488
Proposed Levels	3.13	
Level Difference	-1.425	

ALIGNMENT - BASIN 8 A-A - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



Existing Levels	4.961
Proposed Levels	3.500
Level Difference	-1.461

ALIGNMENT - BASIN 6 B-B - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



Existing Levels	4.506	4.547	4.693	4.801
Proposed Levels	3.80	2.83	3.86	
Level Difference	-0.709	-1.721	-0.838	

ALIGNMENT - BASIN 8 B-B - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000

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1:250@ A1
1:500@ A3
0 4 8 12 16 20 24 m

NOTES

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Rev.	Amendments	Date
B	SW Basins updated	08/06/23
A	SW Basins updated	14/02/23
-	Original Issue	13/04/22

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www.brightplancivils.co.uk

Drawing Status: PLANNING

Client: Vivid & Climping Homes Ltd

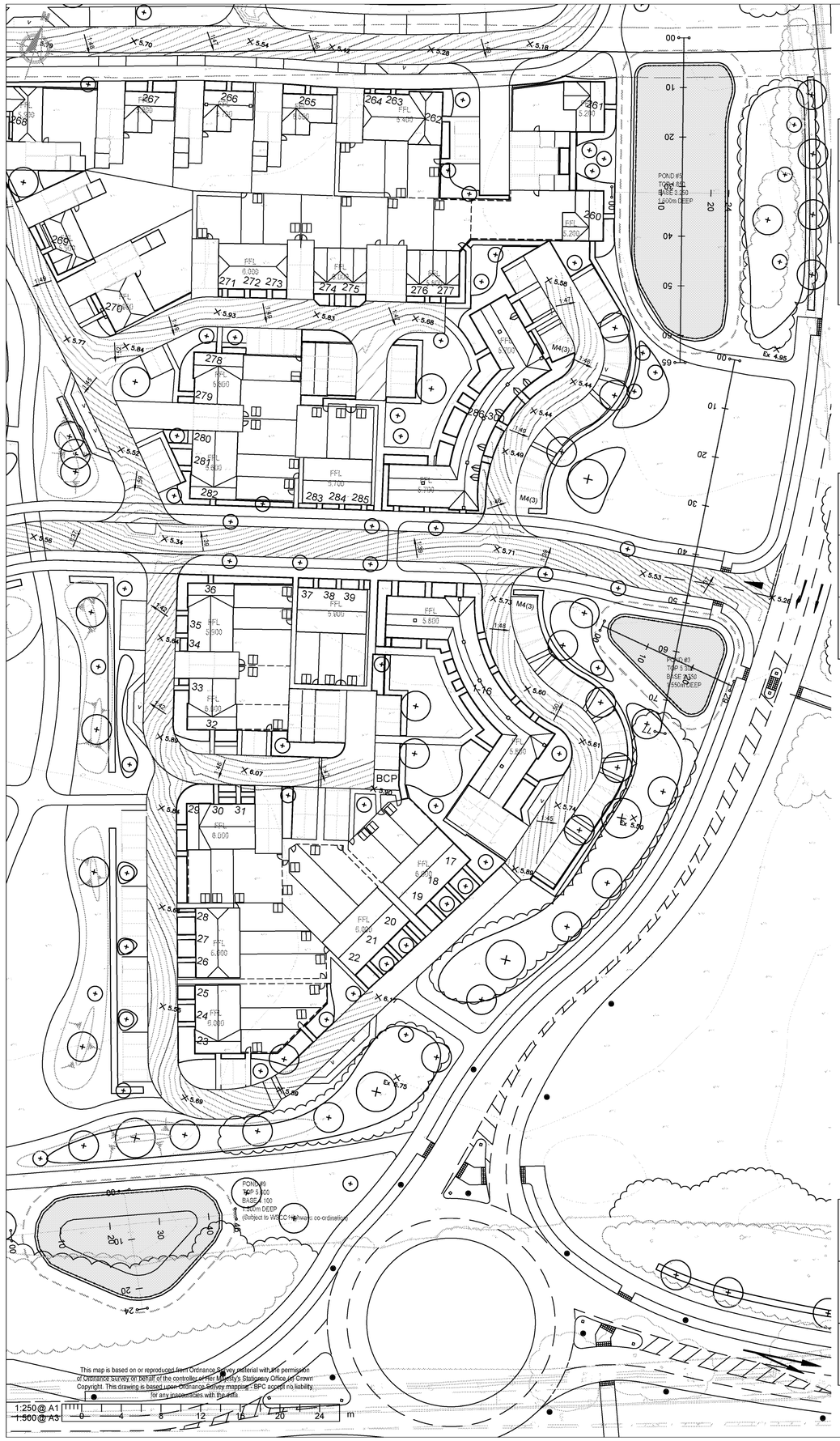
Project: Land West of Church Lane, Climping, West Sussex

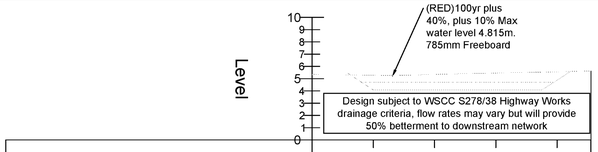
Drawing Title: Proposed Basin Cross Sections Sht 2

Scale	Date	Drawn By	Checked By
As Shown	Apr 22	MJA	MJA

Drawing No.	Rev.
D1886-PL301	B

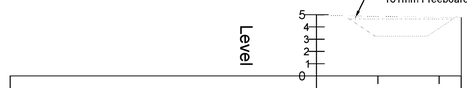
ARUN DISTRICT COUNCIL CM/48/21/RES





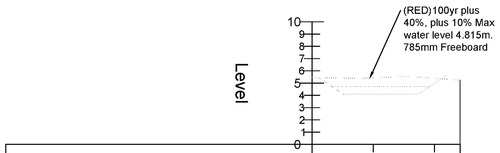
Existing Levels	5.273	5.347	5.464	5.564
Proposed Levels	4.100	4.100	4.100	4.876
Level Difference	-1.173	-1.247	-1.364	-0.688

ALIGNMENT - BASIN S278 A-A - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



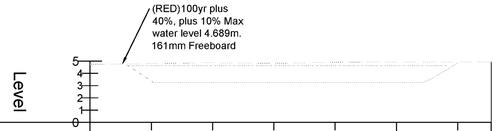
Existing Levels	4.865	4.790
Proposed Levels	3.25	3.89
Level Difference	-1.615	-0.904

ALIGNMENT - BASIN 5 A-A - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



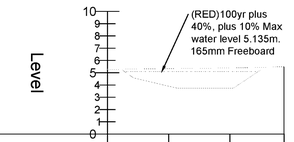
Existing Levels	5.426	5.392
Proposed Levels	4.100	4.982
Level Difference	-1.326	-0.409

ALIGNMENT - BASIN S278 B-B - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



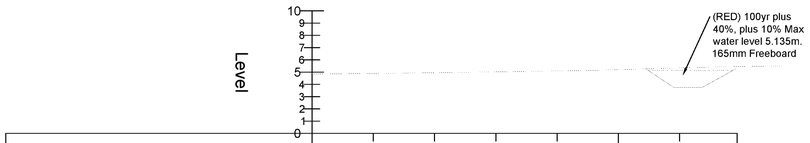
Existing Levels	4.789	4.860	4.828	4.900	4.932	4.934
Proposed Levels	3.37	3.25	3.25	3.25	3.25	4.84
Level Difference	-1.423	-1.610	-1.578	-1.650	-1.682	-0.092

ALIGNMENT - BASIN 5 B-B - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



Existing Levels	5.345	5.393
Proposed Levels	3.901	3.750
Level Difference	-1.444	-1.643

ALIGNMENT - BASIN 3 A-A - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000



Existing Levels	4.929	4.996	5.078	5.158	5.312	5.437
Proposed Levels						3.700
Level Difference						-1.737

ALIGNMENT - BASIN 3 B-B - LONGSECTION
SCALE: H 1:500,V 1:250. DATUM: 0.000

NOTES

A1

1. This drawing is to be read in conjunction with all other BPC drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
2. BPC accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.
3. Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.
4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain. The main contractor is responsible for checking all information on site prior to work commencing and taking due care whilst undertaking the works.
5. All dimensions to be checked on site. All details and dimensions relating to sub-contractors work must be checked and agreed between the sub-contractor or supplier and the general contractor.
6. The electronic information from this drawing can not be guaranteed as dimensionally drawn exact. Figured dimensions must be used for setting out and detailing. BPC logos and company information must be removed from copies if information is re-used.
7. The main contractor is responsible for the design of all temporary works, and is also responsible for the safe maintenance and stability of existing buildings at all times.
8. The main contractor is responsible for dealing with all occurrences of ground water during the construction period.
9. The contractor must comply with all current legislation relating to health & safety.
10. All products specified shall be installed in strict accordance with the manufacturers recommendations and instructions. If there are discrepancies between that information and the details on any BPC drawings, the manufacturers instructions must be used.
11. All Earthworks in accordance with the Specification for Highway Works.

PLANNING

NOT FOR CONSTRUCTION

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Rev.	Amendments	Date
B	SW Basins updated	08/06/23
A	SW Basins updated	14/02/23
-	Original Issue	13/04/22

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Transport Planning and Infrastructure Design Consultants
2 West Barn, Norton Lane, Chichester, West Sussex PO20 3AY
tel: 01243 210418 Fax: 01483 861682
www.brightplancivils.co.uk

Drawing Status: PLANNING

Client: Vivid & Climping Homes Ltd

Project: Land West of Church Lane, Climping, West Sussex

Drawing Title: Proposed Basin Cross Sections Sht 3

Scale	Date	Drawn By	Checked By
As Shown	Apr 22	MJA	MJA

Drawing No.: D1886-PL302

Rev.: B

ARUN DISTRICT COUNCIL CM/45D/RES

APPENDICES

ARUN DISTRICT COUNCIL CM/48/21/RES

Appendix A Architectural Development Proposals

ARUN DISTRICT COUNCIL CM/48/21/RES



Please Note:

This drawing must not be scaled, dimensions to be checked on site and any discrepancies are to be highlighted to the Architect prior to construction.

Prior to the commencement of any works, the Contractor is to check and / or determine all construction details including checking existing site levels and dimensions.

This drawing is to be read in conjunction with all other project drawings, construction notes and / or project specifications including those by other project consultants and specialists. All discrepancies should be reported immediately.

Design subject to detail development / approval.
Measurements and accommodation schedules subject to amendments following coordinated input by others.
Costings cannot be finalised until approval /confirmation by relevant authorities and Client.

Accommodation Schedule:

31No. 1 Bed Units
82No. 2 Bed Units
72No. 3 Bed Units
115No. 4 Bed Units

Total: 300 Units

Please note:
All landscaping shown is indicative. Refer to Landscape Architect's drawings for landscape design.

Rev.	Description	DATE	DB / CB
Z	Updated to landscape/drainage amends	09.06.23	DY/HJE
Y	Note added	18.11.22	VP/HJE
X	Planting to private spaces removed at Case Officer's Request	18.11.22	VP/HJE
W	Amended to case officer's comments	11.11.22	VP/HJE
V	Amended to case officer's comments	30.09.22	VP/HJE
U	Amended to case officer's comments	08.09.22	VP/HJE
T	Amended to client's comments	13.06.22	VP/HJE
S	Amended to client's comments	09.06.22	VP/HJE
R	Amended to client's comments	27.05.22	VP/HJE
Q	Amended to client's comments	11.05.22	VP/HJE
P	Roofscapes amended	26.04.22	VP/HJE
N	Amended to case officer's comments	05.04.22	VP/HJE
M	Amended to client's comments	18.03.22	DY/VP

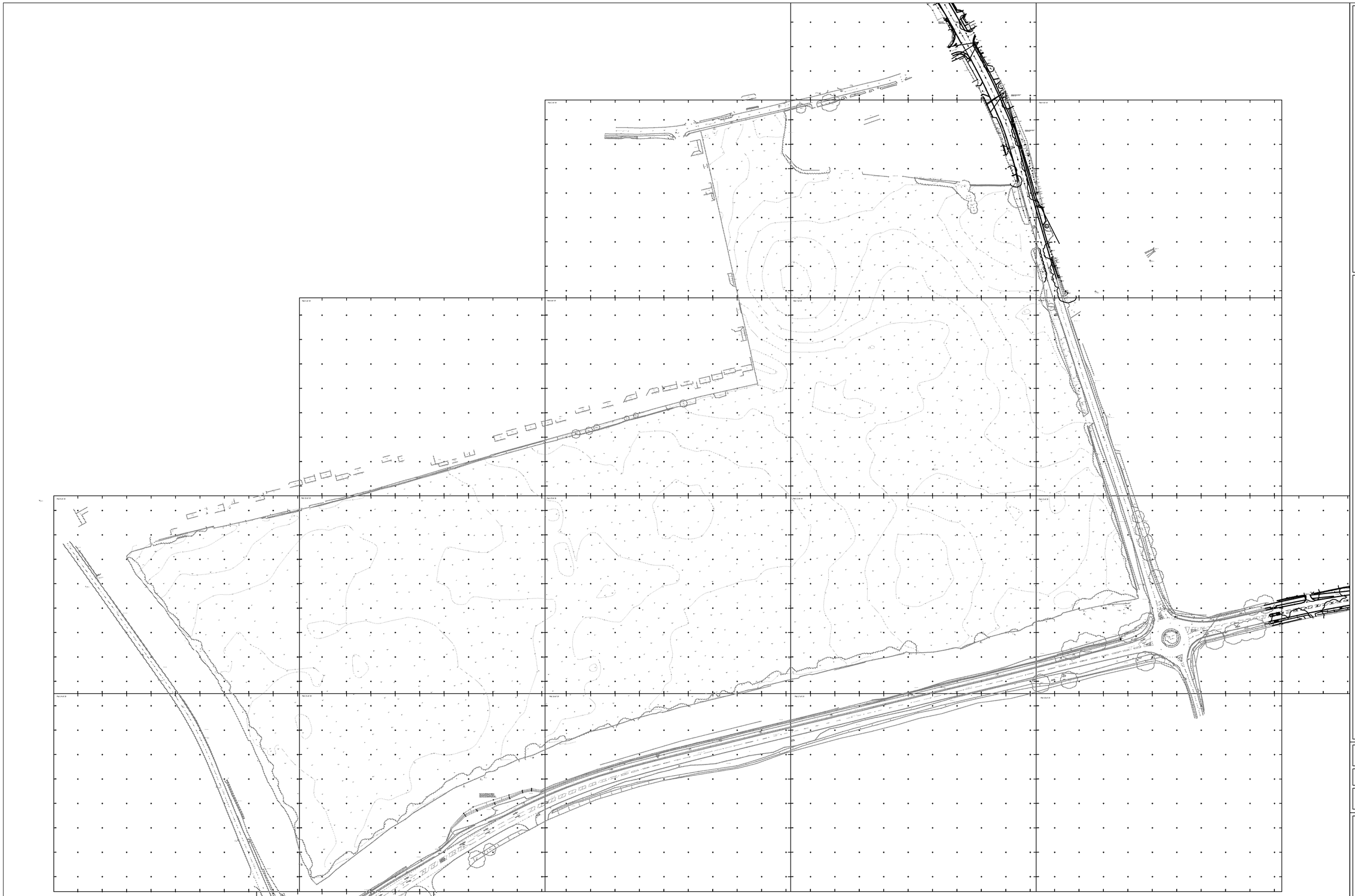
Date	Oct '20
Drawn By/Checked By	VP / HJE
Scale	1:1250 @ A1
Revision	**Z**
Project	**Land at Climping Littlehampton**
Title	**Site Plan**
Dwg#	**20.050.02**
Status	**Planning**

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Fareham, Hampshire
PO16 7JH
01329 283 225
email@hgp-architects.co.uk
www.hgp-architects.co.uk
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Duncan Road, Park Gate
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0330 333 7365
info@foremanhomes.co.uk

Appendix B Topographic Survey

ARUN DISTRICT COUNCIL CM/48/21/RES



NOTES:

Drainage:
Inspection Covers are lifted where possible and all drainage invert information has been obtained through visual inspection only, with no entry into manholes. Therefore the complete accuracy cannot be guaranteed. Where drainage is of critical importance we suggest the services of a specialist drainage expert be used.

Trees:
Every effort has been made to identify and detail all trees on site but where trees are of critical importance we suggest the use of a specialist such as an arborist. Tree spread and heights are indicative.

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Survey notes:
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LEGEND

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ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PNS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SIB
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HRM	WALNUT	WNT
LABURNUM	LRM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Boll Size / No of Bolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BO
BRITISH TELECOM BOX	BTB
BRITISH TELECOM IC	BTIC
BUS STOP	BS
CABLE TELEVISION BOX	CATB
CABLE TELEVISION IC	CATV
EARTHING ROD	ER
ELECTRICITY CABLE PIT	ELCP
ELECTRICITY CONTROL BOX	ECB
ELECTRICITY POLE	EP
FIRE HYDRANT	FH
INSPECTION COVER	IC
LAMP POST	LP
LETTER BOX	LB
LITTER BIN	BIN
KERB OUTLET	KO
NAME PLATE	NP
NOTICE BOARD	NB
POST	P
RAIN WATER PIPE	RWP
RAISED FLOWERBED	RFB
ROAD SIGN	RS
RODDING EYE	RE
SERVICE MARKER POST	SMP
SOIL VENT PIPE	SVP
STOP COCK	SC
STOP VALVE	SV
TELEGRAPH POLE	TP
TELEPHONE CALL BOX	TCB
TRAFFIC SIGNAL	TS
TRAFFIC SIGNALS IC	TSIC
WATER METER	WM
WATER TAP	Tap

Level Datum:
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Grid:
Grid is related to OSGB15 derived from the GPS network

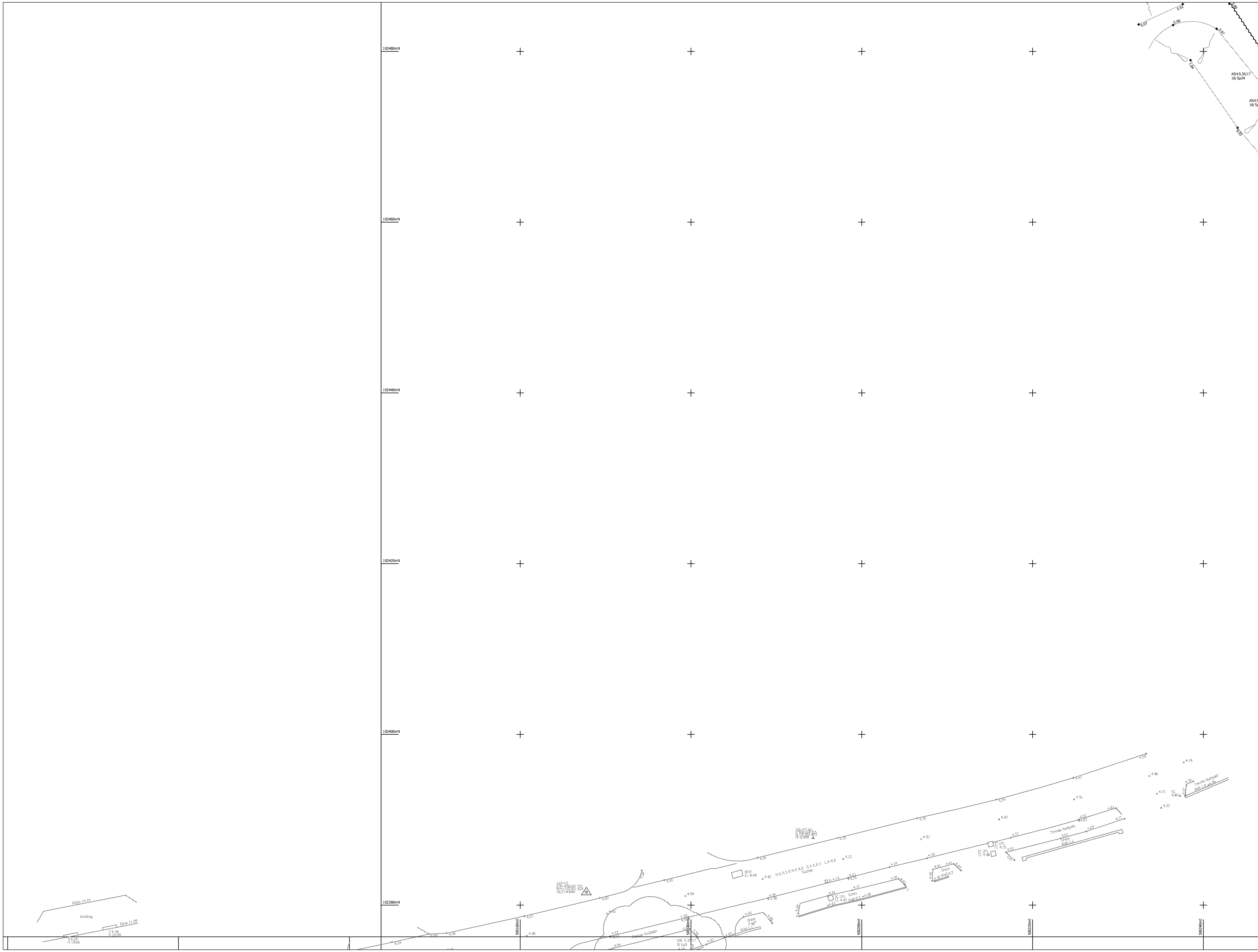
Northpoint:
The Northpoint position shown on this drawing has been located as accurately as possible, but is only indicative of true North

ENCOMPASS SURVEYS

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Park Gate, Southampton
Hampshire SO31 7GA

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Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Green Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:1500@A1
Drawing ref:	ENC/160719/5GG8-20	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	



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HORNBEAM	HRM	WALNUT	WNT
LABURNUM	LRM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Boll Size / No of Bolls
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COVER LEVEL	CL
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FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

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BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
KERB OUTLET	KO	WATER TAP	Tap
NAME PLATE	NP		

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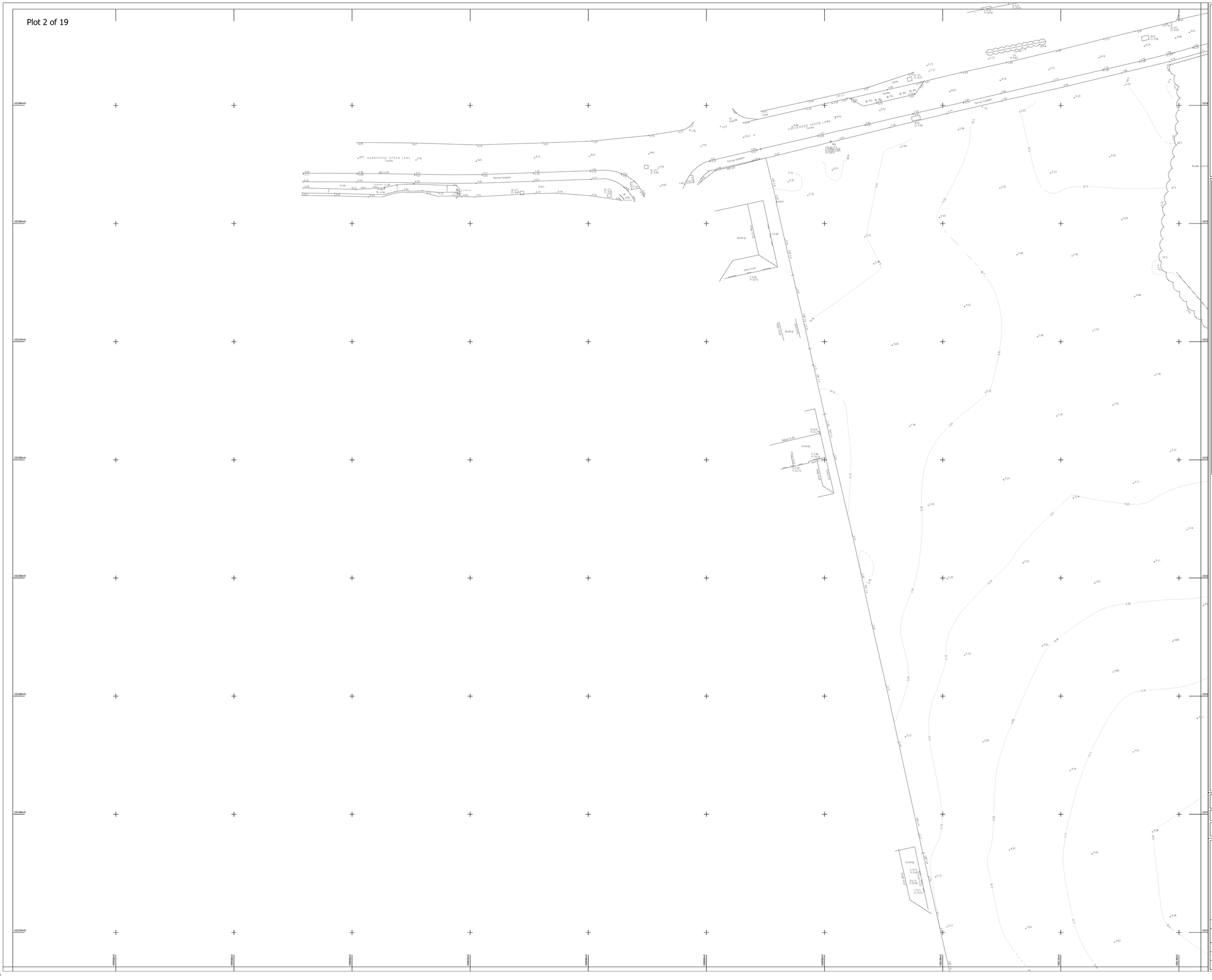
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Client:	Crayfern/ Foreman/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Green Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A1
Drawing ref:	ENC/160719/5GG8-1	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

Plot 2 of 19



NOTES:

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		CONIFERS	CDF

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MINI OUTLET	MO	WATER TAP	Tap
NAME PLATE	NP		

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Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/SGG8-2	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

ARUN DISTRICT COUNCIL CM/64/21/RES

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ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PRS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
WHITEBEAM	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HBM	WALNUT	WNT
LABURNUM	LBM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		CONIFER	CDF

TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
POOL WATER	PW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	ROODING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LETTER BIN	BIN	WATER METER	WM
KERB OUTLET	KO	WATER TAP	Tap
NAME PLATE	NP		

Level Datum:
Levels are related to OSGB15 derived from the GPS network

Grid:
Grid is related to OSGB15 derived from the GPS network

Northpoint:
The Northpoint position shown on this drawing has been located as accurately as possible, but is only indicative of true North

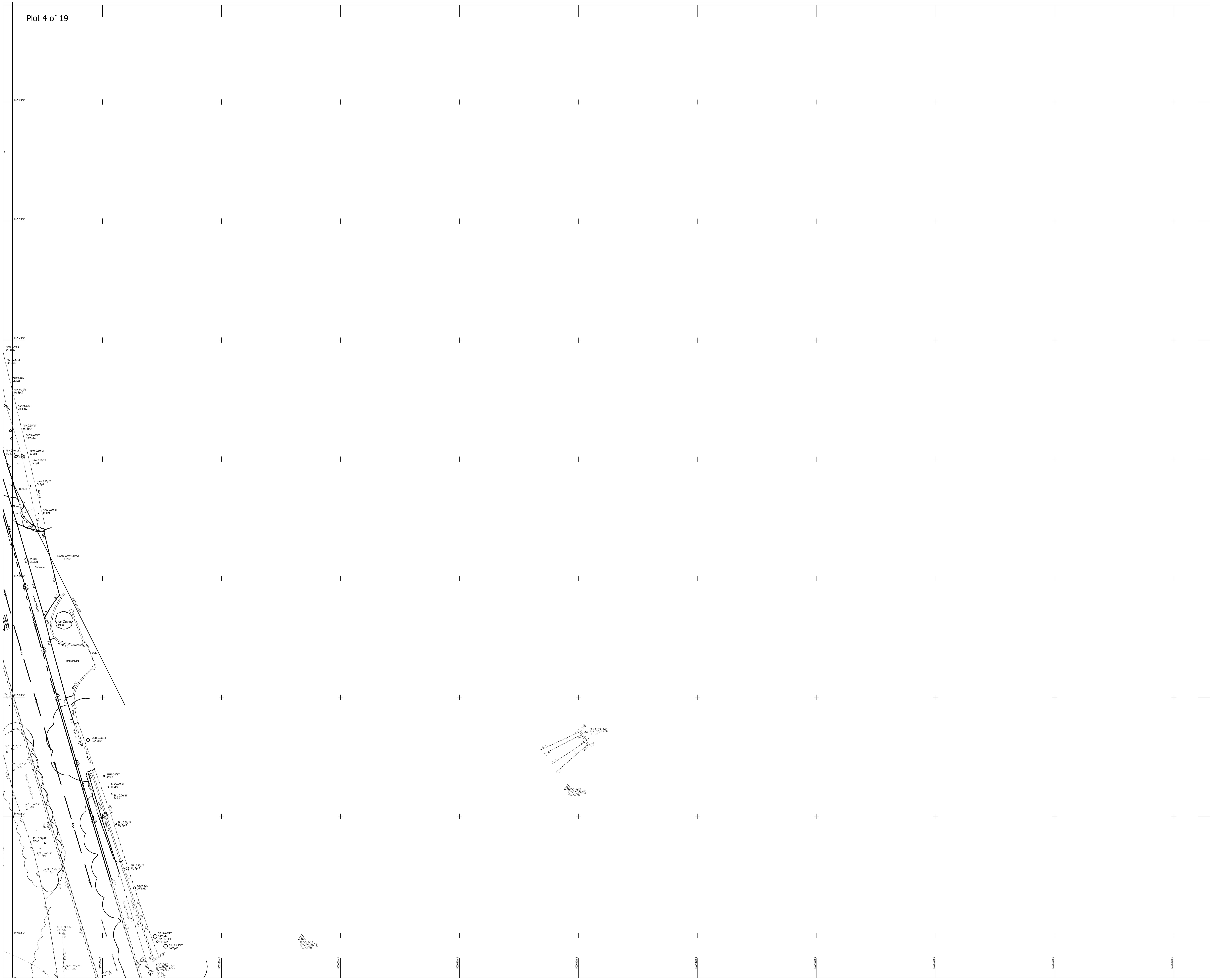
ENCOMPASS SURVEYS

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Hampshire SO31 7GA

Tel: 023 80692002 Email: info@encompass-surveys.co.uk
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Client:	Crayfern/ Foreman Homes/ Vivid
Survey Location:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX
Survey type:	Topographical
Scale:	1:200@A0
Drawing ref:	ENC/160719/SGGB-3
Date:	August 2019
Drawn/QA:	C.H/K.G
Revision:	

ARUN DISTRICT COUNCIL CM/43/21/RES



ARUN DISTRICT COUNCIL CM/48/21/RES

NOTES:

Drainage:
Inspection Covers are lifted where possible and all drainage invert information has been obtained through visual inspection only, with no entry into manholes. Therefore the complete accuracy cannot be guaranteed. Where drainage is of critical importance we suggest the services of a specialist drainage expert be used.

Trees:
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GPS:
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LEGEND

TREE SPECIES INFORMATION

ALDER	ALD	LOCUST	LOC
ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PNS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SIB
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HRM	WALNUT	WNT
LABURNUM	LRM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Boll Size / No of Bolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BO	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
KERB OUTLET	KO	WATER TAP	Tap
NAME PLATE	NP		

Level Datum:
Levels are related to OSGB15 derived from the GPS network

Grid:
Grid is related to OSGB15 derived from the GPS network

Northpoint:
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ENCOMPASS SURVEYS

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Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Lane Climpng, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/5GG8-4	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	Rev A

Plot 5 of 19

NOTES:

Drainage:
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LEGEND

TREE SPECIES INFORMATION

ALDER	ALD	LOCUST	LOC
ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PRS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HBM	WALNUT	WNT
LABURNUM	LRM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Bolt Scar / No of Bolts
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CRB
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PGF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEPOINT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	Retwall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BO	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE MIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
KERB OUTLET	KO	WATER TAP	Twp
NAME PLATE	NP		

Level Datum:
Levels are related to OSGB15 derived from the GPS network

Grid:
Grid is related to OSGB15 derived from the GPS network

Northpoint:
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ENCOMPASS SURVEYS

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Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/SGG8-5	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

ARUNDISTRICT COUNCIL CM/A21/RES

Plot 6 of 19

NOTES:

Drainage:
Inspection Covers are lifted where possible and all drainage invert information has been obtained through visual inspection only, with no entry into manholes. Therefore the complete accuracy cannot be guaranteed. Where drainage is of critical importance we suggest the services of a specialist drainage expert be used.

Trees:
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GPS:
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LEGEND

TREE SPECIES INFORMATION

ALDER	ALD	LOCUST	LOC
ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PRS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HBM	WALNUT	WNT
LABURNUM	LBM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		CONIFER	CDF

TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rots
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVIORS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LETTER BIN	BIN	WATER METER	WM
MINI OUTLET	MO	WATER TAP	Tap
NAME PLATE	NP		

Level Datum:
Levels are related to OSGB15 derived from the GPS network

Grid:
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Northpoint:
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Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/SGGB-6	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

Plot 7 of 19

NOTES:

Drainage:
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LEGEND

TREE SPECIES INFORMATION

ALDER	ALD	LOCUST	LOC
ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
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CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PRS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
WHITEBEAM	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HRM	WALNUT	WNT
LABURNUM	LBM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF	BASEMENT LEVEL	BTL
CORRUGATED IRON FENCE	CIF	BED LEVEL	BL
CLOSE BOARD FENCE	CBF	COVER LEVEL	CL
CHAIN LINK FENCE	CLF	DAMP PROOF COURSE	DPC
CHESTNUT PALING	CPF	FLOOR LEVEL	FL
CRASH BARRIER	CBR	INVERT LEVEL	IL
HANDRAIL	HDL	OUTFALL LEVEL	OL
IRON RAILINGS	IRF	THRESHOLD LEVEL	THL
LARCH LAP FENCE	LLF	POLE WATER	FW
MISCELLANEOUS FENCE	MSF	SURFACE WATER	SW
PALISADE FENCE	PSF	UNABLE TO LIFT	UTL
PICKET FENCE	PKF	WATER LEVEL	WL
POST AND CHAIN FENCE	PCF		
POST AND RAIL FENCE	PRF		
POST AND WIRE FENCE	PWF		
STOCK WIRE FENCE	SWF		
TRELLIS FENCING	TLF		

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
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ELECTRICITY POLE	EP	STOP VALVE	SV
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LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
MINI OUTLET	MO	WATER TAP	Tap
NAME PLATE	NP		

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Grid:
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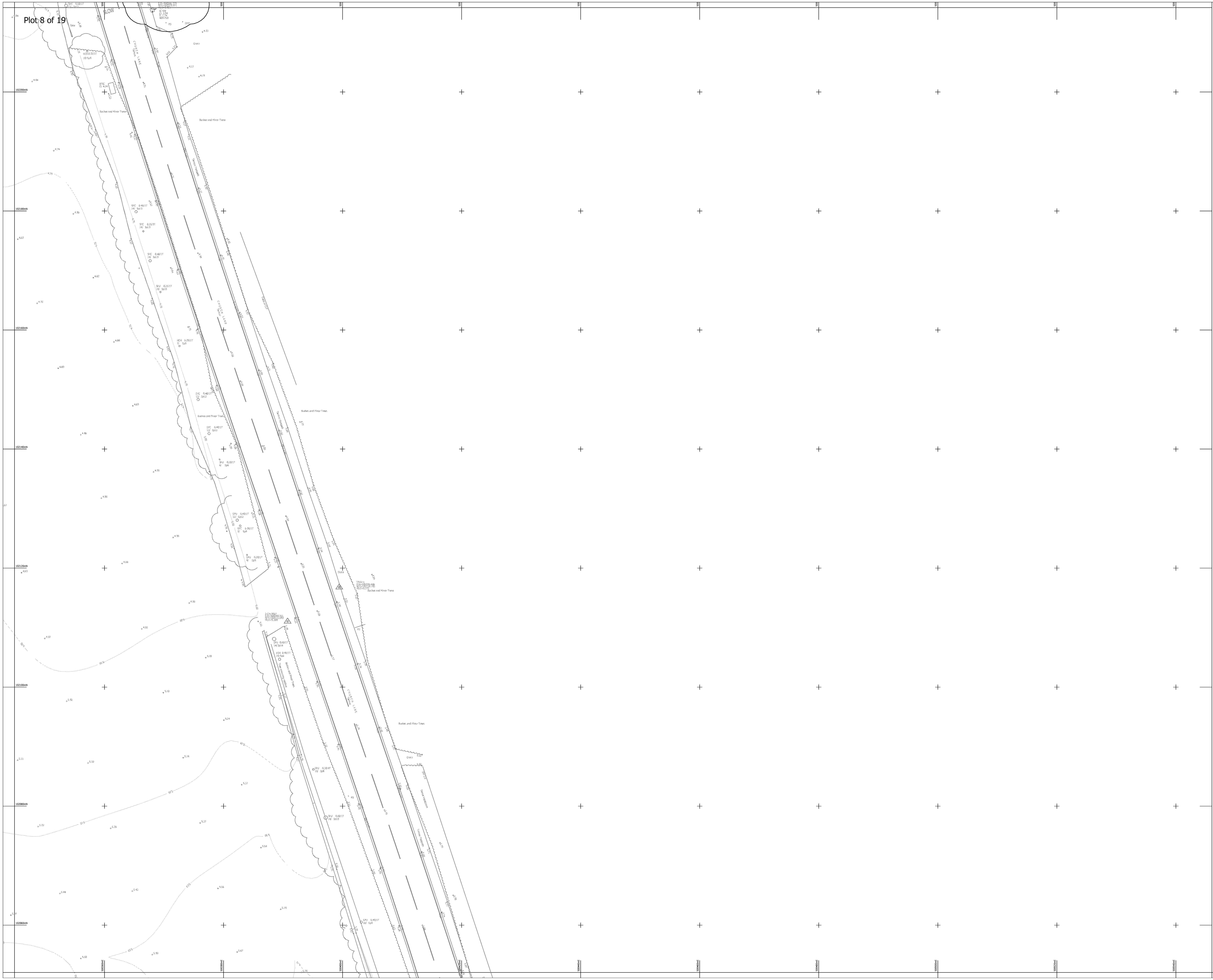
ENCOMPASS SURVEYS

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Tel: 023 80603302 Email: info@encompass-surveys.co.uk
Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/SGQB-7	Date:	August 2019
Drawn/QA:	CJH/K.G	Revision:	

APLAN DISTRICT COUNCIL CM4921/RES



NOTES:

Drainage:
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LEGEND

TREE SPECIES INFORMATION

ALDER	ALD	LOCUST	LOC
ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PNS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SIB
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HRM	WALNUT	WNT
LABURNUM	LRM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Boll Size / No of Bolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BO	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
KERB OUTLET	KO	WATER TAP	Tap
NAME PLATE	NP		

Level Datum:
Levels are related to OSGB15 derived from the GPS network

Grid:
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Northpoint:
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ENCOMPASS SURVEYS

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Tel: 023 80692002 Email: info@encompass-surveys.co.uk
Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Lane Climpng, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/5GG8-8	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	Rev A

ARUN DISTRICT COUNCIL CM/48/21/RES

Plot 9 of 19

NOTES:

Drainage:
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LEGEND

TREE SPECIES INFORMATION

ALDER	ALD	LOCUST	LOC
ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PNS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HBM	WALNUT	WNT
LABURNUM	LBM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		CONIFER	CNF

TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
POOL WATER	PW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
MINI OUTLET	MO	WATER TAP	Tap
NAME PLATE	NP		

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Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/SGQB-9	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

ARUN DISTRICT COUNCIL CM/64/21/RES

Plot 10 of 19

NOTES:

Drainage:
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LEGEND

TREE SPECIES INFORMATION

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ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PRS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HBM	WALNUT	WNT
LABURNUM	LBM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		CONIFER	CNF

TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
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CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
POOL WATER	PW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVIORS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
MINI OUTLET	MO	WATER TAP	Tap
NAME PLATE	NP		

Level Datum:
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Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/SGG8-10	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

ARUN DISTRICT COUNCIL CM/64/21/RES

Plot 11 of 19

NOTES:

Drainage:
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LEGEND

TREE SPECIES INFORMATION

ALDER	ALD	LOCUST	LOC
ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PRS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HRM	WALNUT	WNT
LABURNUM	LBM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
POOL WATER	PW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
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LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
MISB OUTLET	MO	WATER TAP	Tap
NAME PLATE	NP		

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Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey LOCATION:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/SGG8-11	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

ARUN DISTRICT COUNCIL CM/64/21/RES

Plot 12 of 19

NOTES:

Drainage:
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LEGEND

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ELM	ELM	PRUNUS	PRS
FIR	FIR	RHODODENDRONS	RDN
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HAWTHORN	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HBM	WALNUT	WNT
LABURNUM	LBM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
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TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

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PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
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LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
POOL WATER	PW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
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Client:	Crayfern/ Foreman Homes/ Vivid
Survey Location:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX
Survey type:	Topographical
Scale:	1:200@A0
Drawing ref:	ENC/160719/SGG8-12
Date:	August 2019
Drawn/QA:	C.H/K.G
Revision:	

ARUN DISTRICT COUNCIL CM/64/21/RES

Plot 13 of 19

NOTES:

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FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HBM	WALNUT	WNT
LABURNUM	LBM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF	BASEMENT LEVEL	BTL
CORRUGATED IRON FENCE	CIF	BED LEVEL	BL
CLOSE BOARD FENCE	CBF	COVER LEVEL	CL
CHAIN LINK FENCE	CLF	DAMP PROOF COURSE	DPC
CHESTNUT PALING	CPF	FLOOR LEVEL	FL
CRASH BARRIER	CBR	INVERT LEVEL	IL
HANDRAIL	HDL	OUTFALL LEVEL	OL
IRON RAILINGS	IRF	THRESHOLD LEVEL	THL
LARCH LAP FENCE	LLF	FOUL WATER	FW
MISCELLANEOUS FENCE	MSF	SURFACE WATER	SW
PALISADE FENCE	PSF	UNABLE TO LIFT	UTL
PICKET FENCE	PKF	WATER LEVEL	WL
POST AND CHAIN FENCE	PCF		
POST AND RAIL FENCE	PRF		
POST AND WIRE FENCE	PWF		
STOCK WIRE FENCE	SWF		
TRELLIS FENCING	TLF		

LEVEL INFORMATION

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
MINE OUTLET	MO	WATER TAP	Tap
NAME PLATE	NP		

Level Datum:
Levels are related to OSGB15 derived from the GPS network

Grid:
Grid is related to OSGB15 derived from the GPS network

Northpoint:
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ENCOMPASS SURVEYS

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Hampshire SO31 7GA

Tel: 023 80692002 Email: info@encompass-surveys.co.uk
Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey LOCATION:	Land south of Church Lane and Horsemere Lane Climpng, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/SGS8-13	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

ARUN DISTRICT COUNCIL CM/64/21/RES

Plot 14 of 19

NOTES:

Drainage:
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Copyright:
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LEGEND

TREE SPECIES INFORMATION

ALDER	ALD	LOCUST	LOC
ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PRS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SBI
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LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
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HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT. LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
POLE WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
MINI OUTLET	MO	WATER TAP	Tap
NAME PLATE	NP		

Level Datum:
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ENCOMPASS SURVEYS

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Tel: 023 80692002 Email: info@encompass-surveys.co.uk
Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid
Survey Location:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX
Survey type: Topographical	Scale: 1:200@A0
Drawing ref: ENC/160719/SGG8-14	Date: August 2019
Drawn/QA: C.H/K.G	Revision:

ARUN DISTRICT COUNCIL CM/43/21/RES

Plot 15 of 19

NOTES:

Drainage:
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Please Note: The area covering the ditch is densely populated with brambles and other vegetation restricting access to the ditch itself. The detail we have shown has been obtained by us cutting channels into the vegetation and surveying what we can see. We therefore cannot confirm whether there are any incoming pipes or other significant features. If the ditch is required to be cleared we would like to be informed and recommend suitable vegetation clearance works are undertaken beforehand.

LEGEND

TREE SPECIES INFORMATION

ALDER	ALD	LOCUST	LOC
ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PRS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HBM	WALNUT	WNT
LABURNUM	LBM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
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PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
POOL WATER	PW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LETTER BIN	BIN	WATER METER	WM
KERB OUTLET	KO	WATER TAP	Twp
NAME PLATE	NP		

Level Datum:
Levels are related to OSGB15 derived from the GPS network

Grid:
Grid is related to OSGB15 derived from the GPS network

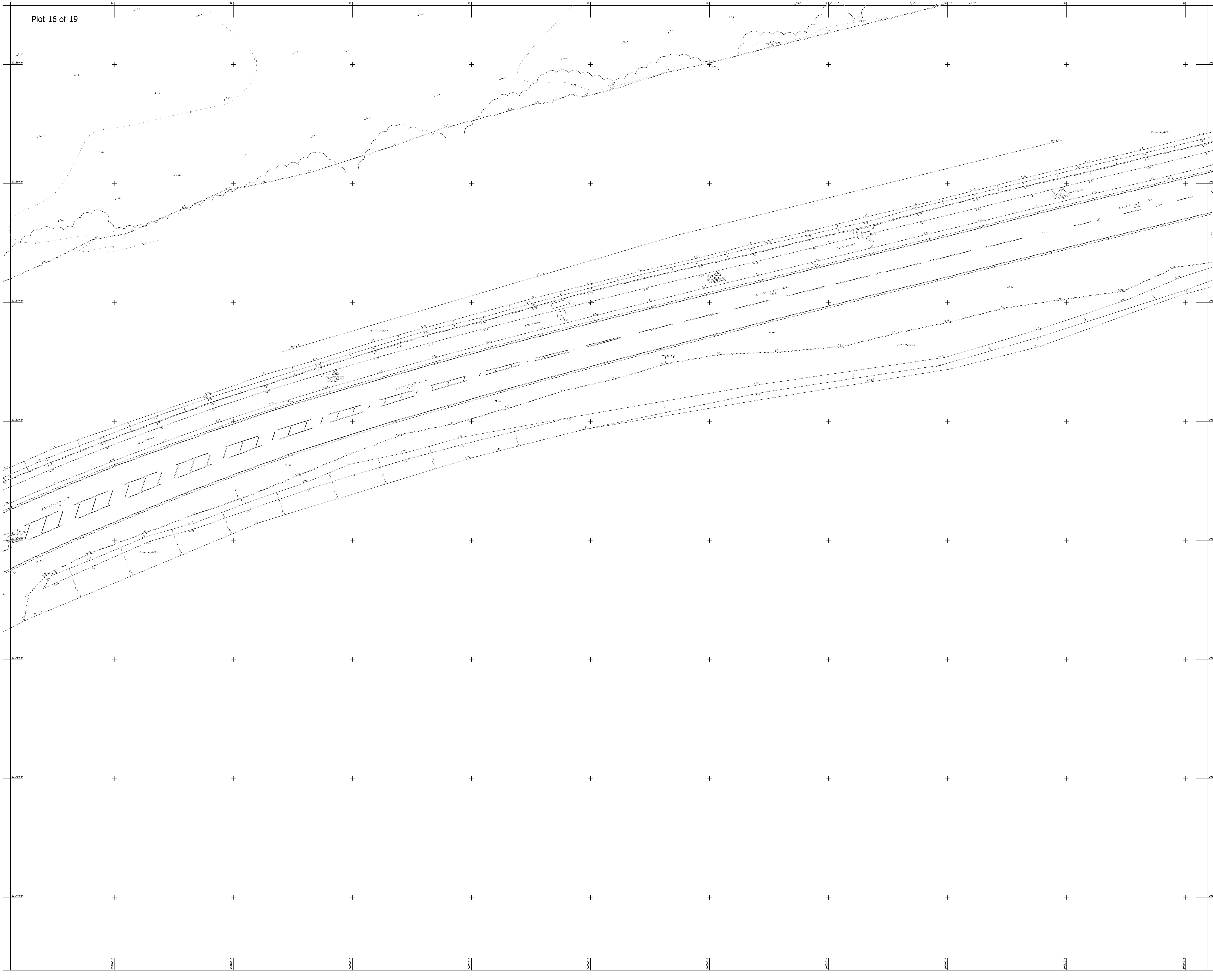
Northpoint:
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Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsmere Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/SGG8-15	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	



NOTES:

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LEGEND

TREE SPECIES INFORMATION

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ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PNS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SIB
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HRM	WALNUT	WNT
LABURNUM	LRM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Boll Size / No of Bolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
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CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BO	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
KERB OUTLET	KO	WATER TAP	Tap
NAME PLATE	NP		

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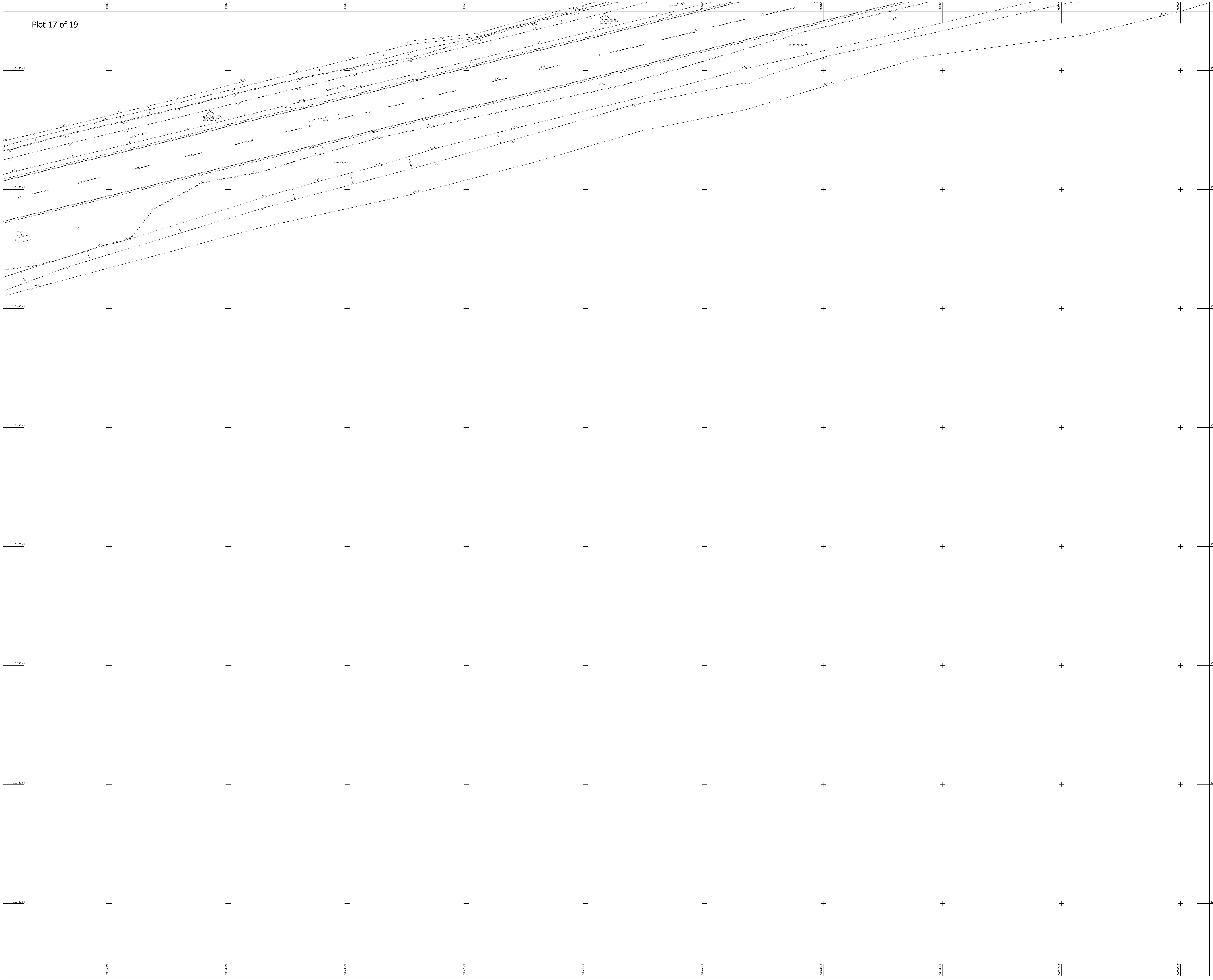
ENCOMPASS SURVEYS

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Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Lane Climpng, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/5GG8-16	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

Plot 17 of 19



NOTES:

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LEGEND

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TREE ANNOTATIONS: Tree Species / Tree Boll Size / No of Bolls
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INVERT LEVEL	IL
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THRESHOLD LEVEL	THL
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
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FEATURE INFORMATION

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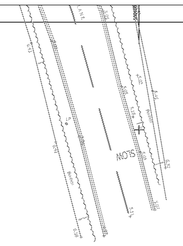
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Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/5GG8-17	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

ARUN DISTRICT COUNCIL CM/48/21/RES

Plot 18 of 19



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Survey notes:
Survey specification is linked to the original purpose of the survey commissioned at source and is to be used for this purpose only. Survey is accurate within limitations of site conditions at the time of survey. In areas difficult to survey due to restricted access, lines of sight or dense vegetation, critical dimensions and positions should be verified following suitable clearance.
Survey detail obtained and shown is relative to the plotting scale.

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LEGEND

TREE SPECIES INFORMATION

ALDER	ALD	LOCUST	LOC
ASH	ASH	LONDON PLANE	LPN
ASPEN	ASP	MAGNOLIA	MAG
BEECH	BCH	MAPLE	MPL
CEDAR	CED	OAK	OAK
CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PRS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SBI
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HBM	WALNUT	WNT
LABURNUM	LBM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		CONIFER	CDF

TREE ANNOTATIONS: Tree Species / Tree Roll Size / No of Rolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT. LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
POOL WATER	PW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVIORS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BD	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
MINK OUTLET	MO	WATER TAP	Tap
NAME PLATE	NP		

Level Datum:
Levels are related to OSGB15 derived from the GPS network

Grid:
Grid is related to OSGB15 derived from the GPS network

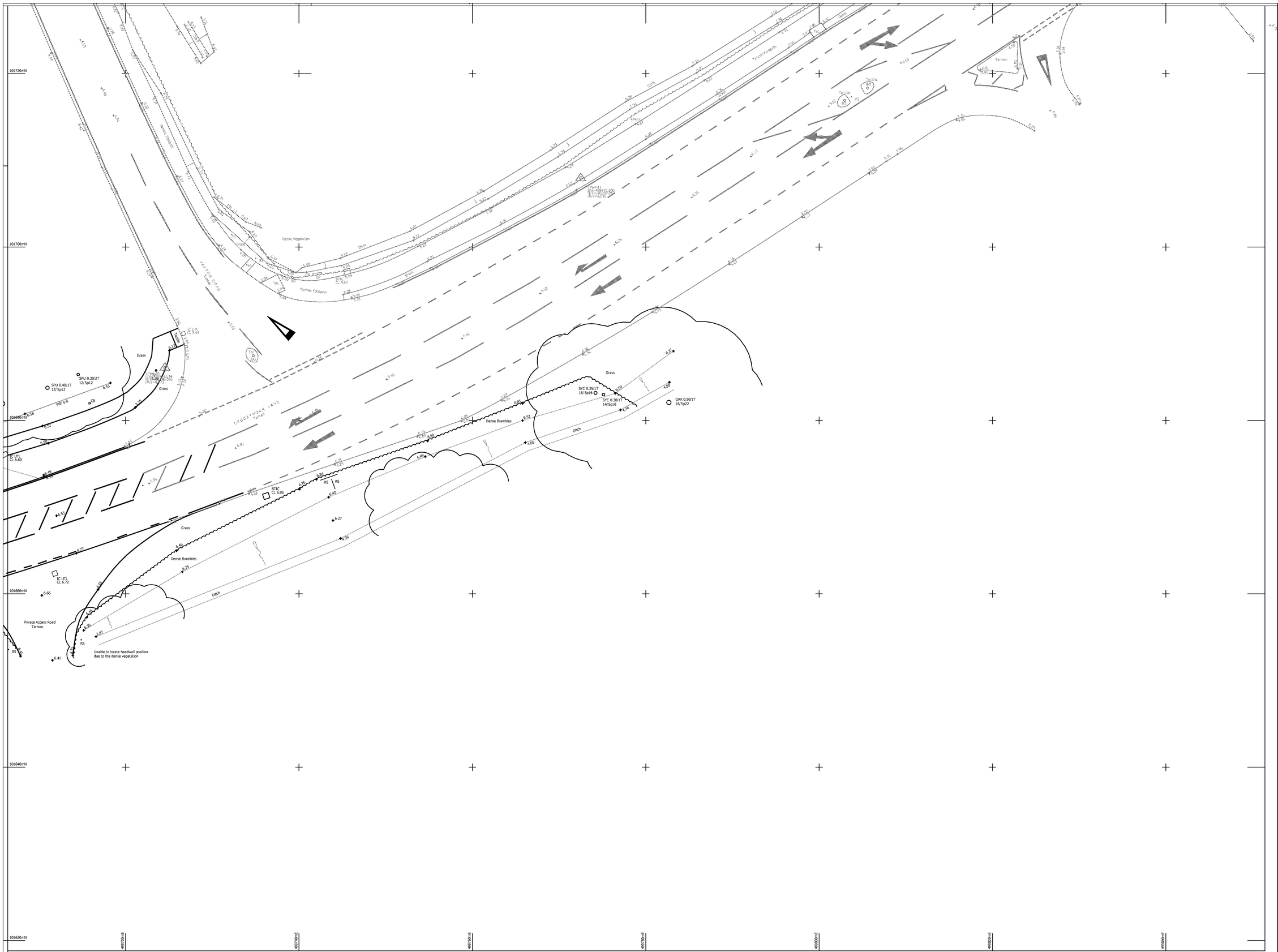
Northpoint:
The Northpoint position shown on this drawing has been located as accurately as possible, but is only indicative of true North

ENCOMPASS SURVEYS

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Talisman Business Centre
Duncan Road
Park Gate, Southampton
Hampshire SO31 7GA

Tel: 023 80692002 Email: info@encompass-surveys.co.uk
Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman Homes/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A0
Drawing ref:	ENC/160719/SGG8-18	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	



NOTES:

Drainage:
Inspection Covers are lifted where possible and all drainage invert information has been obtained through visual inspection only, with no entry into manholes. Therefore the complete accuracy cannot be guaranteed. Where drainage is of critical importance we suggest the services of a specialist drainage expert be used.

Trees:
Every effort has been made to identify and detail all trees on site but where trees are of critical importance we suggest the use of a specialist such as an arborist. Tree spread and heights are indicative.

GPS:
GPS detail is relative to the time and date of survey. GPS levels and grid are obtained using industry standard guidelines and can vary according to the quality of the GPS network at the time of survey. Unless stated otherwise, surveys are Scale factor 1 and Horizontal and Vertical Datums are established from a central site fix and baseline orientation station utilising GNSS correction data.

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LEGEND

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ASH	ASH	LONDON PLANE	LPN
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CHERRY	CHY	PINE	PNE
CYPRESS	CYP	POPLAR	POP
ELM	ELM	PRUNUS	PNS
FIR	FIR	RHODODENDRONS	RDN
FRUIT	FRT	ROWAN	RWN
HAWTHORN	HAW	SILVER BIRCH	SIB
HAZEL	HAZ	SORBUS	SOR
HOLLY	HLY	SWEET CHESTNUT	SCH
HORSE CHESTNUT	HCH	SYCAMORE	SYC
HORNBEAM	HRM	WALNUT	WNT
LABURNUM	LRM	WILLOW	WLW
LARCH	LAR	YEW	YEW
LIME	LIM	SPECIES UNKNOWN	SPU
		COPPICED	COP

TREE ANNOTATIONS: Tree Species / Tree Boll Size / No of Bolls
Tree Height / Tree Canopy Spread

FENCE INFORMATION

BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING	CPF
CRASH BARRIER	CBR
HANDRAIL	HDL
IRON RAILINGS	IRF
LARCH LAP FENCE	LLF
MISCELLANEOUS FENCE	MSF
PALISADE FENCE	PSF
PICKET FENCE	PKF
POST AND CHAIN FENCE	PCF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STOCK WIRE FENCE	SWF
TRELLIS FENCING	TLF

LEVEL INFORMATION

BASEMENT LEVEL	BTL
BED LEVEL	BL
COVER LEVEL	CL
DAMP PROOF COURSE	DPC
FLOOR LEVEL	FL
INVERT LEVEL	IL
OUTFALL LEVEL	OL
THRESHOLD LEVEL	THL
FOUL WATER	FW
SURFACE WATER	SW
UNABLE TO LIFT	UTL
WATER LEVEL	WL

SURFACE INFORMATION

CONCRETE	Conc
BRICK PAVERS	BP
FLOWERBED	FB
PAVING SLABS	PS
RETAINING WALL	RWall
TACTILE PAVING	Tac

FEATURE INFORMATION

BOLLARD	BO	NOTICE BOARD	NB
BRITISH TELECOM BOX	BTB	POST	P
BRITISH TELECOM IC	BTIC	RAIN WATER PIPE	RWP
BUS STOP	BS	RAISED FLOWERBED	RFB
CABLE TELEVISION BOX	CATB	ROAD SIGN	RS
CABLE TELEVISION IC	CATV	RODDING EYE	RE
EARTHING ROD	ER	SERVICE MARKER POST	SMP
ELECTRICITY CABLE PIT	ELCP	SOIL VENT PIPE	SVP
ELECTRICITY CONTROL BOX	ECB	STOP COCK	SC
ELECTRICITY POLE	EP	STOP VALVE	SV
FIRE HYDRANT	FH	TELEGRAPH POLE	TP
INSPECTION COVER	IC	TELEPHONE CALL BOX	TCB
LAMP POST	LP	TRAFFIC SIGNAL	TS
LETTER BOX	LB	TRAFFIC SIGNALS IC	TSIC
LITTER BIN	BIN	WATER METER	WM
KERB OUTLET	KO	WATER TAP	Tap
NAME PLATE	NP		

Level Datum:
Levels are related to OSGB15 derived from the GPS network

Grid:
Grid is related to OSGB15 derived from the GPS network

Northpoint:
The Northpoint position shown on this drawing has been located as accurately as possible, but is only indicative of true North

ENCOMPASS SURVEYS

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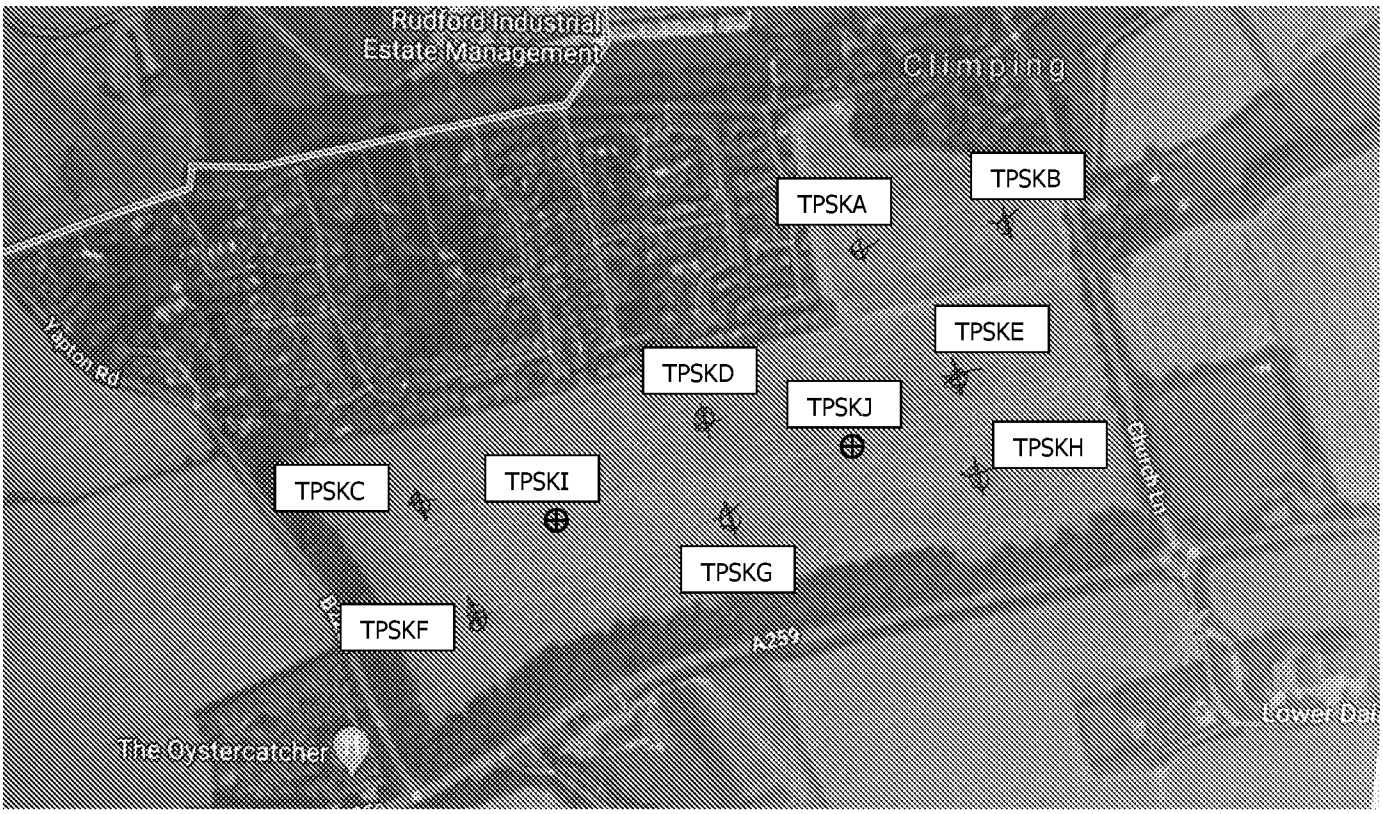
Tel: 023 80692002 Email: info@encompass-surveys.co.uk
Fax: 023 80697125 Website: encompass-surveys.co.uk

Client:	Crayfern/ Foreman/ Vivid		
Survey Location:	Land south of Church Lane and Horsemere Green Lane Climping, BN17 5QX		
Survey type:	Topographical	Scale:	1:200@A1
Drawing ref:	ENC/160719/5GG8-19	Date:	August 2019
Drawn/QA:	C.H/K.G	Revision:	

Appendix C Site-Specific Ground Investigation (including Trial Pit Logs and Infiltration Test Results)

ARUN DISTRICT COUNCIL CM/48/21/RES

Figure 2.1: Trial Hole Location Plan



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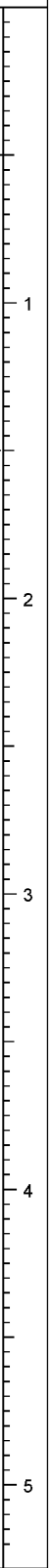
Soils Limited
Newton House, Cross Road, Tadworth KT20 5SR
[redacted]

Trial Pit Log

Trial Pit No.
TPA
Sheet 1 of 1

Project Name: Horsemere	Project No.: 17830	Method:	Hole Type: TP
Location: Horsemere Green Lane, Climping West Sussex BN17 5GG,		Plant: JCB 3CX	Scale: 1:25
Client: Crayfern Homes	Trial Pit Length: 2.55m	Trial Pit Width: 0.45m	Support: 40mm aggregate used
Dates: 29/05/2020 - 04/06/2020	Level:	Co-ords:	Logged By: SW

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (mAOD)	Legend	Stratum Description
							Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL
				0.50			Brown slightly gravelly silty CLAY with rare rootlets and black discolouration. Gravel is sub-angular to sub-rounded fine to medium flint. RAISED BEACH DEPOSITS
				1.50			End of Pit at 1.500m



General Remarks:

CAT & Genny scan prior to excavating. Trial hole excavated using JCB 3CX to 1.50m bgl. Infiltration testing in accordance with BRE DG365:2016 undertaken at 1.50m bgl. Upon completion, trial hole backfilled with arisings. Rootlets noted to 1.50m bgl.

Groundwater Remarks:

Sample Type
D: Disturbed
B: Bulk
J: Jar
W: Water

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[redacted]

Trial Pit Log

Trial Pit No.
TPB
Sheet 1 of 1

Project Name: Horsemere	Project No.: 17830	Method:	Hole Type: TP
Location: Horsemere Green Lane, Climping West Sussex BN17 5GG,		Plant: JCB 3CX	Scale: 1:25
Client: Crayfern Homes	Trial Pit Length: 2.00m	Trial Pit Width: 0.45m	Logged By: SW
Dates: 29/05/2020 - 04/06/2020	Level:	Co-ords:	

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (mAOD)	Legend	Stratum Description
							Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL
				0.40			Orangish brown slightly gravelly sandy CLAY with rare rootlets and black discolouration. Gravel is sub-angular to sub-rounded fine to medium flint. RAISED BEACH DEPOSITS
				1.60			End of Pit at 1.600m

General Remarks:

CAT & Genny scan prior to excavating. Trial hole excavated using JCB 3CX to 1.60m bgl. Infiltration testing in accordance with BRE DG365:2016 undertaken at 1.60m bgl. Upon completion, trial hole backfilled with arisings. Rootlets noted to 1.60m bgl.

Groundwater Remarks:

Sample Type
D: Disturbed
B: Bulk
J: Jar
W: Water

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[redacted]

Trial Pit Log

Trial Pit No.
TPC
Sheet 1 of 1

Project Name: Horsemere	Project No.: 17830	Method:	Hole Type: TP
Location: Horsemere Green Lane, Climping West Sussex BN17 5GG,		Plant: JCB 3CX	Scale: 1:25
		Support: 40mm aggregate used	
Client: Crayfern Homes	Trial Pit Length: 2.25m	Trial Pit Width: 0.45m	
Dates: 29/05/2020 - 04/06/2020	Level:	Co-ords:	Logged By: SW

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (mAOD)	Legend	Stratum Description
							Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL
				0.50			Orangish brown slightly gravelly sandy CLAY with rare rootlets and black discolouration. Gravel is sub-angular to sub-rounded fine to medium flint. RAISED BEACH DEPOSITS
				1.00			End of Pit at 1.000m

1 2 3 4 5

General Remarks:

CAT & Genny scan prior to excavating. Trial hole excavated using JCB 3CX to 1.00m bgl. Infiltration testing in accordance with BRE DG365:2016 undertaken at 1.00m bgl. Upon completion, trial hole backfilled with arisings. Rootlets noted to 1.00m bgl.

Groundwater Remarks:

Sample Type
D: Disturbed
B: Bulk
J: Jar
W: Water

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[redacted]

Trial Pit Log

Trial Pit No.
TPD
Sheet 1 of 1

Project Name: Horsemere	Project No.: 17830	Method:	Hole Type: TP
Location: Horsemere Green Lane, Climping West Sussex BN17 5GG,		Plant: JCB 3CX	Scale: 1:25
		Support: 40mm aggregate used	
Client: Crayfern Homes	Trial Pit Length: 2.25m	Trial Pit Width: 0.45m	
Dates: 29/05/2020 - 04/06/2020	Level:	Co-ords:	Logged By: SW

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (mAOD)	Legend	Stratum Description
							Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL
				0.50			Orange brown slightly gravelly sandy CLAY with rare rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS
				1.00			End of Pit at 1.000m

General Remarks:

CAT & Genny scan prior to excavating. Trial hole excavated using JCB 3CX to 1.00m bgl. Infiltration testing in accordance with BRE DG365:2016 undertaken at 1.00m bgl. Upon completion, trial hole backfilled with arisings. Rootlets noted to 1.00m bgl.

Groundwater Remarks:

Sample Type
D: Disturbed
B: Bulk
J: Jar
W: Water

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Trial Pit Log

Trial Pit No.
TPE
Sheet 1 of 1

Project Name: Horsemere	Project No.: 17830	Method:	Hole Type: TP
Location: Horsemere Green Lane, Climping West Sussex BN17 5GG,		Plant: JCB 3CX	Scale: 1:25
Client: Crayfern Homes	Trial Pit Length: 2.35m	Trial Pit Width: 0.45m	Support: 40mm aggregate used
Dates: 29/05/2020 - 04/06/2020	Level:	Co-ords:	Logged By: SW

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (mAOD)	Legend	Stratum Description
							Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL
				0.50			Orangish brown slightly gravelly sandy CLAY with rare rootlets and black discolouration. Gravel is sub-angular to sub-rounded fine to medium flint. RAISED BEACH DEPOSITS
				1.50			End of Pit at 1.500m

General Remarks:

CAT & Genny scan prior to excavating. Trial hole excavated using JCB 3CX to 1.50m bgl. Infiltration testing in accordance with BRE DG365:2016 undertaken at 1.50m bgl. Upon completion, trial hole backfilled with arisings. Rootlets noted to 1.50m bgl.

Groundwater Remarks:

Sample Type
D: Disturbed
B: Bulk
J: Jar
W: Water

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Newton House, Cross Road, Tadworth KT20 5SR
[redacted]

Trial Pit Log

Trial Pit No. **TPF** Sheet 1 of 1

Project Name: Horsemere	Project No.: 17830	Method:	Hole Type: TP
Location: Horsemere Green Lane, Climping West Sussex BN17 5GG,		Plant: JCB 3CX	Scale: 1:25
Client: Crayfern Homes	Trial Pit Length: 1.95m	Support: 40mm aggregate used / Trial Pit Width: 0.45m	Logged By: SW
Dates: 29/05/2020 - 04/06/2020	Level:	Co-ords:	

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (mAOD)	Legend	Stratum Description
							Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL
				0.50			Mottled orangish brown grey slightly gravelly sandy CLAY with occasional rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS
				1.00			End of Pit at 1.000m

General Remarks:

CAT & Genny scan prior to excavating. Trial hole excavated using JCB 3CX to 1.00m bgl. Infiltration testing in accordance with BRE DG365:2016 undertaken at 1.00m bgl. Upon completion, trial hole backfilled with arisings. Rootlets noted to 1.00m bgl.

Groundwater Remarks:

Sample Type
D: Disturbed
B: Bulk
J: Jar
W: Water

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Soils Limited

Newton House, Cross Road, Tadworth KT20 5SR [redacted]

Trial Pit Log

Trial Pit No.
TPG
Sheet 1 of 1

Project Name: Horsemere	Project No.: 17830	Method:	Hole Type: TP
Location: Horsemere Green Lane, Climping West Sussex BN17 5GG,		Plant: JCB 3CX	Scale: 1:25
		Support: 40mm aggregate used	
Client: Crayfern Homes	Trial Pit Length: 2.05m	Trial Pit Width: 0.45m	
Dates: 29/05/2020 - 04/06/2020	Level:	Co-ords:	Logged By: SW

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (mAOD)	Legend	Stratum Description
							Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL
				0.50			Mottled orangish brown grey slightly gravelly sandy CLAY with occasional rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS
				1.00			End of Pit at 1.000m

General Remarks:

CAT & Genny scan prior to excavating. Trial hole excavated using JCB 3CX to 1.00m bgl. Infiltration testing in accordance with BRE DG365:2016 undertaken at 1.00m bgl. Upon completion, trial hole backfilled with arisings. Rootlets noted to 1.00m bgl.

Groundwater Remarks:

Sample Type
D: Disturbed
B: Bulk
J: Jar
W: Water

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Newton House, Cross Road, Tadworth KT20 5SR

Trial Pit Log

Trial Pit No.
TPH
Sheet 1 of 1

Project Name: Horsemere	Project No.: 17830	Method:	Hole Type: TP
Location: Horsemere Green Lane, Climping West Sussex BN17 5GG,		Plant: JCB 3CX	Scale: 1:25
		Support: 40mm aggregate used	
Client: Crayfern Homes	Trial Pit Length: 2.00m	Trial Pit Width: 0.45m	
Dates: 29/05/2020 - 04/06/2020	Level:	Co-ords:	Logged By: SW

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (mAOD)	Legend	Stratum Description
							Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL
				0.50			Mottled orangish brown grey slightly gravelly sandy CLAY with occasional rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS
				1.00			End of Pit at 1.000m

General Remarks:

CAT & Genny scan prior to excavating. Trial hole excavated using JCB 3CX to 1.00m bgl. Infiltration testing in accordance with BRE DG365:2016 undertaken at 1.00m bgl. Upon completion, trial hole backfilled with arisings. Rootlets noted to 1.00m bgl.

Groundwater Remarks:

Sample Type
D: Disturbed
B: Bulk
J: Jar
W: Water

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Newton House, Cross Road, Tadworth KT20 5SR
[redacted]

Trial Pit Log

Trial Pit No.
TP1
Sheet 1 of 1

Project Name: Horsemere	Project No.: 17830	Method:	Hole Type: TP
Location: Horsemere Green Lane, Climping West Sussex BN17 5GG,		Plant: JCB 3CX	Scale: 1:25
		Support: 40mm aggregate used	
Client: Crayfern Homes	Trial Pit Length: 1.55m	Trial Pit Width: 0.45m	
Dates: 02/06/2020 - 04/06/2020	Level:	Co-ords:	Logged By: SW

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (mAOD)	Legend	Stratum Description
							Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL
				0.50			Orangish brown slightly gravelly sandy CLAY with rare rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS
				1.00			End of Pit at 1.000m

General Remarks:

CAT & Genny scan prior to excavating. Trial hole excavated using JCB 3CX to 1.00m bgl. Infiltration testing in accordance with BRE DG365:2016 undertaken at 1.00m bgl. Upon completion, trial hole backfilled with arisings. Rootlets noted to 1.00m bgl.

Groundwater Remarks:

Sample Type
D: Disturbed
B: Bulk
J: Jar
W: Water

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Soils Limited
Newton House, Cross Road, Tadworth KT20 5SR
[redacted]

Trial Pit Log

Trial Pit No.
TPJ
Sheet 1 of 1

Project Name: Horsemere	Project No.: 17830	Method:	Hole Type: TP
Location: Horsemere Green Lane, Climping West Sussex BN17 5GG,		Plant: JCB 3CX	Scale: 1:25
		Support: 40mm aggregate used	
Client: Crayfern Homes	Trial Pit Length: 1.55m	Trial Pit Width: 0.45m	
Dates: 02/06/2020 - 04/06/2020	Level:	Co-ords:	Logged By: SW

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (mAOD)	Legend	Stratum Description
							Brown slightly gravelly SILT with frequent rootlets. Gravel is sub-angular to sub-rounded fine to medium flint. TOPSOIL
				0.50			Orangish brown slightly gravelly sandy CLAY with rare rootlets. Gravel is sub-angular to sub-rounded fine flint. RAISED BEACH DEPOSITS
				1.00			End of Pit at 1.000m

General Remarks:

CAT & Genny scan prior to excavating. Trial hole excavated using JCB 3CX to 1.00m bgl. Infiltration testing in accordance with BRE DG365:2016 undertaken at 1.00m bgl. Upon completion, trial hole backfilled with arisings. Rootlets noted to 1.00m bgl.

Groundwater Remarks:

Sample Type
D: Disturbed
B: Bulk
J: Jar
W: Water

Soakaway Calculations

Soakaway Test No.	TPA test 1
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

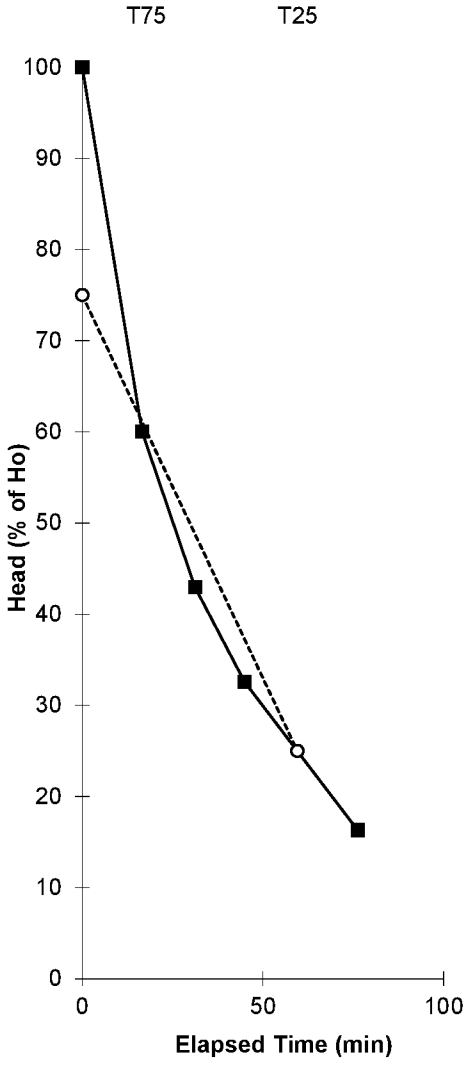
Depth of Pit	1.50	m
Width of Pit	0.45	m
Length of Pit	2.55	m
Depth of Pit Soaked	1.35	m

ap50	5.1975	m2
Vp75-25	0.23236875	m3
t75-25	59.5	min
water used	0.4647	m3
f	1.252E-05	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.15	0	100	1.35
0.69	16.5	60	0.81
0.92	31.2	43	0.58
1.06	44.9	33	0.44
1.28	76.3	16	0.22

T75	0.000	75
T25	59.520	25
T75-25	59.520	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPA test 2
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

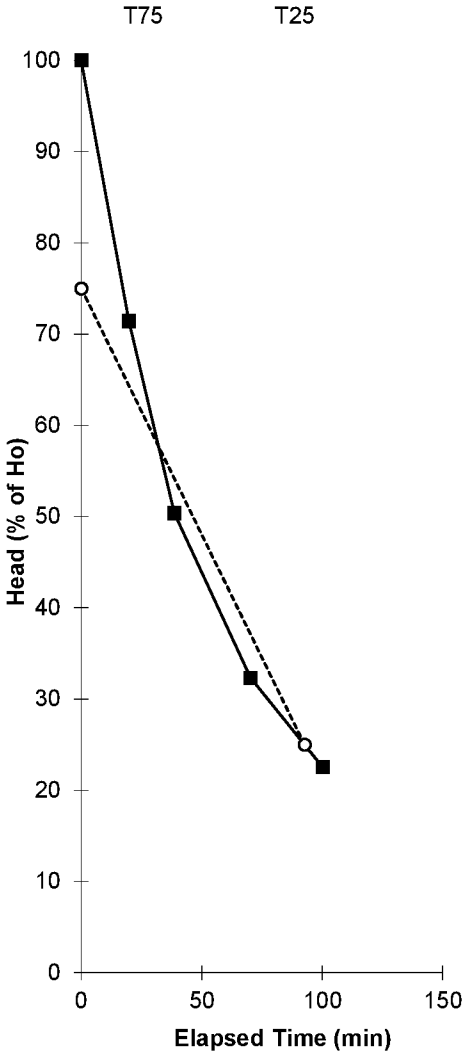
Depth of Pit	1.50	m
Width of Pit	0.45	m
Length of Pit	2.55	m
Depth of Pit Soaked	1.33	m

ap50	5.1375	m2
Vp75-25	0.22892625	m3
t75-25	92.6	min
water used	1.5262	m3
f	8.019E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.17	0	100	1.33
0.55	19.7	71	0.95
0.83	38.6	50	0.67
1.07	70.3	32	0.43
1.20	100.1	23	0.30

T75	0.000	75
T25	92.615	25
T75-25	92.615	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPA test 3
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

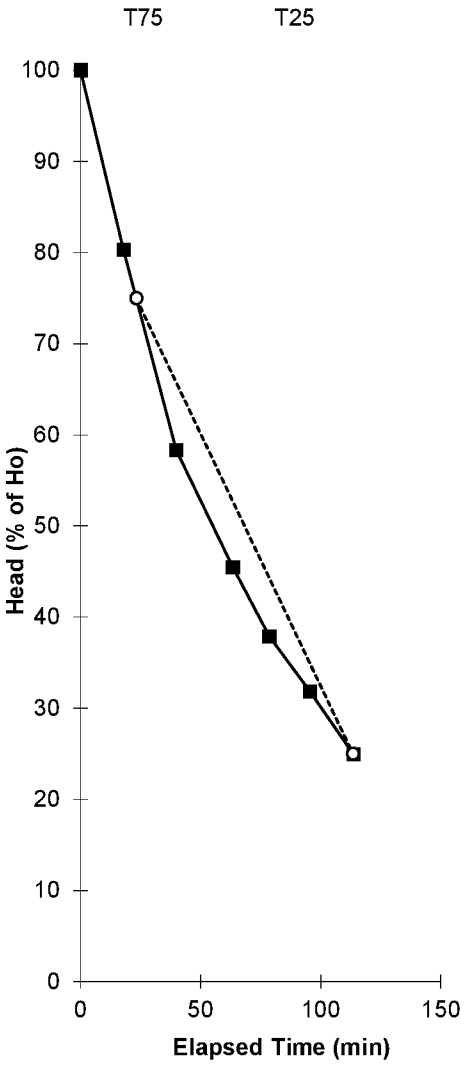
Depth of Pit	1.50	m
Width of Pit	0.45	m
Length of Pit	2.55	m
Depth of Pit Soaked	1.32	m

ap50	5.1075	m2
Vp75-25	0.227205	m3
t75-25	90.3	min
water used	0.4544	m3
f	8.209E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.18	0	100	1.32
0.44	17.8	80	1.06
0.73	39.9	58	0.77
0.90	63.3	45	0.60
1.00	78.6	38	0.50
1.08	95.6	32	0.42
1.17	113.6	25	0.33

T75	23.101	75
T25	113.422	25
T75-25	90.320	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPB test 1
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

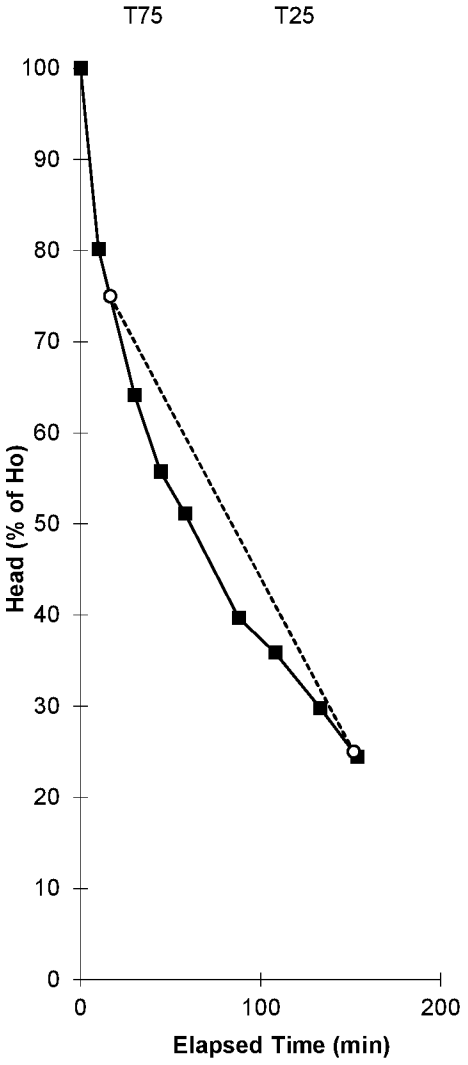
See trial Pit record

Depth of Pit	1.55	m
Width of Pit	0.45	m
Length of Pit	2.00	m
Depth of Pit Soaked	1.31	m

ap50	4.1095	m2
Vp75-25	0.17685	m3
t75-25	135.2	min
water used	0.3537	m3
f	5.305E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.24	0	100	1.31
0.50	9.9	80	1.05
0.71	30.0	64	0.84
0.82	44.5	56	0.73
0.88	58.0	51	0.67
1.03	87.8	40	0.52
1.08	108.0	36	0.47
1.16	133.0	30	0.39
1.23	153.8	24	0.32



T75	16.371	75
T25	151.575	25
T75-25	135.203	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone:
Facsimile:

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPB test 2
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

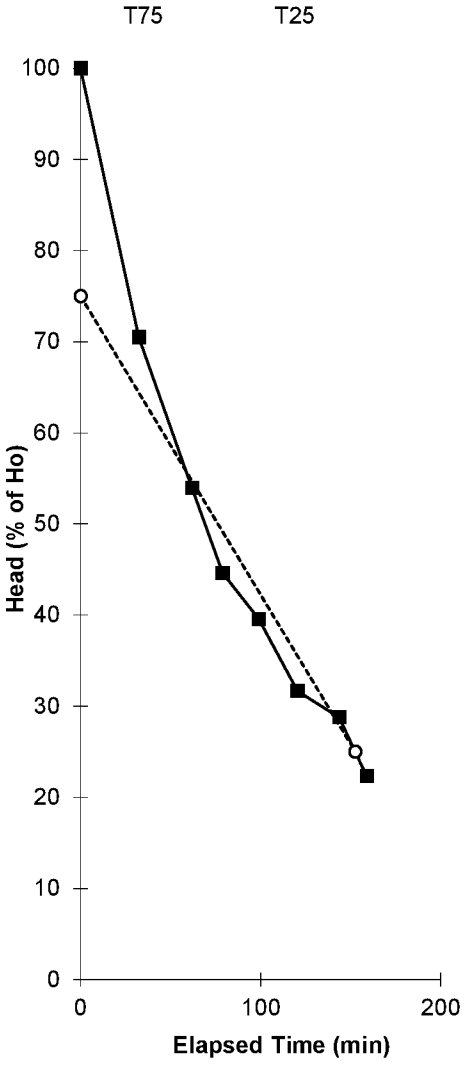
Depth of Pit	1.55	m
Width of Pit	0.45	m
Length of Pit	2.00	m
Depth of Pit Soaked	1.39	m

ap50	4.3055	m2
Vp75-25	0.18765	m3
t75-25	152.5	min
water used	0.3753	m3
f	4.763E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.16	0	100	1.39
0.57	32.2	71	0.98
0.80	61.9	54	0.75
0.93	78.8	45	0.62
1.00	98.8	40	0.55
1.11	120.5	32	0.44
1.15	143.6	29	0.40
1.24	158.9	22	0.31

T75	0.000	75
T25	152.522	25
T75-25	152.522	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPB test 3
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

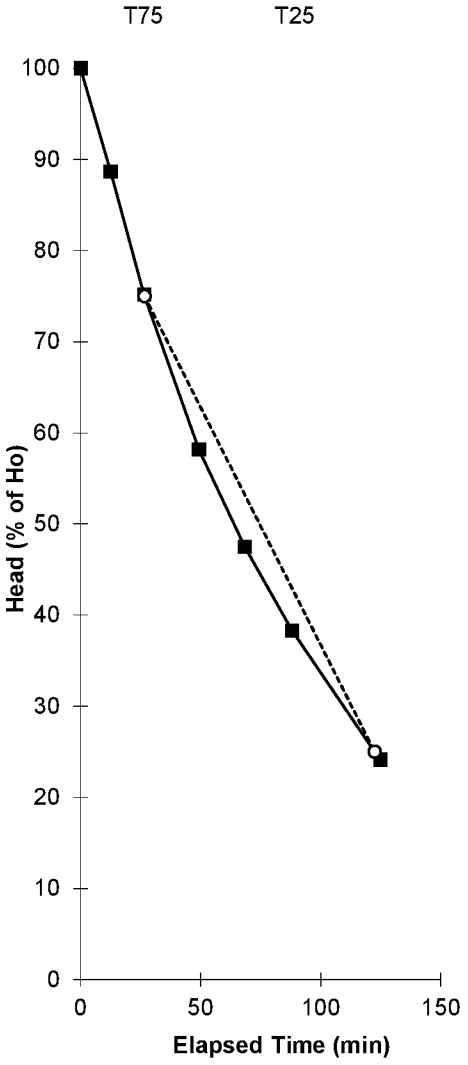
See trial Pit record

Depth of Pit	1.55	m
Width of Pit	0.45	m
Length of Pit	2.00	m
Depth of Pit Soaked	1.41	m

ap50	4.3545	m2
Vp75-25	0.19035	m3
t75-25	95.9	min
water used	0.3807	m3
f	7.596E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.14	0	100	1.41
0.30	12.5	89	1.25
0.49	26.3	75	1.06
0.73	49.2	58	0.82
0.88	68.3	48	0.67
1.01	88.1	38	0.54
1.21	124.8	24	0.34



T75	26.569	75
T25	122.484	25
T75-25	95.916	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone:
Facsimile: [redacted]

Soakaway Calculations

Soakaway Test No.	TPC test 1
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

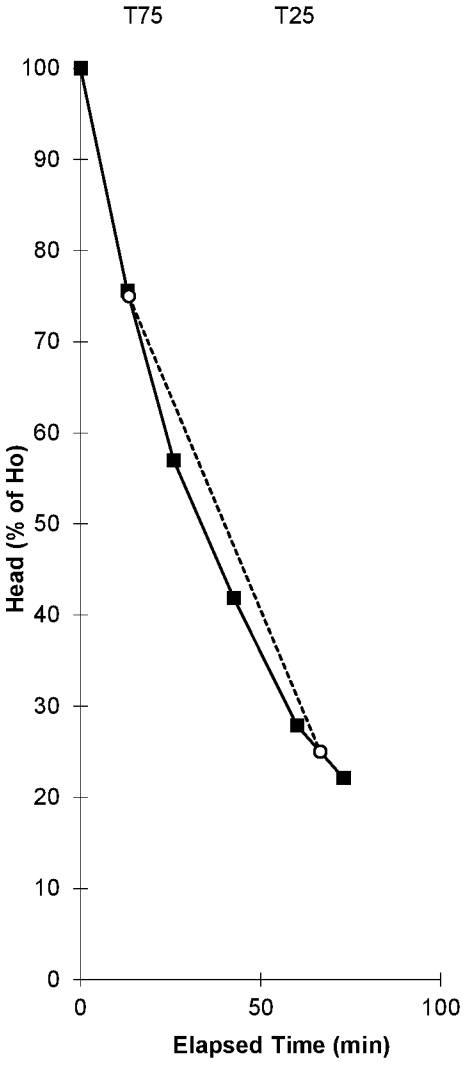
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	2.25	m
Depth of Pit Soaked	0.86	m

ap50	3.3345	m2
Vp75-25	0.1306125	m3
t75-25	53.2	min
water used	0.2612	m3
f	1.228E-05	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.14	0	100	0.86
0.35	13.0	76	0.65
0.51	25.9	57	0.49
0.64	42.5	42	0.36
0.76	60.1	28	0.24
0.81	73.0	22	0.19



T75	13.373	75
T25	66.535	25
T75-25	53.162	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone: [redacted]
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPC test 2
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

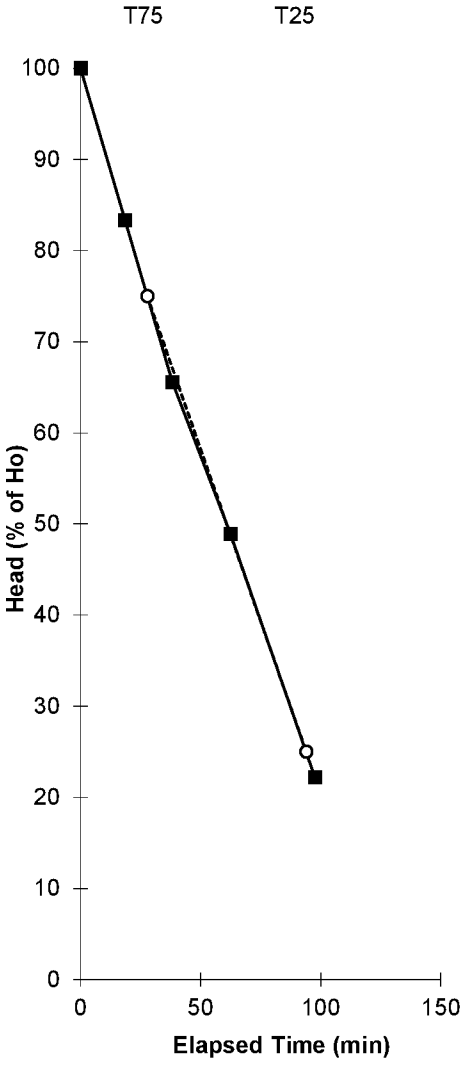
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	2.25	m
Depth of Pit Soaked	0.90	m
ap50	3.4425	m2
Vp75-25	0.1366875	m3
t75-25	66.2	min
water used	0.2734	m3
f	9.994E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.10	0	100	0.90
0.25	18.5	83	0.75
0.41	38.2	66	0.59
0.56	62.5	49	0.44
0.80	97.6	22	0.20

T75	27.743	75
T25	93.957	25
T75-25	66.214	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPC test 3
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

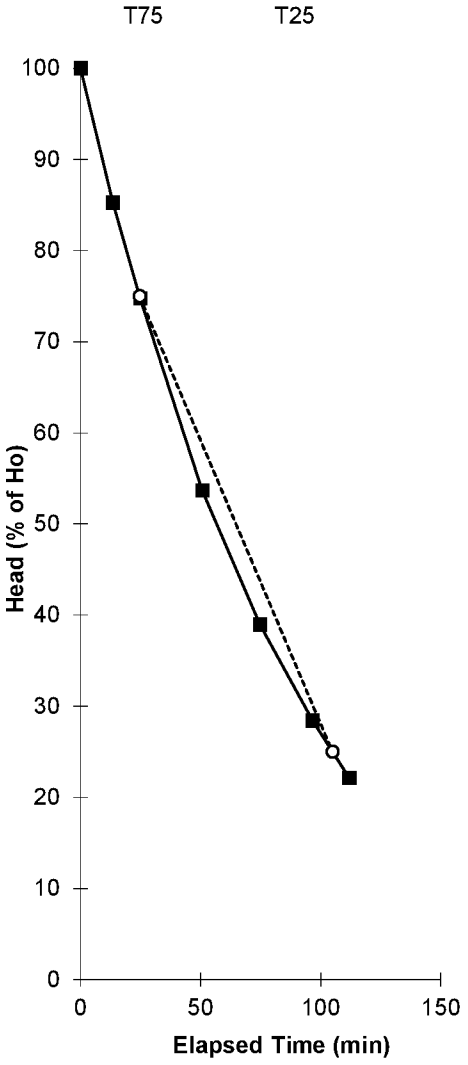
Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	2.25	m
Depth of Pit Soaked	0.95	m

ap50	3.5775	m2
Vp75-25	0.14428125	m3
t75-25	80.4	min
water used	0.2886	m3
f	8.363E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.05	0	100	0.95
0.19	13.4	85	0.81
0.29	24.8	75	0.71
0.49	50.7	54	0.51
0.63	74.8	39	0.37
0.73	96.6	28	0.27
0.79	111.9	22	0.21

T75	24.516	75
T25	104.890	25
T75-25	80.374	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPD test 1
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

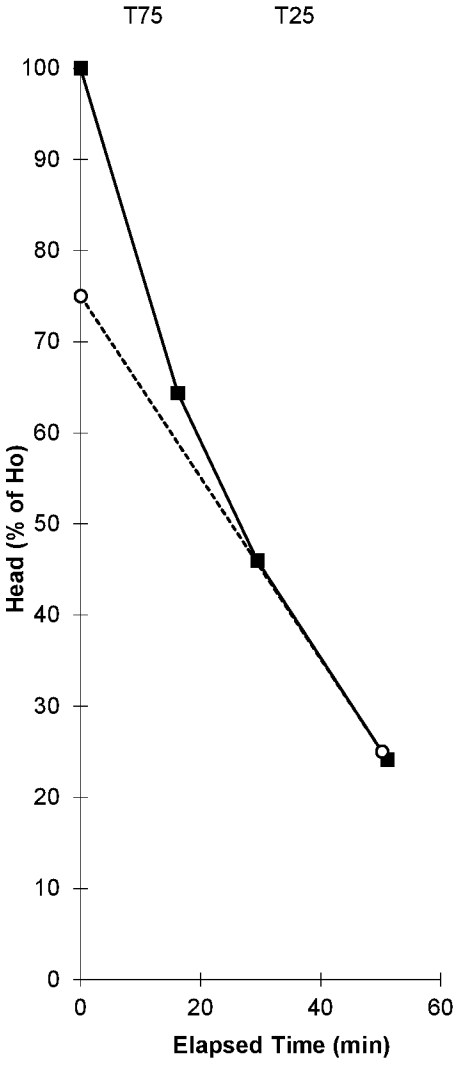
Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	2.25	m
Depth of Pit Soaked	0.87	m

ap50	3.3615	m2
Vp75-25	0.13213125	m3
t75-25	50.2	min
water used	0.2643	m3
f	1.304E-05	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.13	0	100	0.87
0.44	16.2	64	0.56
0.60	29.4	46	0.40
0.79	51.1	24	0.21

T75	0.000	75
T25	50.229	25
T75-25	50.229	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

[redacted]

Soakaway Calculations

Soakaway Test No.	TPD test 2
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

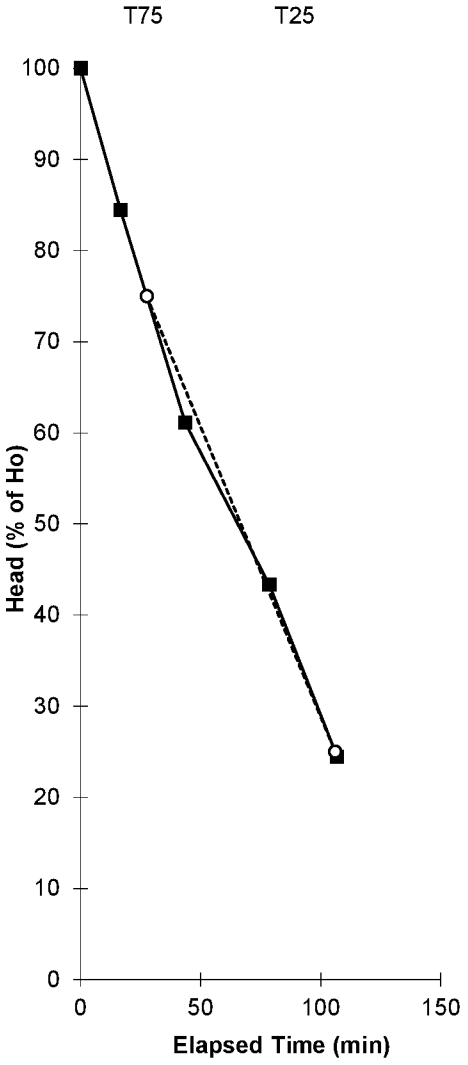
Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	2.25	m
Depth of Pit Soaked	0.90	m

ap50	3.4425	m2
Vp75-25	0.1366875	m3
t75-25	78.5	min
water used	0.2734	m3
f	8.425E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.10	0	100	0.90
0.24	16.6	84	0.76
0.45	43.5	61	0.55
0.61	78.6	43	0.39
0.78	106.9	24	0.22

T75	27.475	75
T25	106.019	25
T75-25	78.544	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPD test 3
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

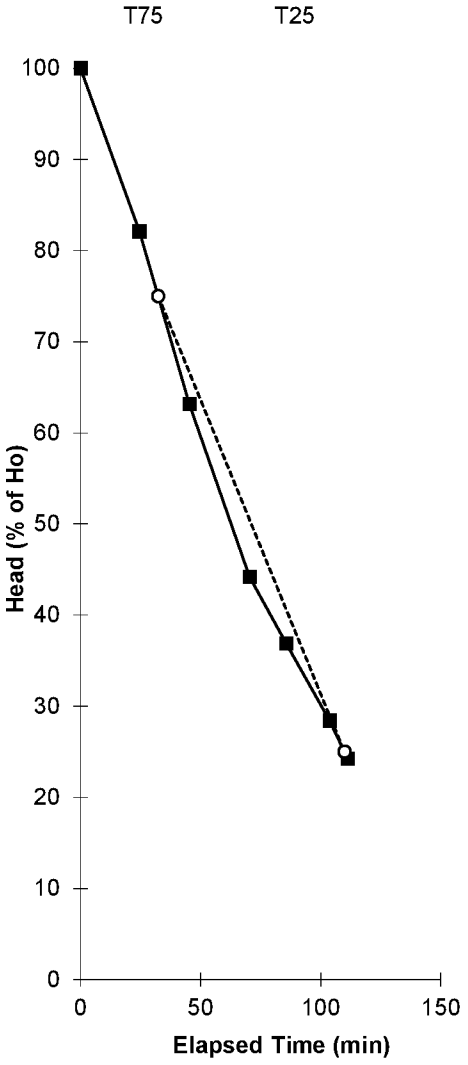
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	2.25	m
Depth of Pit Soaked	0.95	m

ap50	3.5775	m2
Vp75-25	0.14428125	m3
t75-25	77.5	min
water used	0.2886	m3
f	8.670E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.05	0	100	0.95
0.22	24.5	82	0.78
0.40	45.4	63	0.60
0.58	70.4	44	0.42
0.65	85.7	37	0.35
0.73	103.7	28	0.27
0.77	111.3	24	0.23



T75	32.315	75
T25	109.841	25
T75-25	77.526	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone: [redacted]
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPE test 1
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

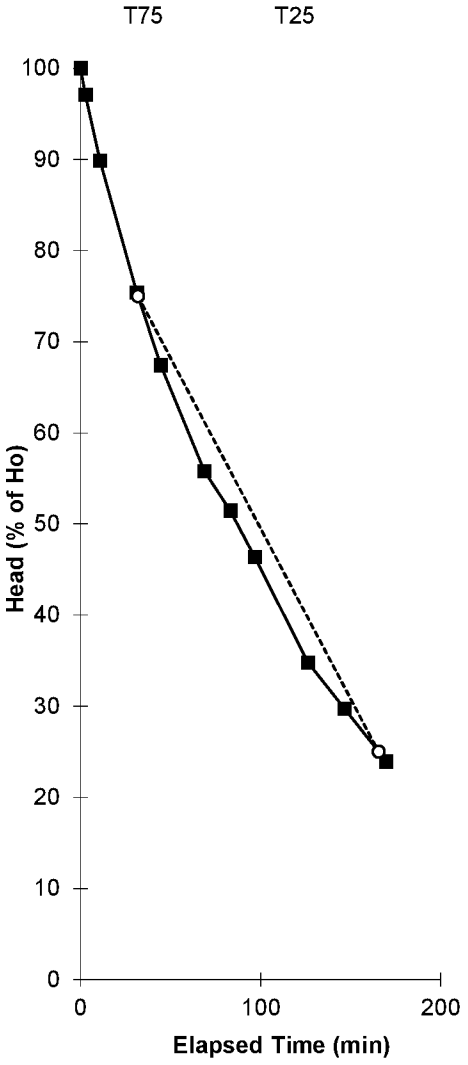
Depth of Pit	1.50	m
Width of Pit	0.45	m
Length of Pit	2.35	m
Depth of Pit Soaked	1.38	m

ap50	4.9215	m2
Vp75-25	0.2189025	m3
t75-25	133.7	min
water used	0.4378	m3
f	5.546E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.12	0	100	1.38
0.16	2.7	97	1.34
0.26	10.8	90	1.24
0.46	31.2	75	1.04
0.57	44.7	67	0.93
0.73	68.7	56	0.77
0.79	83.2	51	0.71
0.86	96.7	46	0.64
1.02	126.4	35	0.48
1.09	146.7	30	0.41
1.17	169.8	24	0.33

T75	31.812	75
T25	165.473	25
T75-25	133.661	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPE test 2
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

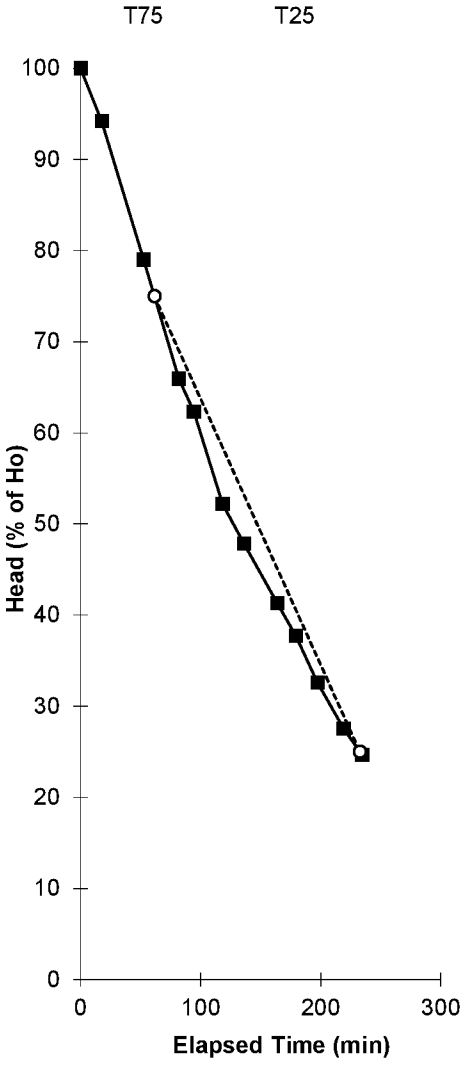
See trial Pit record

Depth of Pit	1.50	m
Width of Pit	0.45	m
Length of Pit	2.35	m
Depth of Pit Soaked	1.38	m

ap50	4.9215	m2
Vp75-25	0.2189025	m3
t75-25	171.3	min
water used	0.4378	m3
f	4.328E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.12	0	100	1.38
0.20	17.6	94	1.30
0.41	52.4	79	1.09
0.59	81.8	66	0.91
0.64	94.3	62	0.86
0.78	118.2	52	0.72
0.84	136.2	48	0.66
0.93	164.0	41	0.57
0.98	179.5	38	0.52
1.05	197.2	33	0.45
1.12	219.1	28	0.38
1.16	234.6	25	0.34



T75	61.367	75
T25	232.656	25
T75-25	171.290	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone: [redacted]
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPE test 3
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

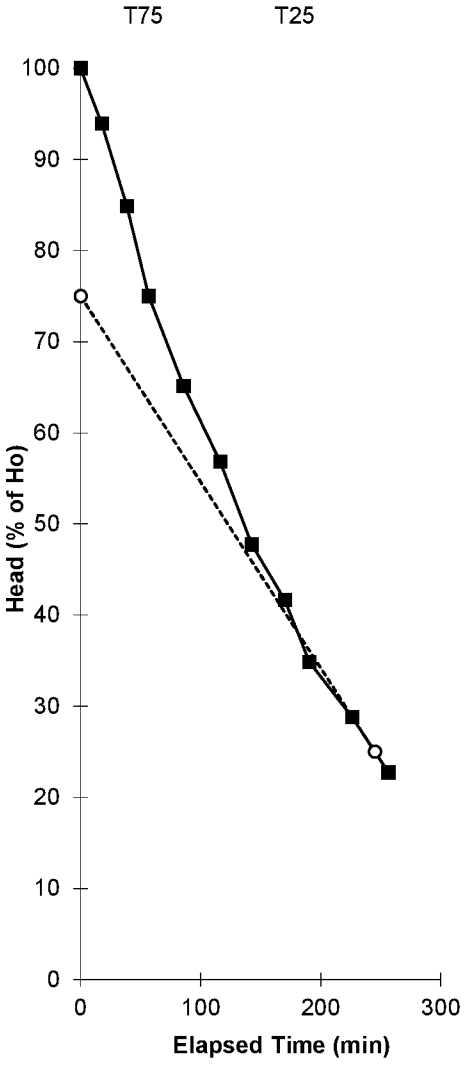
See trial Pit record

Depth of Pit	1.50	m
Width of Pit	0.45	m
Length of Pit	2.35	m
Depth of Pit Soaked	1.32	m

ap50	4.7535	m2
Vp75-25	0.209385	m3
t75-25	245.0	min
water used	0.4188	m3
f	2.996E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.18	0	100	1.32
0.26	17.6	94	1.24
0.38	38.4	85	1.12
0.51	56.7	75	0.99
0.64	85.6	65	0.86
0.75	116.3	57	0.75
0.87	142.6	48	0.63
0.95	170.3	42	0.55
1.04	190.6	35	0.46
1.12	226.1	29	0.38
1.20	256.4	23	0.30



T75	0.000	75
T25	245.044	25
T75-25	245.044	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone:
Facsimile:

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPF test 1
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

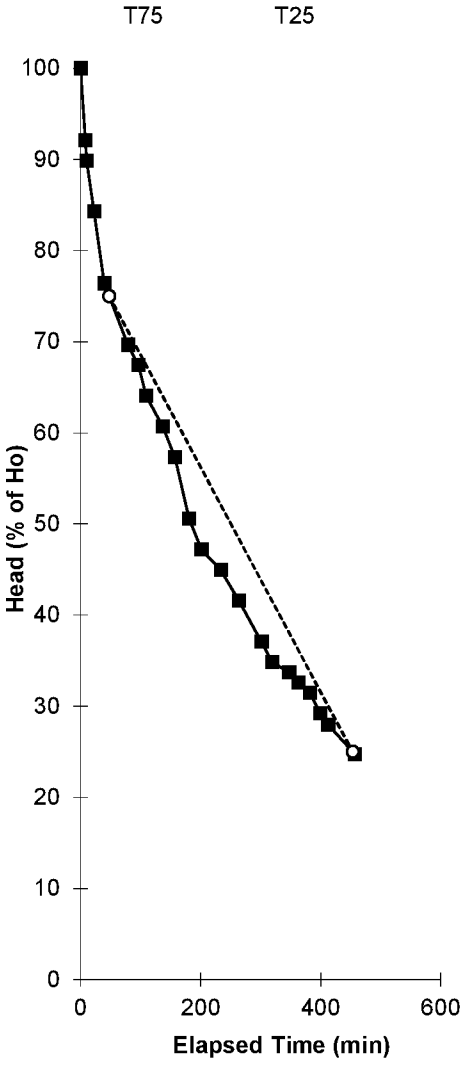
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	1.95	m
Depth of Pit Soaked	0.89	m

ap50	3.0135	m2
Vp75-25	0.11714625	m3
t75-25	405.5	min
water used	0.2343	m3
f	1.598E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.11	0	100	0.89
0.18	7.4	92	0.82
0.20	9.8	90	0.80
0.25	22.3	84	0.75
0.32	39.5	76	0.68
0.38	78.7	70	0.62
0.40	96.2	67	0.60
0.43	109.2	64	0.57
0.46	136.6	61	0.54
0.49	157.3	57	0.51
0.55	180.6	51	0.45
0.58	201.2	47	0.42
0.6	233.6	45	0.40
0.63	264.1	42	0.37
0.67	301.2	37	0.33
0.69	319.5	35	0.31
0.7	347.3	34	0.30
0.71	362.8	33	0.29
0.72	381.7	31	0.28
0.74	399.4	29	0.26
0.75	412.3	28	0.25
0.78	457.0	25	0.22



T75	47.683	75
T25	453.147	25
T75-25	405.464	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing. Data extrapolated (blue) to calc. *f*. Result must be used with caution.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone:
Facsimile: [redacted]

Soakaway Calculations

Soakaway Test No.	TPF test 2
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

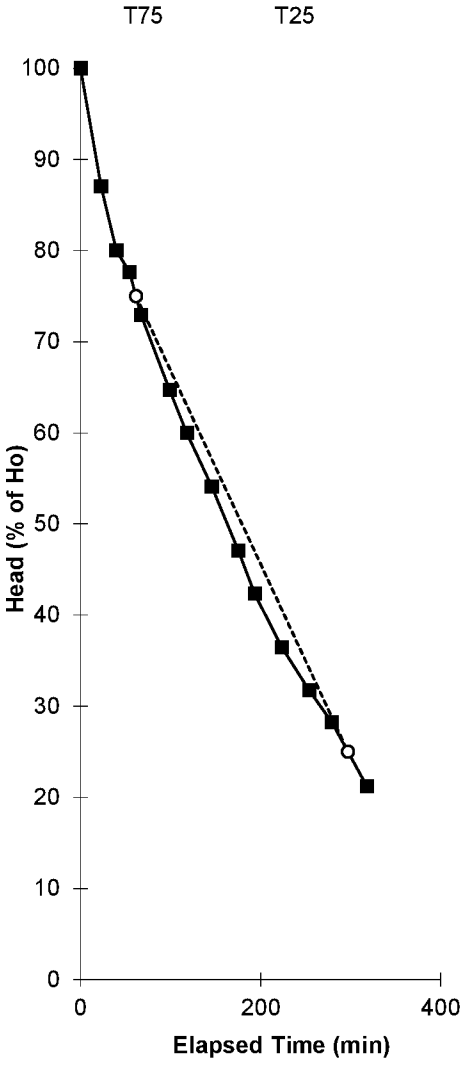
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	1.95	m
Depth of Pit Soaked	0.85	m

ap50	2.9175	m2
Vp75-25	0.11188125	m3
t75-25	235.5	min
water used	0.2238	m3
f	2.714E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.15	0	100	0.85
0.26	22.5	87	0.74
0.32	39.7	80	0.68
0.34	54.4	78	0.66
0.38	67.0	73	0.62
0.45	98.8	65	0.55
0.49	118.1	60	0.51
0.54	145.4	54	0.46
0.60	175.1	47	0.40
0.64	193.3	42	0.36
0.69	223.5	36	0.31
0.73	253.7	32	0.27
0.76	279.0	28	0.24
0.82	318.1	21	0.18



T75	61.456	75
T25	296.922	25
T75-25	235.466	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone:
Facsimile:

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPF test 3
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

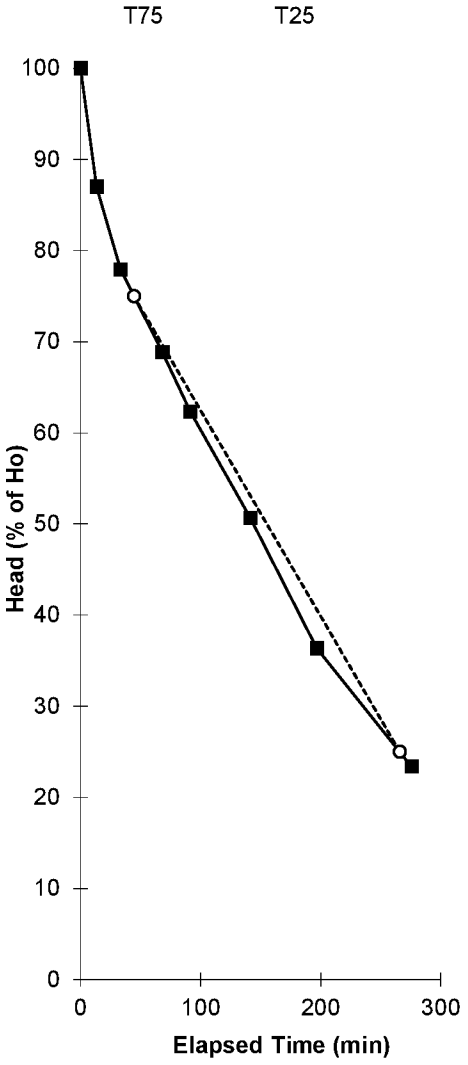
Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	1.95	m
Depth of Pit Soaked	0.77	m

ap50	2.7255	m2
Vp75-25	0.10135125	m3
t75-25	221.4	min
water used	0.2027	m3
f	2.799E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.23	0	100	0.77
0.33	13.4	87	0.67
0.40	33.2	78	0.60
0.47	68.2	69	0.53
0.52	91.4	62	0.48
0.61	141.5	51	0.39
0.72	196.8	36	0.28
0.82	275.7	23	0.18

T75	44.411	75
T25	265.850	25
T75-25	221.439	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPG test 1
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

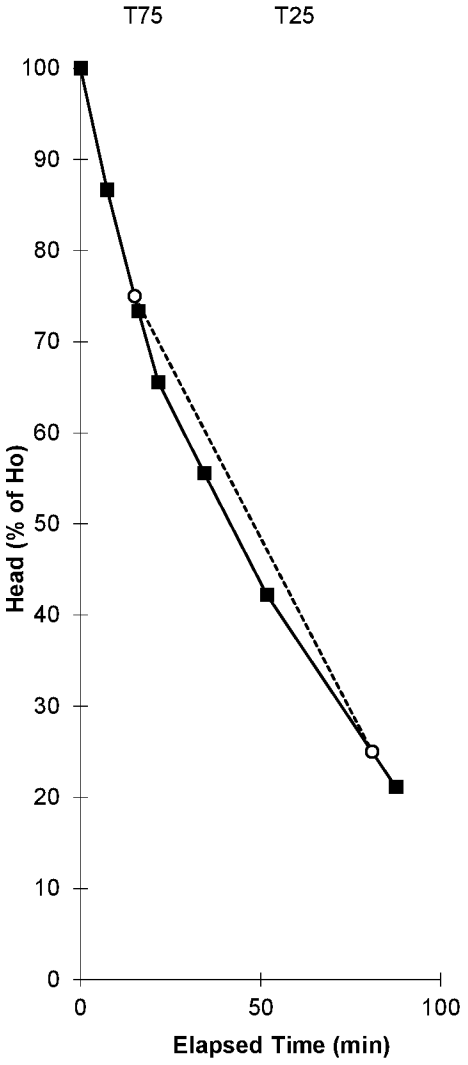
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	2.05	m
Depth of Pit Soaked	0.90	m

ap50	3.1725	m2
Vp75-25	0.1245375	m3
t75-25	66.0	min
water used	0.2491	m3
f	9.916E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.10	0	100	0.90
0.22	7.3	87	0.78
0.34	16.1	73	0.66
0.41	21.6	66	0.59
0.50	34.4	56	0.50
0.62	51.8	42	0.38
0.81	87.6	21	0.19



T75	14.975	75
T25	80.955	25
T75-25	65.980	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone:
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPG test 2
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):
See trial Pit record

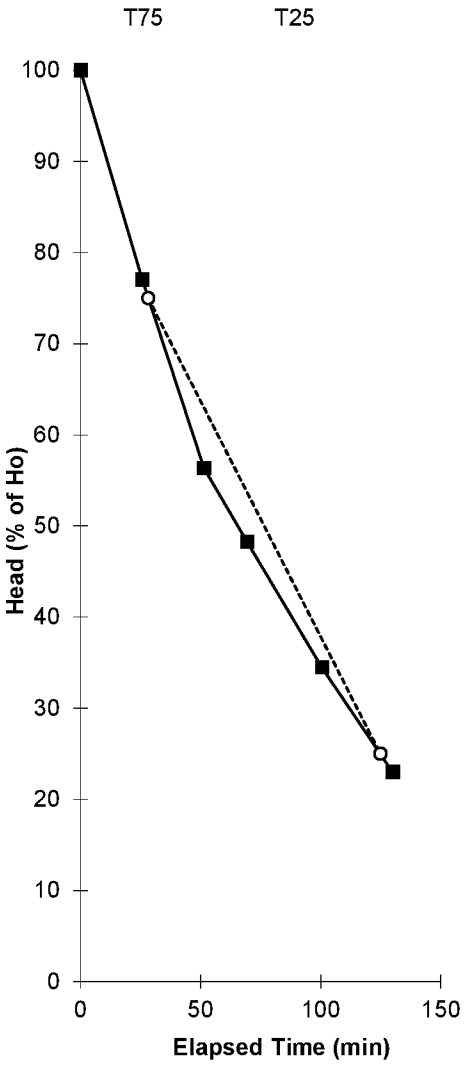
Depth of Pit	1.00 m
Width of Pit	0.45 m
Length of Pit	2.05 m
Depth of Pit Soaked	0.87 m

ap50	3.0975 m2
Vp75-25	0.12038625 m3
t75-25	96.7 min
water used	0.2408 m3
f	6.696E-06 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.13	0	100	0.87
0.33	25.6	77	0.67
0.51	51.4	56	0.49
0.58	69.3	48	0.42
0.70	100.5	34	0.30
0.80	130.0	23	0.20

T75	28.108	75
T25	124.840	25
T75-25	96.732	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing. Data extrapolated (blue) to calc. *f*. Result must be used with caution.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile: [redacted]

Soakaway Calculations

Soakaway Test No.	TPG test 3
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

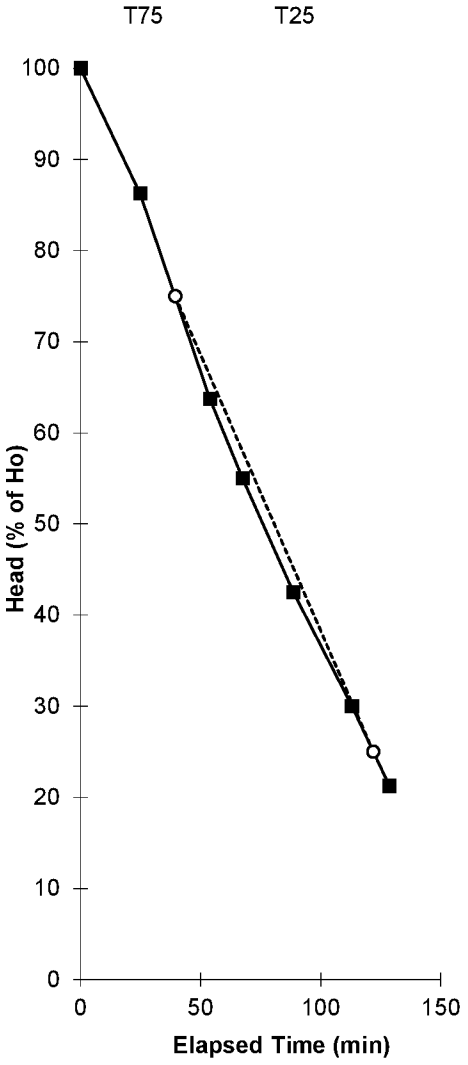
Trial Pit Log (include details of groundwater):
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	2.05	m
Depth of Pit Soaked	0.80	m

ap50	2.9225	m2
Vp75-25	0.1107	m3
t75-25	82.6	min
water used	0.2214	m3
f	7.647E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.20	0	100	0.80
0.31	24.8	86	0.69
0.49	53.9	64	0.51
0.56	67.4	55	0.44
0.66	88.6	43	0.34
0.76	113.0	30	0.24
0.83	128.6	21	0.17



T75	39.358	75
T25	121.919	25
T75-25	82.561	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

Soakaway Calculations

Soakaway Test No.	TPH test 1
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

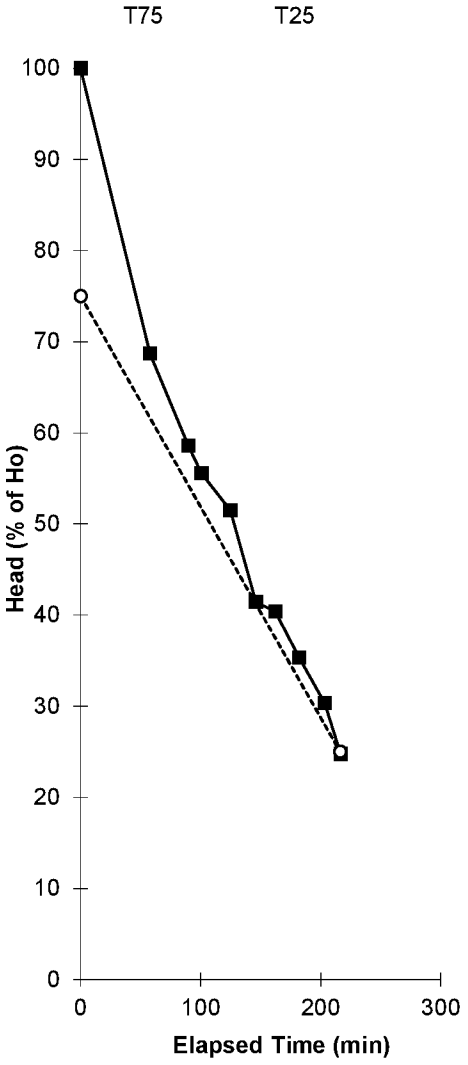
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	2.00	m
Depth of Pit Soaked	0.99	m

ap50	3.3255	m2
Vp75-25	0.13365	m3
t75-25	216.1	min
water used	0.2673	m3
f	3.099E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.01	0	100	0.99
0.32	57.7	69	0.68
0.42	89.6	59	0.58
0.45	100.6	56	0.55
0.49	124.5	52	0.51
0.59	146.0	41	0.41
0.60	162.0	40	0.40
0.65	181.9	35	0.35
0.70	203.4	30	0.30
0.76	216.8	25	0.25



T75	0.000	75
T25	216.141	25
T75-25	216.141	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone:
Facsimile:

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPH test 1
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

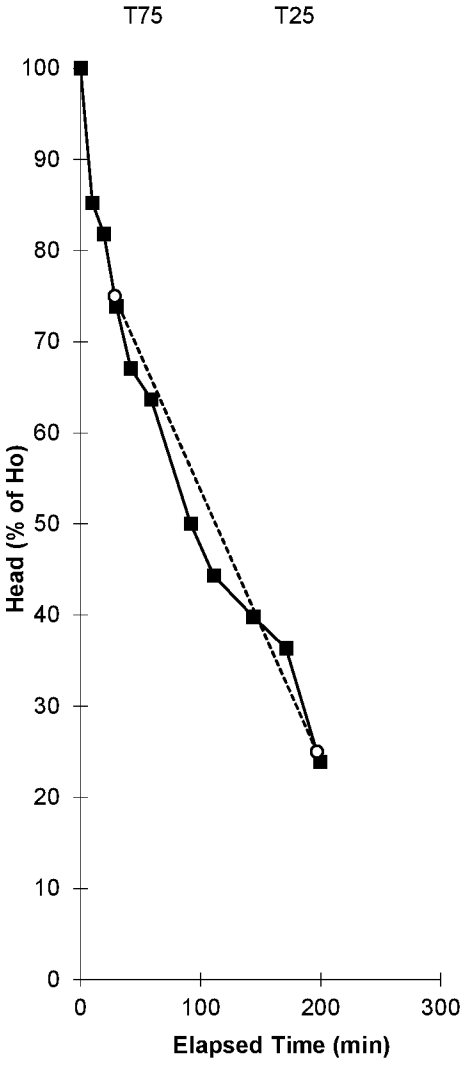
Trial Pit Log (include details of groundwater):

See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	2.00	m
Depth of Pit Soaked	0.88	m
ap50	3.056	m2
Vp75-25	0.1188	m3
t75-25	168.6	min
water used	0.2376	m3
f	3.843E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.12	0	100	0.88
0.25	9.8	85	0.75
0.28	19.4	82	0.72
0.35	29.6	74	0.65
0.41	41.8	67	0.59
0.44	58.9	64	0.56
0.56	91.7	50	0.44
0.61	110.8	44	0.39
0.65	143.9	40	0.35
0.68	171.1	36	0.32
0.79	199.3	24	0.21



T75	28.150	75
T25	196.764	25
T75-25	168.614	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone: [redacted]
Facsimile:

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPH test 3
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

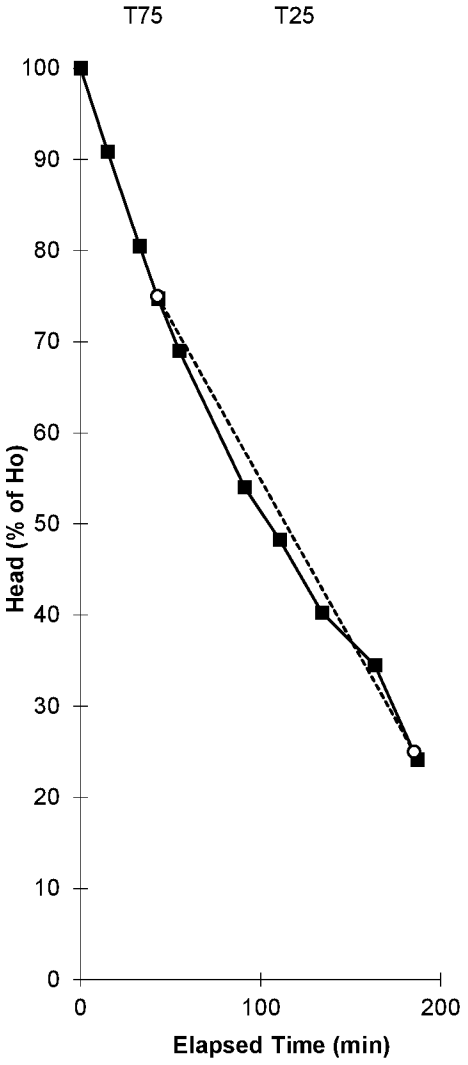
See trial Pit record

Depth of Pit	1.00 m
Width of Pit	0.45 m
Length of Pit	2.00 m
Depth of Pit Soaked	0.87 m

ap50	3.0315 m2
Vp75-25	0.11745 m3
t75-25	142.5 min
water used	0.2349 m3
f	4.532E-06 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.13	0	100	0.87
0.21	15.1	91	0.79
0.30	32.7	80	0.70
0.35	43.1	75	0.65
0.40	54.8	69	0.60
0.53	91.1	54	0.47
0.58	110.6	48	0.42
0.65	134.3	40	0.35
0.70	163.5	34	0.30
0.79	187.0	24	0.21



T75	42.598	75
T25	185.071	25
T75-25	142.473	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone:
Facsimile: [redacted]

Soakaway Calculations

Soakaway Test No.	TPI test
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

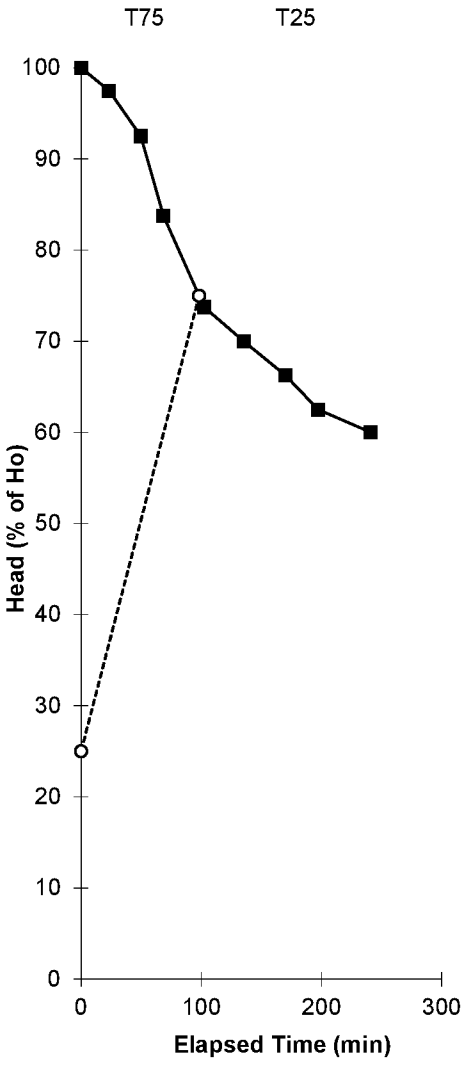
Trial Pit Log (include details of groundwater):
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	1.55	m
Depth of Pit Soaked	0.80	m
ap50	2.2975	m2
Vp75-25	0.0837	m3
t75-25	-98.2	min
water used	0.1674	m3
f		m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.20	0	100	0.80
0.22	23.2	98	0.78
0.26	49.9	93	0.74
0.33	68.4	84	0.67
0.41	102.4	74	0.59
0.44	135.4	70	0.56
0.47	170.2	66	0.53
0.50	197.2	63	0.50
0.52	240.8	60	0.48

T75	98.177	75
T25	0.000	25
T75-25	-98.177	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing. Test incomplete in time allowed, insufficient fall in head to calculate *f*.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPI test 2
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

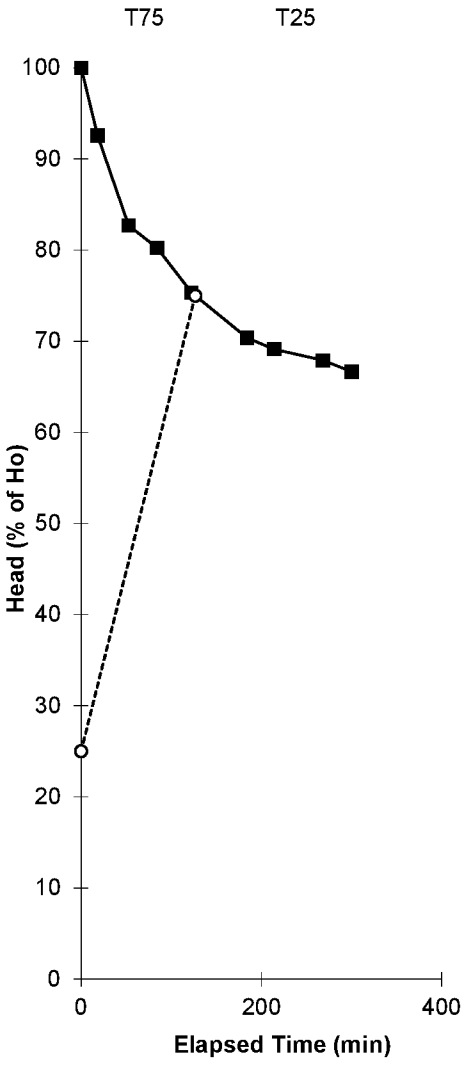
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	1.55	m
Depth of Pit Soaked	0.81	m
ap50	2.3175	m2
Vp75-25	0.08474625	m3
t75-25	-126.6	min
water used	0.1695	m3
f		m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.19	0	100	0.81
0.25	18.4	93	0.75
0.33	52.7	83	0.67
0.35	84.4	80	0.65
0.39	122.7	75	0.61
0.43	184.2	70	0.57
0.44	214.4	69	0.56
0.45	268.3	68	0.55
0.46	300.3	67	0.54

T75	126.559	75
T25	0.000	25
T75-25	-126.559	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing. Test incomplete in time allowed, insufficient fall in head to calculate *f*.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile: [redacted]

Soakaway Calculations

Soakaway Test No.	TPI test 3
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

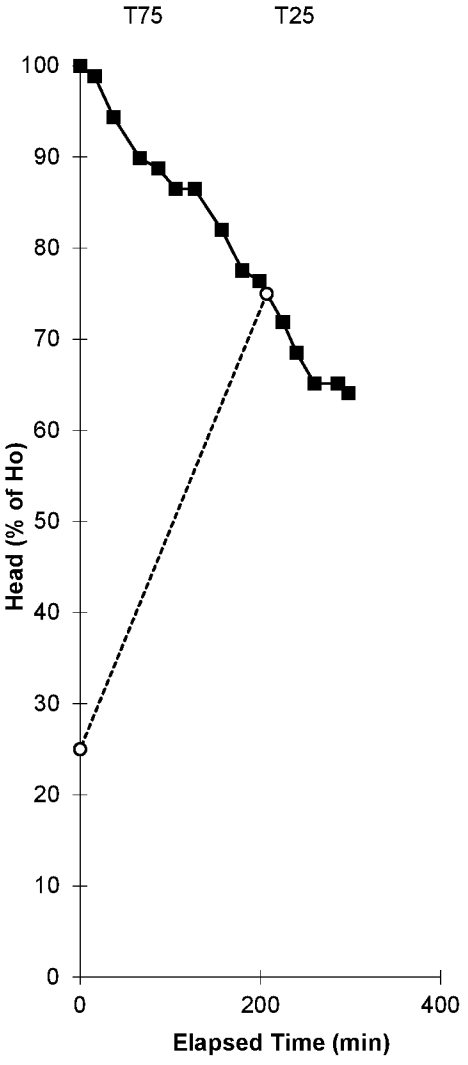
See trial Pit record

Depth of Pit	1.00	m
Width of Pit	0.45	m
Length of Pit	1.55	m
Depth of Pit Soaked	0.89	m

ap50	2.4775	m2
Vp75-25	0.09311625	m3
t75-25	-207.1	min
water used	0.1862	m3
f		m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.11	0	100	0.89
0.12	16.0	99	0.88
0.16	37.0	94	0.84
0.20	66.0	90	0.80
0.21	87.0	89	0.79
0.23	106.0	87	0.77
0.23	127.0	87	0.77
0.27	157.0	82	0.73
0.31	180.0	78	0.69
0.32	199.0	76	0.68
0.36	225.0	72	0.64
0.39	240.0	69	0.61
0.42	260.0	65	0.58
0.42	286.0	65	0.58
0.43	298.0	64	0.57



T75	207.125	75
T25	0.000	25
T75-25	-207.125	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing. Test incomplete in time allowed, insufficient fall in head to calculate *f*.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone:
Facsimile:

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPJ test 1
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

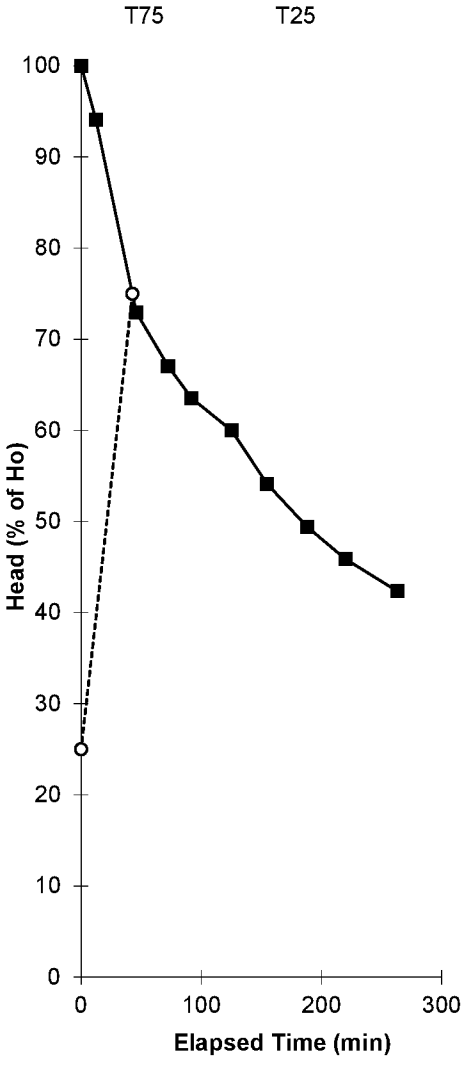
See trial Pit record

Depth of Pit	0.95	m
Width of Pit	0.45	m
Length of Pit	1.55	m
Depth of Pit Soaked	0.85	m

ap50	2.3975	m2
Vp75-25	0.08893125	m3
t75-25	-42.8	min
water used	0.1779	m3
f		m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.10	0	100	0.85
0.15	12.4	94	0.80
0.33	46.0	73	0.62
0.38	72.4	67	0.57
0.41	92.1	64	0.54
0.44	125.3	60	0.51
0.49	154.7	54	0.46
0.53	187.9	49	0.42
0.56	219.9	46	0.39
0.59	263.3	42	0.36



T75	42.762	75
T25	0.000	25
T75-25	-42.762	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing. Test incomplete in time allowed, insufficient fall in head to calcualte *f*.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone: [redacted]
Facsimile:

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPJ test 2
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

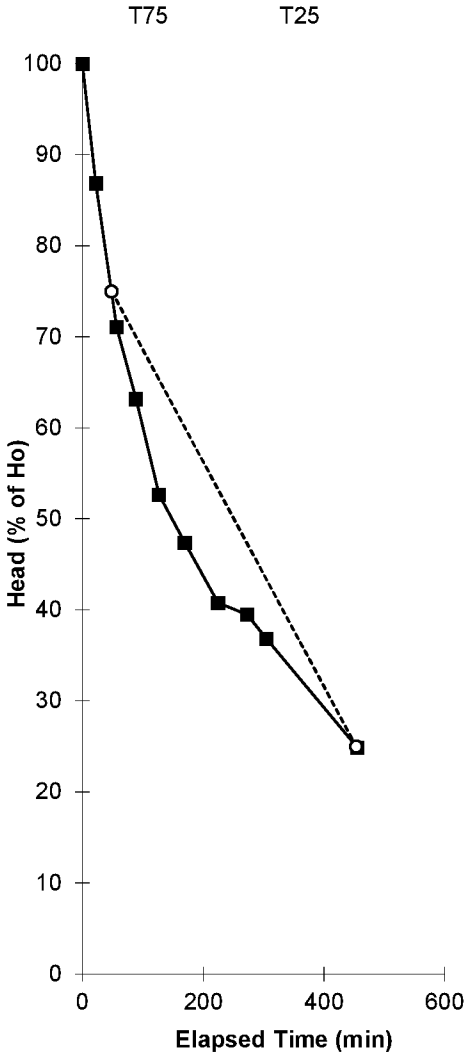
See trial Pit record

Depth of Pit	0.95 m
Width of Pit	0.45 m
Length of Pit	1.55 m
Depth of Pit Soaked	0.76 m

ap50	2.2175 m2
Vp75-25	0.079515 m3
t75-25	405.1 min
water used	0.1590 m3
f	1.475E-06 m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.19	0	100	0.76
0.29	22.4	87	0.66
0.41	56.9	71	0.54
0.47	89.1	63	0.48
0.55	126.9	53	0.40
0.59	169.7	47	0.36
0.64	224.5	41	0.31
0.65	273.0	39	0.30
0.67	304.9	37	0.28
0.76	455.0	25	0.19



T75	48.296	75
T25	453.351	25
T75-25	405.055	Derived from Best Fit

Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing. Data extrapolated (blue) to calc. *f*. Result must be used with caution.

SOILS LIMITED

Newton House, Cross Road, Tadworth
Surrey, KT20 5SR

Telephone: [redacted]
Facsimile: [redacted]

ARUN DISTRICT COUNCIL CM/48/21/RES

Soakaway Calculations

Soakaway Test No.	TPJ test 3
Contract:	Land at Church Lane, Horsemere Green Lane, Climping
Contract No.	17830

Field Test

Trial Pit Log (include details of groundwater):

See trial Pit record

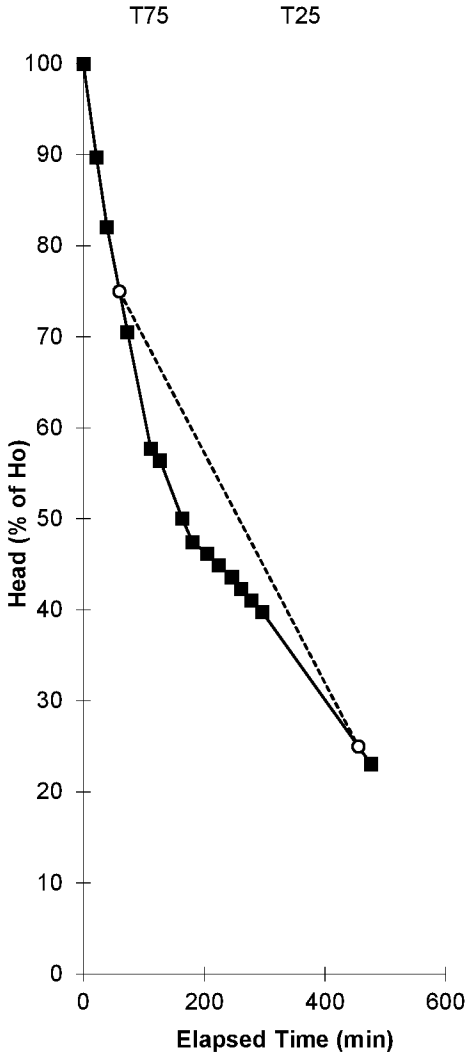
Depth of Pit	0.95	m
Width of Pit	0.45	m
Length of Pit	1.55	m
Depth of Pit Soaked	0.78	m

ap50	2.2575	m2
Vp75-25	0.0816075	m3
t75-25	395.5	min
water used	0.1632	m3
f	1.524E-06	m/sec.

Field Data

Depth to Water (m)	Elapsed Time (min)	Head of Water (% of Ho)	Head of Water (m)
0.17	0	100	0.78
0.25	22.0	90	0.70
0.31	39.0	82	0.64
0.40	73.0	71	0.55
0.50	112.0	58	0.45
0.51	127.0	56	0.44
0.56	164.0	50	0.39
0.58	181.0	47	0.37
0.59	205.0	46	0.36
0.60	224.0	45	0.35
0.61	246.0	44	0.34
0.62	261.0	42	0.33
0.63	278.0	41	0.32
0.64	296.0	40	0.31
0.77	476.0	23	0.18

T75	59.778	75
T25	455.231	25
T75-25	395.453	Derived from Best Fit



Comments

Trial pit excavated with a JCB 3CX and backfilled with granular materials (40mm) to prevent collapse during testing. Data extrapolated (blue) to calc. *f*. Result must be used with caution.

SOILS LIMITED
Newton House, Cross Road, Tadworth
Surrey, KT20 5SR
Telephone:
Facsimile:

Appendix D Winter Groundwater Monitoring Results

ARUN DISTRICT COUNCIL CM/48/21/RES



Borehole	GW Level (m bgl)				
	Sep	Oct	Nov	Dec	Jan
WS101	3.97	3.42	2.70	2.02	2.17
WS103	4.25	4.00	3.28	2.24	2.61
WS107	3.44	3.07	1.91	0.56	0.67
WS114	3.45	3.24	2.00	0.22	0.20
WS115		4.20	3.36	1.53	1.53

soils
LIMITED
Thomas Telford House, Sun Valley Business Park
Winnall Close
Winchester
SO23 0LB

Foreman Homes

Via email only: [redacted]
26th April 2022
Our Ref.: 19784/GWLR

[redacted]

Dear Katherine,

Re: Land to the west of Church Lane, Climping, West Sussex, BN17 5QY

We are writing regarding the intrusive investigation undertaken at the above-named site.

Brief
The Soils Limited quotation (reference Q25431 dated 25th October 2021) set the scope of the investigation.

The intrusive investigation comprised:

- 4No. up to 4m deep windowless sampler boreholes
- Installation of 4No groundwater monitoring standpipes
- 12No. winter groundwater monitoring visits (fortnightly, November – April)

General
The site was located at Land to the west of Church Lane, Climping, West Sussex, BN17 5QY, a site location plan has been included as Figure 1. The site was located upon the Lewes Nodular, Seaford, Newhaven, Culver and Portsdown Chalk Formations (Undifferentiated) bedrock, with overlying superficial deposits of Raised Beach Deposits.

Raised Beach Deposits
Raised Beach Deposits consist of shingle, sand, silt and clay. Beach deposits may be in the form of dunes, sheets or banks, now above the level of the present shoreline as a result of earth movement or a general fall in sea level.

Lewes Nodular, Seaford, Newhaven, Culver And Portsdown Chalk Formations (Undifferentiated)
Sedimentary Bedrock formed approximately 72 to 94 million years ago in the Cretaceous Period in a local environment previously dominated by warm chalk seas. These sedimentary rocks are shallow-marine in origin, are biogenic and detrital, generally comprising carbonate material (coccoliths), forming distinctive beds of chalk.

The Lewes Nodular Chalk Formation is composed of hard to very hard nodular chalks and hardgrounds with interbedded soft to medium hard chalks (some grainy)

ARUN DISTRICT COUNCIL CM/48/21/RES

and marls, and some griotte chalks. The Seaford Chalk Formation can be described as firm white chalk with conspicuous semi-continuous nodular and tabular flint seams. Hardgrounds and thin marls are known from the lowest beds. Some flint nodules are large to very large. The Newhaven Chalk Formation is a soft white friable microporous limestone composed of coccolith biomicrites with a varying proportion of larger shell fragments.

Site Works

Site works were undertaken on the 29th October 2021, which comprised the excavation of 4No. deep windowless sampler boreholes identified as WS101 - WS104 to depths of 4.00m below ground level, with 4No. groundwater monitoring standpipes installed to depths of 3.80m below ground level (WS101) - 4.00m bgl (WS102 – WS104). Soil samples from the exploratory holes were logged onsite.

Prior to excavation, all trial hole locations were scanned for services using a Cat and signal generator (Genny). A trial hole location plan is included as Figure 2.

Ground Conditions

The ground conditions encountered during the site investigation have been summarised in Table 1.

Topsoil (TS)
Raised Beach Deposits (RBD1)
Lewes Nodular, Seaford, Newhaven, Culver And Portsdown Chalk Formations (LPCK)

Table 1 – Summary of Ground Conditions

Strata	Depth Encountered (m bgl)		Typical Description
	Top	Base	
TS	0.00	0.40-0.60	Soft greyish brown sandy to very sandy CLAY with rare angular to rounded fine to medium flint and fine brick gravel.
RBDI	0.40-0.60	2.30 - 4.00 [1,2]	Soft light brown and orange slightly gravelly, very sandy CLAY with angular, medium flint gravel. Occasional inconsistent thick beds of light brown and orange SAND with occasional flint gravel.
LPCK	2.30	4.00[1,2]	(WS103, WS104) Structureless CHALK. Recovered as soft white occasionally mottled yellow, occasionally very sandy.

Notes: [1] encountered to the final depth of trial hole [2] base of strata not encountered

The windowless sampler borehole logs are included in Appendix A.

Groundwater

Groundwater was encountered within the windowless sampler borehole WS101 as wet soils at 3.80m bgl, but groundwater was not encountered in W102 – WS104.

Wells were installed in all four windowless sampler boreholes (WS101 – WS104) to allow for future groundwater monitoring on 12No. occasions. Post site work monitoring visits were undertaken monthly from October 2021 to March 2022 with the groundwater depths

recorded from the monitoring standpipes installed in each windowless sampler borehole (WS101 – WS104).

Groundwater Monitoring Records
Monitoring was undertaken on 12No. separate occasions.

The results of the monitoring are provided within Table 2 and Graph 1.

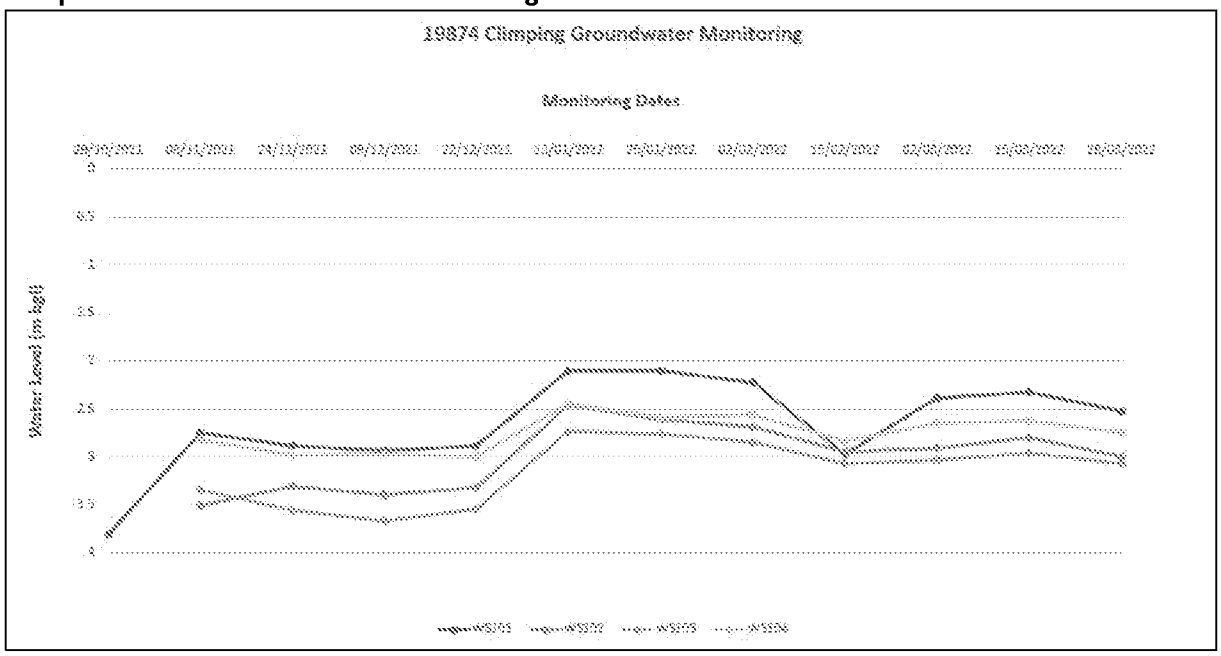
A site location map and trial hole locations plan are presented on Figures 1 and 2.

Table 2 – Groundwater Monitoring Results

Date	WS	H_2O (m bgl)	Base of Well (m bgl)
29/10/2021	WS101	3.80	4.00
	WS102	Dry	4.00
	WS103	Dry	4.00
	WS104	Dry	4.00
08/11/2021	WS101	2.75	3.70
	WS102	3.51	3.51
	WS103	3.34	3.78
	WS104	2.82	3.68
24/11/2021	WS101	2.88	3.70
	WS102	3.31	3.76
	WS103	3.55	3.78
	WS104	2.98	3.65
09/12/2021	WS101	2.93	3.78
	WS102	3.39	3.86
	WS103	3.67	3.67
	WS104	2.97	3.75
22/12/2021	WS101	2.88	3.82
	WS102	3.32	3.92
	WS103	3.54	3.95
	WS104	3.00	3.83
13/01/2022	WS101	2.10	3.90
	WS102	2.46	3.90
	WS103	2.74	3.95
	WS104	2.45	3.85
26/01/2022	WS101	2.10	3.74
	WS102	2.61	3.81
	WS103	2.76	3.82
	WS104	2.58	3.70
02/02/2022	WS101	2.22	3.68
	WS102	2.69	3.75
	WS103	2.85	3.76
	WS104	2.56	3.66
15/02/2022	WS101	2.97	3.74
	WS102	2.95	3.88
	WS103	3.07	3.93
	WS104	2.83	3.74
02/03/2022	WS101	2.39	3.68
	WS102	2.91	3.74
	WS103	3.03	3.76
	WS104	2.65	3.68
15/03/2022	WS101	2.33	3.68
	WS102	2.80	3.77
	WS103	2.96	3.77
	WS104	2.62	3.73
28/03/2022	WS101	2.52	3.75

Date	WS	H_2O (m bgl)	Base of Well (m bgl)
	WS102	2.99	3.82
	WS103	3.07	3.82
	WS104	2.75	3.75

Graph 1. Winter Groundwater Monitoring Data



Points with no data recorded indicate the monitoring well was dry with no groundwater observed.

In summary, the depth to groundwater rose to it's peak on the 13th January 2022 between 2.10m and 2.74m bgl, and remained high until 2nd February 2022 at 2.22m to 2.85m bgl, prior to beginning to falling, with the last monitoring visit on the 28th March 2022 recording water levels of 2.52 to 3.07m bgl.

Changes in groundwater level occur for a number of reasons including seasonal effects and variations in drainage. The investigation was conducted in from October 2021 to March 2022 when groundwater levels should be rising from their annual minimum (lowest) elevation, which typically occurs around September to the annual maximum (highest) which typically occurs around March.

The following attachments make up the remainder of this letter report.

Figure 1. Site Location Plan
Figure 2. Trial Hole Location Plan

Appendix A. Field Data

Should you have any further questions please do not hesitate to contact the undersigned.

Yours sincerely,

[redacted]

Deanne Elizabeth Windsor BSc. (Hons)
[redacted]
Graduate Geo-environmental Engineer/Logging Engineer

For and on behalf of Soils Limited.

Enc.

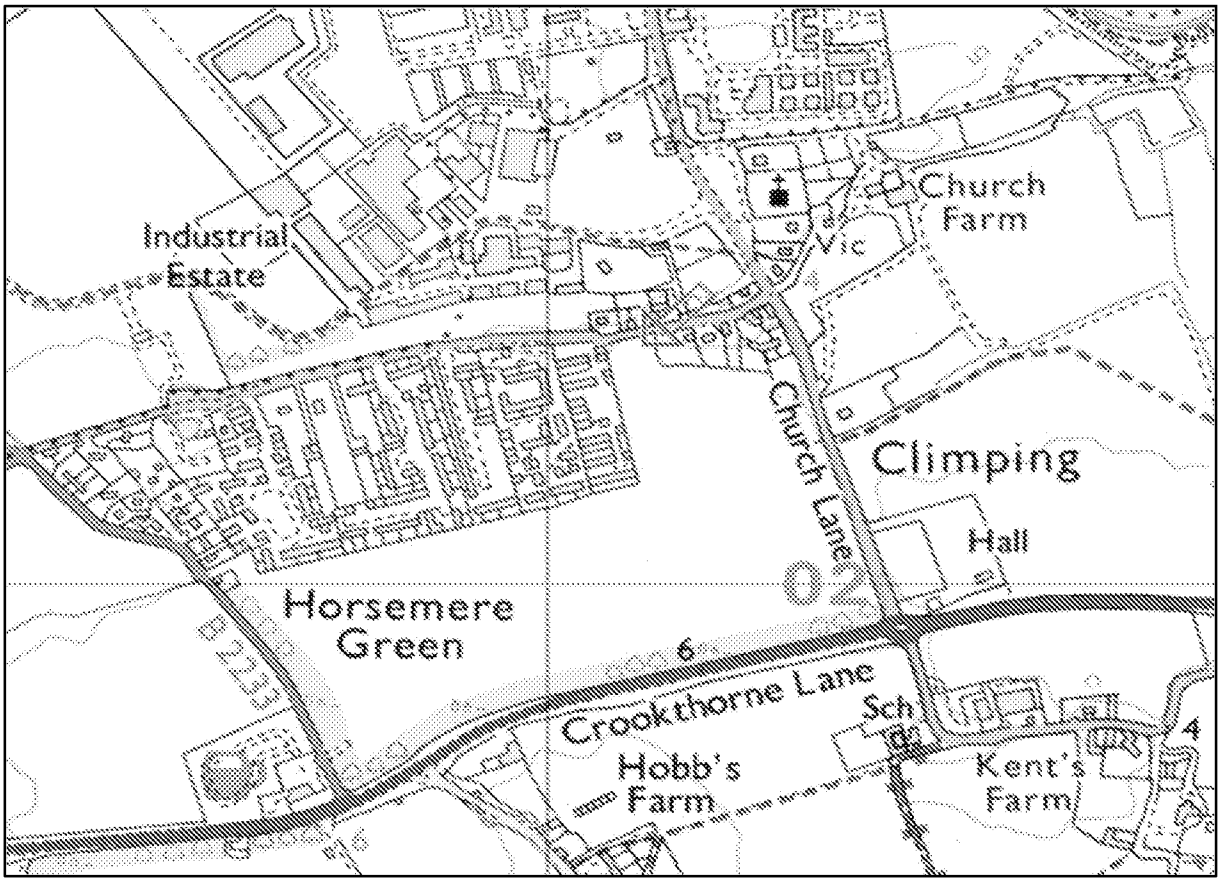


Figure 1 – Site location Plan

Figure number	Title
1	Site Location Plan
Project	**Date**
Re: Land to the west of Church Lane, Climping, West Sussex, BN17 5QY	April 2022
Client	**Reference**
Foreman Homes	19784

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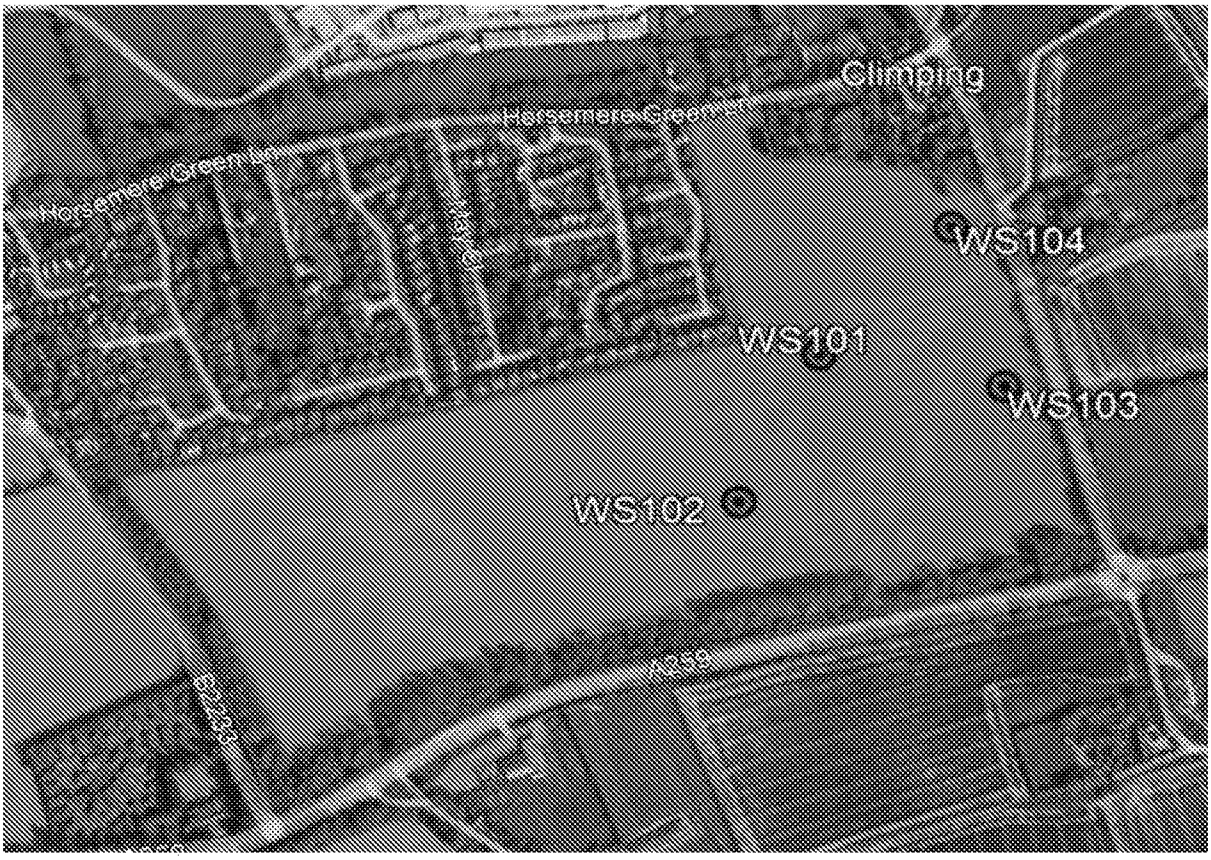


Figure 2. Trial Hole Location Plan

Figure number	Title
2	Trial Hole Location Plan
Project	**Date**
Re: Land to the west of Church Lane, Climping, West Sussex, BN17 5QY	April 2022
Client	**Reference**
Foreman Homes	19784

ARUN DISTRICT COUNCIL CM/48/21/RES

soils LIMITED

Contract Name:		Client:			Hole ID:
Land to the west of Church Lane, Climping		Foreman Homes			WS101
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
19784	29/10/21				WS
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
				08/11/2021	1:50

Weather: | Termination: | Sheet 1 of 1

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ installation
				(1.60)		Soft brown sandy CLAY. Sand is fine to coarse. (RAISED BEACH DEPOSITS)		
				1.60		Soft light brown slightly gravelly, very sandy CLAY. Gravel is angular, medium flint. Sand is fine to coarse. (RAISED BEACH DEPOSITS)		
				(1.40)				
				3.00		Light brown slightly gravelly SAND. Sand is coarse. Gravel is subangular, medium flint. (RAISED BEACH DEPOSITS)		
				(1.00)				
				4.00		End of Borehole at 4.00m		

1 2 3 4 5 6 7 8 9 10

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)

Borehole Diameter

Depth (m)	Dia (mm)

Casing Diameter

Depth (m)	Dia (mm)

Remarks:

Chiselling

From (m)	To (m)	Duration	Remarks

Installation

Top (m)	Base (m)	Type	Dia (mm)
0.00	1.00	PLAIN	
1.00	4.00	SLOTTED	

Water Strikes

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
3.80			0	0.00	Groundwater encountered.

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:		Client:			Hole ID:
Land to the west of Church Lane, Climping		Foreman Homes			WS102
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
19784	29/10/21				WS
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
				08/11/2021	1:50

Weather: | Termination: | Sheet 1 of 1

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ installation
				(0.50)		Soft brown sandy CLAY. Sand is fine to coarse. (RAISED BEACH DEPOSITS)		
				0.50		Soft oange and brown slightly gravelly sandy CLAY. Gravel is sub rounded fine to medium flint. (RAISED BEACH DEPOSITS)		
				(1.50)				
				2.00		Soft light brown very sandy CLAY. Sand is fine to coarse. (RAISED BEACH DEPOSITS)		
				(2.00)				
				4.00		End of Borehole at 4.00m		

1 2 3 4 5 6 7 8 9 10

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Remarks:

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)
				0.00	1.00	PLAIN	
				1.00	4.00	SLOTTED	

Water Strikes

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
			0	0.00	No groundwater encountered

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:		Client:			Hole ID:
Land to the west of Church Lane, Climping		Foreman Homes			WS103
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
19784	29/10/21				WS
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
				08/11/2021	1:50

Weather: | Termination: | Sheet 1 of 1

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ installation
				(0.40) 0.40		Soft brown very sandy CLAY. Rare fine gravel sized brick frgaments. (TOPSOIL)		
				(1.10) 1.50		Soft orange and brown very sandy CLAY. Sand is fine to coarse. (RAISED BEACH DEPOSITS)		
				(1.30) 2.80		Loose orange SAND. Sand is fine to coarse. (RAISED BEACH DEPOSITS)		
				(0.80) 3.60		Soft light brown very sandy CLAY. Sand is fine to coarse. (RAISED BEACH DEPOSITS)		
				(0.40) 4.00		Off white soft CHALK. (LEWES NODULAR CHALK, SEAFORD CHALK, NEWHAVEN CHALK, CULVER CHALK AND PORTSDOWN CHALK FORMATION (UNDIFFERENTIATED))		
						End of Borehole at 4.00m		

1 2 3 4 5 6 7 8 9 10

Start & End of Shift Observations					Borehole Diameter		Casing Diameter	
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Remarks:

Chiselling				Installation			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)
				0.00	1.00	PLAIN	
				1.00	4.00	SLOTTED	

Water Strikes

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
			0	0.00	No groundwater encountered

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

soils LIMITED

Contract Name:		Client:			Hole ID:
Land to the west of Church Lane, Climping		Foreman Homes			WS104
Contract Number:	Start and End Date:	Logged By:	Checked By:	Status:	Hole Type:
19784	29/10/21				WS
Easting:	Northing:	Ground Level:	Plant Used:	Print Date:	Scale:
				08/11/2021	1:50

Weather: | Termination: | Sheet 1 of 1

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Type	Results	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ installation
				(0.60)		Soft brown very sandy CLAY. Sand is fine to coarse. Rare angular to rounded fine to medium gravel sized flint. (RAISED BEACH DEPOSITS)		
				0.60		Soft brown CLAY. (RAISED BEACH DEPOSITS)		
				(0.90)				
				1.50		Soft brown gravelly CLAY. Gravel is angular to subangular fine to medium flint. (RAISED BEACH DEPOSITS)		
				(0.40)				
				1.90		Soft pale yellow sandy CLAY. Sand is fine to coarse. (RAISED BEACH DEPOSITS)		
				(0.40)				
				2.30		Pale yellow and off white very sandy CHALK. (LEWES NODULAR CHALK, SEAFORD CHALK, NEWHAVEN CHALK, CULVER CHALK AND PORTSDOWN CHALK FORMATION (UNDIFFERENTIATED))		
				(1.70)				
				4.00		End of Borehole at 4.00m		

1 2 3 4 5 6 7 8 9 10

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)

Borehole Diameter

Depth (m)	Dia (mm)

Casing Diameter

Depth (m)	Dia (mm)

Remarks:

Chiselling

From (m)	To (m)	Duration	Remarks

Installation

Top (m)	Base (m)	Type	Dia (mm)
0.00	1.00	PLAIN	
1.00	4.00	SLOTTED	

Water Strikes

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
			0	0.00	No groundwater encountered

Hand vane (HV), Hand penetrometer (HP) reported in kPa. PID reported in ppm.

Appendix E Southern Water Public Sewer Records

ARUN DISTRICT COUNCIL CM/48/21/RES

SOUTHERN WATER SERVICES LIMITED



LEGEND - MAINS

- Distribution Main / Communication pipe
- Trunk Main
- Raw water main
- Non potable
- Abandoned main
- Proposed Main
- Fire main
- Non SWS
- Sluice valve
- Closed valve
- Air valve
- Butterfly valve
- Pressure reducing valve
- Reflux valve
- Motorised valve
- Clockwise closing valve
- Fire Hydrant
- Washout
- Washout hydrant
- Meter
- Capped end
- Emptying plug
- Stopcock
- Leak Noise Correlator Survey Point
- Anode
- Telemetry cable
- Access point / hatchbox
- Dialysis machine
- Break pressure tank
- Change node
- Pumping station
- Booster station
- Insertion Flow Meter Point
- Water tower
- Service reservoir
- Water Supply Works
- Bore hole / Well
- Intake
- Customer site
- Swab insertion point

MATERIALS

Alkathene	AK
Cast iron	CI
Spun (grey) iron	SI
Concrete	CO
Ductile iron	DI
Bonded Asbestos Cement	BAC
Glass reinforced plastic	GRP
Glass reinforced epoxy	GRE
(Unplasticised) Polyvinyl chloride	PVC
Polyethylene	PE
Steel	ST
Concrete segments bolted	CSB
Concrete segments unbolted	CSU
Galvanised iron	GI
Ductile sleeve	DS
Concrete pre-stressed	CPS
High performance polyethelene	HPE
Unknown	??

O.S. Ref.	TQ0002SW
Drawn by:	duttaai
Scale:	1:2500
Date:	22/08/2019
Title:	Land to the West of Church Lan

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual position of pipes must be determined on site.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement
WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement

Based upon Ordnance Survey Digital Data with the permission of the Controller of H.M.S.O. Crown Copyright Reserved Licence No. WU298530

N

Southern Water

102627



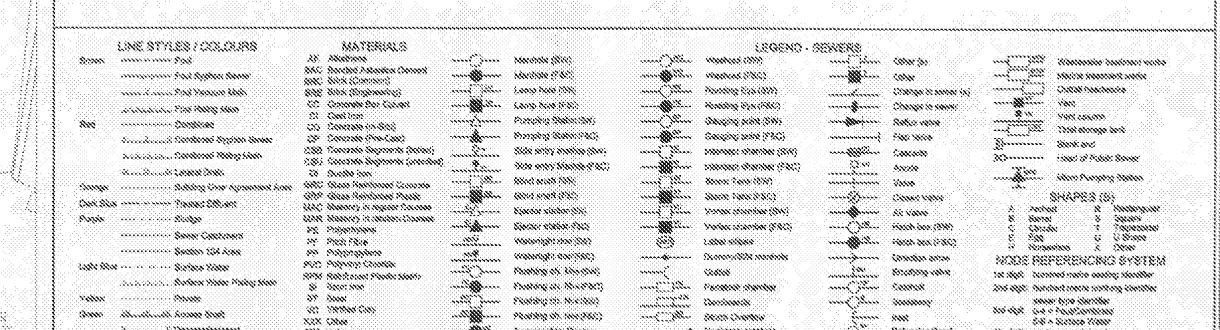
101298

499353

500808

SEWER RECORDS

Node	Cover	Invert	Size	Material	Shape	
0101X	5.98	4.49	150	VC	CIRC	
0102X	6.54	4.694	150	VC	CIRC	
0103X	6.85	5.26	150	VC	CIRC	
0104X	6.785	4.856	150	VC	CIRC	
0105X	6.75	5.447	150	VC	CIRC	
0106X	6.75	5.843	150	VC	CIRC	
0201X	5.84	4.11	150	VC	CIRC	
0202X	5.81	3.95	150	VC	CIRC	
0203X	5.73	3.72	150	VC	CIRC	
0204X	5.71	3.54	150	VC	CIRC	
0205X	5.69	3.932	150	VC	CIRC	
0206X	5.535	4.089	150	VC	CIRC	
0207X	5.702	4.352	150	VC	CIRC	
0208X	6.265	4.576	150	VC	CIRC	
0301X	4.96	3.13	150	VC	CIRC	
0302X	4.61	2.13	150	VC	CIRC	
0303X	4.65	1.96	150	VC	CIRC	
0304X	4.81		UNK	UNK	CIRC	
0305X	5.96	3.74	150	VC	CIRC	
030PX			100	PE	CIRC	
0501X	4.517	3.188	150	PVC	CIRC	*
0501Y	4.517		UNK	UNK	CIRC	*
0502X			150	PVC	CIRC	
050DX			150	PVC	CIRC	
0550Y			UNK	UNK	CIRC	
0550X			UNK	UNK	CIRC	
056DX			UNK	UNK	CIRC	
0601X			150	PVC	CIRC	
1351X			300	UNK	CIRC	
1352X			300	UNK	CIRC	
1401X	4.493		150	PVC	CIRC	
1402X	4.313	2.612	150	PVC	CIRC	
1404X			100	VC	CIRC	
1405X			150	PVC	CIRC	
1450X			300	UNK	CIRC	
1501X			150	PVC	CIRC	
2401X			150	PVC	CIRC	
2402X			UNK	PVC	CIRC	
240PX	4.639		UNK	PVC	CIRC	
4101X			150	UNK	CIRC	
4102X			150	UNK	CIRC	
4201X			150	UNK	CIRC	
5001X			150	UNK	CIRC	
5002X			150	UNK	CIRC	
5003X			150	UNK	CIRC	
5050X	5.59	3.74	375	CO	CIRC	
5051X	5.59	3.69	375	CO	CIRC	
5150X	5.71	4.58	225	VC	CIRC	
5201X			150	UNK	CIRC	
5202X		1.44	150	UNK	CIRC	
5203X	4.46	1.41	225	VC	CIRC	
520PX			100	PVC	CIRC	
521PX	4.42		OTHER	PE	CIRC	
6001X			150	UNK	CIRC	
6002X	6.07	3.77	150	VC	CIRC	
6050X	5.65	3.84	375	CO	CIRC	
6051X	5.81	5.81	225	VC	CIRC	
6052X	5.94	4.54	225	VC	CIRC	
6053X	6.23	4.68	225	VC	CIRC	
6101X		22.98	150	UNK	CIRC	
6102X			UNK	UNK	CIRC	
6103X			150	UNK	CIRC	
6104X	5.68	3.38	150	VC	CIRC	
6105X	5.55	3.6	150	VC	CIRC	
6106X	5.62	3.32	150	VC	CIRC	
610DX			150	UNK	CIRC	
6110X			150	UNK	CIRC	
6150X	5.93	4.63	225	VC	CIRC	
6151X	5.74	4.41	225	VC	CIRC	
6152X	5.66	4.03	375	CO	CIRC	
6153X	5.61	4.31	375	CO	CIRC	
6154X	5.5	3.93	375	CO	CIRC	
6201X			150	UNK	CIRC	
6202X			150	UNK	CIRC	
6203X			150	UNK	CIRC	
6250X	5.62	4.42	375	CO	CIRC	
6251X	5.77	4.77	225	VC	CIRC	
6601X	5.898	4.758	150	PVC	CIRC	
6602X	6.092	5.063	150	PVC	CIRC	
6603X			100	PF	CIRC	
6902X			UNK	PVC	CIRC	
7001X			150	UNK	CIRC	
7101X			150	UNK	CIRC	
7102X			150	UNK	CIRC	
7103X			150	UNK	CIRC	
7201X			150	UNK	CIRC	
7301Y			UNK	UNK	CIRC	
7302X			150	UNK	CIRC	
730AX			300	DI	CIRC	
7601X	5.699	4.52	150	PVC	CIRC	
8101X			150	UNK	CIRC	
8102X			150	UNK	CIRC	
8103X			150	UNK	CIRC	
8104X			150	UNK	CIRC	
8105X	7	4.522	150	VC	CIRC	
8201X			150	UNK	CIRC	
8202X	6.825	4.323	150	VC	CIRC	
8203X	6.56	3.942	150	VC	CIRC	
8204X	6.36	3.735	150	VC	CIRC	
8301X			150	UNK	CIRC	
8302X	5.664	2.877	150	VC	CIRC	
8701X	5.651	4.026	150	PVC	CIRC	
8702X	5.791	4.185	150	PVC	CIRC	
9101X	6.65	4.927	150	VC	CIRC	
9102X	6.84	4.949	150	VC	CIRC	
9103X	6.75	5.631	150	VC	CIRC	
9301X	5.552	2.485	150	VC	CIRC	
9302X	5.512	2.13	150	VC	CIRC	
9303X	5.8	2.083	150	VC	CIRC	
9304X	5.974	3.41	150	VC	CIRC	
9305X	6.112	3.639	150	VC	CIRC	
9601X	4.624		150	PVC	CIRC	
9602X	4.697	3.584	150	PVC	CIRC	



O.S. Ref.	TQ0001NW	Drawn by:	duttal
Scale:	1:2500	Date:	22/08/2019

Title: Land to the West of Church Lan

N

The information contained on this plan is provided as a guide to the approximate position of existing public sewers. The accuracy thereof cannot be guaranteed.

THIS INFORMATION MUST BE TREATED WITH CAUTION AND THE ACTUAL POSITION OF THE PUBLIC SEWERS MUST BE ESTABLISHED ON SITE, IN ALL CASES.

Southern Water must be informed before lifting manhole covers or excavating trial holes.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement

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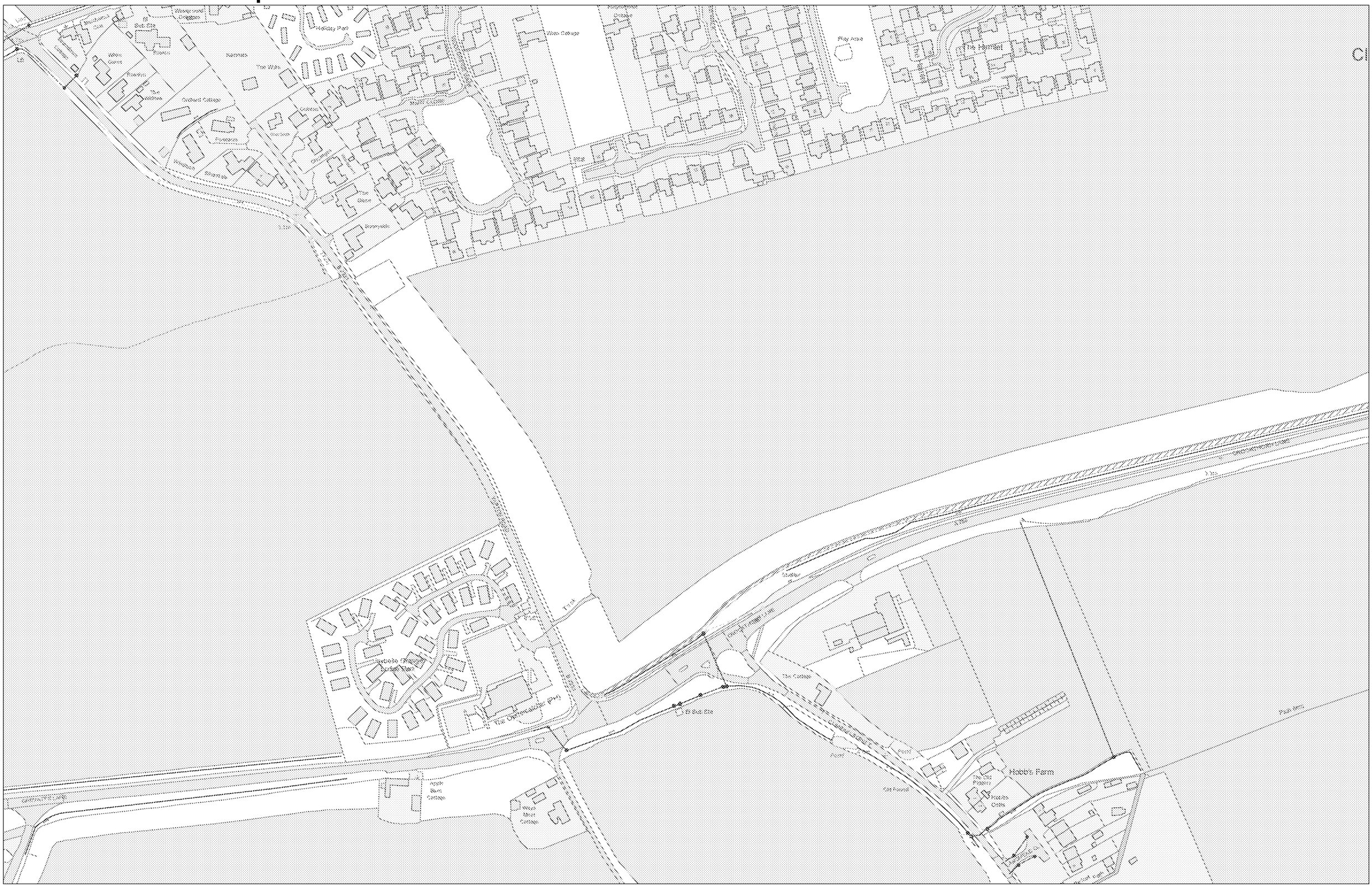
Southern Water

ARUN DISTRICT COUNCIL CM/48/21/RES

Appendix F Arun District Council Drainage Records

ARUN DISTRICT COUNCIL CM/48/21/RES

Arun District Council Maps



Mapping produced by Arun District Council

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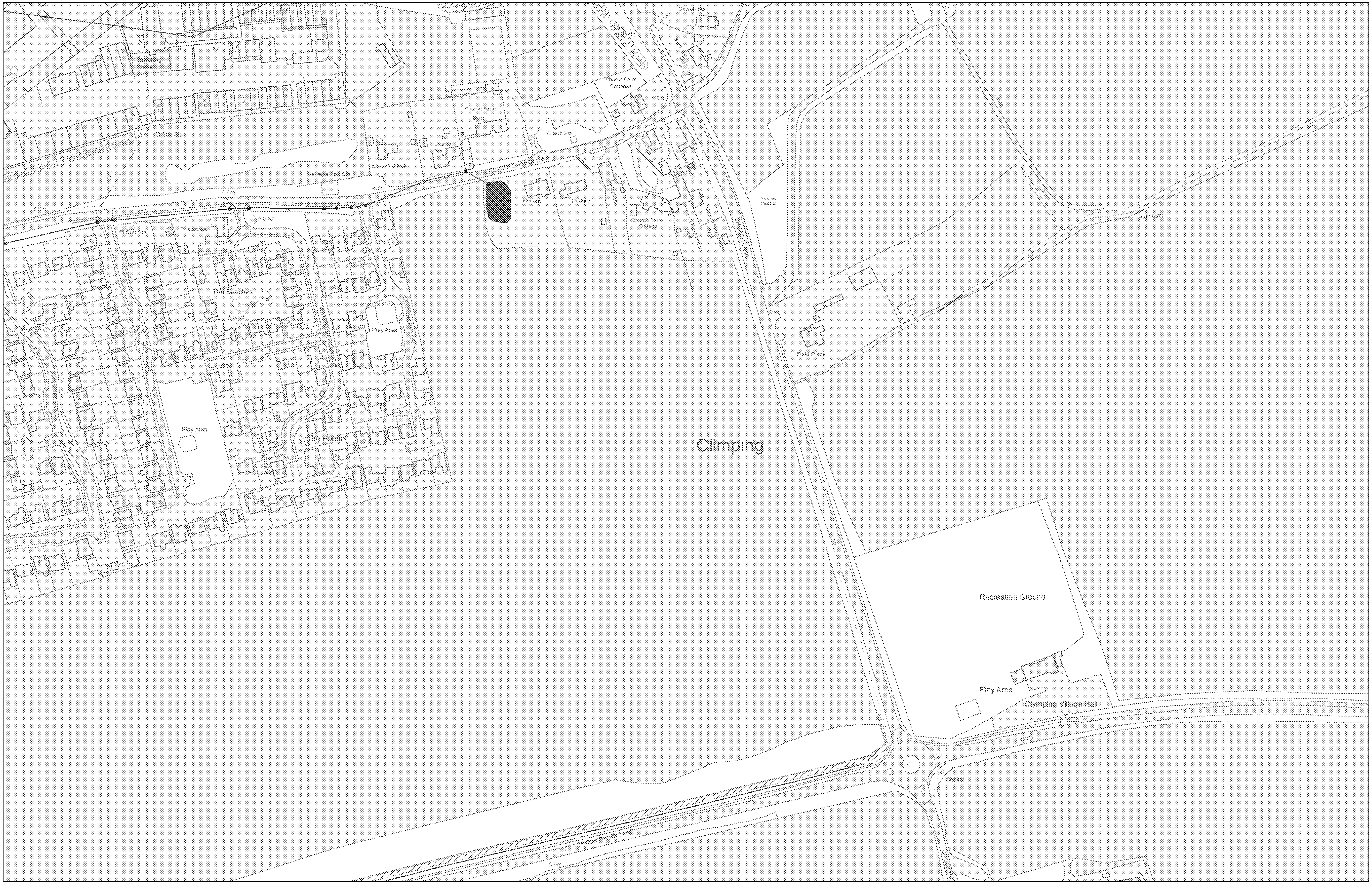
Production Date: 01 July 2020

Scale: 1:2500 @ A3

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ARUN DISTRICT COUNCIL

Arun District Council Maps



Mapping produced by Arun District Council

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Production Date: 01 July 2020

ARUN DISTRICT COUNCIL CM/48/21/RES

Scale: 1:2500 @ A3

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Appendix G West Sussex County Council Drainage Records

ARUN DISTRICT COUNCIL CM/48/21/RES

west sussex county council

Legend

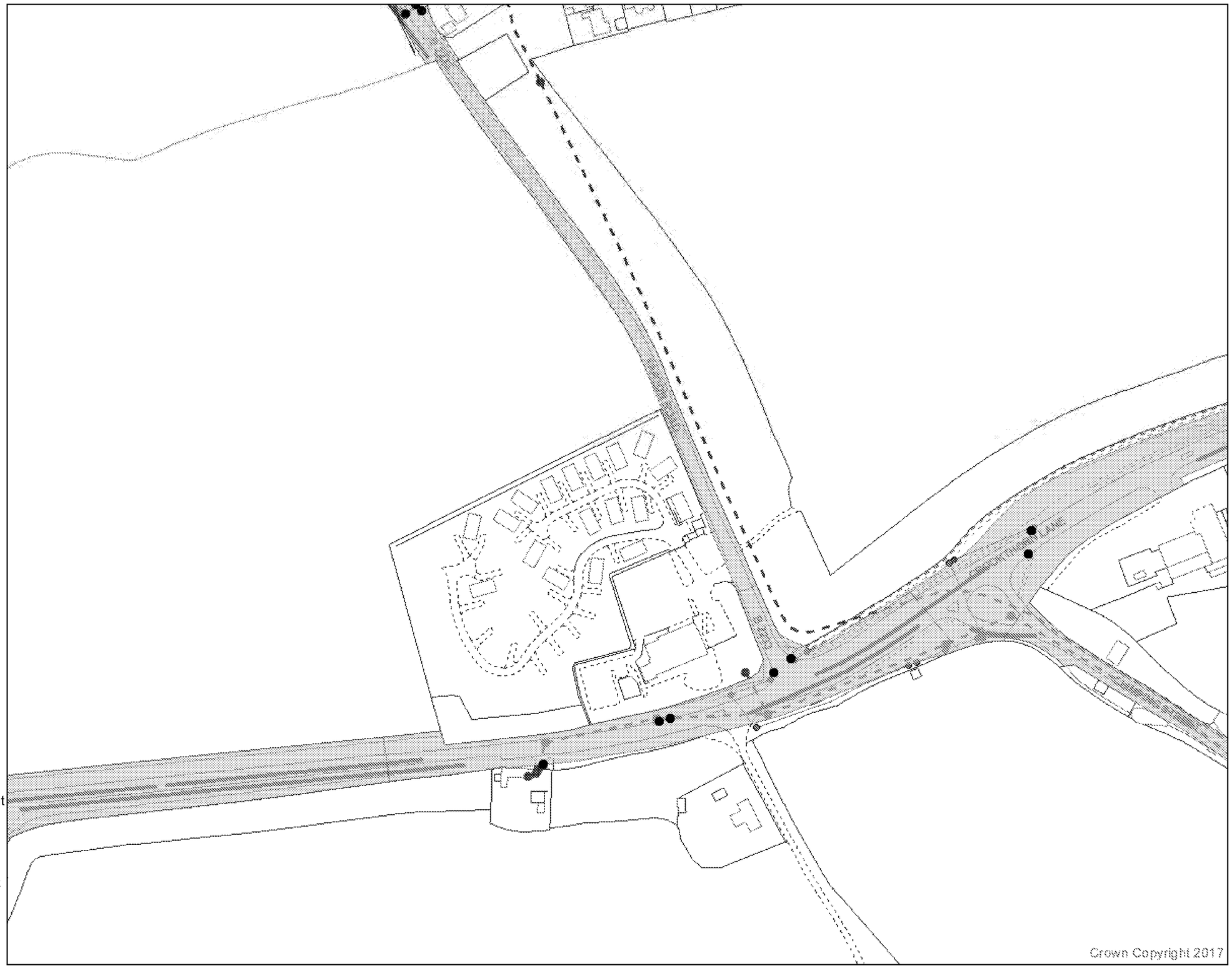
- Bus Stops
- Gully Clean
- Gully Inspection
- Soakaway

Highway Boundary

Responsibility

- WSCC
- Highways England
- Jointly Maintained
- Culverts
- Ditches
- Boreholes
- Drainage Cartography Point
- Drainage Cartography Line
- Drainage Cartography Area
- Filter Drain Point
- Filter Drain Line
- Foul Water Drain Point
- Foul Water Drain Line
- Foul Water Drain Area
- Highway Drain Point
- Highway Drain Line
- Highway Drain Area
- Land Drain Point
- Land Drain Line
- Land Drain Area
- Main River Culverted Point
- Main River Culverted Line
- Ordinary Watercourse Culverted Point
- Ordinary Watercourse Line
- Ordinary Watercourse Culverted Line
- Ordinary Watercourse Filled Line
- Ordinary Watercourse Area
- Ordinary Watercourse Filled Area
- Surface Water Drain Point
- Surface Water Drain Line
- Surface Water Drain Area
- IDD Watercourse Line
- Southern Water - Sewer Node

Southern Water - Sewer Pipe



Date:

Author:

Scale: 1:2,000

Map Notes

ARUN DISTRICT COUNCIL CM 8/7/2017

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West Sussex County Council
100023447 (2017)

west sussex county council

Legend

- Bus Stops
- Gully Clean
- Gully Inspection
- Soakaway

Highway Boundary

Responsibility

- WSCC
- Highways England
- Jointly Maintained
- Culverts
- Ditches
- Boreholes
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- Drainage Cartography Line
- Drainage Cartography Area
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- Foul Water Drain Area
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- Highway Drain Line
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- Land Drain Line
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- Ordinary Watercourse Culverted Line
- Ordinary Watercourse Filled Line
- Ordinary Watercourse Area
- Ordinary Watercourse Filled Area
- Surface Water Drain Point
- Surface Water Drain Line
- Surface Water Drain Area
- IDD Watercourse Line
- Southern Water - Sewer Node

Southern Water - Sewer Pipe

Date:

Author:

Scale: 1:2,000

0 12.5 25 50 75 100

Metres

Map Notes

ARUN DISTRICT COUNCIL GIS & MAPS



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100023447 (2017)

west sussex county council

Legend

- Bus Stops
- Gully Clean
- Gully Inspection
- Soakaway

Highway Boundary

Responsibility

- WSCC
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- Surface Water Drain Point
- Surface Water Drain Line
- Surface Water Drain Area
- IDD Watercourse Line
- Southern Water - Sewer Node

Southern Water - Sewer Pipe



N
W E
S

Date:
Author:
Scale 1:2,000

0 12.5 25 50 75 100
Metres

Map Notes

ARUN DISTRICT COUNCIL OS 08/WEST

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West Sussex County Council
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west sussex county council

Legend

- Bus Stops
- Gully Clean
- Gully Inspection
- Soakaway

Highway Boundary

Responsibility

- WSCC
- Highways England
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- Surface Water Drain Area
- IDD Watercourse Line
- Southern Water - Sewer Node

Southern Water - Sewer Pipe



Date:

Author:

Scale 1:2,000

0 12.5 25 50 75 100

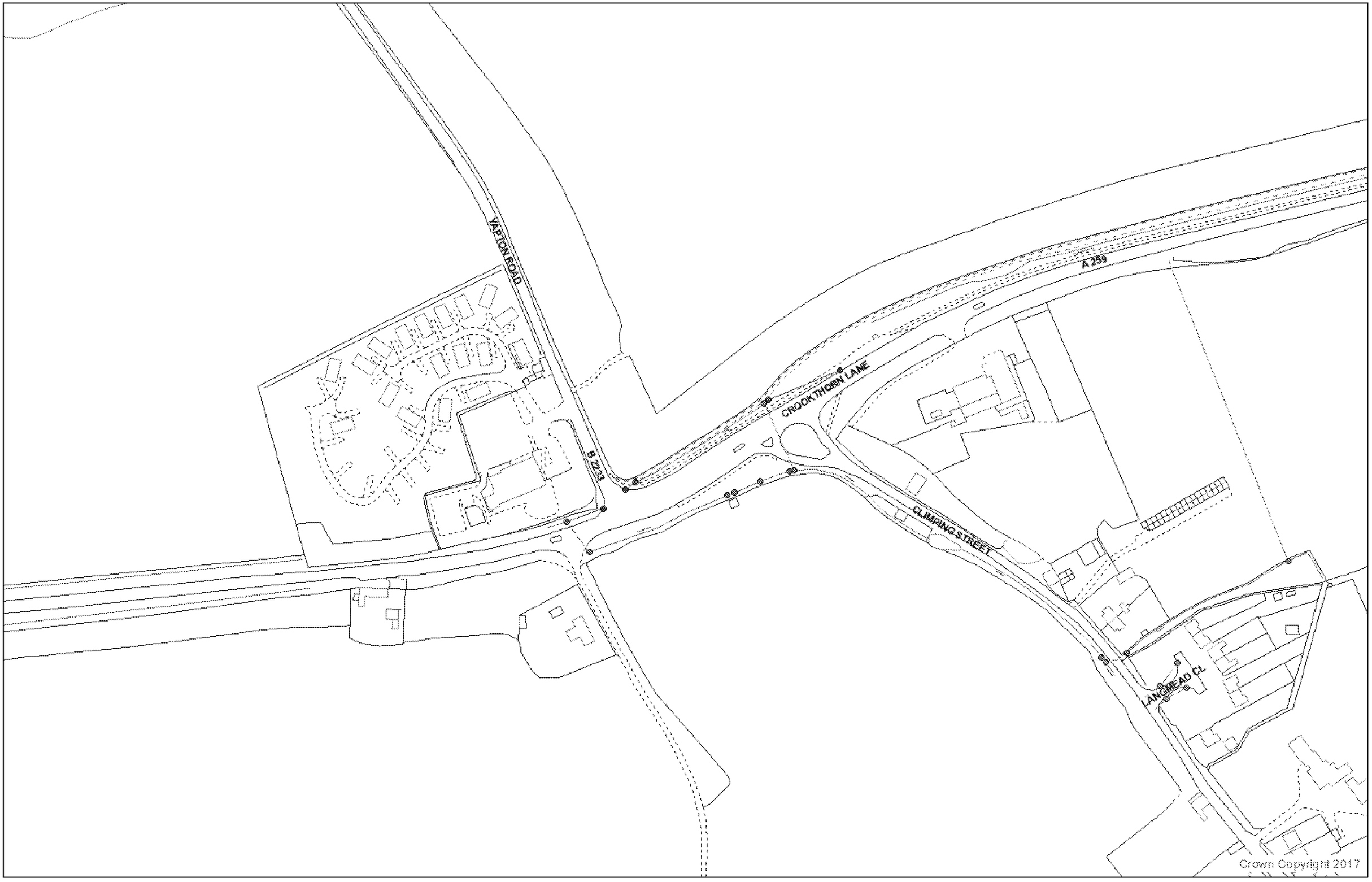
Metres

Map Notes

ARUN DISTRICT COUNCIL/Mid Sussex

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A259 / Yapton Road Junction - Existing Drainage Layout (ADC Plans) - Sheet 1



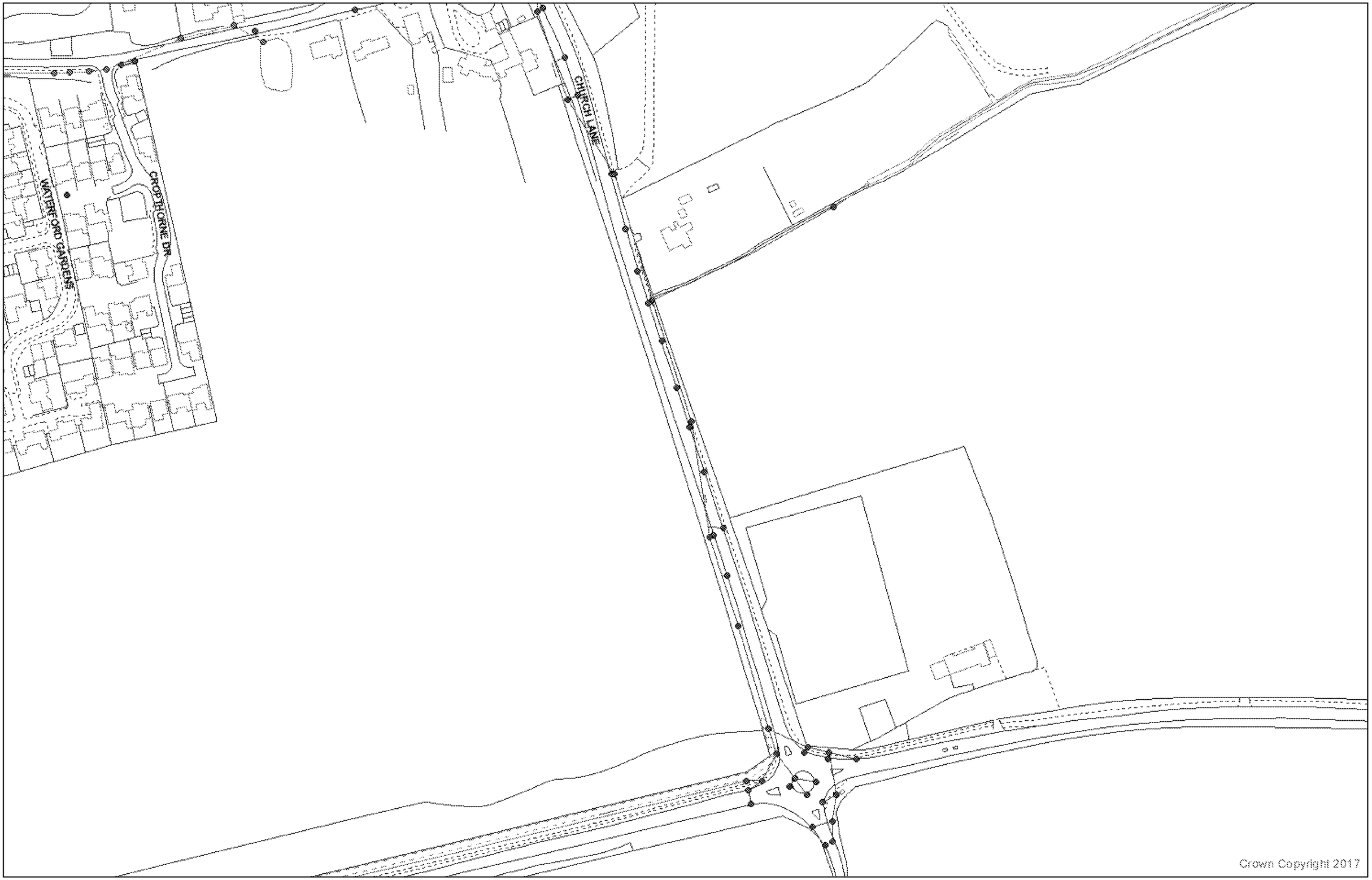
Date: June 2020
Author: K Macknay
Scale 1:2,000

Map Notes:

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ARUN DISTRICT COUNCIL

A259 / Church Lane Junction - Existing Drainage Layout (ADC Plans) - Sheet 2



Date: June 2020

Author: K Macknay

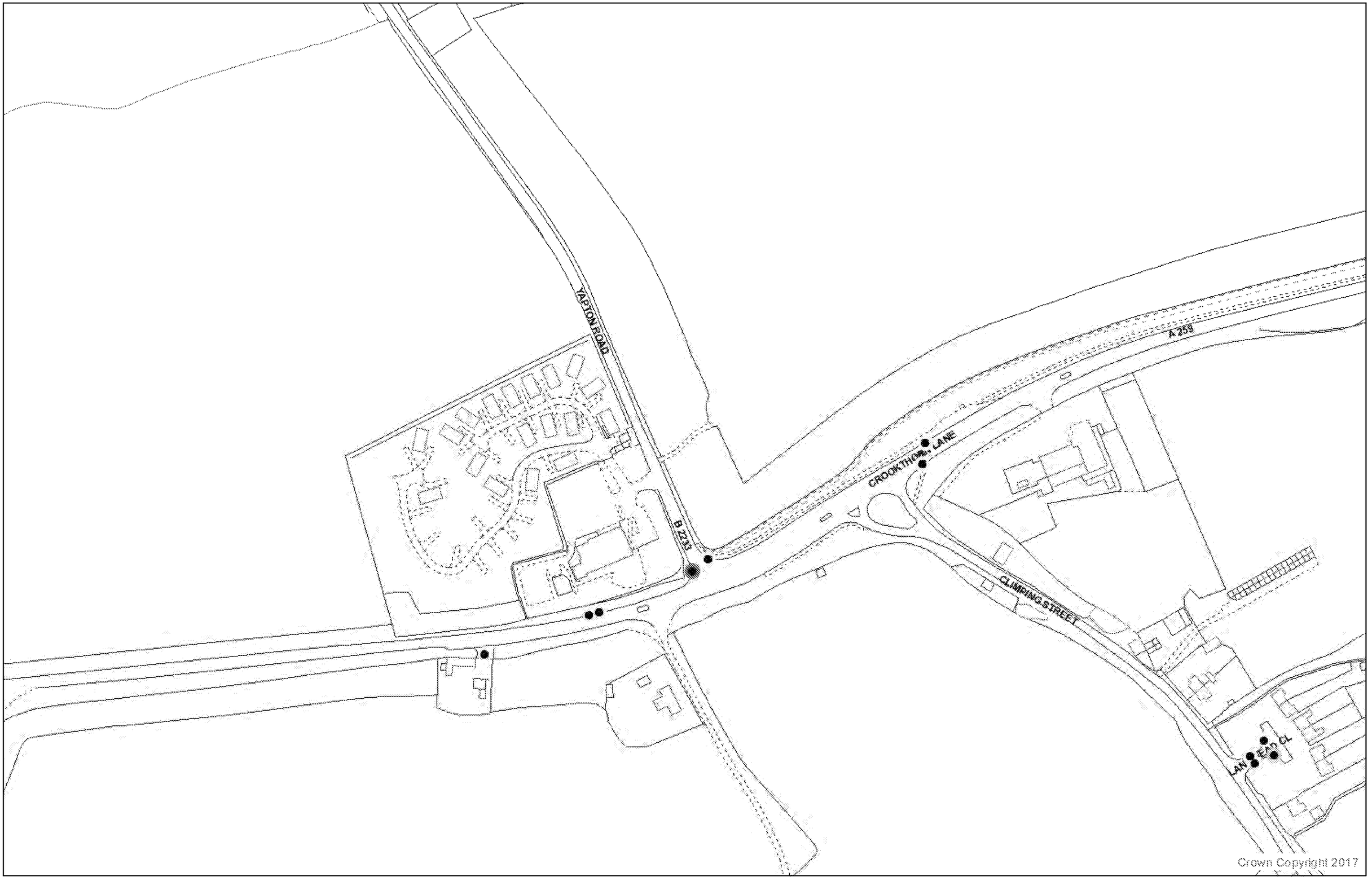
Scale 1:2,000

Map Notes:

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ARUN DISTRICT COUNCIL PLANNING SERVICES

A259 / Church Lane - Existing Highway Gullies - Sheet 1

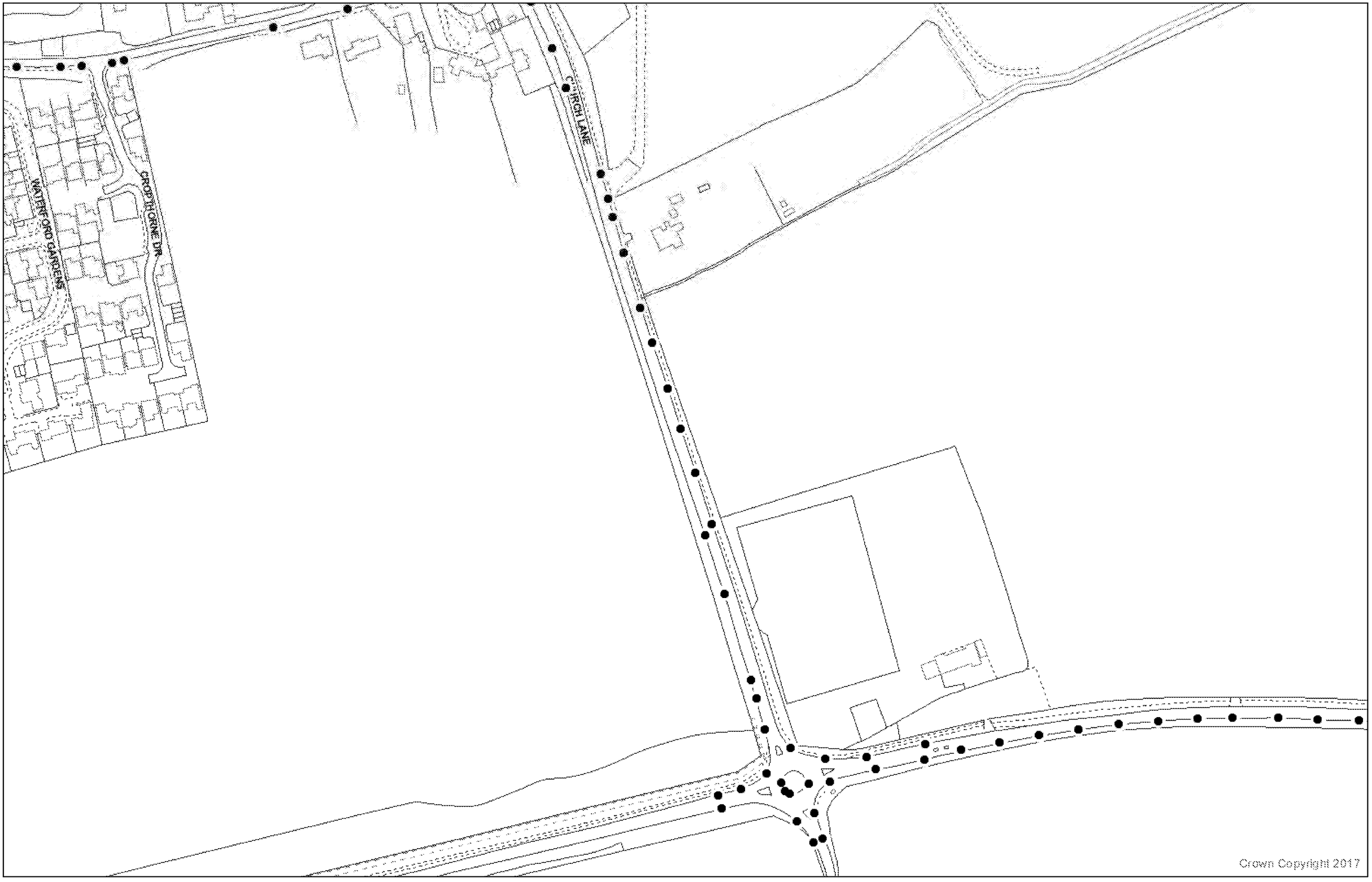


Date: June 2020
Author: K Macknay
Scale 1:2,000
Map Notes:

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ARUN DISTRICT COUNCIL - PLANNING SERVICES

A259 / Church Lane - Existing Highway Gullies - Sheet 2



Date: June 2020

Author: K Macknay

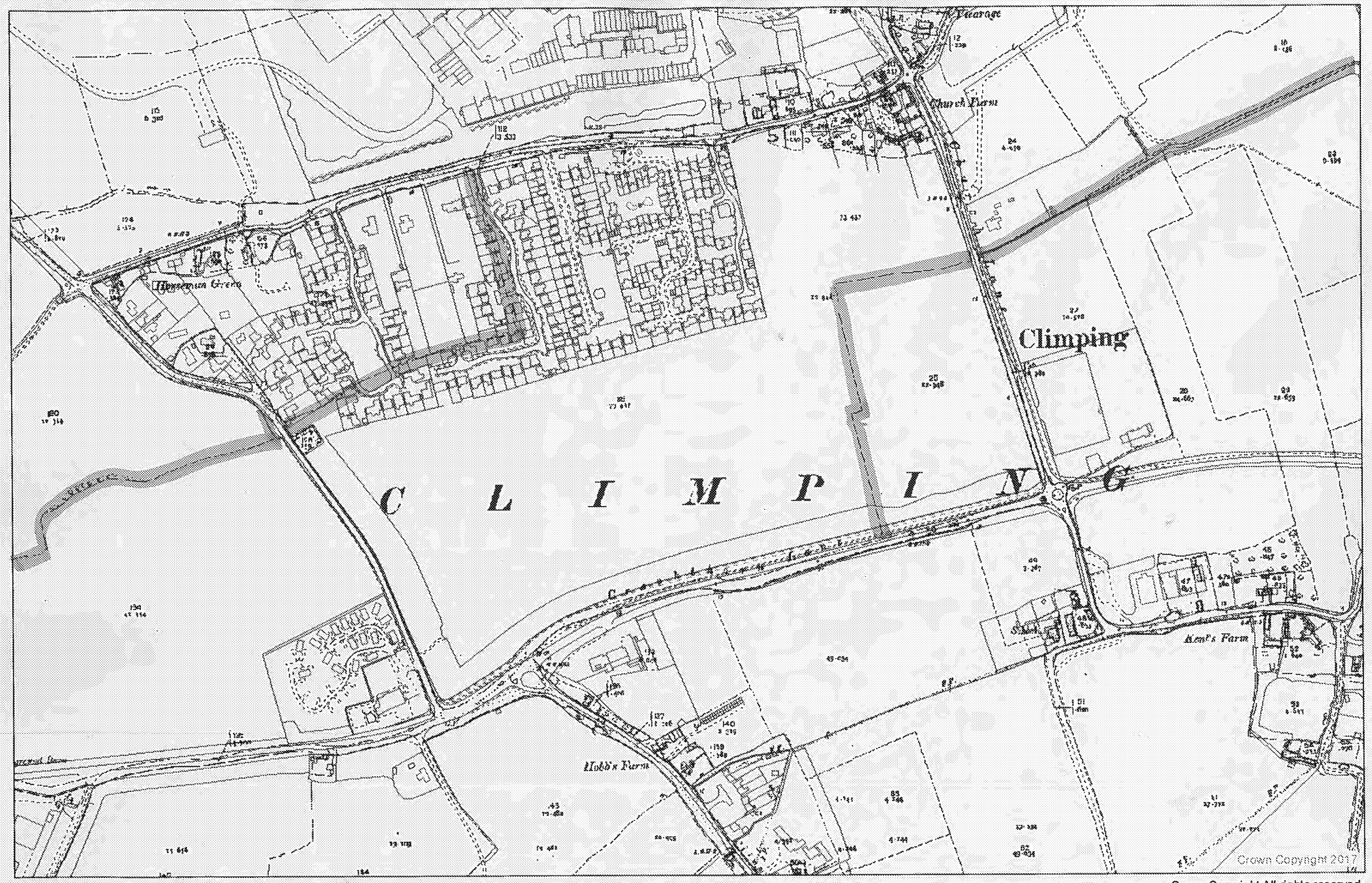
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ARUN DISTRICT COUNCIL DISCLAIMER

Historic Mapping - 1909



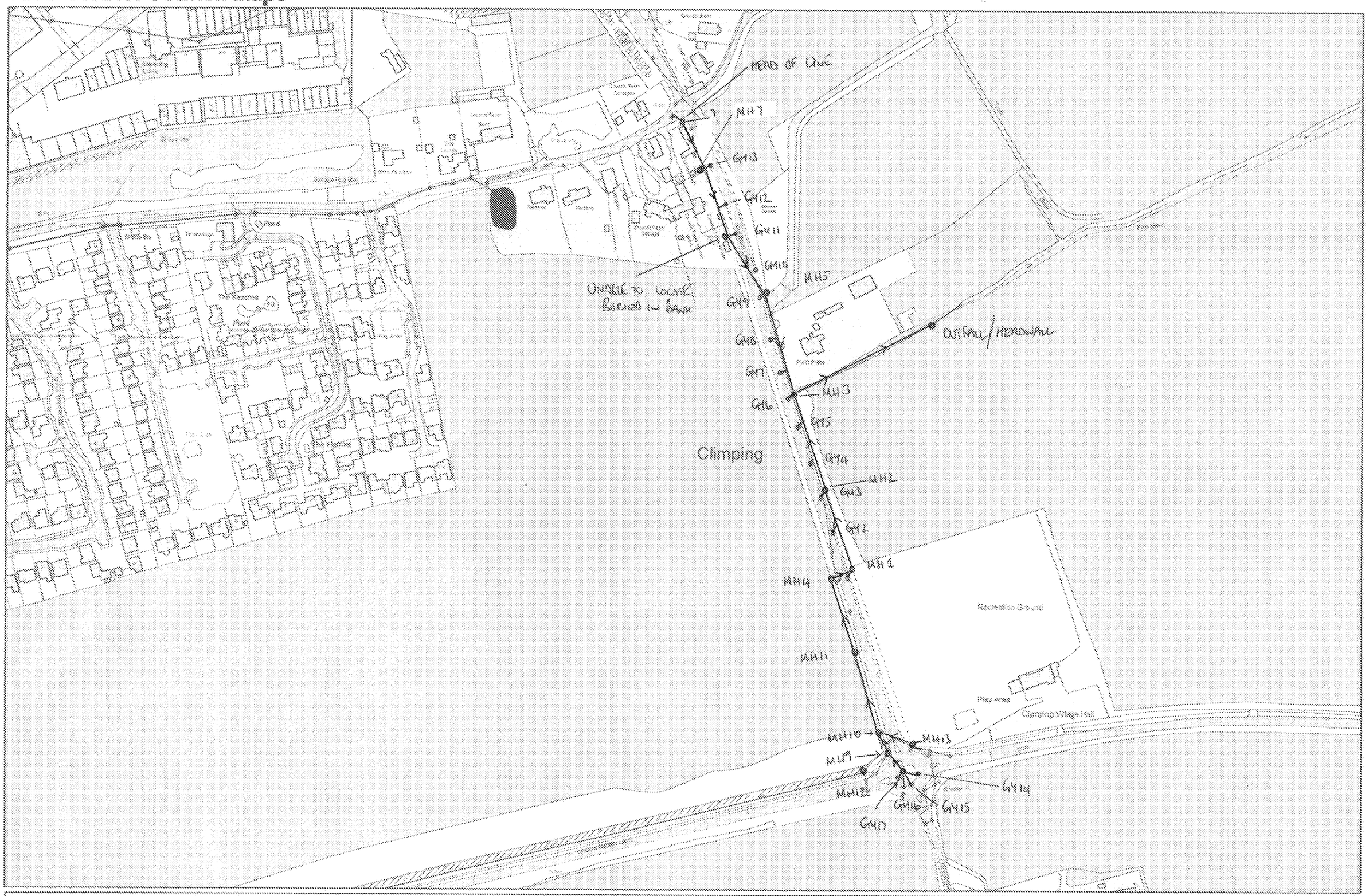
Date: June 2020
Author: K Macknay
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Appendix H Ultraflow Drainage Investigation Results

ARUN DISTRICT COUNCIL CM/48/21/RES

Arun District Council Maps



Mapping produced by Arun District Council

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Production Date: 01 July 2020

Scale: 1:2500 @ A3

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ARUN DISTRICT COUNCIL

Ultraflow Drainage Maintenance Solutions
Andover
Hampshire
[redacted]

Project-information

Project name:	Contract number:	Contact:	Date:
Church Lane Investigation	**163806AN**	**Katherine Richards**	**25/08/2020**

Client	**Foreman Homes**
Contact:	**Katherine Richards**
Position:	**Planning Manager**
Road	**Unit 1 Station Industrial Park,Duncan Road**
Town	**Park Gate**
County	**Hampshire**
Telephone:	
Fax:	
Mobile:	
E-Mail:	

Site	**Church Lane**
Contact:	**Katherine Richards**
Position:	**Planning Manager**
Road	**Church Lane**
Town	**Climping**
County	**West Sussex**
Telephone:	
Fax:	
Mobile:	
E-Mail:	

Contractor	**Ultraflow Drainage Maintenance Solutions**
Contact:	**Phil Crowson**
Position:	**Sales Manager**
Road	**Unit 8 East Portway Ind Est**
Town	**Andover**
County	**Hampshire**
Telephone:	[redacted]
Fax:	
Mobile:	
E-Mail:	

Ultraflow Drainage Maintenance Solutions
Andover
Hampshire
[redacted]

Defect Grade Description

Project name:	Contract number:	Contact:	Date:
Church Lane Investigation	**163806AN**	**Katherine Richards**	**25/08/2020**

1:

Brick: No Structural Defects
Pipe: No Structural Defects

Acceptable Structural Condition

2:

Brick: Minor cracking, Surface mortar loss, Spalling slight, wear slight
Pipe: Circumfrential crack, Moderate joint defects, Spalling slight, Wear slight

Minor collapse risk in short term but potential for further deterioration

3:

Brick: Total mortorloss without other defects, single brick displaced, Deformation up to 5%, Spalling medium, Wear medium
Pipe: Fractures with deformation up ip 5%, Longitudinal cracking or multipe cracking, Minor loss of level, More severe joint defects, Spalling medium, Wear medium

! Collapse unlikely in near future but future deterioration likely !

4:

Brick: Total mortorloss with deformation greater than 10%, Deformation up to 10% and fractured, Displaced/hanging brickwork, Small number of missing bricks
Pipe: Broken, Deformation up to 10% and broken,, Fractured with deformation 5 - 10%, Multiple fractures, Serious loss of level, spalling large, wear large

!! Collapse likely in foreseeable future !!

5:

Brick: Already Collapsed, Missing invert, Deformation over 10% and fractured, Displaced/hanging brickwork and deformation over 10%, Extensive missing bricks
Pipe: Already collapsed, Deformation over 10% and broken, Extensive areas of fabric missing, Fractured with deformation over 10%

!!! Collapsed or collapse imminent !!!

ARUN DISTRICT COUNCIL CM/48/21/RES

Ultraflow Drainage Maintenance Solutions
Andover
[redacted]

Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**1**	**Gully 1 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Yes**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**Gully 1**
Place:	**Climping**	Drain. Area:		end MH:	**MH 1**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**3.46 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**
Type:	**Gravity drain/sewer**	Material:	**Concrete** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:50	position	code	observation	counter	photo	grade
/ Cover level: 5.564						
Gully 1	0.00	GY	Start node type, gully, reference number: Gully 1		1_1a	
	0.00	WL	Water level 05 % height/diameter			0
MH 1	3.46	MHF	Finish node type, manhole, reference number: MH 1		3_3a	
/ Cover level: 5.491						

ARUN DISTRICT COUNCIL CM/48/21/RES

Ultraflow Drainage Maintenance Solutions
Andover
[redacted]

Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**1**	**Gully 1 X**

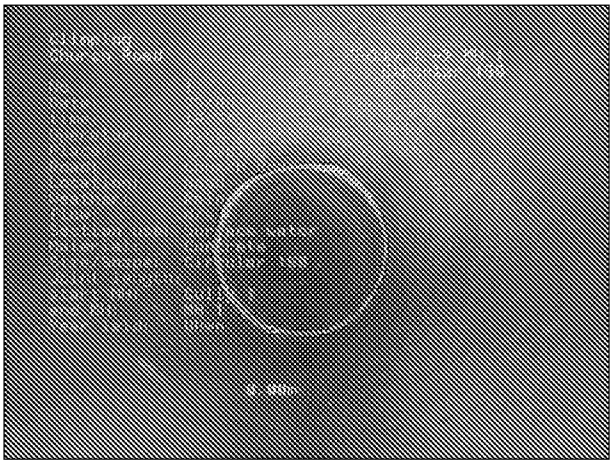


Photo: 1_1a
0m, Start node type, gully, reference number: Gully 1



Photo: 3_3a
3.46m, Finish node type, manhole, reference number: MH 1

ARUN DISTRICT COUNCIL CM/48/21/RES

Ultraflow Drainage Maintenance Solutions
Andover
Hampshire
[redacted]

Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**2**	**MH 1 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Yes**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 1**
Place:	**Climping**	Drain. Area:		end MH:	**MH 2**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**69.09 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 225**
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:525	position	code	observation	counter	photo	grade
MH 1	0.00	MH	Start node type, manhole, reference number: MH 1		4_1a	0
	0.00	WL	Water level 05 % height/diameter			0
	7.13	FC	Fracture Circumferential from 12 to 12 o'clock		6_3a	3
	31.07	RFJ	Fine Roots at joint		7_4a	1
	34.47	RTJ	Roots tap at joint		6_5a	2
	35.00	JN	Junction at 09 o´clock dia 150 mm		9_6a	0
	37.06	RFJ	Fine Roots at joint			1
	61.01	JN	Junction at 09 o´clock dia 150 mm		11_8a	0
	68.39	RFJ	Fine Roots at joint		12_9a	1
MH 2	69.09	MHF	Finish node type, manhole, reference number: MH 2		13_10a	

/ Cover level: 5.14

ARUN DISTRICT COUNCIL CM/48/21/RES

Ultraflow Drainage Maintenance Solutions
Andover
[redacted]

Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**2**	**MH 1 X**

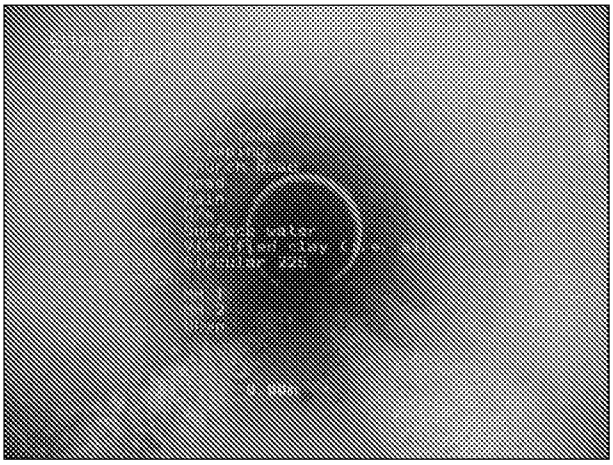


Photo: 4_1a
0m, Start node type, manhole, reference number: MH 1

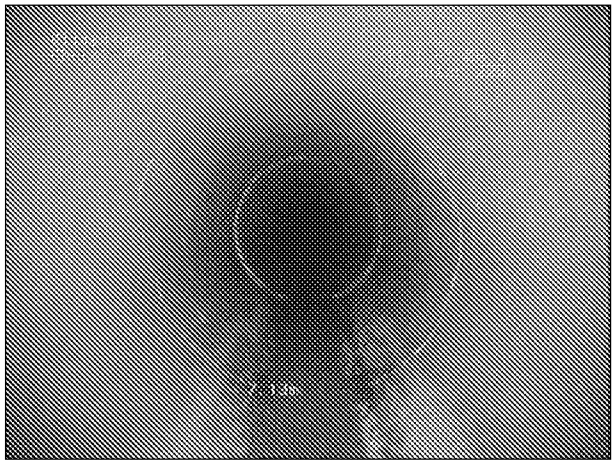


Photo: 6_3a
7.13m, Fracture Circumferential from 12 to 12 o´clock

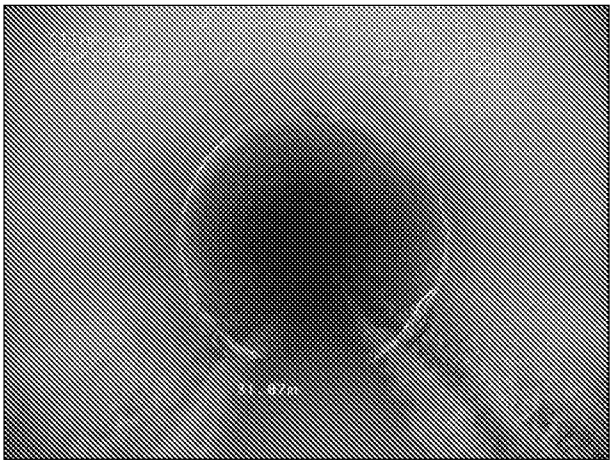


Photo: 7_4a
31.07m, Fine Roots at joint

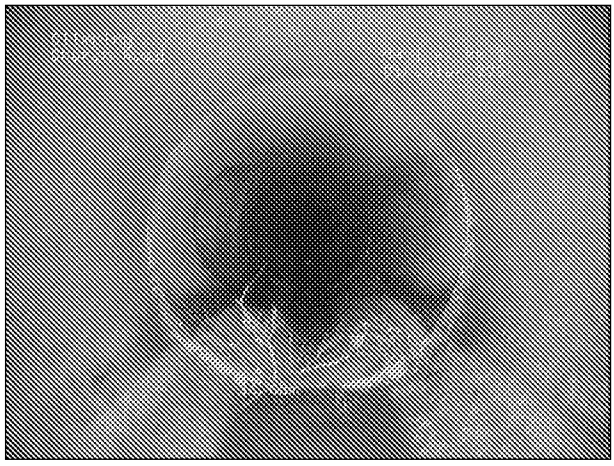


Photo: 8_5a
34.47m, Roots tap at joint

ARUN DISTRICT COUNCIL CM/48/21/RES

Ultraflow Drainage Maintenance Solutions
Andover
[redacted]

Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**2**	**MH 1 X**

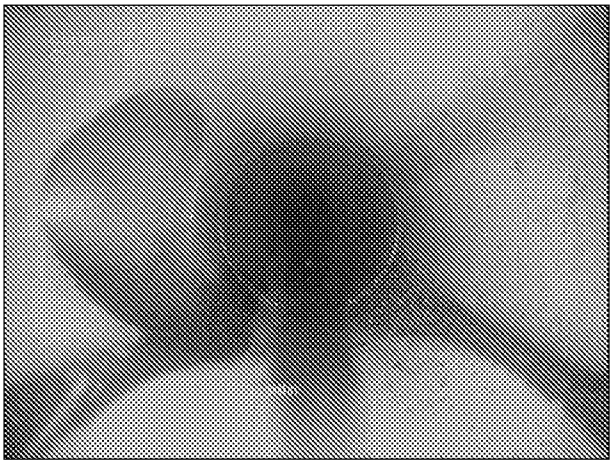


Photo: 9_6a
35m, Junction at 09 o´clock dia 150 mm

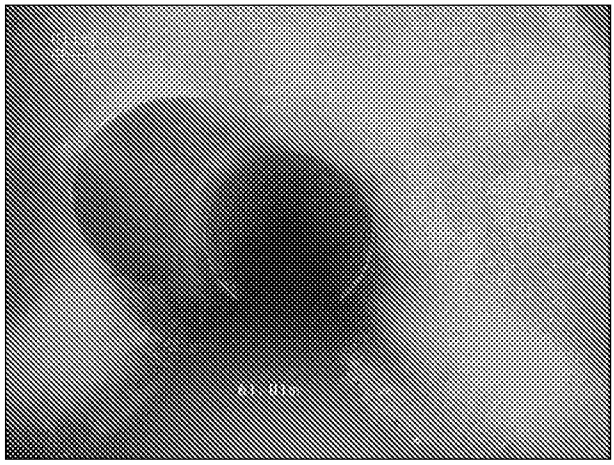


Photo: 11_8a
61.01m, Junction at 09 o´clock dia 150 mm

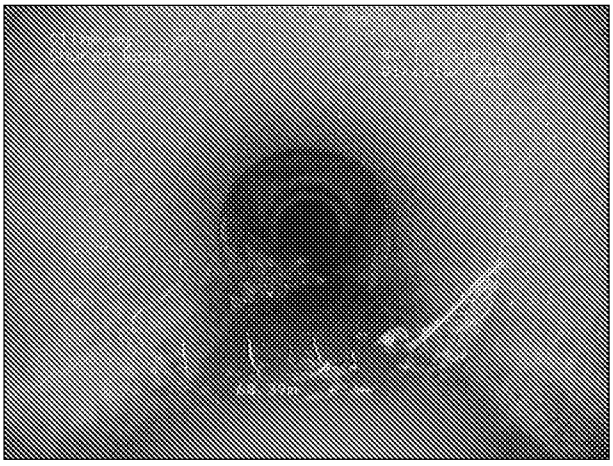


Photo: 12_9a
68.39m, Fine Roots at joint

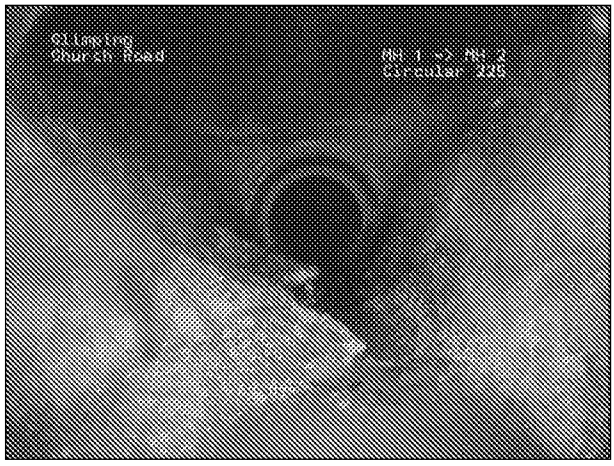


Photo: 13_10a
69.09m, Finish node type, manhole, reference number: MH 2

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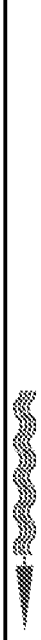
Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**3**	**MH 2 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned:	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 2**
Place:	**Climping**	Drain. Area:		end MH:	**MH 3**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**49.77 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 225**
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:



1:375 position	code	observation	counter	photo	grade
MH 2 0.00	MH	Start node type, manhole, reference number: MH 2		14_1a	0
0.00	WL	Water level 05 % height/diameter			0
0.60	FC	Fracture Circumferential from 12 to 12 o´clock		16_3a	3
3.06	RAJ	Mass Roots at joint 15 % cross-sectional area loss		17_4a	5
7.60	RTJ	Roots tap at joint		18_5a	2
9.35	RFJ	Fine Roots at joint		19_6a	1
15.04	RFJ	Fine Roots at joint		20_7a	1
17.07	JN	Junction at 09 o´clock dia 150 mm		21_8a	0
23.33	RTJ	Roots tap at joint		22_9a	2
25.18	RFJ	Fine Roots at joint		23_10a	1
26.66	RAJ	Mass Roots at joint 25 % cross-sectional area loss		24_11a	5
43.99	JN	Junction at 09 o´clock dia 150 mm		25_12a	0
46.23	RFJ	Fine Roots at joint		26_13a	1
46.27	RTJ	Roots tap at joint		27_14a	2
49.10	JDL	Joint displaced large		28_15a	2
49.77	SA	Survey abandoned, Remark: Due to large displaced joint			1

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**3**	**MH 2 X**

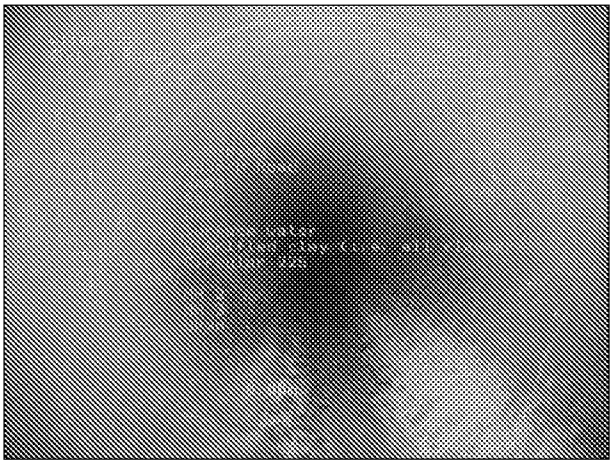


Photo: 14_1a
0m, Start node type, manhole, reference number: MH 2

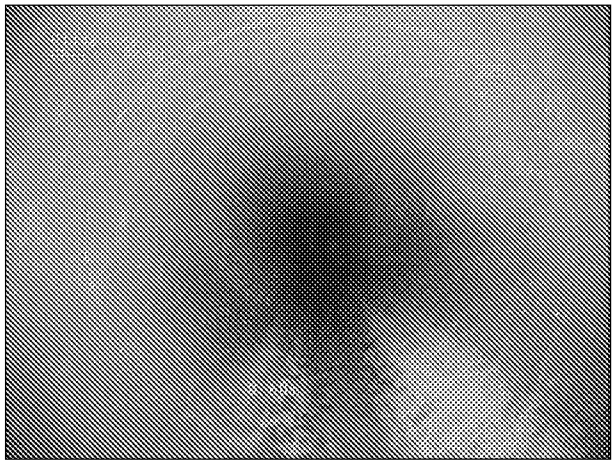


Photo: 16_3a
0.6m, Fracture Circumferential from 12 to 12 o´clock

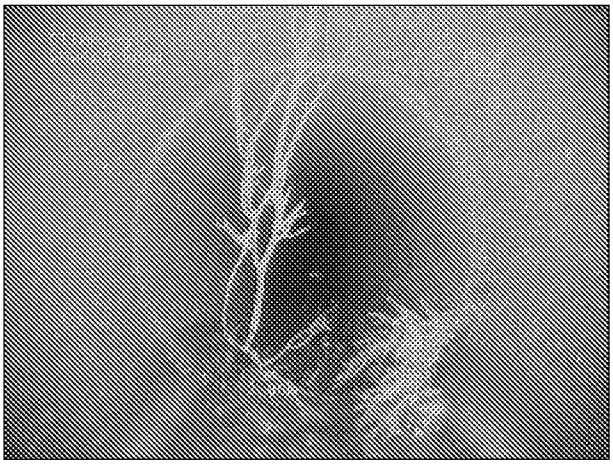


Photo: 17_4a
2.05m, Mass Roots at joint 15 % cross-sectional area loss

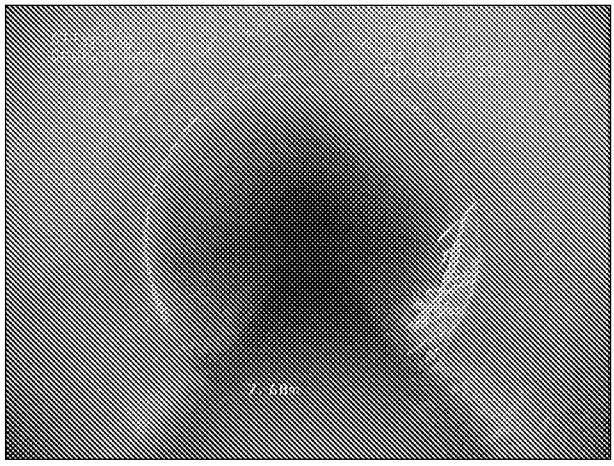


Photo: 18_5a
7.6m, Roots tap at joint

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**3**	**MH 2 X**

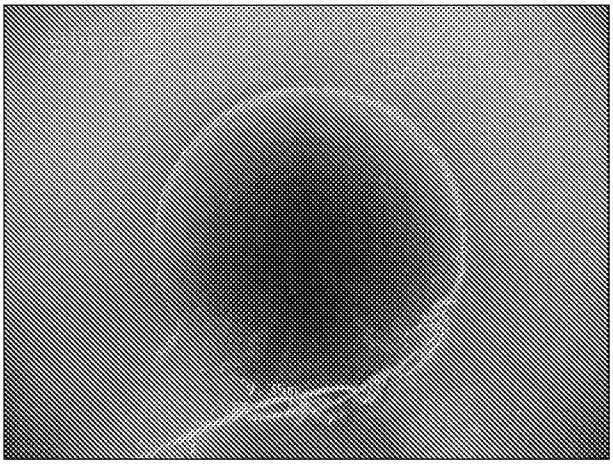


Photo: 19_6a
9.35m, Fine Roots at joint

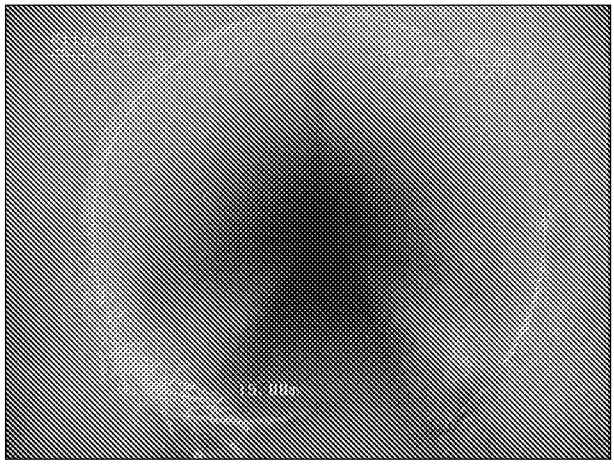


Photo: 20_7a
15.04m, Fine Roots at joint

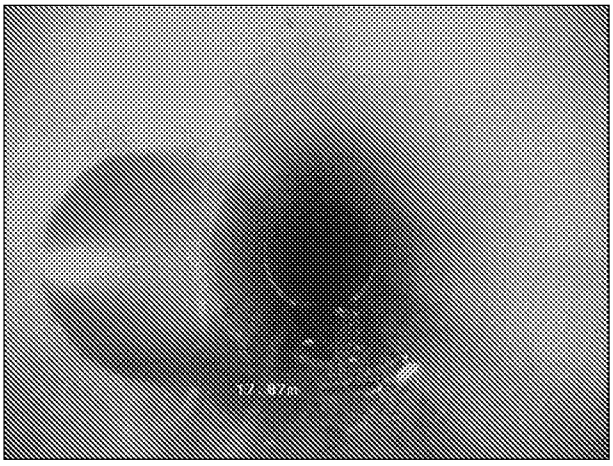


Photo: 21_8a
17.07m, Junction at 09 o´clock dia 150 mm

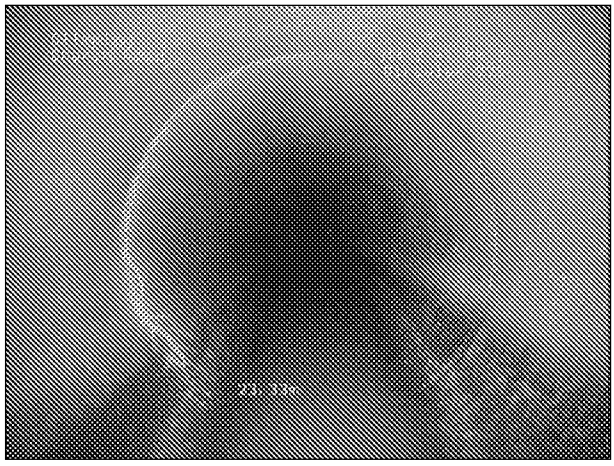


Photo: 22_9a
23.33m, Roots tap at joint

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**3**	**MH 2 X**

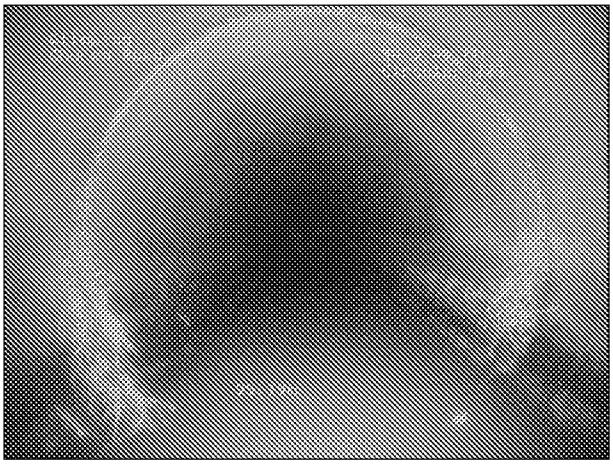


Photo: 23_10a
25.19m, Fine Roots at joint

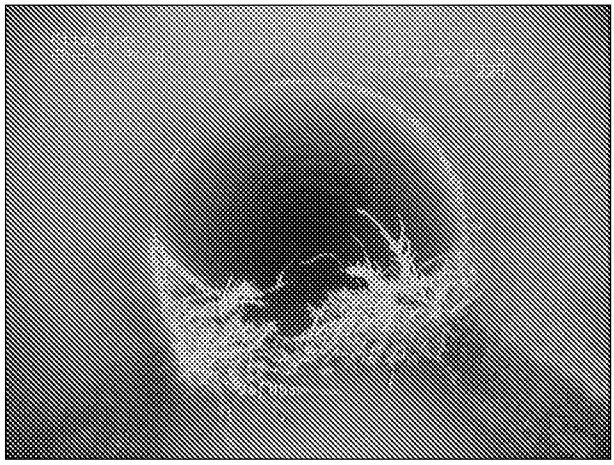


Photo: 24_11a
26.85m, Mass Roots at joint 25 % cross-sectional area loss

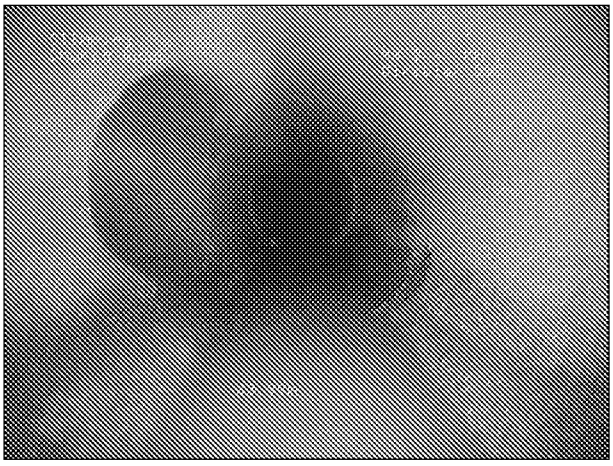


Photo: 25_12a
43.99m, Junction at 09 o´clock dia 150 mm

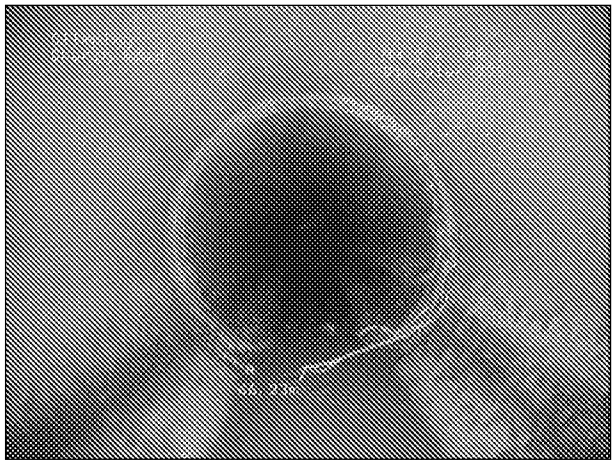


Photo: 26_13a
46.23m, Fine Roots at joint

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**3**	**MH 2 X**

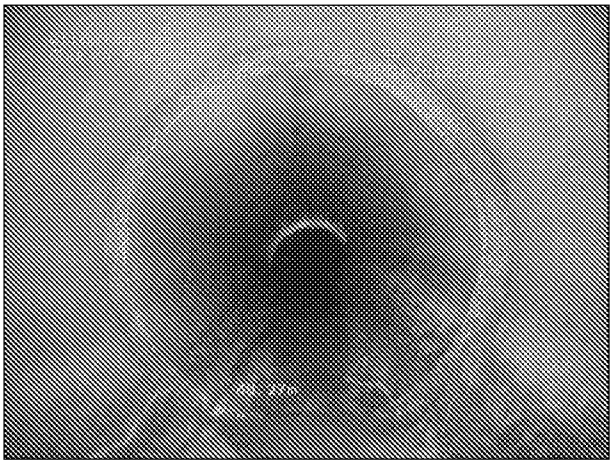


Photo: 27_14a
48.27m, Roots tap at joint

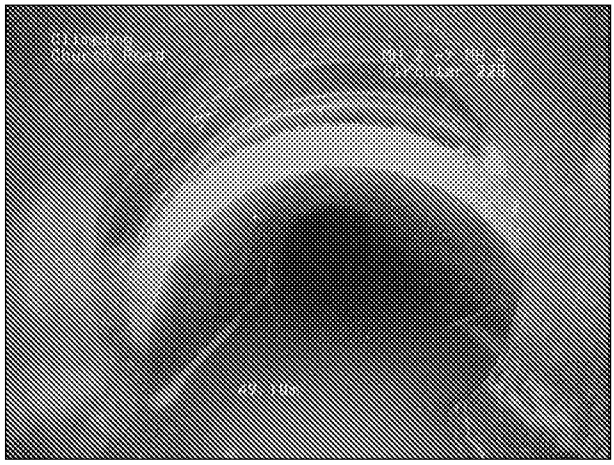


Photo: 28_15a
49.1m, Joint displaced large

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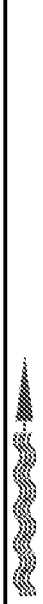
Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**4**	**MH 4 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Yes**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 1**
Place:	**Climping**	Drain. Area:		end MH:	**MH 4**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**12.33 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 225**	
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)**	Pipe length:
Use:	**Surface water**	Lining:		
		Lining Type:		

Comment:



1:100	position	code	observation	counter	photo	grade
MH 1	0.00	MH	Start node type, manhole, reference number: MH 1		30_1a	0
	0.00	WL	Water level 05 % height/diameter			0
	3.31	RTJ	Roots tap at joint		32_3a	2
	6.04	RT	Roots tap			2
	6.04	RM	Mass Roots 25 % cross-sectional area loss		34_5a	5
MH 4	12.33	MHF	Finish node type, manhole, reference number: MH 4		35_6a	

/ Cover level: 5.566

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**4**	**MH 4 X**

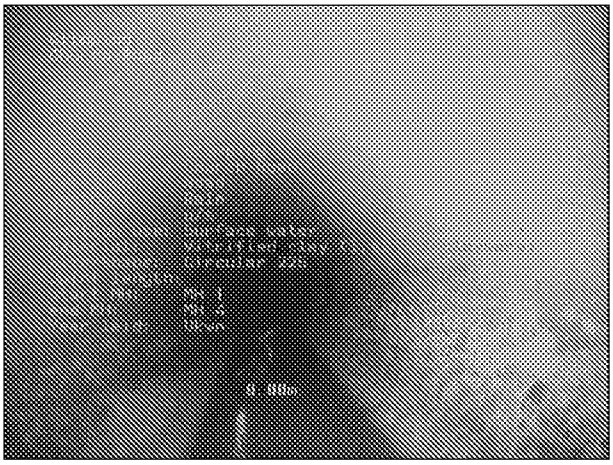


Photo: 30_1a
0m, Start node type, manhole, reference number: MH 1

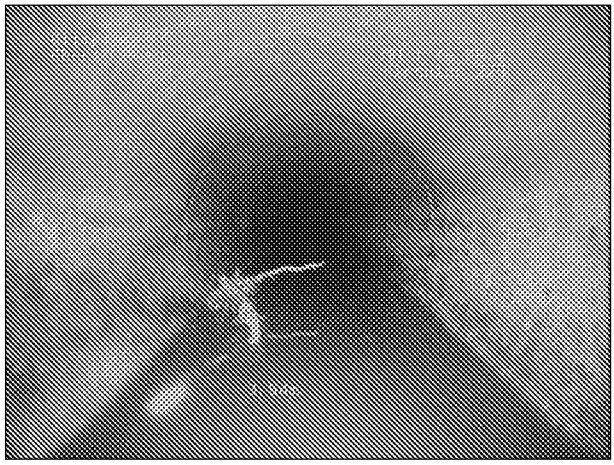


Photo: 32_3a
3.31m, Roots tap at joint

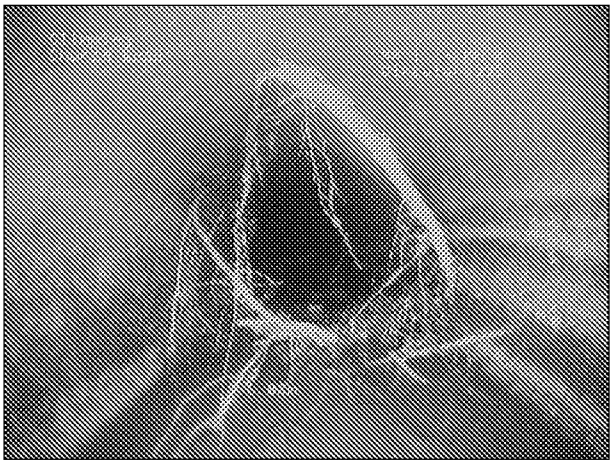


Photo: 34_5a
6.04m, Mass Roots 25 % cross-sectional area loss



Photo: 35_6a
12.33m, Finish node type, manhole, reference number: MH 4

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**5**	**Gully 2 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Back Jetted**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**Gully 2**
Place:	**Climping**	Drain. Area:		end MH:	**Mainline**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**4.16 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:50 **position** **code** **observation** **counter** **photo** **grade**

/ Cover level: 4.944



position	code	observation	photo	grade
Gully 2 0.00	GY	Start node type, gully, reference number: Gully 2	36_1a	
0.00	WL	Water level 05 % height/diameter		0
1.08	RJ	Hole in sewer at joint from 12 to 02 o'clock	38_3a	4
3.73	JDL	Joint displaced large	39_4a	2
3.73	OJL	Open joint large		2
Mainline 4.16	BRF	Major connection without manhole	41_6a	0

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**5**	**Gully 2 X**

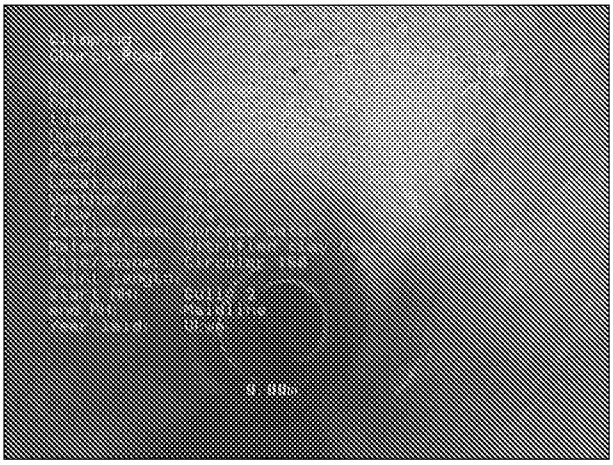


Photo: 36_1a
0m, Start node type, gully, reference number: Gully 2

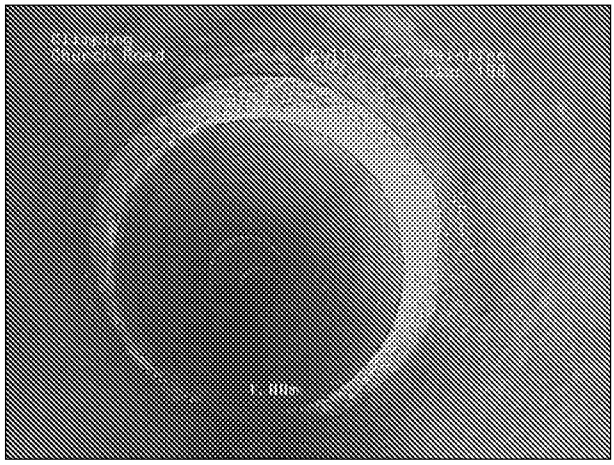


Photo: 38_3a
1.08m, Hole in sewer at joint from 12 to 02 o´clock

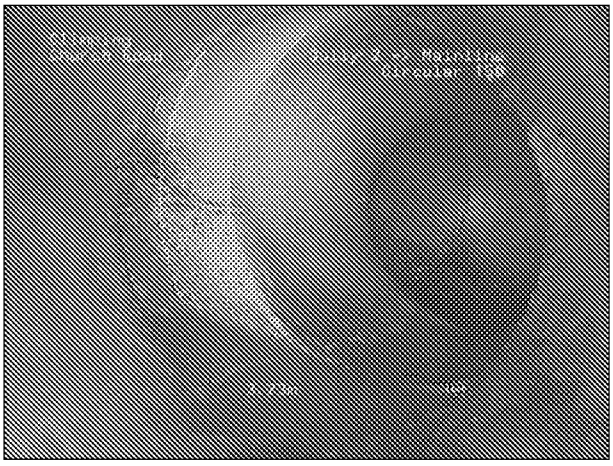


Photo: 39_4a
3.73m, Joint displaced large



Photo: 41_6a
4.16m, Major connection without manhole

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**6**	**Gully 3 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Back Jetted**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**Gully 3**
Place:	**Climping**	Drain. Area:		end MH:	**Mainline**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**3.69 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:50	position	code	observation	counter	photo	grade
/ Cover level: 4.591						
Gully 3	0.00	GY	Start node type, gully, reference number: Gully 3		42_1a	
	0.00	WL	Water level 05 % height/diameter			0
	0.57	JDM	Joint displaced medium		44_3a	1
	3.39	LD	Line of drain/sewer deviates down			
Mainline	3.69	BRF	Major connection without manhole		46_5a	0

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**6**	**Gully 3 X**

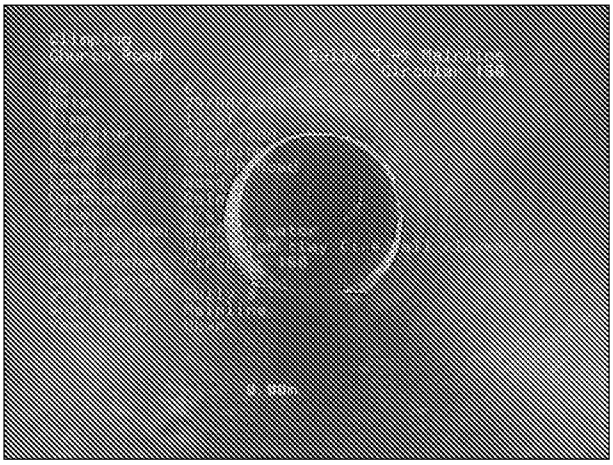


Photo: 42_1a
0m, Start node type, gully, reference number: Gully 3

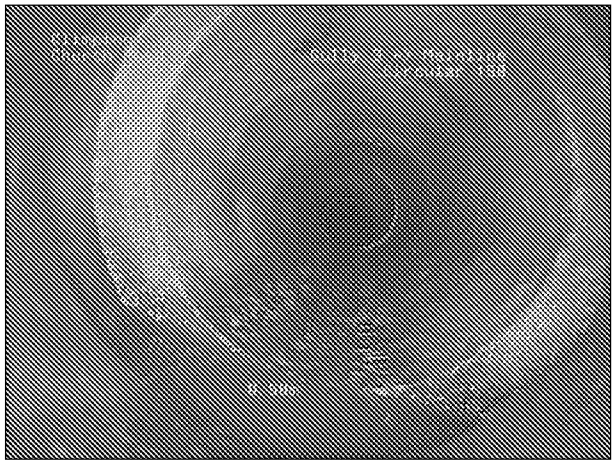


Photo: 44_3a
0.57m, Joint displaced medium

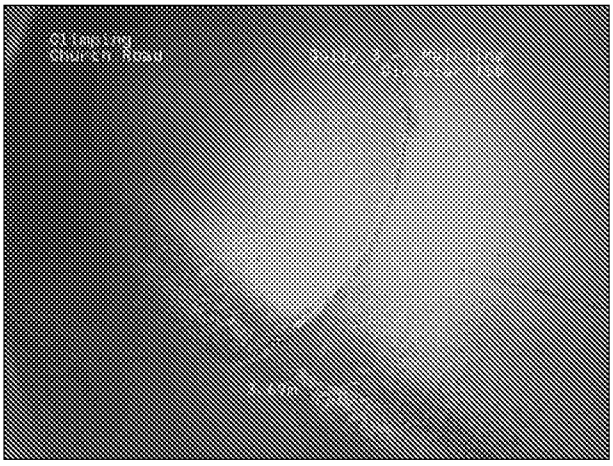


Photo: 46_5a
3.69m, Major connection without manhole

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**7**	**Gully 4 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Back Jetted**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**Gully 4**
Place:	**Climping**	Drain. Area:		end MH:	**Mainline**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**4.01 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:50	position	code	observation	counter	photo	grade
/ Cover level: 5.436						
Gully 4	0.00	GY	Start node type, gully, reference number: Gully 4		47_1a	
	0.00	WL	Water level 05 % height/diameter			0
Mainline	3.99	JDL	Joint displaced large			2
	3.99	OJL	Open joint large		50_4a	2
	4.01	BRF	Major connection without manhole		51_5a	0

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**7**	**Gully 4 X**



Photo: 47_1a
0m, Start node type, gully, reference number: Gully 4



Photo: 50_4a
3.99m, Open joint large



Photo: 51_5a
4.01m, Major connection without manhole

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**8**	**Gully 5 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Back Jetted**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**Gully 5**
Place:	**Climping**	Drain. Area:		end MH:	**Mainline**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**2.44 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**	
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)**	Pipe length:
Use:	**Surface water**	Lining:		
		Lining Type:		

Comment:

1:25	position	code	observation	counter	photo	grade
/ Cover level: 4.005						
Gully 5	0.00	GY	Start node type, gully, reference number: Gully 5		52_1a	
	0.00	WL	Water level 05 % height/diameter			0
Mainline	2.44	BRF	Major connection without manhole		54_3a	0

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**8**	**Gully 5 X**



Photo: 52_1a
0m, Start node type, gully, reference number: Gully 5



Photo: 54_3a
2.44m, Major connection without manhole

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**9**	**Gully 6 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Back Jetted**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**Gully 6**
Place:	**Climping**	Drain. Area:		end MH:	**Mainline**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**1.64 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**	
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)**	Pipe length:
Use:	**Surface water**	Lining:		
		Lining Type:		

Comment:

/ Cover level: 3.534



1:25 position	code	observation	counter	photo	grade
Gully 6 0.00	GY	Start node type, gully, reference number: Gully 6		55_1a	
0.00	WL	Water level 05 % height/diameter			0
0.64	JDM	Joint displaced medium		57_3a	1
Mainline 1.64	BRF	Major connection without manhole		58_4a	0

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**9**	**Gully 6 X**



Photo: 55_1a
0m, Start node type, gully, reference number: Gully 6



Photo: 57_3a
0.64m, Joint displaced medium

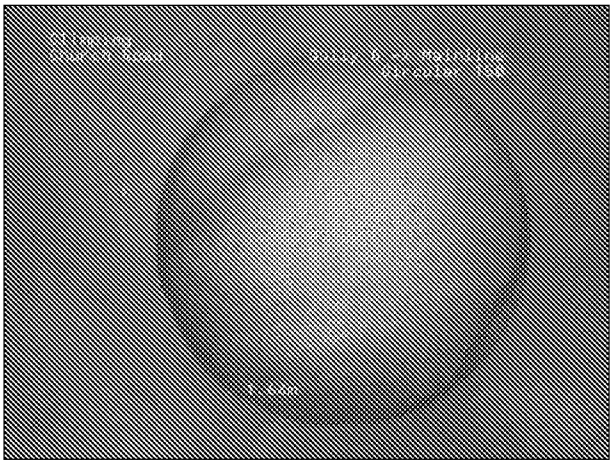


Photo: 58_4a
1.64m, Major connection without manhole

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**10**	**MH 2 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Yes**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 3**
Place:	**Climping**	Drain. Area:		end MH:	**MH 2**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**0.8 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 225**	
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)**	Pipe length:
Use:	**Surface water**	Lining:		
		Lining Type:		

Comment:



1:25 position	code	observation	counter	photo	grade
0.00	MH	Start node type, manhole, reference number: MH 3		59_1a	0
0.00	WL	Water level 05 % height/diameter			0
0.77	BI	Broken pipe from 04 to 07 o'clock			4
0.78	CXI	Connection intruding at 03 o'clock dia 150 mm intrusion 40 %			4
0.78	FC	Fracture Circumferential from 12 to 12 o'clock		60_8a	3
0.80	SA	Survey abandoned, Remark: Due to intruding connection			1

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**10**	**MH 2 X**

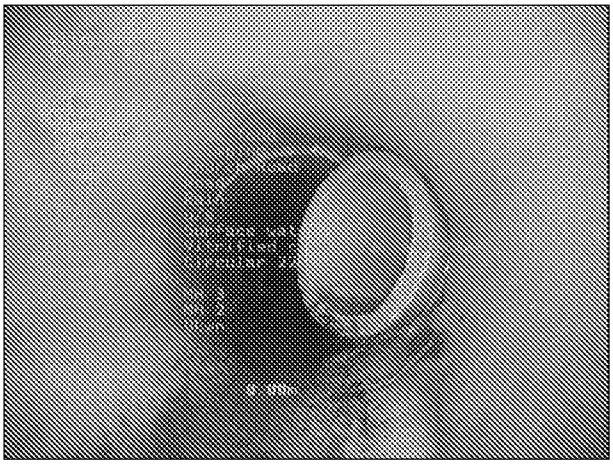


Photo: 59_1a
0m, Start node type, manhole, reference number: MH 3

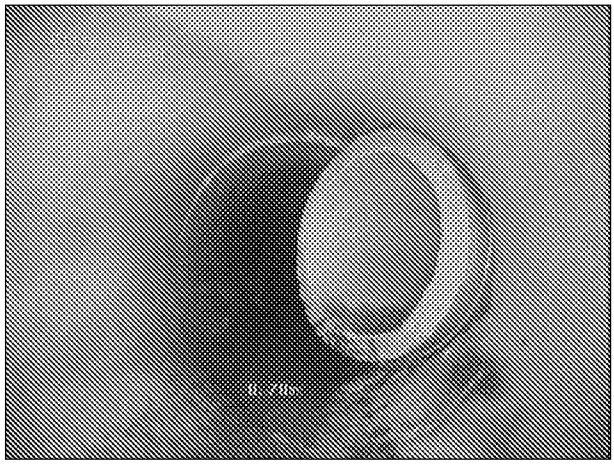


Photo: 63_5a
0.78m, Fracture Circumferential from 12 to 12 o´clock

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**11**	**MH 5 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Yes**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 3**
Place:	**Climping**	Drain. Area:		end MH:	**MH 5**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**7.27 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 300**
Type:	**Gravity drain/sewer**	Material:	**Concrete** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:



1:75 position		code	observation	counter	photo	grade
MH 3 0.00		MH	Start node type, manhole, reference number: MH 3		65_1a	0
0.00		WL	Water level 10 % height/diameter			0
1.60		RFJ	Fine Roots at joint			1
1.60		SS	Spalling at at 12 o´clock		66_4a	2
3.47		RM	Mass Roots 10 % cross-sectional area loss		69_5a	5
5.43	S1	RMJ	Mass Roots at joint 10 % cross-sectional area loss, Start			5
7.27		RM	Mass Roots 90 % cross-sectional area loss			5
7.27		SA	Survey abandoned, Remark: Due to mass roots		72_8a	1

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**11**	**MH 5 X**

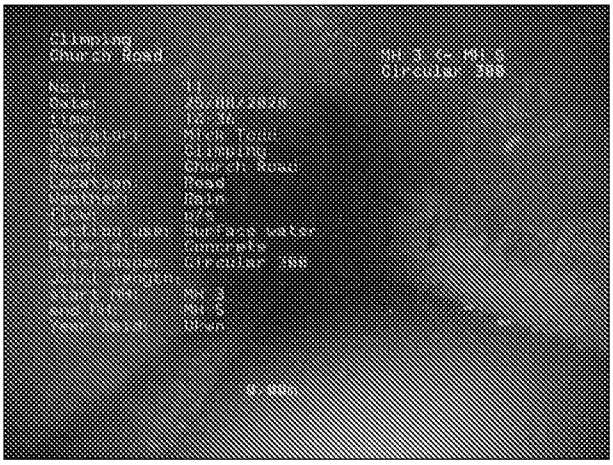


Photo: 65_1a
0m, Start node type, manhole, reference number: MH 3

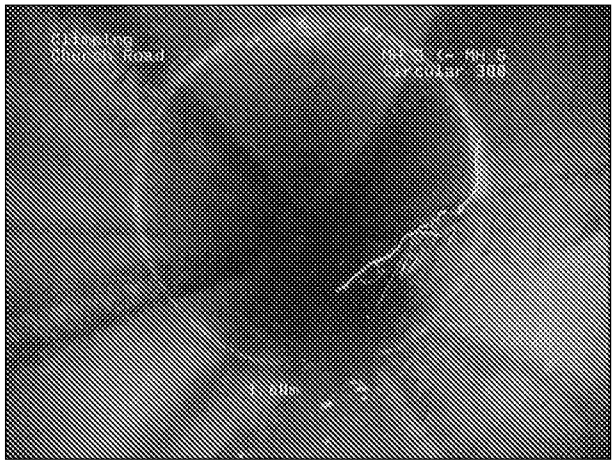


Photo: 68_4a
1.6m, Spalling at at 12 o´clock

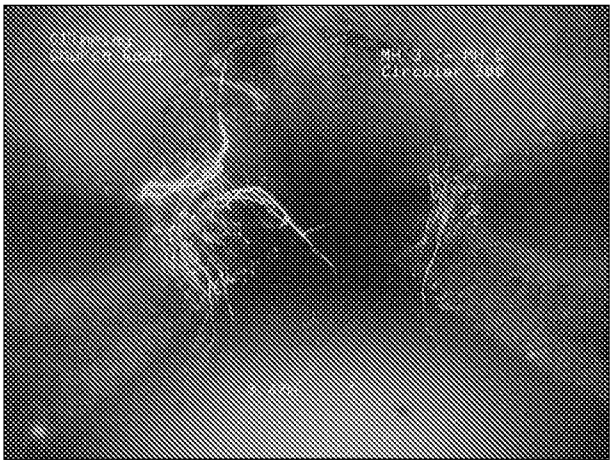


Photo: 69_5a
3.47m, Mass Roots 10 % cross-sectional area loss

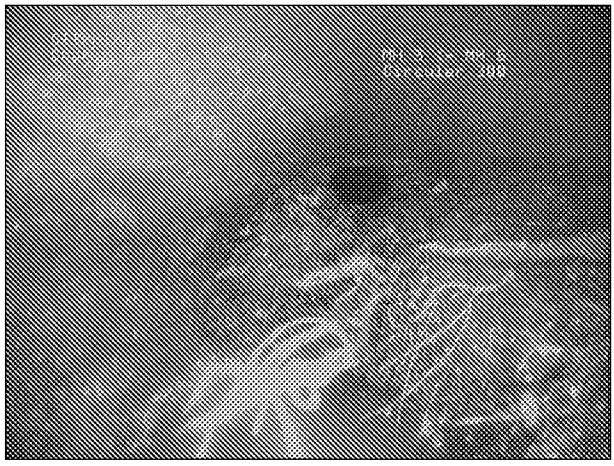


Photo: 72_8a
7.27m, Survey abandoned, Remark: Due to mass roots

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**12**	**MH 3 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Back Jetted**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 3**
Place:	**Climping**	Drain. Area:		end MH:	**Outfall**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**52.21 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 450**
Type:	**Gravity drain/sewer**	Material:	**Concrete** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:400	position		code	observation	counter	photo	grade
MH 3	0.00		MH	Start node type, manhole, reference number: MH 3		73_1a	0
	0.00		WL	Water level 05 % height/diameter			0
	1.94	S1	RFJ	Fine Roots at joint, Start			1
	8.89		FC	Fracture Circumferential from 12 to 12 o'Clock			3
	22.31		FM	Fractures multiple from 12 to 12 o'Clock		78_6a	4
	34.11		MCPVC	Material of drain/sewer changes to Polyvinyl chloride		79_6a	
	52.21		SA	Survey abandoned, Remark: Due to silt under the water			1

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**12**	**MH 3 X**

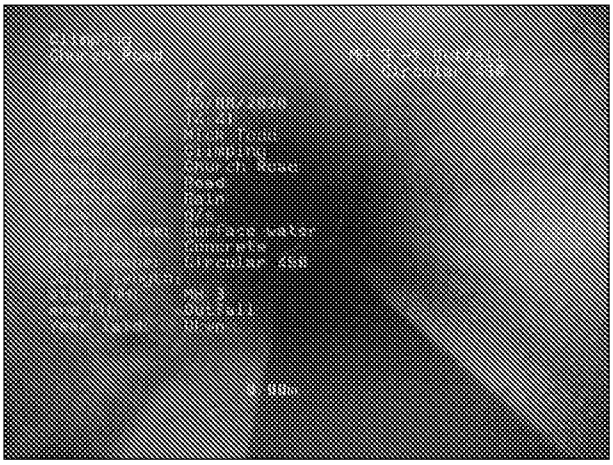


Photo: 73_1a
0m, Start node type, manhole, reference number: MH 3

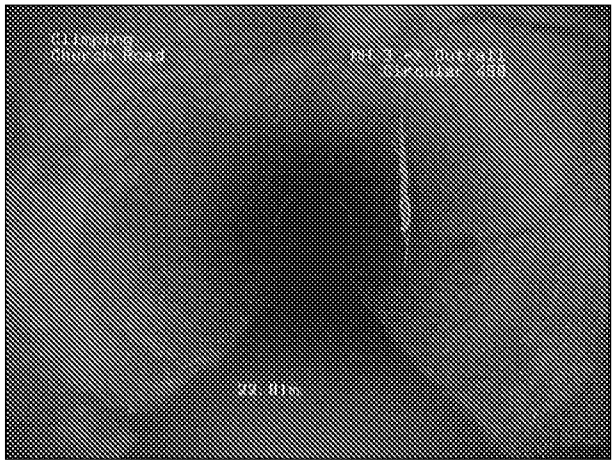


Photo: 78_5a
22.81m, Fractures multiple from 12 to 12 o´clock



Photo: 79_6a
34.11m, Material of drain/sewer changes to Polyvinyl chloride

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**13**	**Gully 7 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Back Jetted**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**Gully 7**
Place:	**Climping**	Drain. Area:		end MH:	**Mainline**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**2.98 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:25	position	code	observation	counter	photo	grade
/ Cover level: 1.681						
Gully 7	0.00	GY	Start node type, gully, reference number: Gully 7		81_1a	
	0.00	WL	Water level 05 % height/diameter			0
	0.99	RTJ	Roots tap at joint		83_3a	2
	1.86	RFJ	Fine Roots at joint		84_4a	1
	2.47	JDL	Joint displaced large			2
	2.47	LD	Line of drain/sewer deviates down			
Mainline	2.98	BRF	Major connection without manhole		87_7a	0

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**13**	**Gully 7 X**

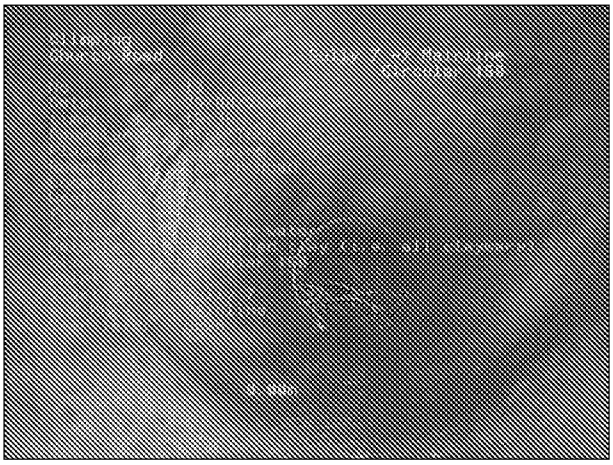


Photo: 81_1a
0m, Start node type, gully, reference number: Gully 7

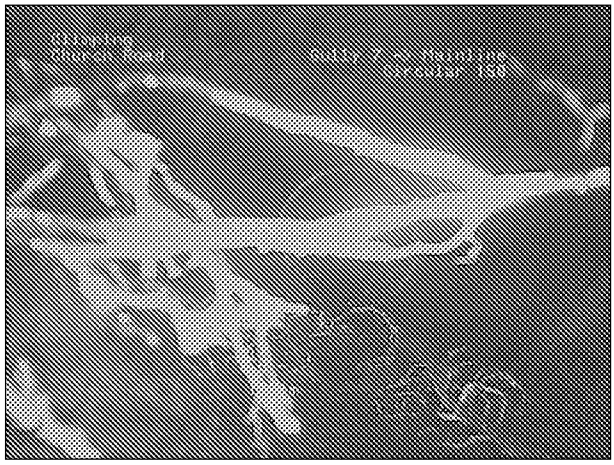


Photo: 83_3a
0.99m, Roots tap at joint



Photo: 84_4a
1.65m, Fine Roots at joint



Photo: 87_7a
2.98m, Major connection without manhole

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
25/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**14**	**Gully 8 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Back Jetted**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**Gully 8**
Place:	**Climping**	Drain. Area:		end MH:	**Mainline**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**1.15 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**	
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)**	Pipe length:
Use:	**Surface water**	Lining:		
		Lining Type:		

Comment:

1:25	position	code	observation	counter	photo	grade
/ Cover level: 3.096						
Gully 8	0.00	GY	Start node type, gully, reference number: Gully 8		88_1a	
	0.00	WL	Water level 05 % height/diameter			0
	0.78	JDM	Joint displaced medium		90_3a	1
Mainline	1.15	BRF	Major connection without manhole		91_4a	0

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**25/08/2020**	**14**	**Gully 8 X**

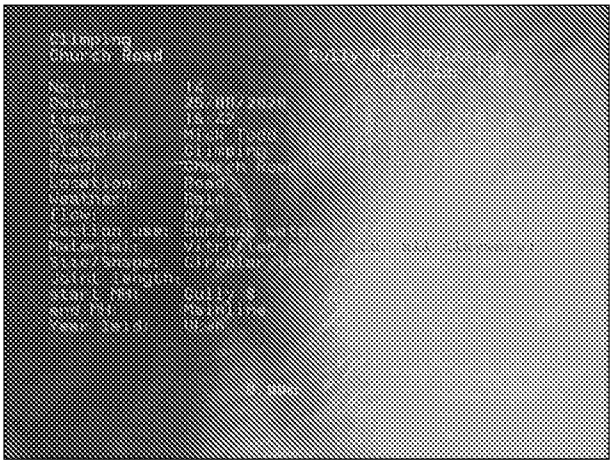


Photo: 88_1a
0m, Start node type, gully, reference number: Gully 8

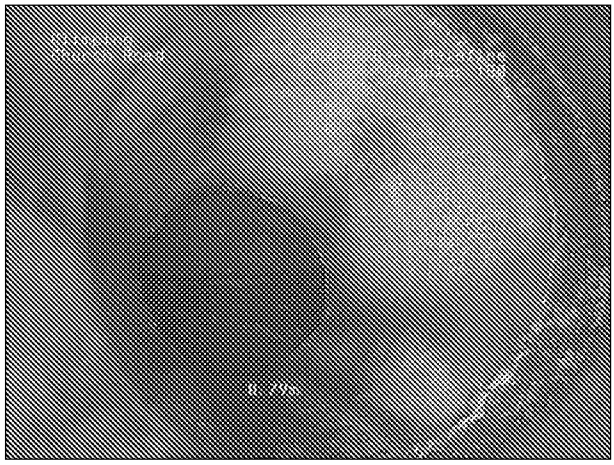


Photo: 90_3a
0.79m, Joint displaced medium



Photo: 91_4a
1.15m, Major connection without manhole

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
26/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**15**	**MH 5 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Back Jetted**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 5**
Place:	**Climping**	Drain. Area:		end MH:	**MH 3**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**8.63 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 300**
Type:	**Gravity drain/sewer**	Material:	**Concrete** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:75	position		code	observation	counter	photo	grade
/ Cover level: 3.219							
MH 5	0.00		MH	Start node type, manhole, reference number: MH 5		92_1a	0
	0.00		WL	Water level 25 % height/diameter			0
	7.79	S1	DES	Settled deposits fine 30 % cross-sectional area loss, Start		100_3a	1
	8.63		SA	Survey abandoned, Remark: Due to debris		15_4a	1

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**26/08/2020**	**15**	**MH 5 X**

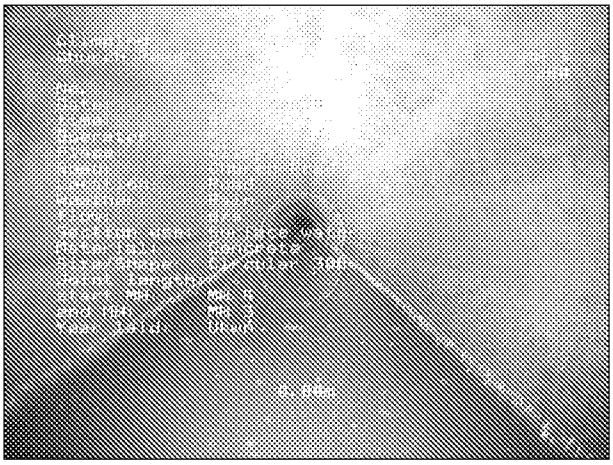


Photo: 92_1a
0m, Start node type, manhole, reference number: MH 5

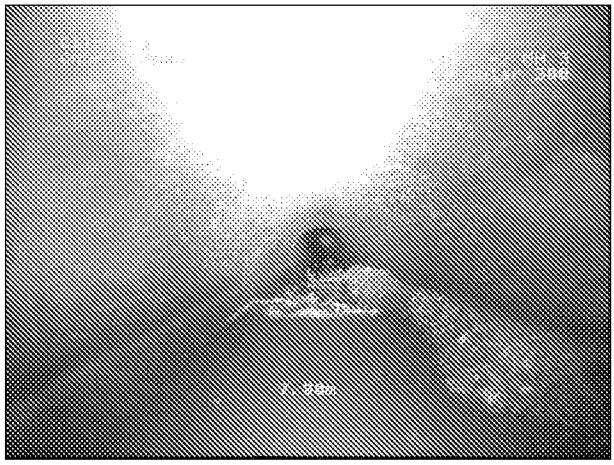


Photo: 100_3a
7.79m, Settled deposits fine 30 % cross-sectional area loss, Start

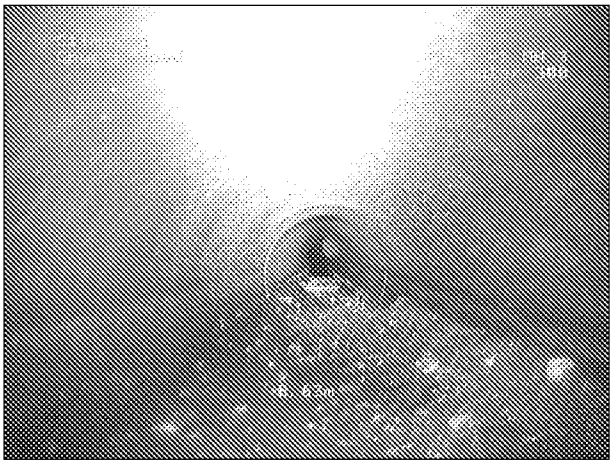


Photo: 15_4a
8.63m, Survey abandoned, Remark: Due to debris

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
26/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**16**	**Gully 13 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Yes**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**Gully 13**
Place:	**Climping**	Drain. Area:		end MH:	**Mainline**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**3.8 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**	
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)**	Pipe length:
Use:	**Surface water**	Lining:		
		Lining Type:		

Comment:

1:25	position	code	observation	counter	photo	grade
/ Cover level: 3.425						
Gully 13	0.00	GY	Start node type, gully, reference number: Gully 13		95_1a	
	0.00	WL	Water level 05 % height/diameter			0
	2.28	OJM	Open joint medium		97_3a	1
	2.90	WL	Water level 50 % height/diameter		98_4a	0
	2.91	SA	Survey abandoned, Remark: Due to water level			1

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**26/08/2020**	**16**	**Gully 13 X**

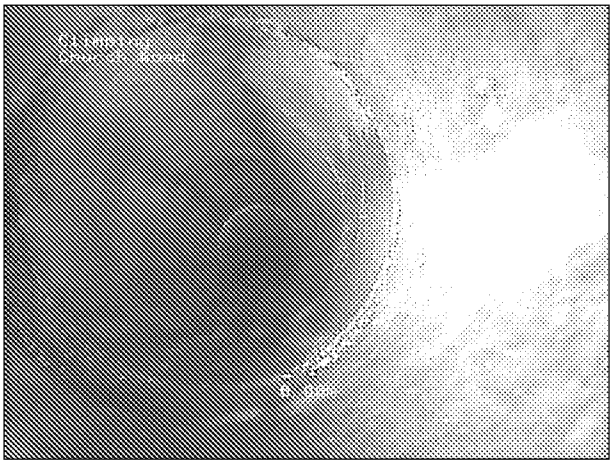


Photo: 95_1a
0m, Start node type, gully, reference number: Gully 13

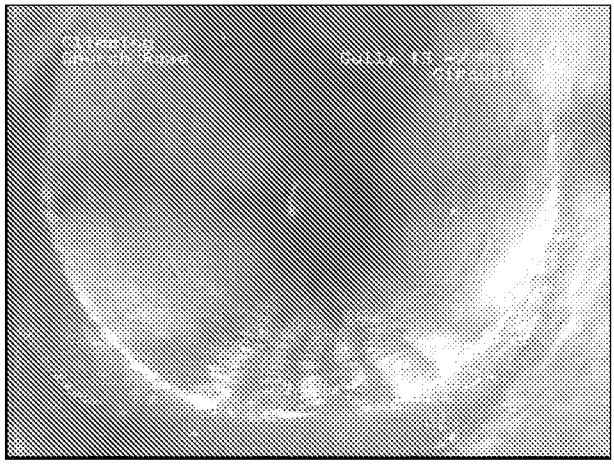


Photo: 97_3a
2.26m, Open joint medium



Photo: 98_4a
2.9m, Water level 50 % height/diameter

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
27/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**17**	**Gully 14 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Yes**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 8**
Place:	**Climping**	Drain. Area:		end MH:	**Gully 14**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**10.83 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**
Type:	**Gravity drain/sewer**	Material:	**Polyvinyl chloride** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:100	position	code	observation	counter	photo	grade
/ Cover level: 2.059						
MH 8	0.00	CP	Start node type, catchpit, reference number: MH 8		101_1a	0
	0.00	WL	Water level 05 % height/diameter			0
	6.82	D	Deformed drain/sewer 18 %		103_3a	5
Gully 14	10.83	GYF	Finish node type, gully, reference number: Gully 14		104_4a	

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**27/08/2020**	**17**	**Gully 14 X**

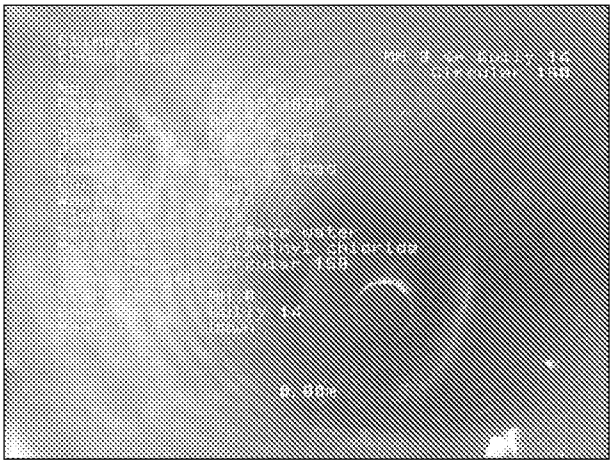


Photo: 101_1a
0m, Start node type, catchpit, reference number: MH 8



Photo: 103_3a
6.63m, Deformed drain/sewer 15 %



Photo: 104_4a
10.83m, Finish node type, gully, reference number: Gully 14

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
27/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**18**	**Gully 15 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Yes**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 8**
Place:	**Climping**	Drain. Area:		end MH:	**Gully 15**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**10.15 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**
Type:	**Gravity drain/sewer**	Material:	**Polyvinyl chloride** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:



1:75	position	code	observation	counter	photo	grade
MH 8	0.00	CP	Start node type, catchpit, reference number: MH 8		105_1a	0
	0.00	WL	Water level 05 % height/diameter			0
	9.82	JXB	Junction defective,connecting pipe is blocked at 03 o´clock, dia 150 mm		107_3a	
	10.15	DES	Settled deposits fine 100 % cross-sectional area loss		108_4a	1
	10.15	SA	Survey abandoned, Remark: Due to silt in pipe			1

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**27/08/2020**	**18**	**Gully 15 X**

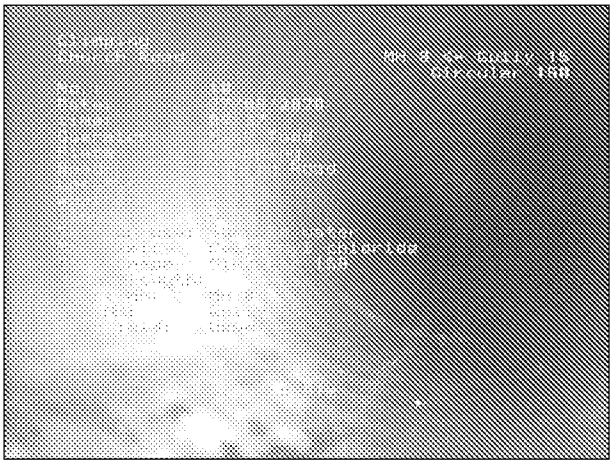


Photo: 105_1a
0m, Start node type, catchpit, reference number: MH 8

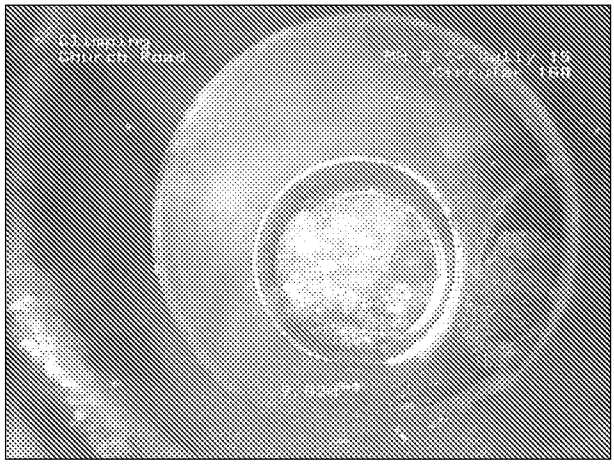


Photo: 107_3a
9.82m, Junction defective,connecting pipe is blocked at 03 o´clock, dia 150 mm

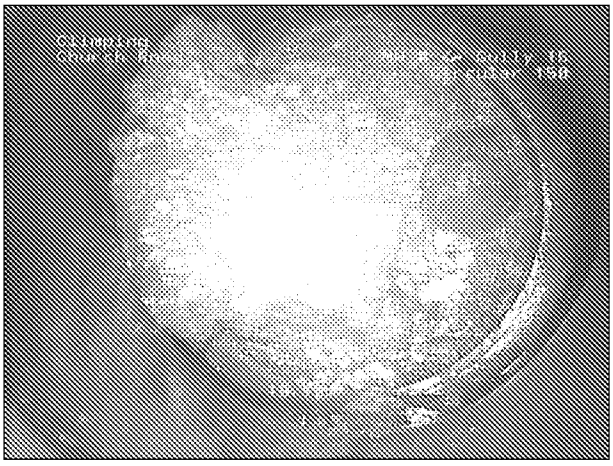


Photo: 108_4a
10.15m, Settled deposits fine 100 % cross-sectional area loss

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
27/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**19**	**Gully 17 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Yes**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 8**
Place:	**Climping**	Drain. Area:		end MH:	**Gully 17**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**4.93 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 150**
Type:	**Gravity drain/sewer**	Material:	**Polyvinyl chloride** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:50	position	code	observation	counter	photo	grade
MH 8	0.00	CP	Start node type, catchpit, reference number: MH 8			0
	0.01	WL	Water level 05 % height/diameter			0
Gully 17	4.93	GYF	Finish node type, gully, reference number: Gully 17		112_3a	

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**27/08/2020**	**19**	**Gully 17 X**

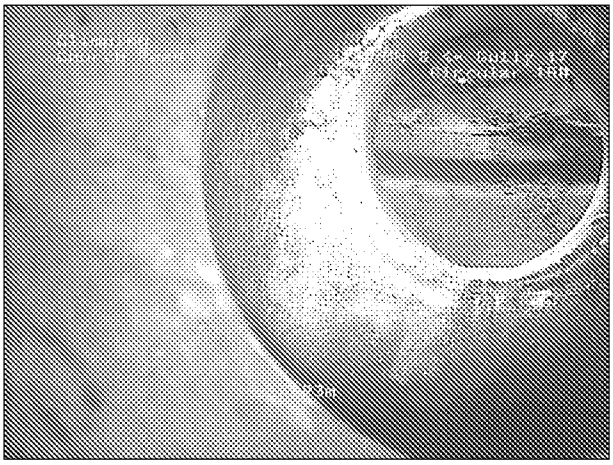


Photo: 112_3a
4.93m, Finish node type, gully, reference number: Gully 17

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
27/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**20**	**MH 8 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Back Jetted**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 8**
Place:	**Climping**	Drain. Area:		end MH:	**MH 9**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**13.57 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 225**
Type:	**Gravity drain/sewer**	Material:	**Polyvinyl chloride** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:100	position	code	observation	counter	photo	grade
MH 8	0.00	CP	Start node type, catchpit, reference number: MH 8		113_1a	0
	0.00	WL	Water level 05 % height/diameter			0
MH 9	13.57	CPF	Finish Node type, catchpit, reference number: MH 9		115_3a	0

/ Cover level: 4.044

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**27/08/2020**	**20**	**MH 8 X**

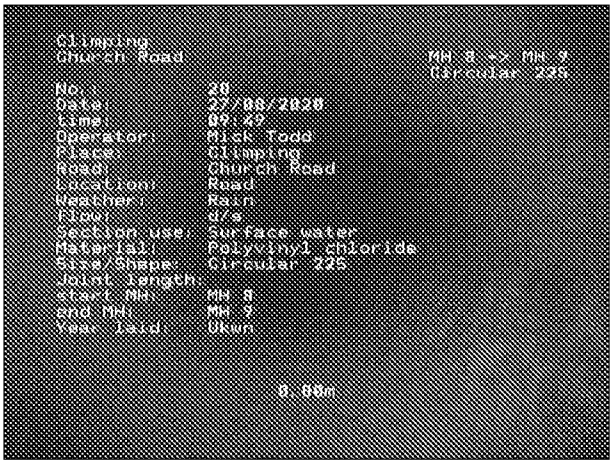


Photo: 113_1a
0m, Start node type, catchpit, reference number: MH 8

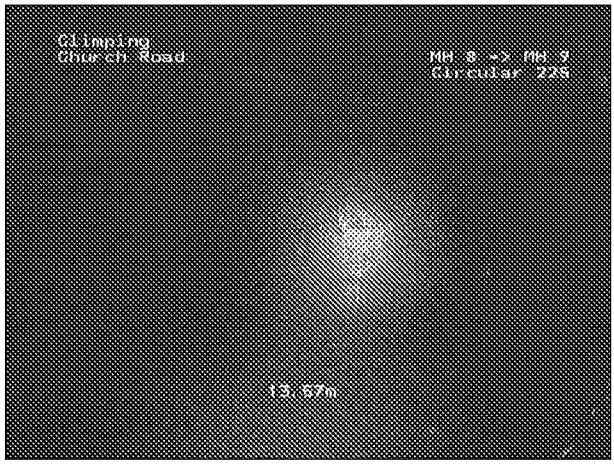


Photo: 115_3a
13.57m, Finish Node type, catchpit, reference number: MH 9

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Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
27/08/2020	**1638.6AN**	**Rain**	**Mick Todd**	**21**	**MH 11 X**
Video Volume No.:	Flow Ctrl: **No flow control**	Temperature: **above freezing**	Year laid: **Ukwn**	Cleaned: **Yes**	Strat. Drain:

Road:	**Church Road**	Div/Dist:		start MH:	**MH 4**
Place:	**Climping**	Drain. Area:		end MH:	**MH 11**
Location:	**Road**	Standard:	**BS EN 13508-2:2003**	Total length:	**71.3 m**

Purpose:	**Routine inspection of condition**	Shape/Size:	**Circular 225**
Type:	**Gravity drain/sewer**	Material:	**Vitrified clay (i.e. all clayware)** Pipe length:
Use:	**Surface water**	Lining:	
		Lining Type:	

Comment:

1:525	position	code	observation	counter	photo	grade
MH 4	0.00	MH	Start node type, manhole, reference number: MH 4		116_1a	0
	0.00	WL	Water level 10 % height/diameter			0
	1.35	JN	Junction at 10 o´clock dia 150 mm		118_3a	0
	3.51	WL	Water level 05 % height/diameter			0
	13.62	RTJ	Roots tap at joint		120_5a	2
	20.17	DES	Settled deposits fine 10 % cross-sectional area loss		121_6a	1
	20.19	RFJ	Fine Roots at joint			1
	20.19	RTJ	Roots tap at joint		123_8a	2
	36.40	JN	Junction at 11 o´clock dia 150 mm		124_9a	0
	46.26	RFJ	Fine Roots at joint		125_10a	1
	48.07	RFJ	Fine Roots at joint			1
	57.23	RFJ	Fine Roots at joint		127_12a	1
	64.69	RTJ	Roots tap at joint		128_13a	2
MH 11	71.30	MHF	Finish node type, manhole, reference number: MH 11		129_14a	

/ Cover level: 0.223

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**27/08/2020**	**21**	**MH 11 X**

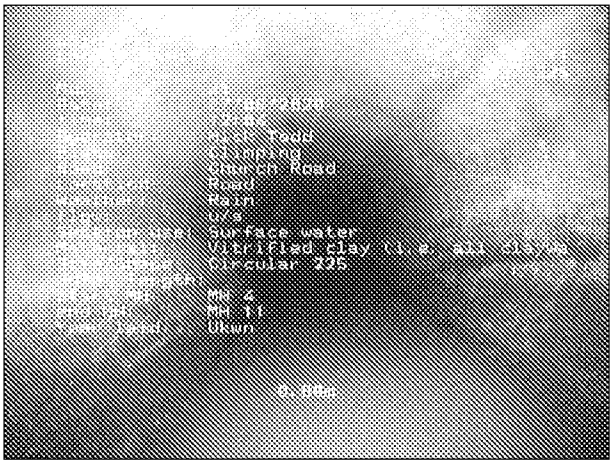


Photo: 116_1a
0m, Start node type, manhole, reference number: MH 4

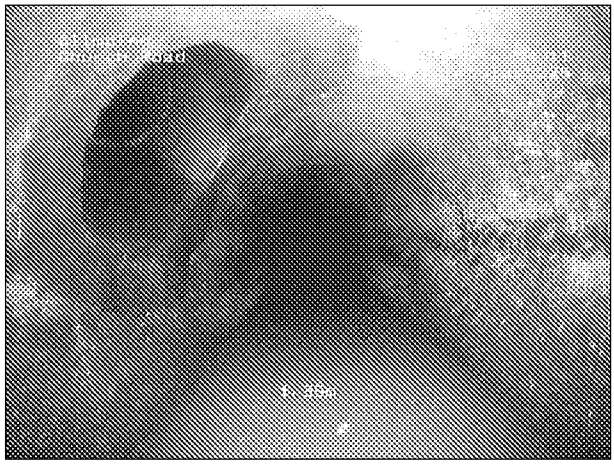


Photo: 118_3a
1.35m, Junction at 10 o´clock dia 150 mm

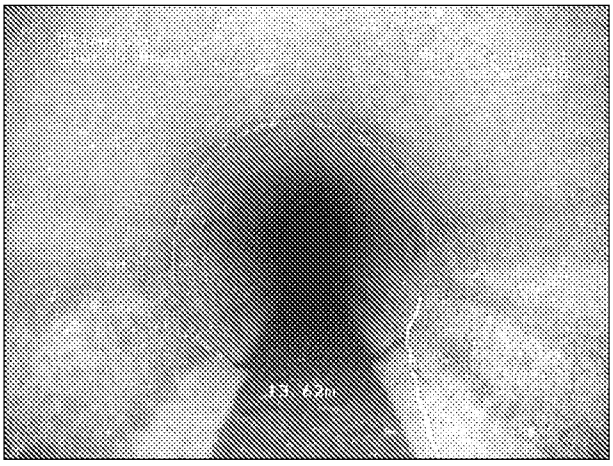


Photo: 120_5a
13.62m, Roots tap at joint



Photo: 121_6a
20.17m, Settled deposits fine 10 % cross-sectional area loss

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**27/08/2020**	**21**	**MH 11 X**

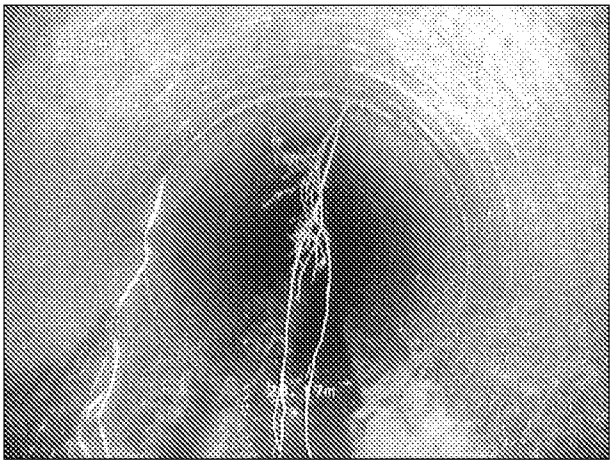


Photo: 123_8a
20.19m, Roots tap at joint

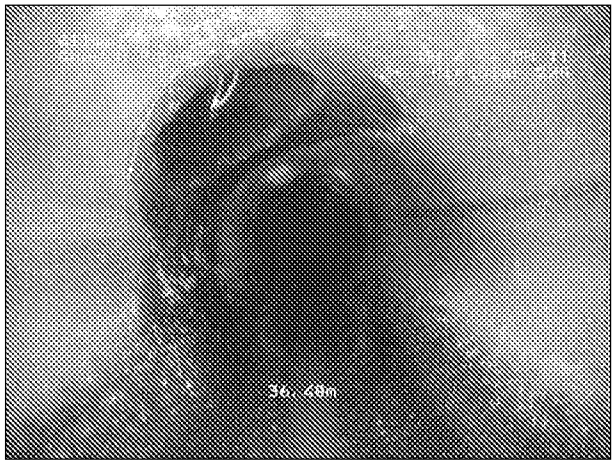


Photo: 124_9a
36.4m, Junction at 11 o´clock dia 150 mm

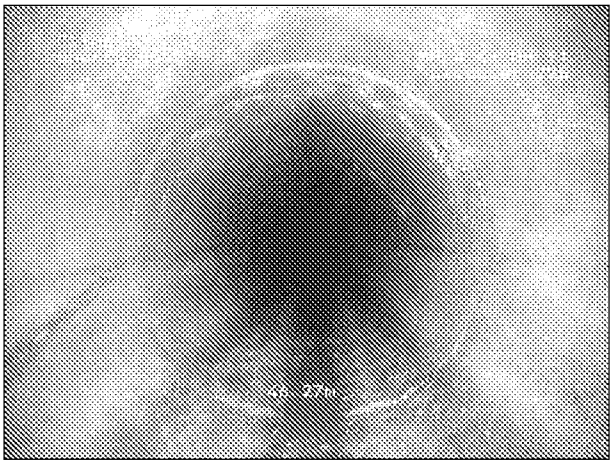


Photo: 125_10a
46.26m, Fine Roots at joint

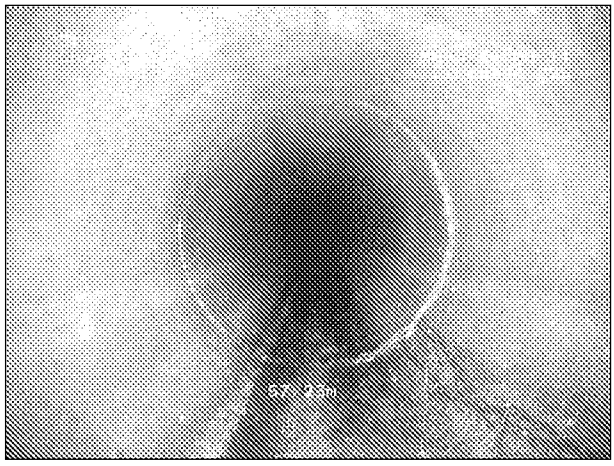


Photo: 127_12a
57.23m, Fine Roots at joint

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Inspection photos

Place:	Road:	Date:	section number:	PLR:
Climping	**Church Road**	**27/08/2020**	**21**	**MH 11 X**

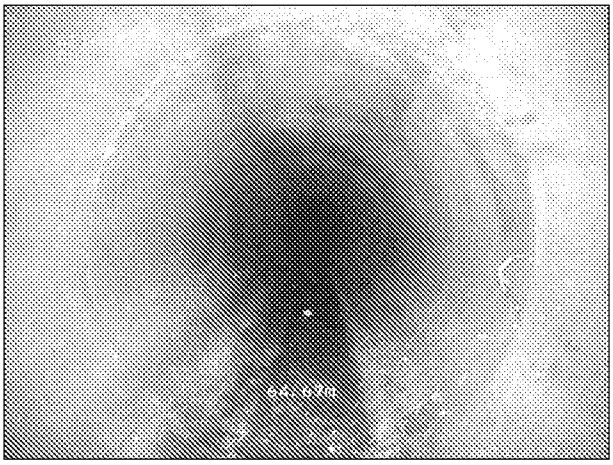


Photo: 128_13a
64.69m, Roots tap at joint

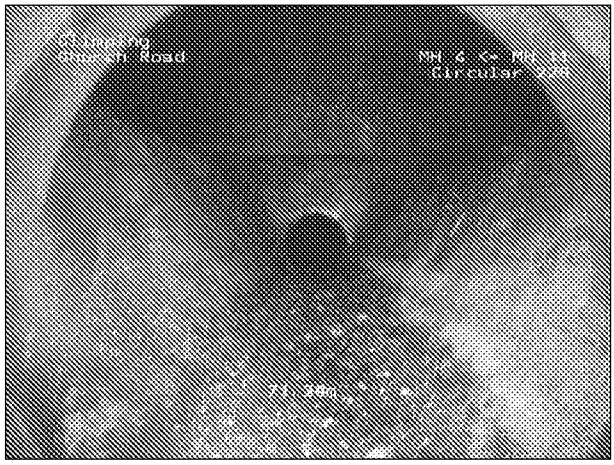


Photo: 129_14a
71.3m, Finish node type, manhole, reference number: MH 11

ARUN DISTRICT COUNCIL CM/48/21/RES

Gully Details

Item Type	Gully	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500408.885	Northing (m)	102082.685	Identifier		Asset Reference		Manhole	Gully 1
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	5.564	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.52	Cover Length (m)	0.35	Manufacterer		Grating	Yes		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.45	Chamber Length (m)	0.45		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

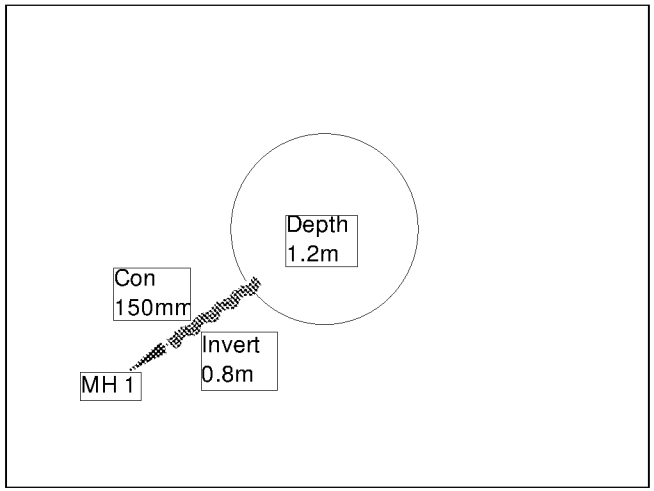
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

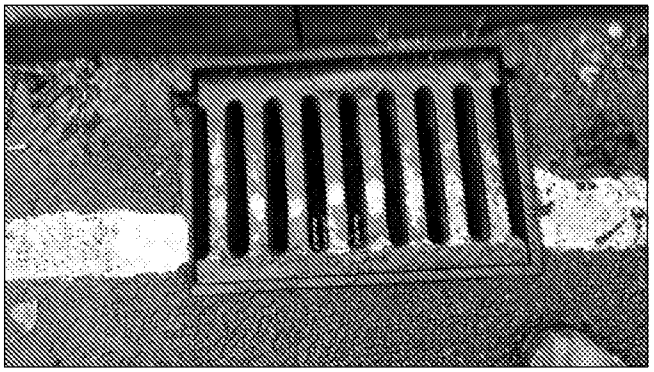
ARUN DISTRICT COUNCIL CM/48/21/RES

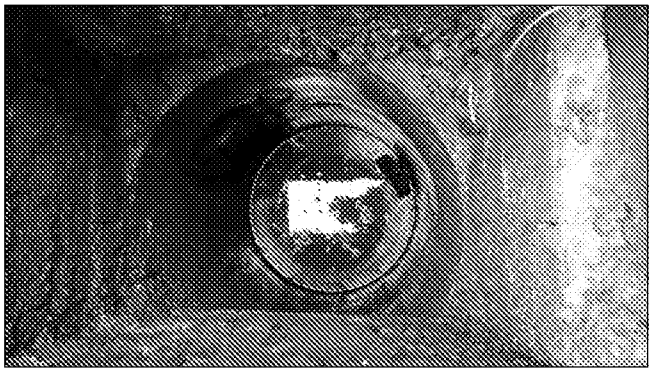
Highway Authority / Highways Agency Region

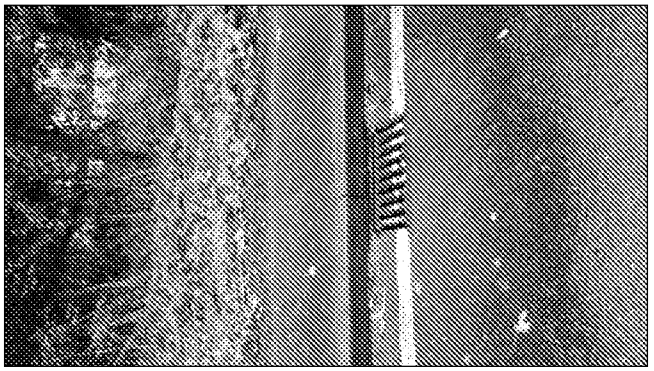
Manhole/Node Reference

Gully 1









ARUN DISTRICT COUNCIL CM/48/21/RES

Gully Details

Item Type	Gully	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500303.774	Northing (m)	102384.948	Identifier		Asset Reference		Manhole	Gully 13
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	3.425	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.52	Cover Length (m)	0.35	Manufacterer		Grating	Yes		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.45	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

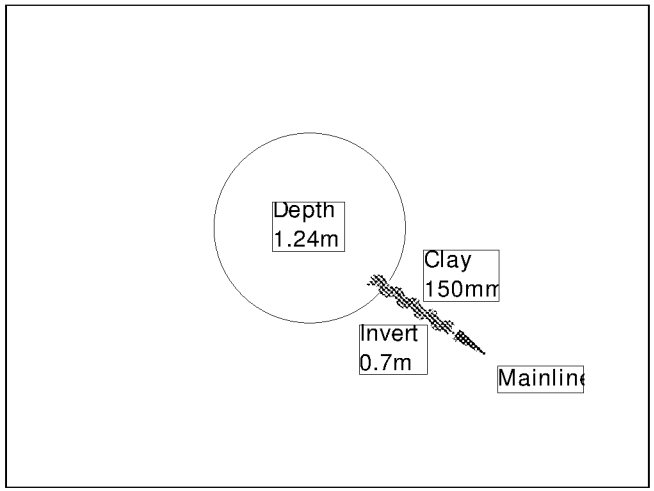
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

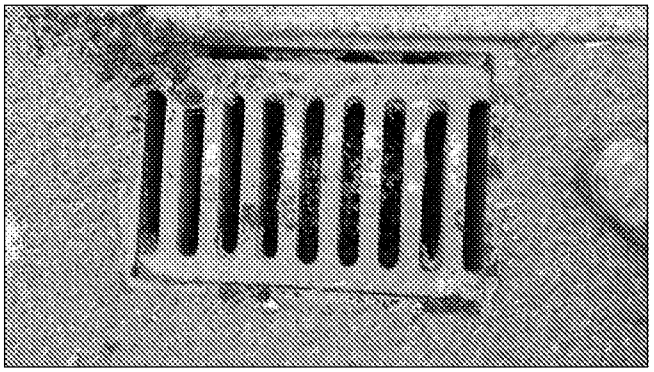
ARUN DISTRICT COUNCIL CM/48/21/RES

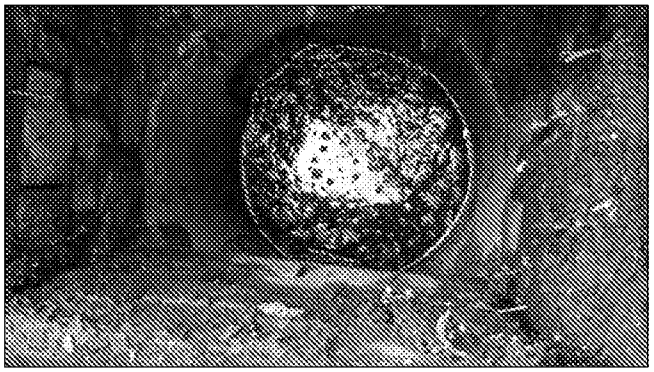
Highway Authority / Highways Agency Region

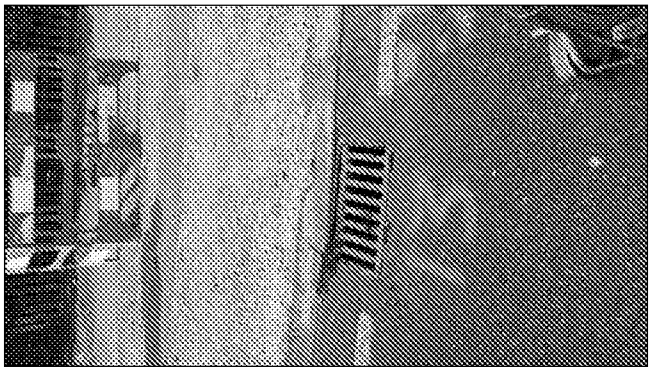
Manhole/Node Reference

Gully 13









ARUN DISTRICT COUNCIL CM/48/21/RES

Gully Details

Item Type	Gully	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500398.423	Northing (m)	102114.604	Identifier		Asset Reference		Manhole	Gully 2
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	4.944	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.52	Cover Length (m)	0.35	Manufacterer		Grating	Yes		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.45	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

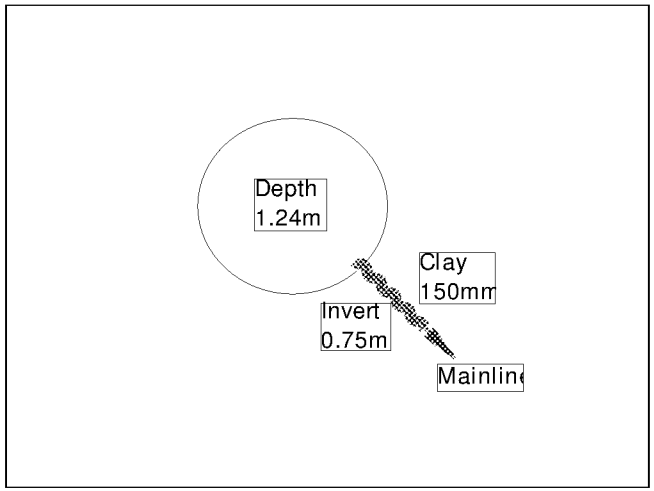
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

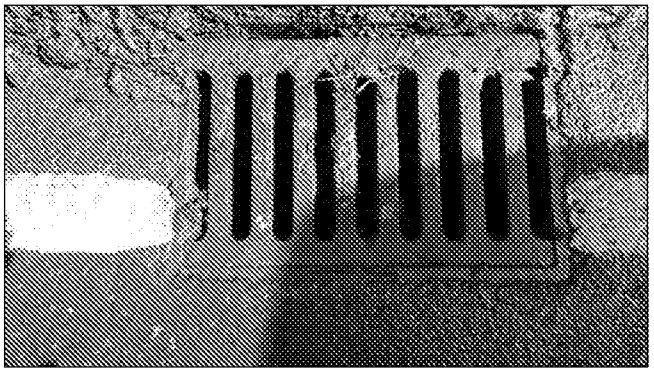
ARUN DISTRICT COUNCIL CM/48/21/RES

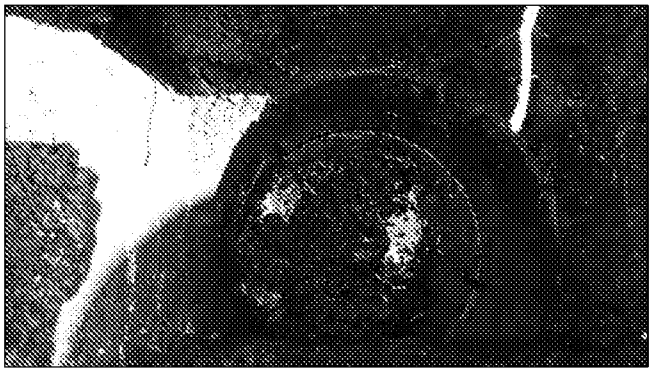
Highway Authority / Highways Agency Region

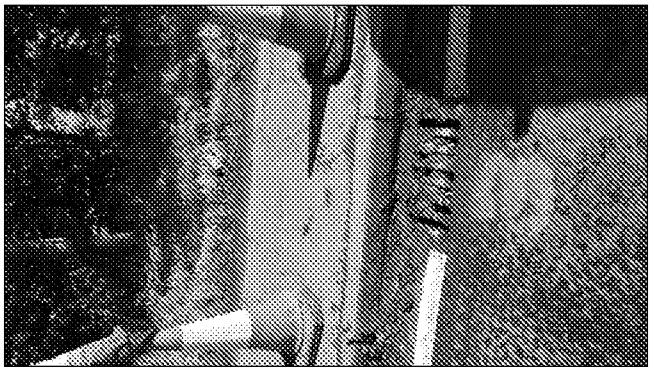
Manhole/Node Reference

Gully 2









ARUN DISTRICT COUNCIL CM/48/21/RES

Gully Details

Item Type	Gully	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500389.818	Northing (m)	102140.175	Identifier		Asset Reference		Manhole	Gully 3
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	4.591	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.52	Cover Length (m)	0.35	Manufacterer		Grating	Yes		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.45	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

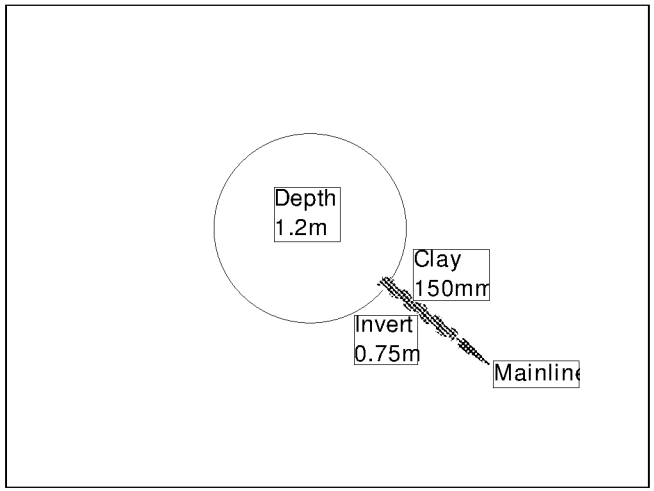
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

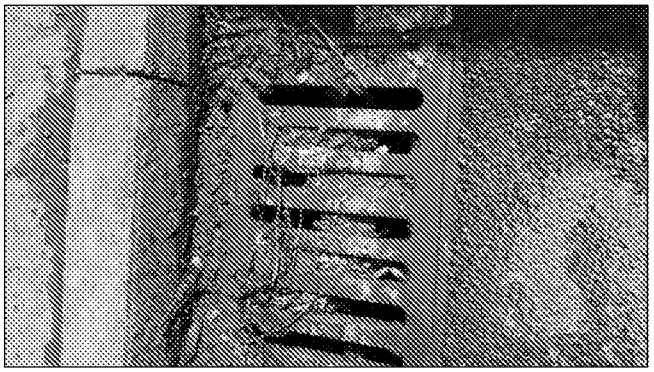
ARUN DISTRICT COUNCIL CM/48/21/RES

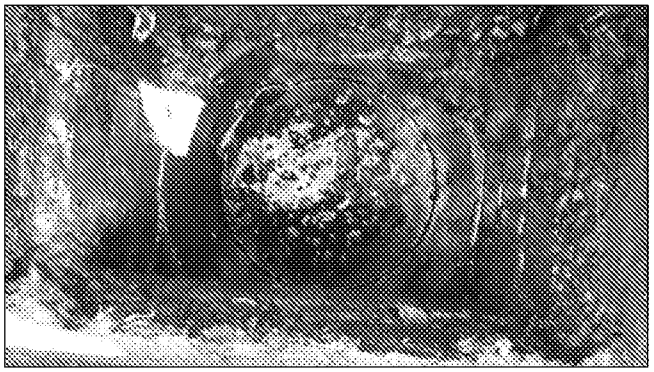
Highway Authority / Highways Agency Region

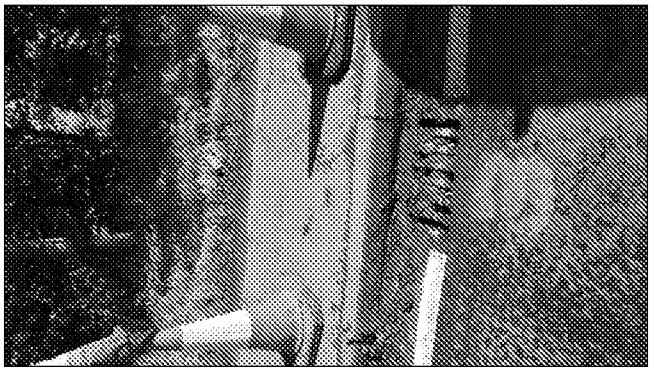
Manhole/Node Reference

Gully 3









ARUN DISTRICT COUNCIL CM/48/21/RES

Gully Details

Item Type	Gully	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500382.272	Northing (m)	102162.204	Identifier		Asset Reference		Manhole	Gully 4
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	5.436	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.52	Cover Length (m)	0.35	Manufacterer		Grating	Yes		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.45	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

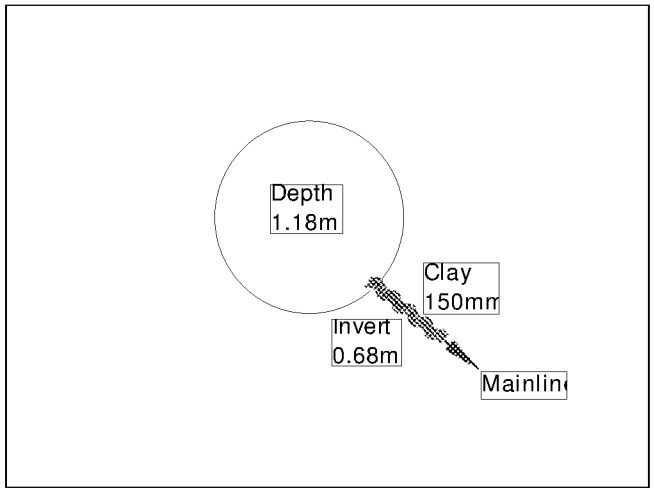
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

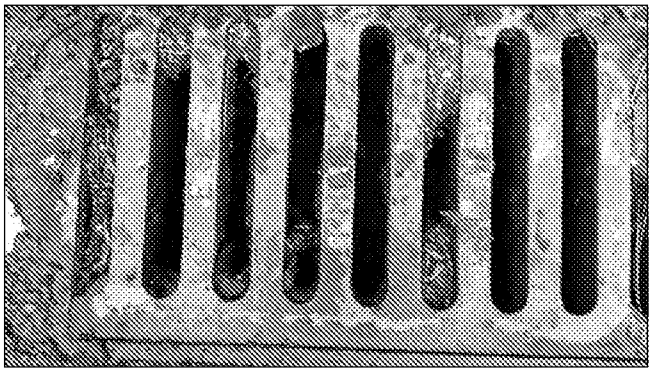
ARUN DISTRICT COUNCIL CM/48/21/RES

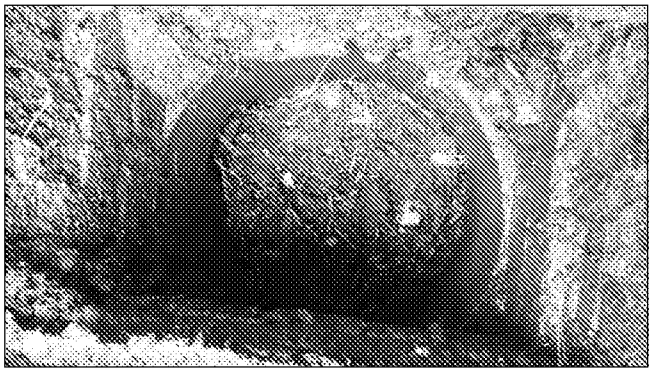
Highway Authority / Highways Agency Region

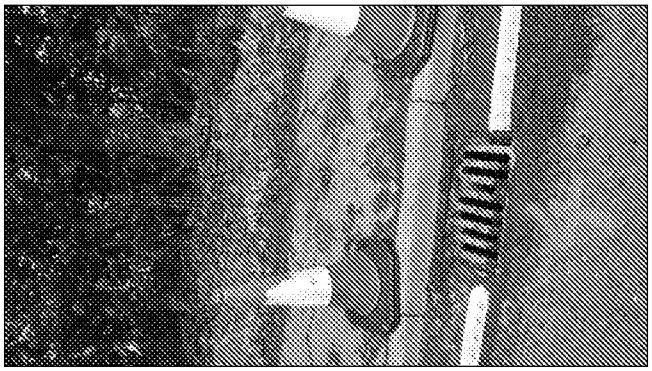
Manhole/Node Reference

Gully 4









ARUN DISTRICT COUNCIL CM/48/21/RES

Gully Details

Item Type	Gully	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500373.731	Northing (m)	102189.917	Identifier		Asset Reference		Manhole	Gully 5
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	4.005	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.52	Cover Length (m)	0.35	Manufacterer		Grating	Yes		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.45	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

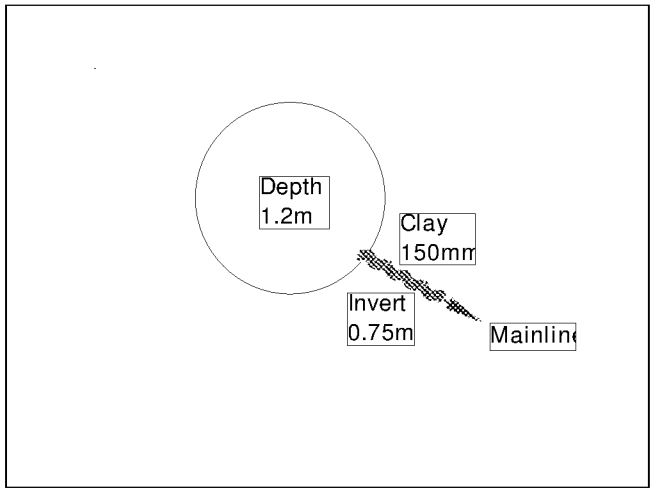
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

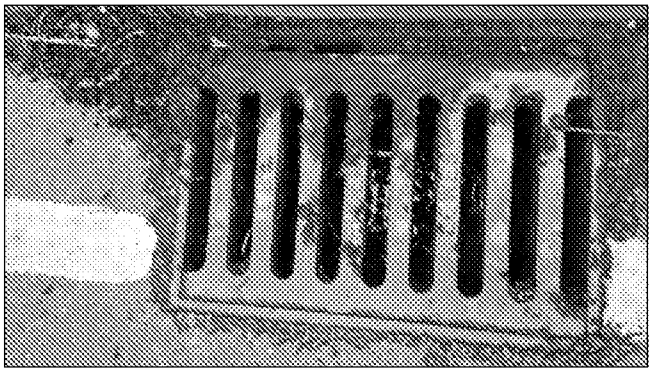
ARUN DISTRICT COUNCIL CM/48/21/RES

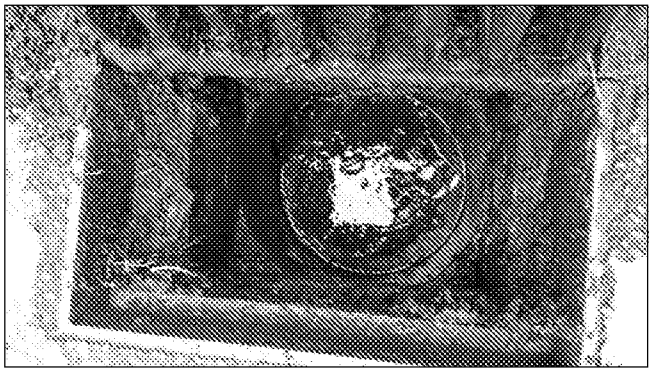
Highway Authority / Highways Agency Region

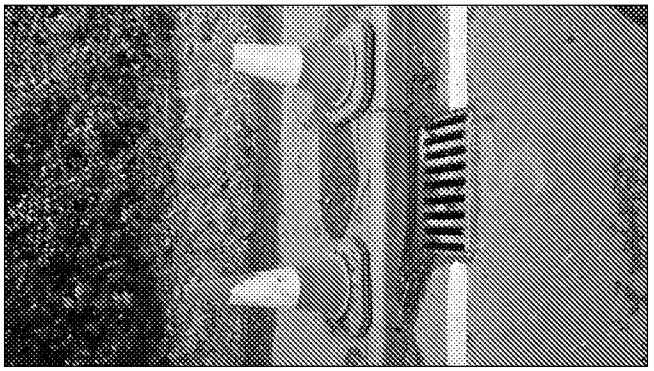
Manhole/Node Reference

Gully 5









ARUN DISTRICT COUNCIL CM/48/21/RES

Gully Details

Item Type	Gully	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500367.466	Northing (m)	102210.324	Identifier		Asset Reference		Manhole	Gully 6
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	3.534	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.52	Cover Length (m)	0.32	Manufacterer		Grating	Yes		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.45	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

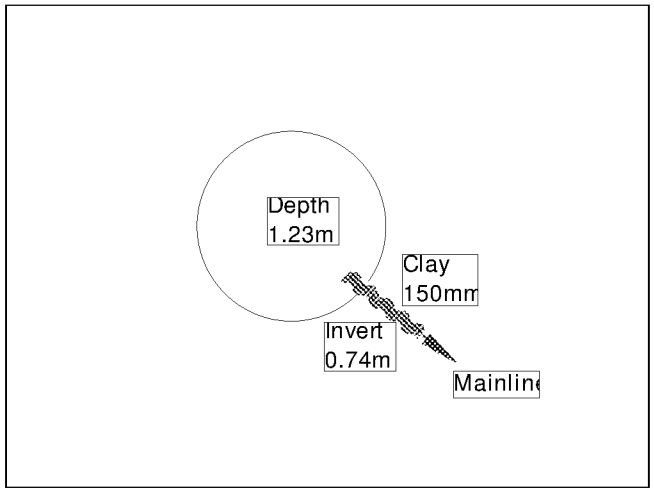
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

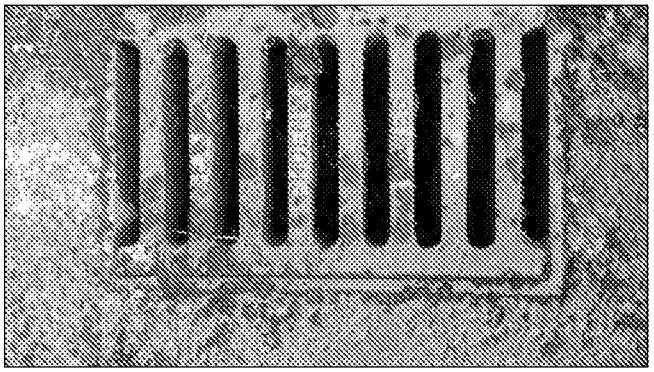
ARUN DISTRICT COUNCIL CM/48/21/RES

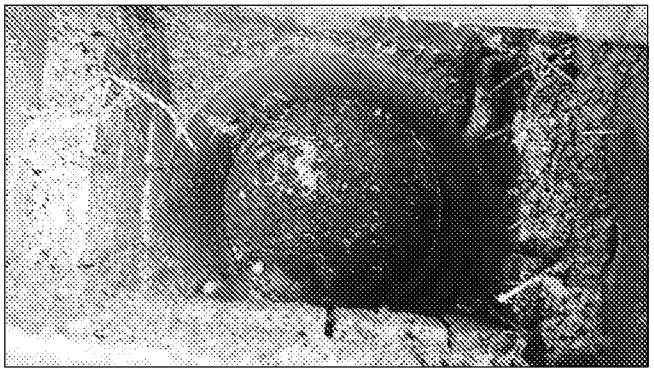
Highway Authority / Highways Agency Region

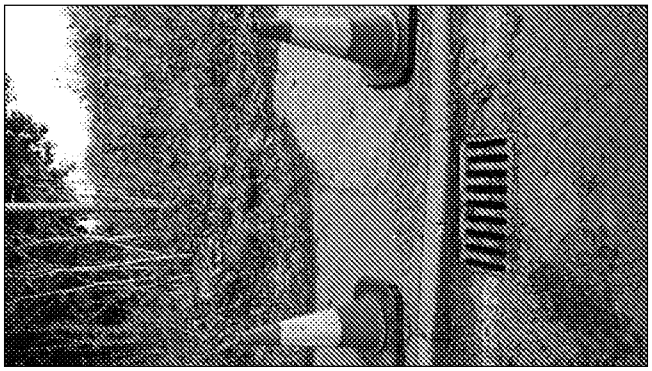
Manhole/Node Reference

Gully 6









ARUN DISTRICT COUNCIL CM/48/21/RES

Gully Details

Item Type	Gully	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500358.69	Northing (m)	102240.932	Identifier		Asset Reference		Manhole	Gully 7
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	1.681	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.52	Cover Length (m)	0.35	Manufacterer		Grating	Yes		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.45	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

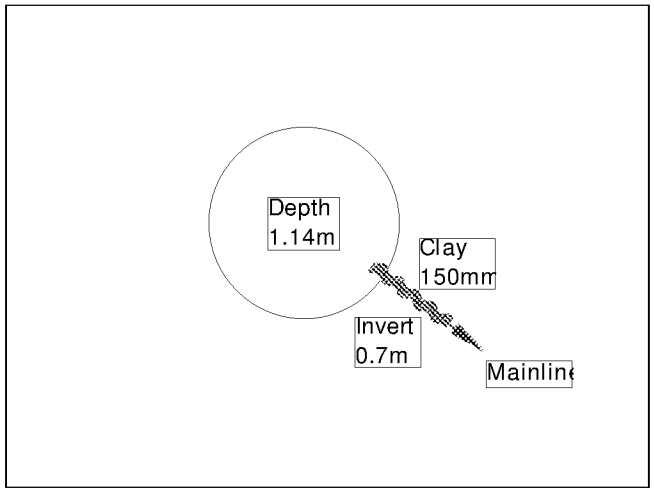
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

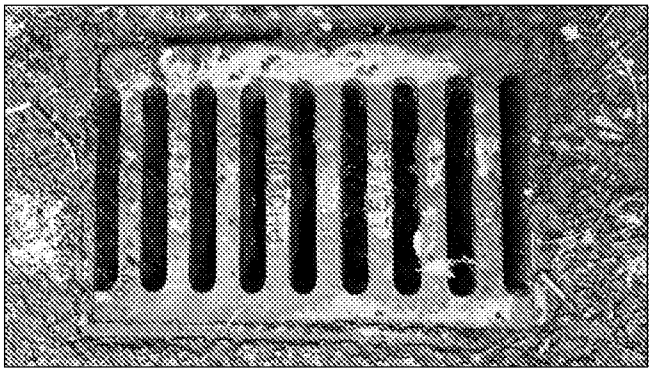
ARUN DISTRICT COUNCIL CM/48/21/RES

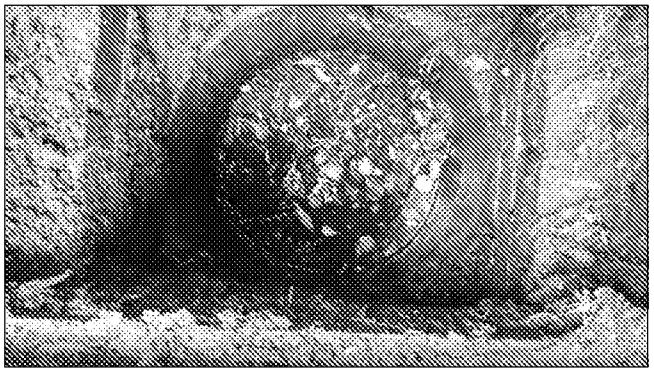
Highway Authority / Highways Agency Region

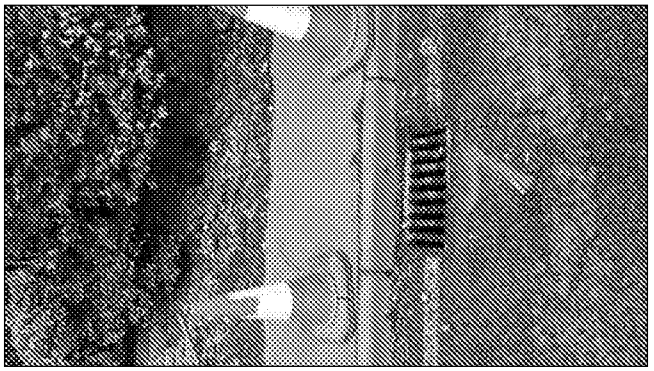
Manhole/Node Reference

Gully 7









ARUN DISTRICT COUNCIL CM/48/21/RES

Gully Details

Item Type	Gully	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500351.765	Northing (m)	102262.151	Identifier		Asset Reference		Manhole	Gully 8
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	3.096	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.52	Cover Length (m)	0.35	Manufacterer		Grating	No		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.45	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

ARUN DISTRICT COUNCIL CM/48/21/RES

Manhole Details

Item Type	Manhole	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500410.43	Northing (m)	102086.702	Identifier		Asset Reference		Manhole	MH 1
Ladder	No	Step Irons	4	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	5.491	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.675	Cover Length (m)	0.525	Manufacterer		Grating	No		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.9	Chamber Length (m)	0		
Flap Valve	No	Orifice	No	Sluice Gate	No	Weir	No	Screens	No	Penstock	No	Flume	No	Headwall	☒

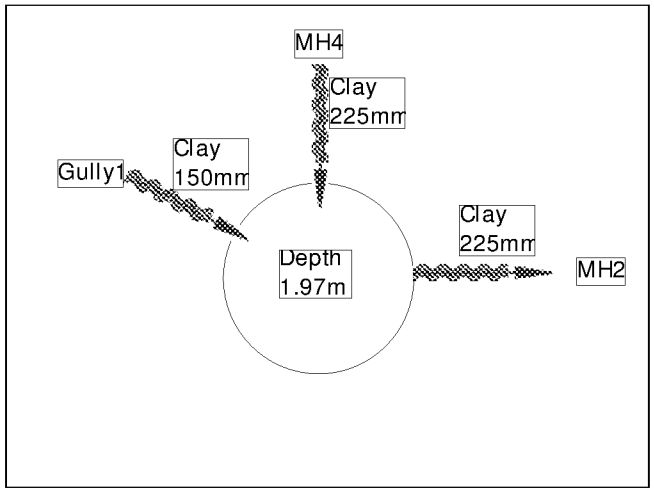
Video Ref.	Photo Ref.	Dist (m)	Cont. defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

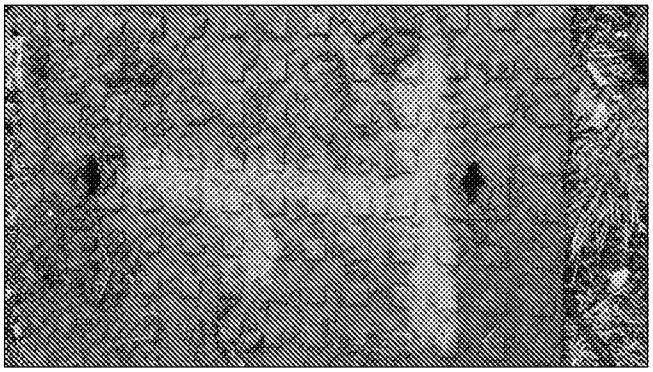
ARUN DISTRICT COUNCIL CM/48/21/RES

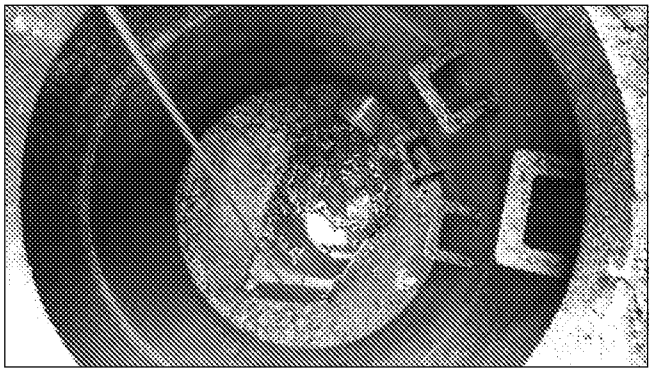
Highway Authority / Highways Agency Region

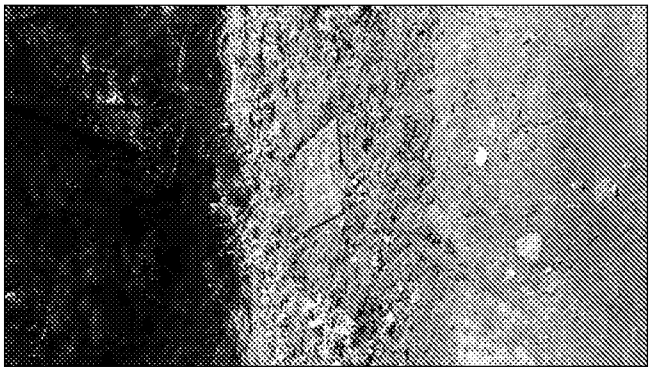
Manhole/Node Reference

MH 1









ARUN DISTRICT COUNCIL CM/48/21/RES

Manhole Details

Item Type	Manhole	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500417.134	Northing (m)	102020.597	Identifier		Asset Reference		Manhole	MH 11
Ladder	No	Step Irons	4	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	0.223	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy. Offset from manhole
Cover Width (m)	0.625	Cover Length (m)	0.525	Manufacterer		Grating	Yes
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.9	Chamber Length (m)	0
Flap Valve	No	Orifice	No	Sluice Gate	No	Weir	No	Screens	No	Penstock	No	Flume	No	Headwall	☒

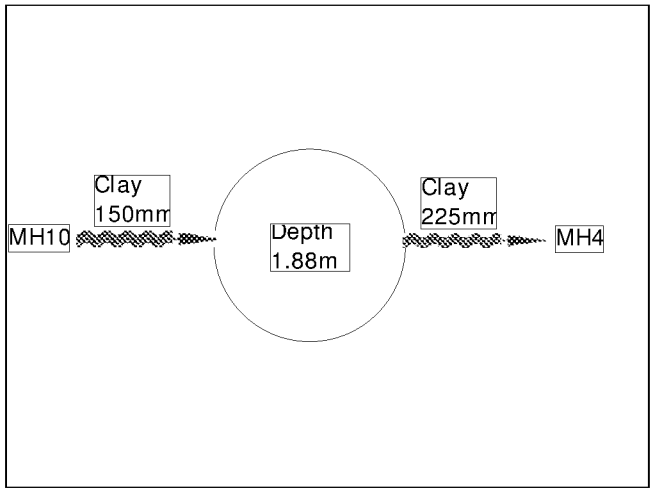
Video Ref.	Photo Ref.	Dist (m)	Cont. defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

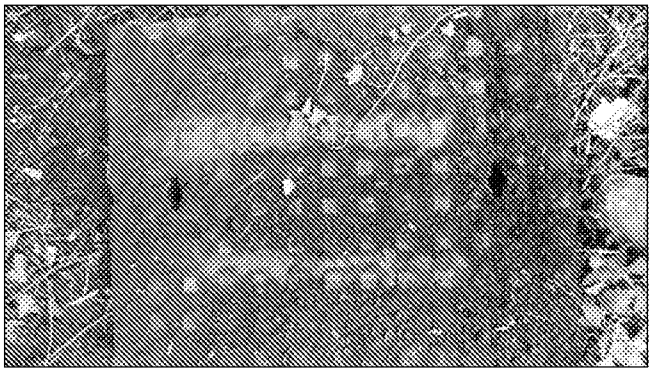
ARUN DISTRICT COUNCIL CM/48/21/RES

Highway Authority / Highways Agency Region

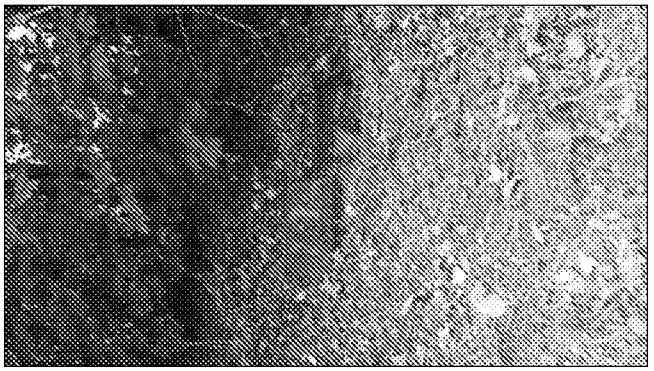
Manhole/Node Reference

MH 11









ARUN DISTRICT COUNCIL CM/48/21/RES

Catchpit Details

Item Type	Catchpit	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500422.767	Northing (m)	101932.694	Identifier		Asset Reference		Manhole	MH 12
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	6.022	Cover Shape	Square	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.6	Cover Length (m)	0.6	Manufacterer		Grating	No		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.9	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

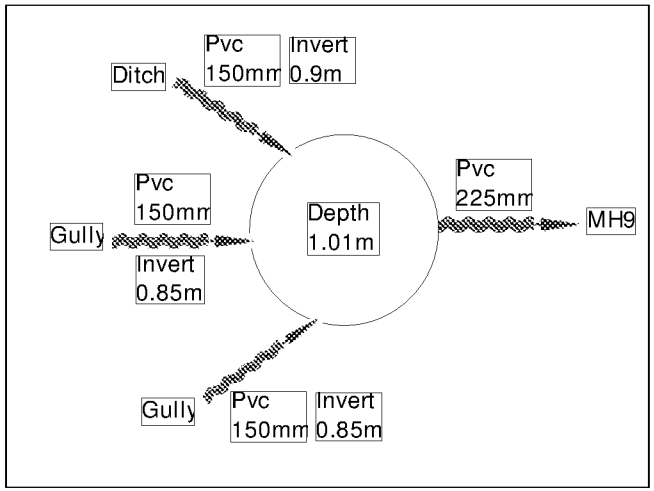
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

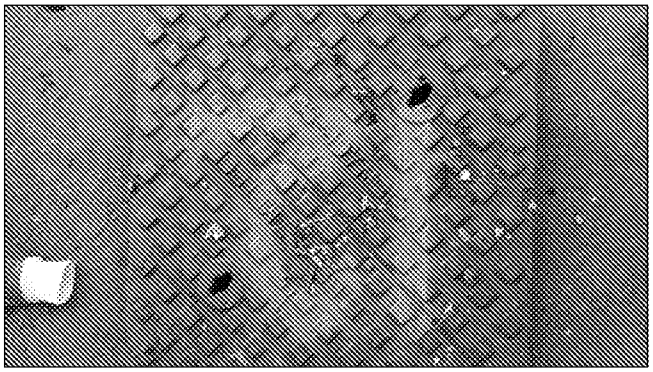
ARUN DISTRICT COUNCIL CM/48/21/RES

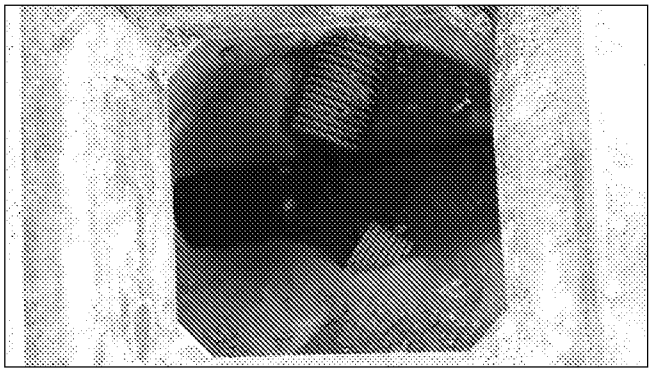
Highway Authority / Highways Agency Region

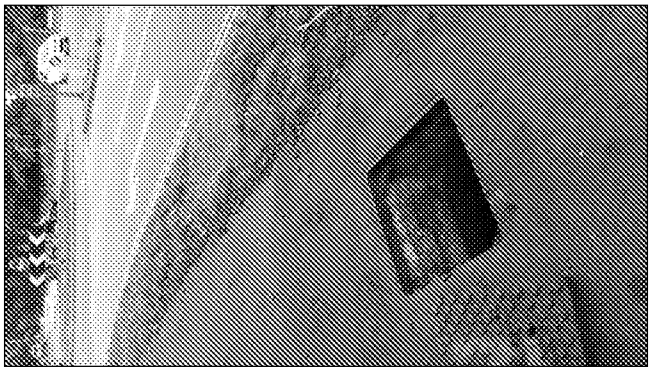
Manhole/Node Reference

MH 12









ARUN DISTRICT COUNCIL CM/48/21/RES

Catchpit Details

Item Type	Catchpit	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500459.908	Northing (m)	101952.702	Identifier		Asset Reference		Manhole	MH 13
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	4.139	Cover Shape	Square	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.6	Cover Length (m)	0.6	Manufacterer		Grating	No		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	1.05	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

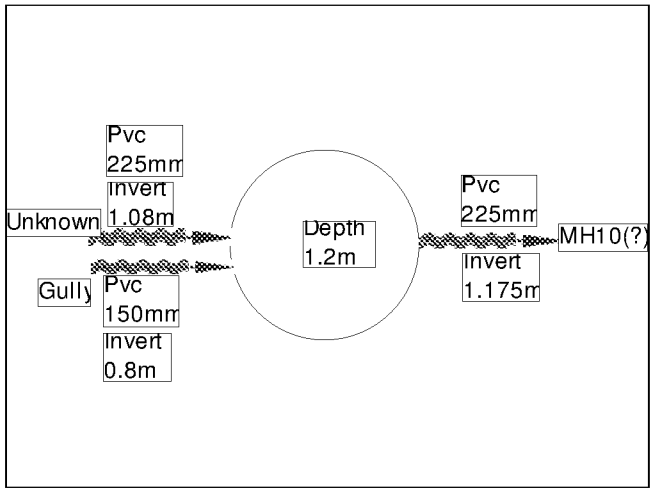
Video Ref.	Photo Ref.	Dist (m)	Cont. defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
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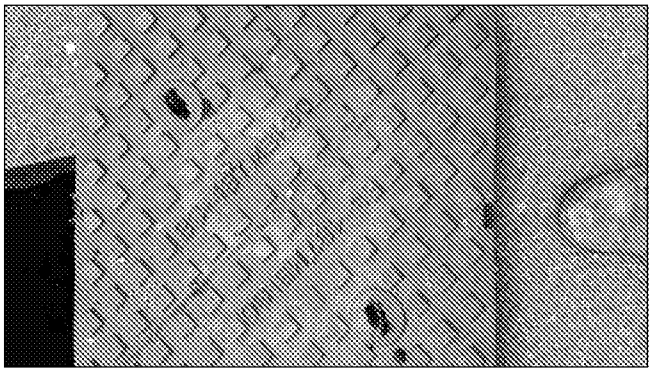
ARUN DISTRICT COUNCIL CM/48/21/RES

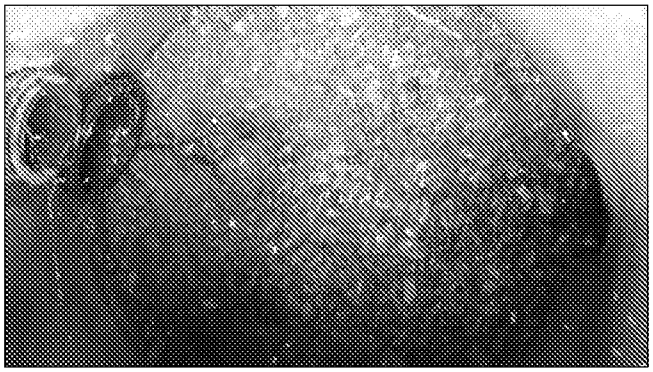
Highway Authority / Highways Agency Region

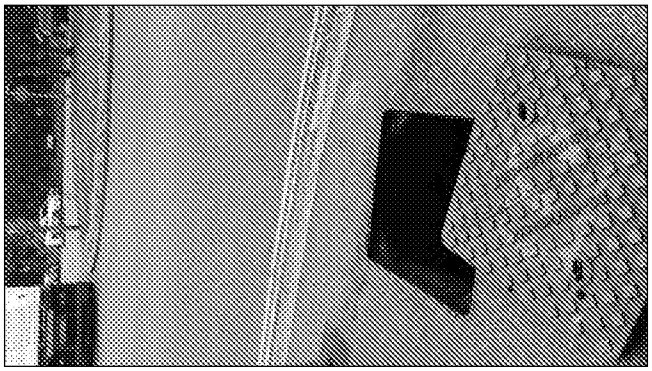
Manhole/Node Reference

MH 13









ARUN DISTRICT COUNCIL CM/48/21/RES

Manhole Details

Item Type	Manhole	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500388.651	Northing (m)	0	Identifier		Asset Reference		Manhole	MH 2
Ladder	No	Step Irons	3	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	5.14	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.675	Cover Length (m)	0.525	Manufacterer		Grating	No		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.9	Chamber Length (m)	0		
Flap Valve	No	Orifice	No	Sluice Gate	No	Weir	No	Screens	No	Penstock	No	Flume	No	Headwall	☒

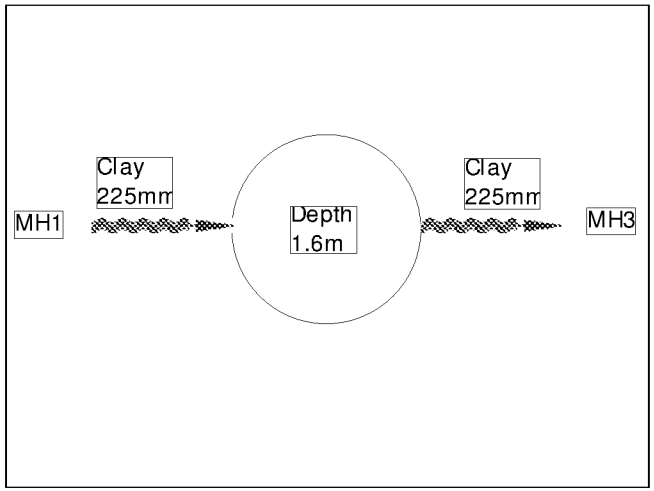
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ARUN DISTRICT COUNCIL CM/48/21/RES

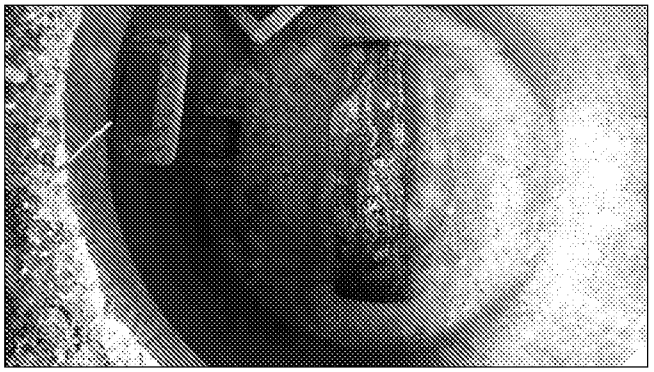
Highway Authority / Highways Agency Region

Manhole/Node Reference

MH 2









ARUN DISTRICT COUNCIL CM/48/21/RES

Manhole Details

Item Type	Manhole	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500368.197	Northing (m)	102210.699	Identifier		Asset Reference		Manhole	MH 3
Ladder	No	Step Irons	4	Side Entry	No	Manhole Construction	Brick	Number of Landings	0
Cover Level (m AOD)	7.057	Cover Shape	Square	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.62	Cover Length (m)	0.62	Manufacterer		Grating	No		
Shaft Width (m)	0.53	Shaft Length (m)	0.45	Chamber Width (m)	1	Chamber Length (m)	1		
Flap Valve	No	Orifice	No	Sluice Gate	No	Weir	No	Screens	No	Penstock	No	Flume	No	Headwall	☒

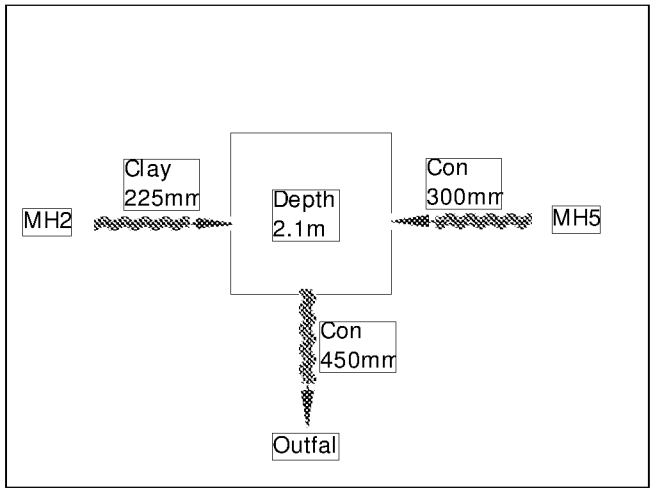
Video Ref.	Photo Ref.	Dist (m)	Cont. defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

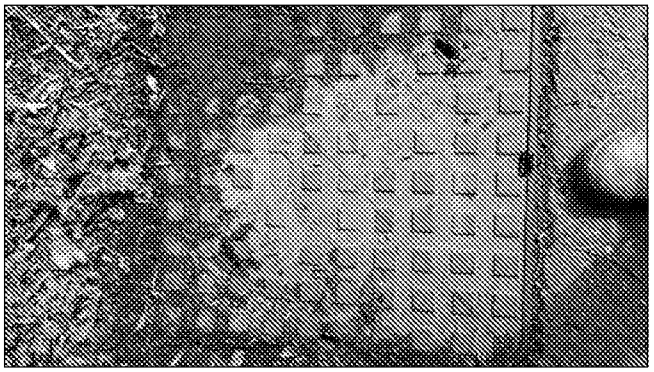
ARUN DISTRICT COUNCIL CM/48/21/RES

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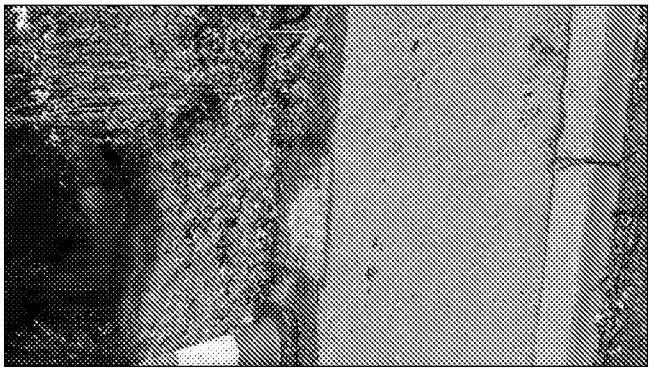
Manhole/Node Reference

MH 3









ARUN DISTRICT COUNCIL CM/48/21/RES

Manhole Details

Item Type	Manhole	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500399.922	Northing (m)	102080.611	Identifier		Asset Reference		Manhole	MH 4
Ladder	No	Step Irons	4	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	5.566	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.675	Cover Length (m)	0.525	Manufacterer		Grating	No		
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.9	Chamber Length (m)	0		
Flap Valve	No	Orifice	No	Sluice Gate	No	Weir	No	Screens	No	Penstock	No	Flume	No	Headwall	☒

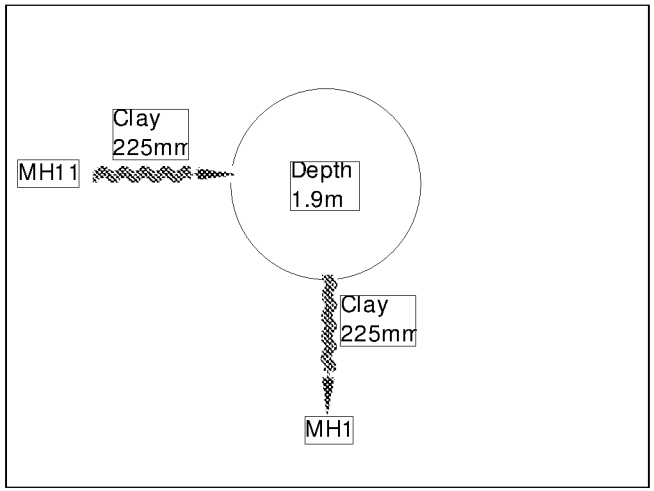
Video Ref.	Photo Ref.	Dist (m)	Cont. defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

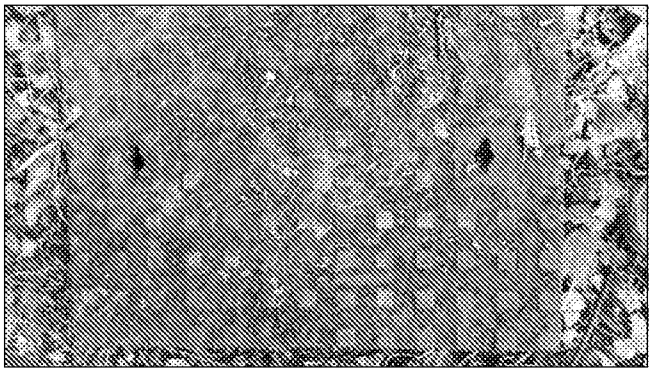
ARUN DISTRICT COUNCIL CM/48/21/RES

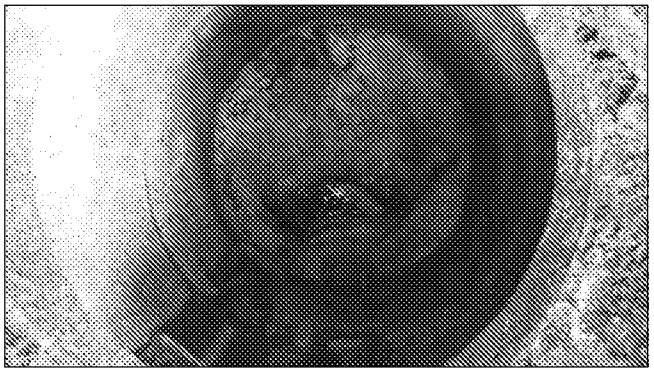
Highway Authority / Highways Agency Region

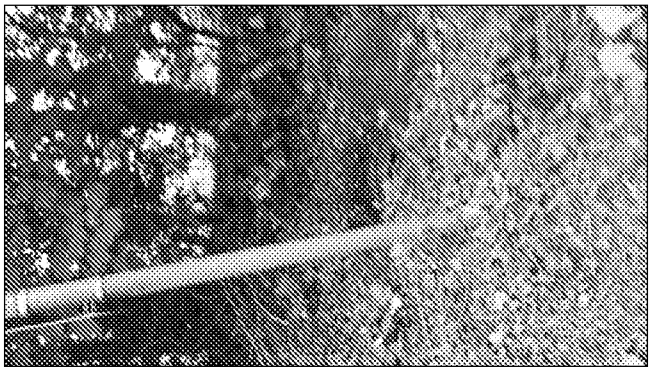
Manhole/Node Reference

MH 4









ARUN DISTRICT COUNCIL CM/48/21/RES

Manhole Details

Item Type	Manhole	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500347.431	Northing (m)	102283.187	Identifier		Asset Reference		Manhole	MH 5
Ladder	No	Step Irons	2	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	3.219	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy.Damaged
Cover Width (m)	0.625	Cover Length (m)	0.525	Manufacterer		Grating	No
Shaft Width (m)	0	Shaft Length (m)	0	Chamber Width (m)	0.9	Chamber Length (m)	0
Flap Valve	No	Orifice	No	Sluice Gate	No	Weir	No	Screens	No	Penstock	No	Flume	No	Headwall	☒

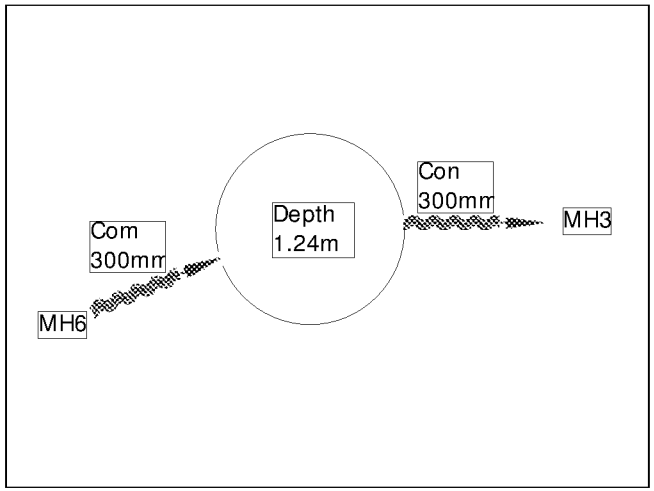
Video Ref.	Photo Ref.	Dist (m)	Cont. defect	Letters				Numbers					Remarks
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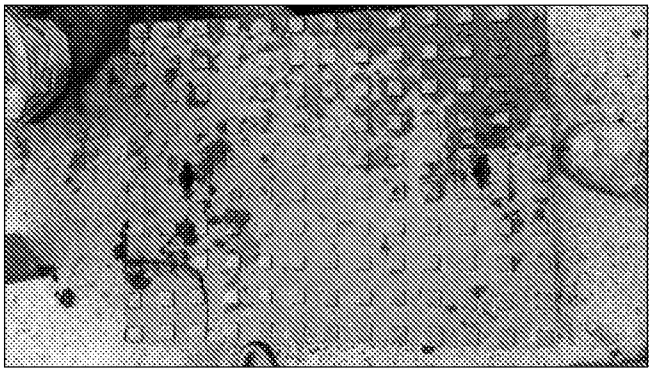
ARUN DISTRICT COUNCIL CM/48/21/RES

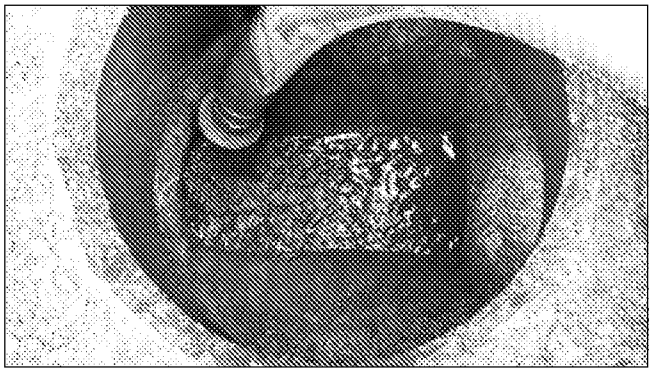
Highway Authority / Highways Agency Region

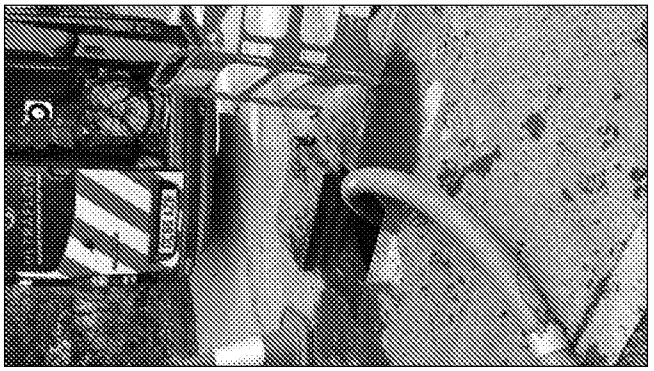
Manhole/Node Reference

MH 5









ARUN DISTRICT COUNCIL CM/48/21/RES

Manhole Details

Item Type	Manhole	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	Internal Survey	Other Source			
Easting (m)	500301.142	Northing (m)	102383.724	Identifier		Asset Reference		Manhole	MH 7
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Brick	Number of Landings	0
Cover Level (m AOD)	3.546	Cover Shape	Rectangle	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.625	Cover Length (m)	0.525	Manufacterer		Grating	No		
Shaft Width (m)	0.6	Shaft Length (m)	0.45	Chamber Width (m)	0.6	Chamber Length (m)	1		
Flap Valve	No	Orifice	No	Sluice Gate	No	Weir	No	Screens	No	Penstock	No	Flume	No	Headwall	☒

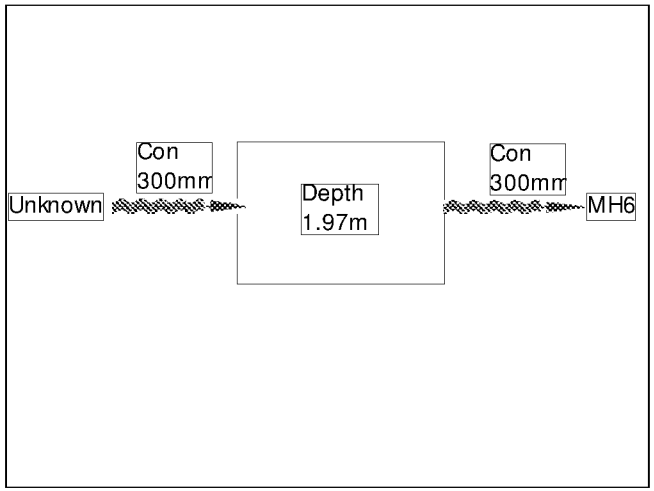
Video Ref.	Photo Ref.	Dist (m)	Cont. defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

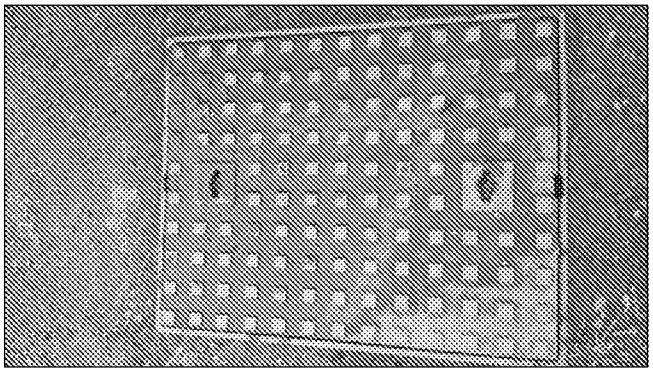
ARUN DISTRICT COUNCIL CM/48/21/RES

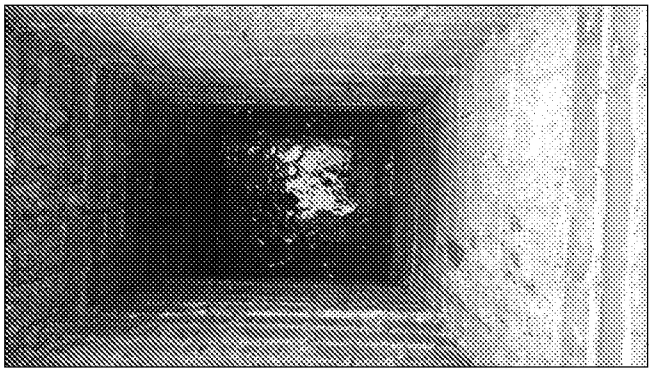
Highway Authority / Highways Agency Region

Manhole/Node Reference

MH 7









ARUN DISTRICT COUNCIL CM/48/21/RES

Manhole Details

Item Type	Manhole	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	External Survey	Other Source			
Easting (m)	500451.468	Northing (m)	101938.884	Identifier		Asset Reference		Manhole	MH 8
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	2.059	Cover Shape	Square	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.6	Cover Length (m)	0.6	Manufacterer		Grating	No		
Shaft Width (m)	0.55	Shaft Length (m)	0.55	Chamber Width (m)	1.05	Chamber Length (m)	0		
Flap Valve	No	Orifice	No	Sluice Gate	No	Weir	No	Screens	No	Penstock	No	Flume	No	Headwall	☒

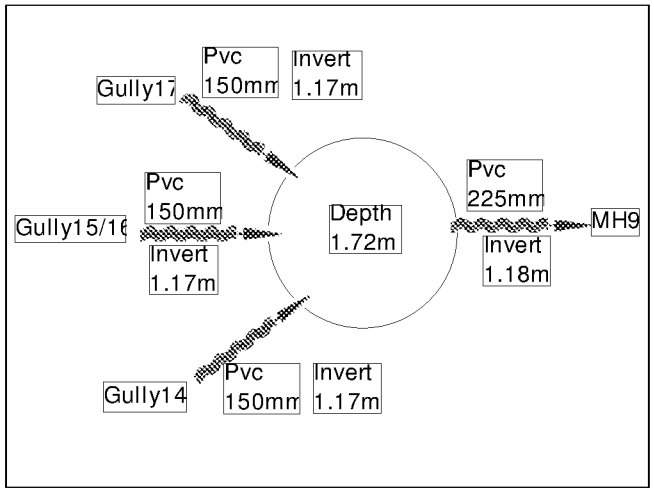
Video Ref.	Photo Ref.	Dist (m)	Cont. defect	Letters				Numbers					Remarks
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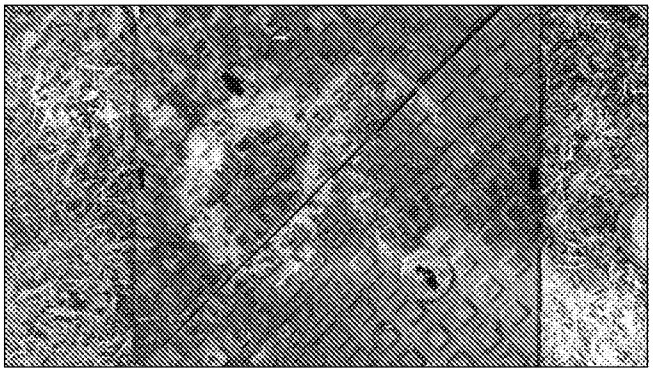
ARUN DISTRICT COUNCIL CM/48/21/RES

Highway Authority / Highways Agency Region

Manhole/Node Reference

MH 8









ARUN DISTRICT COUNCIL CM/48/21/RES

Catchpit Details

Item Type	Catchpit	System Type	Surface Water	Owner	Highways Authority	Date of Survey	01/09/2020
Downstream Watercourse		Origin of Data	External Survey	Other Source			
Easting (m)	500438.61	Northing (m)	101946.763	Identifier		Asset Reference		Manhole	MH 9
Ladder	No	Step Irons	No	Side Entry	No	Manhole Construction	Precast Concrete	Number of Landings	0
Cover Level (m AOD)	4.044	Cover Shape	Square	Other Shape		Cover Duty	Heavy		
Cover Width (m)	0.6	Cover Length (m)	0.6	Manufacterer		Grating	No		
Shaft Width (m)	0.55	Shaft Length (m)	0.55	Chamber Width (m)	1.05	Chamber Length (m)	0		
Flap Valve ☒	Orifice ☒	Sluice Gate ☒	Weir ☒	Screens ☒	Penstock ☒	Flume ☒	Headwall ☒		

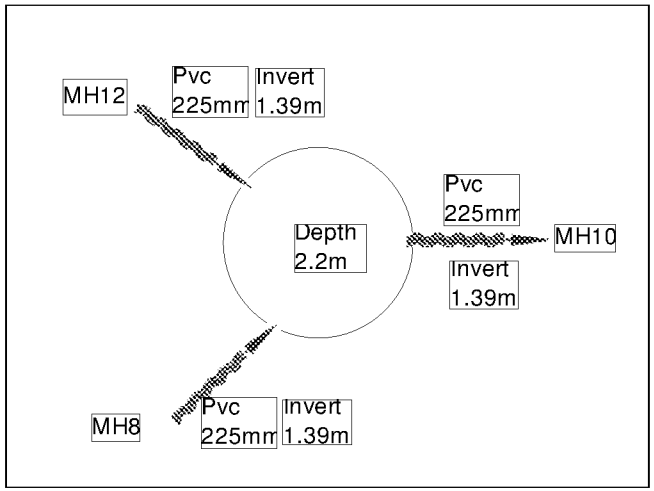
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

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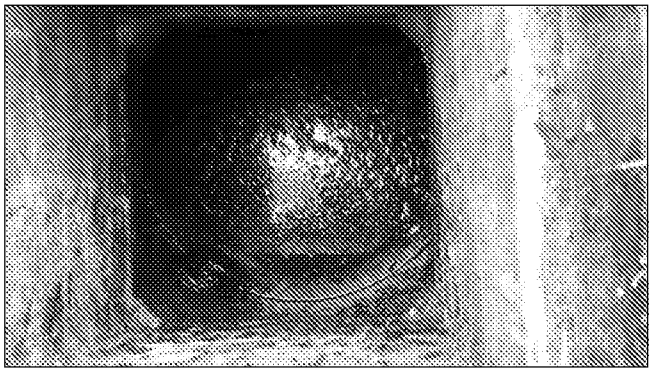
Highway Authority / Highways Agency Region

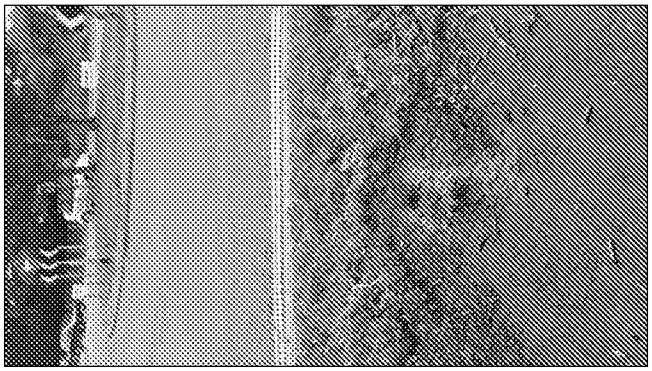
Manhole/Node Reference

MH 9









ARUN DISTRICT COUNCIL CM/48/21/RES

Outfall Details

Item Type	**Outfall**	System Type		Owner	**Highways Authority**	Date of Survey	**01/09/2020**
Downstream Watercourse		Origin of Data	**External Survey**	Other Source			
Easting (m)	**500440.946**	Northing (m)	**102253.653**	Identifier		Asset Reference		Manhole	**Outfall**
Ladder	☒	Step Irons	☒	Side Entry	☒	Manhole Construction		Number of Landings	☒
Cover Level (m AOD)	**2.663**	Cover Shape		Other Shape		Cover Duty	
Cover Width (m)		Cover Length (m)		Manufacterer		Grating	☒
Shaft Width (m)		Shaft Length (m)		Chamber Width (m)		Chamber Length (m)	
Flap Valve	☐	Orifice	☒	Sluice Gate	☒	Weir	☒	Screens	☐	Penstock	☒	Flume	☒	Headwall	☐

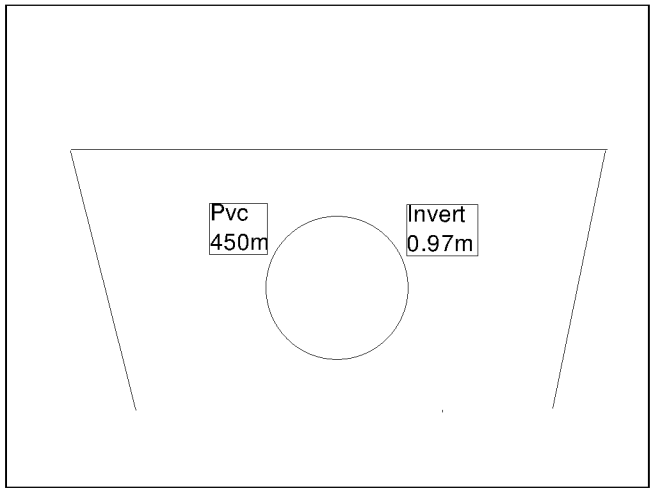
Video Ref.	Photo Ref.	Dist (m)	Cont defect	Letters				Numbers					Remarks
				Code	Joint	Material	Band	Dimension 1	Dimension 2	%	Clock At/From	Clock To	
		0.0											

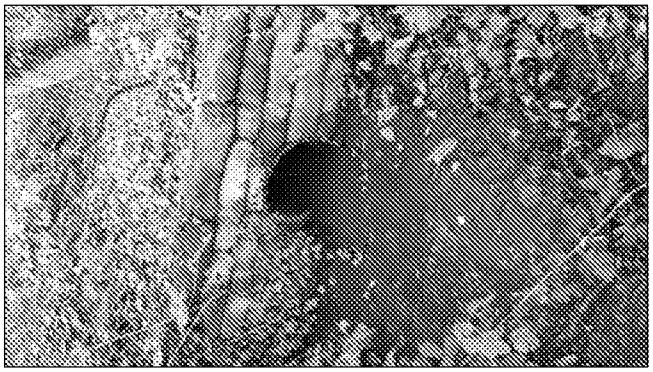
ARUN DISTRICT COUNCIL CM/48/21/RES

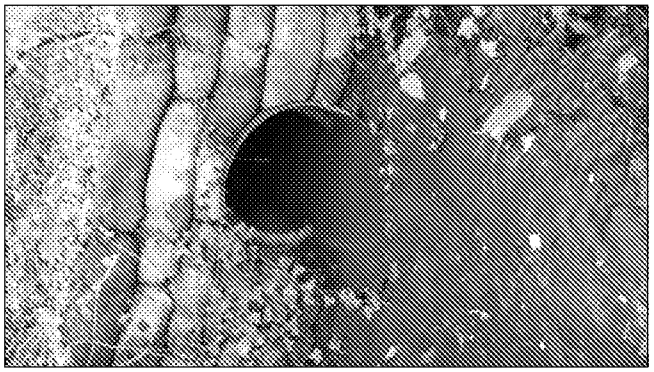
Highway Authority / Highways Agency Region

Manhole/Node Reference

Outfall







ARUN DISTRICT COUNCIL CM/48/21/RES

Appendix I Causeway Flow Hydraulic Calculations

ARUN DISTRICT COUNCIL CM/48/21/RES

Greenfield runoff rate estimation for sites

www.uksuds.com | Greenfield runoff tool

Calculated by:	Stuart Burnett
Site name:	D1886 Climping
Site location:	

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013) , the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Site Details

Latitude:	50.80899° N
Longitude:	0.58216° W
Reference:	2220107884
Date:	Jul 19 2021 13:21

Runoff estimation approach

IH124

Site characteristics

Total site area (ha): 27.15

Methodology

Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	3	3
HOST class:	N/A	N/A
SPR/SPRHOST:	0.37	0.37

Hydrological characteristics

	Default	Edited
SAAR (mm):	722	722
Hydrological region:	7	7
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 30 years:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Growth curve factor 200 years:	3.74	3.74

Notes

(1) Is Q_{BAR} < 2.0 l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

(3) Is SPR/SPRHOST ≤ 0.3?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

Greenfield runoff rates

	Default	Edited
Q_{BAR} (l/s):	80.87	80.87
1 in 1 year (l/s):	68.74	68.74
1 in 30 years (l/s):	186	186
1 in 100 year (l/s):	257.98	257.98
1 in 200 years (l/s):	302.46	302.46

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement , which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.

Greenfield runoff rate estimation for sites

www.uksuds.com | Greenfield runoff tool

Calculated by:	Stuart Burnett
Site name:	Church Lane
Site location:	Climping

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013) , the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Site Details

Latitude:	50.80897° N
Longitude:	0.58149° W
Reference:	3438841123
Date:	Jun 09 2023 09:17

Runoff estimation approach

IH124

Site characteristics

Total site area (ha):	6.85

Methodology

Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	3	3
HOST class:	N/A	N/A
SPR/SPRHOST:	0.37	0.37

Hydrological characteristics

	Default	Edited
SAAR (mm):	720	720
Hydrological region:	7	7
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 30 years:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Growth curve factor 200 years:	3.74	3.74

Notes

(1) Is Q_{BAR} < 2.0 l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

(3) Is SPR/SPRHOST ≤ 0.3?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

Greenfield runoff rates

	Default	Edited
Q_{BAR} (l/s):	20.34	20.34
1 in 1 year (l/s):	17.29	17.29
1 in 30 years (l/s):	46.78	46.78
1 in 100 year (l/s):	64.88	64.88
1 in 200 years (l/s):	76.06	76.06

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Design Settings

Rainfall Methodology	FEH-13	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	10	Minimum Backdrop Height (m)	0.500
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	250.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
43		5.00	6.100	1350	499618.879	101994.507	0.750
42			6.200	1350	499644.792	102006.141	0.907
41			6.400	1350	499676.956	102010.060	1.172
40			6.500	1350	499738.309	102031.498	1.402
39			6.600	1350	499785.427	102041.935	1.599
106	0.031	5.00	6.725	1350	499869.547	102001.228	1.350
48	0.009	5.00	6.825	1350	499842.994	101967.614	1.500
47	0.021	5.00	6.775	1350	499838.582	101977.760	1.500
46	0.049	5.00	6.875	1350	499835.636	101992.310	1.649
45			6.900	1350	499826.360	101999.895	1.714
44	0.020	5.00	6.775	1350	499826.253	102019.379	1.654
38	0.079	5.00	6.500		499817.866	102053.852	1.568
37			6.600	1350	499823.531	102055.933	1.680
36			6.100	1350	499929.256	102081.486	1.398
59	0.024	5.00	6.350		499856.698	102050.129	0.560
58	0.033	5.00	6.100	1350	499855.654	102055.529	0.900
57	0.024	5.00	5.925		499897.061	102058.396	0.560
56	0.050	5.00	5.700	1350	499896.017	102063.796	0.750
54	0.024	5.00	6.250		499986.370	102085.451	0.560
53	0.060	5.00	6.025	1350	499984.743	102090.705	1.050
52	0.024	5.00	5.975		499962.800	102077.212	0.560
51	0.032	5.00	5.750	1350	499961.172	102082.465	0.860
50	0.024	5.00	5.750		499937.817	102068.586	0.560
49	0.070	5.00	5.525	1350	499936.190	102073.840	0.725
35			6.000		499933.416	102082.793	1.307
104		5.00	6.825		499912.717	101962.003	0.560
103			6.650	1350	499918.787	101969.949	1.550
105		5.00	6.350		499908.667	102002.928	0.560
102	0.207	5.00	6.325	1350	499913.524	102009.285	1.425
101	0.076	5.00	6.100	1500	499942.429	102016.613	1.260
109	0.016	5.00	6.525	1350	499984.705	101963.478	1.275
108	0.066	5.00	6.350	1350	499980.296	101983.300	1.170
107	0.033	5.00	6.250	1500	499972.787	101995.189	1.120
100	0.217	5.00	6.100	1500	499962.231	102023.270	1.302
99			6.475	1500	500009.217	102036.855	1.775
98	0.157	5.00	6.250	1500	500061.628	102051.624	1.659
110	0.047	5.00	6.425	1350	500051.102	102072.420	1.881
111	0.025	5.00	6.500	1350	500048.605	102085.091	1.927
55	0.025	5.00	6.575	1350	500043.430	102106.146	2.050
34			5.900	1350	500034.537	102114.554	1.419
33			5.700	1350	500135.576	102140.119	1.425
32			5.250		500157.300	102139.980	1.750

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Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
93		5.00	6.400		500054.095	101885.610	0.560
92	0.050	5.00	6.300	1350	500052.819	101890.960	1.300
94		5.00	6.550		500130.106	101903.740	0.560
91	0.108	5.00	6.425	1350	500128.830	101909.090	1.685
90	0.116	5.00	6.200	1350	500201.491	101928.954	1.861
89	0.010	5.00	6.050	1350	500207.311	101935.324	1.728
166		5.00	5.750		500215.524	101964.274	0.750
88	0.079	5.00	5.750	1500	500208.635	101965.279	1.500
87	0.029	5.00	6.025	1350	500207.392	101991.613	1.828
86	0.026	5.00	6.350	1800	500203.671	102019.184	2.209
112	0.135	5.00	6.175	1350	500062.981	102001.238	1.500
97	0.064	5.00	5.900	1500	500083.305	102008.798	1.628
116	0.072	5.00	6.200	1350	500106.325	102097.263	1.500
115	0.011	5.00	6.100	1350	500110.728	102083.421	1.500
114	0.084	5.00	5.950	1500	500119.169	102066.001	1.500
113	0.249	5.00	5.500	1500	500130.499	102011.639	1.500
96	0.157	5.00	5.750	1800	500136.511	102028.588	1.786
95	0.049	5.00	6.025	1350	500164.790	102034.542	2.107
85	0.119	5.00	6.025	1350	500191.697	102044.759	2.165
84	0.034	5.00	5.600	1350	500231.338	102064.637	1.829
121		5.00	5.825	1350	500317.613	102035.100	1.500
120	0.041	5.00	5.950	1350	500310.017	102036.173	1.651
122		5.00	6.000		500276.288	102026.440	0.560
119	0.045	5.00	6.000	1350	500270.764	102028.475	1.834
118			5.925	1350	500265.605	102031.926	1.930
117		5.00	5.600	1350	500243.135	102090.332	1.500
83	0.137	5.00	5.375	1350	500258.076	102069.916	1.734
82	0.109	5.00	5.700	1350	500331.965	102084.504	2.110
81	0.027	5.00	5.300	1200	500359.174	102077.091	1.550
80	0.041	5.00	5.500	1500	500358.943	102084.887	2.030
79			4.900	1500	500358.640	102095.133	1.440
156		5.00	7.100		499861.159	101852.854	0.560
155	0.034	5.00	7.150	1350	499864.039	101857.540	1.500
154	0.026	5.00	7.075	1350	499860.411	101869.795	1.500
157		5.00	6.900		499853.563	101881.217	0.560
153	0.007	5.00	6.975	1350	499858.912	101882.493	1.500
152	0.019	5.00	7.000	1350	499860.225	101899.327	1.700
159	0.020	5.00	7.025	1350	499857.266	101946.147	1.905
158	0.037	5.00	6.850	1350	499864.723	101923.189	1.790
151	0.057	5.00	6.950	1350	499871.669	101901.600	1.950
163		5.00	6.800		499926.765	101947.091	0.560
162			6.675	1350	499925.442	101941.753	1.200
161	0.056	5.00	6.575	1350	499929.314	101935.330	1.200
160		5.00	6.375		499929.053	101917.907	0.710
150	0.341	5.00	6.450	1500	499935.155	101914.475	1.775
149		5.00	7.350	1350	499893.934	101841.001	1.600
148	0.104	5.00	6.575	1500	499957.410	101863.212	1.225
147	0.078	5.00	6.475	1500	500007.474	101880.730	1.425
146	0.096	5.00	6.600	1350	500011.061	101888.177	1.625
145			6.900	1350	499996.038	101934.246	2.375
144			6.975	1350	500012.426	101939.993	2.500
143	0.089	5.00	6.950	1350	500022.658	101948.592	2.515

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Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
164		5.00	6.500		500039.378	101936.882	1.500
142	0.048	5.00	6.750	1350	500037.604	101944.169	2.365
165		5.00	5.950		500114.949	101955.277	0.950
141	0.331	5.00	5.925	1350	500113.175	101962.564	1.750
140			5.500		500122.532	101977.941	1.465
16		5.00	5.700	1350	500298.269	102126.833	1.500
15	0.027	5.00	5.775	1350	500284.432	102124.031	1.622
14	0.089	5.00	5.950	1350	500250.082	102117.073	1.914
17		5.00	5.800		500242.800	102102.263	0.560
13	0.014	5.00	5.775	1350	500232.855	102103.317	1.812
12	0.036	5.00	5.650	1350	500205.530	102135.818	1.829
18	0.139	5.00	5.300		500187.305	102146.317	1.800
11	0.051	5.00	5.750	1500	500199.764	102154.071	2.299
10	0.041	5.00	5.600	1350	500232.313	102161.866	2.241
9	0.264	5.00	5.150	1350	500302.025	102176.266	2.178
19	0.095	5.00	4.850	1800	500328.734	102183.048	1.600
8	0.075	5.00	5.050	1350	500320.284	102183.966	2.144
7			4.700		500323.899	102217.270	1.927
130		5.00	5.775	1350	500272.059	102007.745	1.300
131		5.00	5.250	1350	500261.876	101972.284	0.150
129	0.084	5.00	5.650	1350	500282.383	101964.342	1.474
128			5.750	1350	500289.078	101963.147	1.588
127			5.825	1350	500296.949	101965.012	1.679
132		5.00	5.900		500309.359	101968.353	0.560
126	0.017	5.00	5.950	1350	500305.485	101971.516	1.825
133		5.00	5.800		500345.201	102022.095	0.560
125	0.063	5.00	5.875	1350	500340.527	102023.871	1.876
136		5.00	5.675	1350	500327.586	102063.540	1.500
137		5.00	5.550		500336.705	102061.506	0.560
135	0.082	5.00	5.625	1350	500333.990	102057.308	1.500
134		5.00	5.575		500354.514	102048.311	0.560
124	0.045	5.00	5.575	1350	500349.840	102050.087	1.658
123			5.250		500356.032	102067.520	1.495
4	0.032	5.00	4.700		500333.959	102218.369	1.950
3			4.750	1800	500344.762	102206.908	2.055
2			3.940	1350	500368.018	102213.752	2.200
1			1.860	1350	500441.039	102253.173	0.750
65		5.00	5.750	1350	500186.398	102183.419	1.675
64			5.375	1350	500183.542	102198.709	1.352
63	0.086	5.00	5.150	1350	500176.943	102220.597	1.203
66		5.00	4.490		500153.378	102250.217	0.240
62	0.046	5.00	5.250	1350	500162.280	102253.013	1.425
61	0.047	5.00	5.450	1350	500156.876	102272.581	1.690
60			4.750		500174.950	102293.638	1.139
73		5.00	5.750		500242.253	102193.693	1.250
72	0.026	5.00	5.625	1350	500247.126	102194.812	1.425
74		5.00	5.850		500237.755	102213.181	1.350
71	0.018	5.00	5.775	1350	500242.544	102214.279	1.642
75	0.028	5.00	5.675		500229.490	102239.545	1.425
70	0.038	5.00	5.625	1350	500234.278	102240.643	1.584
69		5.00	5.450	1350	500191.728	102283.756	1.300
68	0.146	5.00	5.125	1350	500242.145	102275.582	1.203

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Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
67			4.750		500244.067	102284.119	1.139
25		5.00	5.275	1350	500310.984	102212.135	1.500
24	0.029	5.00	5.250	1350	500300.327	102237.954	1.568
23	0.169	5.00	4.925	1350	500289.438	102267.915	1.349
22			4.750	1200	500298.836	102271.331	1.350
31	0.020	5.00	5.725	1350	500178.667	102074.878	1.500
30	0.084	5.00	5.550	1350	500168.604	102099.494	1.500
29	0.097	5.00	5.525	1350	500159.308	102118.680	1.625
28			5.250		500164.377	102130.379	1.722
78		5.00	5.400		500328.499	102120.688	0.710
77	0.114	5.00	5.375	1350	500328.499	102115.188	1.500
76			4.900	1200	500349.999	102115.244	1.200
6			4.725	1200	500312.328	102265.739	1.625
5			4.700		500317.590	102245.926	1.927
21	0.134	5.00	4.750		500282.626	102282.751	1.250
20			4.750	1350	500299.100	102281.820	1.350
27	0.025	5.00	4.900	1500	500356.164	102126.881	1.500
26			4.850		500351.360	102137.053	1.553

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.010	33	32	21.724	0.022	4.275	3.500	0.775	28.0	450	15.59	32.5
1.009	34	33	104.223	0.022	4.481	4.275	0.206	505.9	500	16.40	32.7
1.008	35	34	105.992	0.022	4.693	4.481	0.212	500.0	500	13.37	35.6
9.009	55	34	12.238	0.600	4.525	4.501	0.024	500.0	525	9.54	43.1
9.008	111	55	21.682	0.600	4.573	4.530	0.043	500.0	525	9.03	43.6
9.007	110	111	12.915	0.600	4.599	4.573	0.026	500.0	525	8.97	44.5
9.006	98	110	23.308	0.600	4.591	4.544	0.047	500.0	525	8.75	45.1
9.005	99	98	54.452	0.600	4.700	4.591	0.109	500.0	525	8.36	46.2
9.004	100	99	48.910	0.600	4.798	4.700	0.098	500.0	525	7.45	49.0
11.002	107	100	30.000	0.600	5.130	5.025	0.105	285.7	300	6.16	53.4
9.003	101	100	20.891	0.600	4.840	4.798	0.042	500.0	525	6.63	51.7
9.002	102	101	29.819	0.600	4.900	4.840	0.060	500.0	525	6.28	53.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.010	2.001	318.2	139.6	0.975	1.300	1.443	0.0
1.009	0.853	639.6	140.6	0.919	0.925	1.443	0.0
1.008	0.858	643.3	60.9	0.807	0.919	0.574	0.0
9.009	0.995	215.3	111.6	1.525	0.874	0.869	0.0
9.008	0.995	215.3	109.7	1.402	1.520	0.844	0.0
9.007	0.995	215.3	108.6	1.301	1.402	0.819	0.0
9.006	0.995	215.3	103.8	1.134	1.356	0.772	0.0
9.005	0.995	215.3	84.7	1.250	1.134	0.615	0.0
9.004	0.995	215.3	89.8	0.777	1.250	0.615	0.0
11.002	0.925	65.4	18.3	0.820	0.775	0.115	0.0
9.003	0.995	215.3	43.6	0.735	0.777	0.283	0.0
9.002	0.995	215.3	32.7	0.900	0.735	0.207	0.0

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Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
10.000	105	102	8.000	0.600	5.790	5.426	0.364	22.0	225	5.05	57.5
9.001	103	102	39.687	0.600	5.100	5.001	0.099	400.0	450	5.78	54.8
9.000	104	103	9.999	0.600	6.265	6.097	0.168	59.5	150	5.13	57.2
11.001	108	107	14.062	0.600	5.180	5.130	0.050	281.2	300	5.62	55.4
11.000	109	108	20.306	0.600	5.250	5.180	0.070	290.1	300	5.37	56.3
1.007	36	35	4.360	0.022	4.702	4.693	0.009	500.0	500	11.31	39.2
4.003	49	35	9.373	0.600	4.800	4.769	0.031	300.0	300	6.58	51.9
8.000	50	49	5.500	0.600	5.190	5.153	0.037	150.0	150	5.11	57.3
6.002	51	49	26.429	0.600	4.890	4.800	0.090	293.7	300	6.05	53.8
4.002	56	49	41.410	0.600	4.950	4.800	0.150	276.1	300	6.41	52.5
5.000	57	56	5.500	0.600	5.365	5.328	0.037	150.0	150	5.11	57.3
4.001	58	56	41.201	0.600	5.200	4.950	0.250	164.8	300	5.67	55.2
4.000	59	58	5.500	0.600	5.790	5.753	0.037	150.0	150	5.11	57.3
7.000	52	51	5.499	0.600	5.415	5.378	0.037	150.0	150	5.11	57.3
6.001	53	51	24.970	0.600	4.975	4.890	0.085	293.8	300	5.57	55.6
6.000	54	53	5.500	0.600	5.690	5.653	0.037	150.0	150	5.11	57.3
1.006	37	36	108.769	0.022	4.920	4.702	0.218	500.0	500	11.22	39.4
1.005	38	37	6.035	0.022	4.932	4.920	0.012	500.0	500	9.11	44.1
1.004	39	38	34.559	0.022	5.001	4.932	0.069	500.0	500	8.99	44.4
2.003	44	38	35.479	0.600	5.121	5.003	0.118	300.0	300	6.81	51.1
2.002	45	44	19.494	0.600	5.186	5.121	0.065	300.0	300	6.15	53.5
2.001	46	45	11.382	0.600	5.226	5.186	0.040	300.0	300	5.79	54.8
3.001	47	46	14.845	0.600	5.275	5.226	0.049	300.0	300	5.45	56.1
2.000	106	46	35.064	0.600	5.375	5.226	0.149	235.3	300	5.57	55.6

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
10.000	2.803	111.4	0.0	0.335	0.674	0.000	0.0
9.001	1.010	160.7	0.0	1.100	0.874	0.000	0.0
9.000	1.306	23.1	0.0	0.410	0.403	0.000	0.0
11.001	0.932	65.9	13.5	0.870	0.820	0.082	0.0
11.000	0.918	64.9	2.7	0.975	0.870	0.016	0.0
1.007	0.858	643.3	24.4	0.898	0.807	0.209	0.0
4.003	0.902	63.8	56.5	0.425	0.931	0.365	0.0
8.000	0.818	14.5	4.1	0.410	0.222	0.024	0.0
6.002	0.912	64.5	22.5	0.560	0.425	0.140	0.0
4.002	0.941	66.5	20.5	0.450	0.425	0.131	0.0
5.000	0.818	14.5	4.1	0.410	0.222	0.024	0.0
4.001	1.222	86.4	9.4	0.600	0.450	0.057	0.0
4.000	0.818	14.5	4.1	0.410	0.197	0.024	0.0
7.000	0.818	14.5	4.1	0.410	0.222	0.024	0.0
6.001	0.912	64.5	13.9	0.750	0.560	0.084	0.0
6.000	0.818	14.5	4.1	0.410	0.222	0.024	0.0
1.006	0.858	643.3	24.5	1.180	0.898	0.209	0.0
1.005	0.858	643.3	27.5	1.068	1.180	0.209	0.0
1.004	0.858	643.3	0.0	1.099	1.068	0.000	0.0
2.003	0.902	63.8	19.8	1.354	1.197	0.130	0.0
2.002	0.902	63.8	17.5	1.414	1.354	0.110	0.0
2.001	0.902	63.8	18.0	1.349	1.414	0.110	0.0
3.001	0.902	63.8	5.0	1.200	1.349	0.030	0.0
2.000	1.020	72.1	5.1	1.050	1.349	0.031	0.0

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ARUN DISTRICT COUNCIL CM/48/21/RES

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
3.000	48	47	11.064	0.600	5.325	5.275	0.050	221.3	300	5.18	57.1
1.003	40	39	48.260	0.022	5.098	5.001	0.097	500.0	500	8.32	46.3
1.002	41	40	64.991	0.022	5.228	5.098	0.130	500.0	500	7.38	49.2
1.001	42	41	32.402	0.022	5.293	5.228	0.065	500.0	500	6.12	53.6
1.000	43	42	28.405	0.600	5.350	5.293	0.057	500.0	500	5.49	55.9
12.012	80	79	10.250	0.600	3.545	3.460	0.085	120.6	525	13.45	35.4
12.011	82	80	26.381	0.600	3.590	3.470	0.120	224.8	600	13.37	35.6
21.000	81	80	7.799	0.600	3.750	3.695	0.055	141.8	300	5.10	57.3
12.010	83	82	75.315	0.600	3.641	3.590	0.051	1476.8	600	13.09	36.0
12.009	84	83	27.254	0.600	3.771	3.716	0.055	495.5	525	11.08	39.6
20.000	117	83	25.299	0.600	4.100	3.791	0.309	81.9	450	5.19	57.0
18.003	118	83	38.729	0.600	3.995	3.791	0.204	189.8	450	6.43	52.4
18.002	119	118	6.207	0.600	4.166	4.145	0.021	300.0	300	5.99	54.0
19.000	122	119	5.887	0.600	5.440	5.401	0.039	150.0	150	5.12	57.3
18.001	120	119	40.001	0.600	4.299	4.166	0.133	300.0	300	5.88	54.5
18.000	121	120	7.671	0.600	4.325	4.299	0.026	295.1	300	5.14	57.2
12.008	85	84	44.346	0.600	3.860	3.771	0.089	500.0	525	10.63	40.6
12.007	86	85	28.239	0.600	4.141	3.935	0.206	137.1	450	9.88	42.2
15.003	95	85	28.781	0.600	3.918	3.860	0.058	500.0	525	6.74	51.3
15.002	96	95	28.899	0.600	3.976	3.918	0.058	500.0	525	6.26	53.1
17.000	113	96	17.384	0.600	4.000	3.964	0.036	500.0	450	5.33	56.5
16.002	114	96	41.237	0.600	4.450	3.976	0.474	87.0	450	5.64	55.3
15.001	97	96	56.767	0.600	4.272	3.976	0.296	191.8	450	5.78	54.8
15.000	112	97	21.685	0.600	4.675	4.272	0.403	53.8	450	5.13	57.2

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
3.000	1.053	74.4	1.5	1.200	1.200	0.009	0.0
1.003	0.858	643.3	0.0	0.902	1.099	0.000	0.0
1.002	0.858	643.3	0.0	0.672	0.902	0.000	0.0
1.001	0.858	643.3	0.0	0.407	0.672	0.000	0.0
1.000	0.964	189.4	0.0	0.250	0.407	0.000	0.0
12.012	2.038	441.2	189.4	1.430	0.915	1.792	0.0
12.011	1.620	457.9	182.9	1.510	1.430	1.724	0.0
21.000	1.318	93.2	4.6	1.250	1.505	0.027	0.0
12.010	0.625	176.6	173.4	1.134	1.510	1.615	0.0
12.009	0.999	216.3	164.5	1.304	1.134	1.392	0.0
20.000	2.248	357.5	0.0	1.050	1.134	0.000	0.0
18.003	1.472	234.1	13.4	1.480	1.134	0.086	0.0
18.002	0.902	63.8	13.9	1.534	1.480	0.086	0.0
19.000	0.818	14.5	0.0	0.410	0.449	0.000	0.0
18.001	0.902	63.8	6.7	1.351	1.534	0.041	0.0
18.000	0.910	64.3	0.0	1.200	1.351	0.000	0.0
12.008	0.995	215.3	164.4	1.640	1.304	1.358	0.0
12.007	1.734	275.8	52.6	1.759	1.640	0.418	0.0
15.003	0.995	215.3	125.6	1.582	1.640	0.821	0.0
15.002	0.995	215.3	122.2	1.249	1.582	0.772	0.0
17.000	0.902	143.5	41.9	1.050	1.336	0.249	0.0
16.002	2.180	346.8	27.6	1.050	1.324	0.167	0.0
15.001	1.464	232.9	32.5	1.178	1.324	0.199	0.0
15.000	2.776	441.5	23.0	1.050	1.178	0.135	0.0

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Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
16.001	115	114	19.357	0.600	4.600	4.450	0.150	129.0	450	5.32	56.5
16.000	116	115	14.525	0.600	4.700	4.600	0.100	145.3	450	5.14	57.2
12.006	87	86	27.821	0.600	4.197	4.141	0.056	500.0	450	9.61	42.9
12.005	88	87	26.363	0.600	4.250	4.197	0.053	500.0	450	9.10	44.2
12.004	89	88	29.984	0.600	4.322	4.250	0.072	416.4	450	8.61	45.5
14.000	166	88	6.962	0.600	5.000	4.750	0.250	27.8	225	5.05	57.5
12.003	90	89	8.628	0.600	4.339	4.322	0.017	500.0	450	8.11	46.9
12.002	91	90	75.327	0.600	4.740	4.489	0.251	300.0	300	7.95	47.4
12.001	92	91	78.143	0.600	5.000	4.740	0.260	300.0	300	6.56	52.0
13.000	94	91	5.500	0.600	5.990	5.897	0.093	59.1	150	5.07	57.5
12.000	93	92	5.500	0.600	5.840	5.803	0.037	150.0	150	5.11	57.3
23.011	141	140	18.000	0.600	4.175	4.100	0.075	240.0	600	9.55	43.1
23.010	142	141	77.778	0.600	4.385	4.175	0.210	370.4	600	9.36	43.5
30.000	165	141	7.500	0.600	5.000	4.950	0.050	150.0	150	5.15	57.1
23.009	143	142	15.587	0.600	4.435	4.385	0.050	311.7	600	8.33	46.3
29.000	164	142	7.500	0.600	5.000	4.950	0.050	150.0	150	5.15	57.1
23.008	144	143	13.366	0.600	4.475	4.435	0.040	334.1	600	8.14	46.8
23.007	145	144	17.366	0.600	4.525	4.475	0.050	347.3	600	7.97	47.3
23.006	150	145	64.013	0.600	4.675	4.525	0.150	426.8	600	7.75	48.0
28.003	146	145	48.457	0.600	4.975	4.695	0.280	173.1	450	6.89	50.8
28.002	147	146	8.266	0.600	5.050	4.975	0.075	110.2	450	6.37	52.7
28.001	148	147	53.040	0.600	5.350	5.050	0.300	176.8	450	6.30	52.9
28.000	149	148	67.250	0.600	5.750	5.350	0.400	168.1	450	5.72	55.1
23.005	151	150	64.778	0.600	5.000	4.825	0.175	370.2	450	6.84	51.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
16.001	1.788	284.3	14.0	1.050	1.050	0.083	0.0
16.000	1.684	267.9	12.3	1.050	1.050	0.072	0.0
12.006	0.902	143.5	50.2	1.378	1.759	0.392	0.0
12.005	0.902	143.5	47.8	1.050	1.378	0.363	0.0
12.004	0.990	157.4	38.5	1.278	1.050	0.284	0.0
14.000	2.488	98.9	0.0	0.525	0.775	0.000	0.0
12.003	0.902	143.5	38.3	1.411	1.278	0.274	0.0
12.002	0.902	63.8	22.3	1.385	1.411	0.158	0.0
12.001	0.902	63.8	7.8	1.000	1.385	0.050	0.0
13.000	1.310	23.2	0.0	0.410	0.378	0.000	0.0
12.000	0.818	14.5	0.0	0.410	0.347	0.000	0.0
23.011	1.567	443.1	172.5	1.150	0.800	1.343	0.0
23.010	1.259	356.0	131.4	1.765	1.150	1.012	0.0
30.000	0.818	14.5	0.0	0.800	0.825	0.000	0.0
23.009	1.374	388.4	133.1	1.915	1.765	0.964	0.0
29.000	0.818	14.5	0.0	1.350	1.650	0.000	0.0
23.008	1.326	375.0	122.1	1.900	1.915	0.875	0.0
23.007	1.301	367.7	123.4	1.775	1.900	0.875	0.0
23.006	1.172	331.4	85.5	1.175	1.775	0.597	0.0
28.003	1.542	245.3	42.1	1.175	1.755	0.278	0.0
28.002	1.936	307.9	28.6	0.975	1.175	0.182	0.0
28.001	1.526	242.6	16.4	0.775	0.975	0.104	0.0
28.000	1.565	248.9	0.0	1.150	0.775	0.000	0.0
23.005	1.051	167.1	30.4	1.500	1.175	0.200	0.0

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ARUN DISTRICT COUNCIL CM/48/21/RES

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
27.000	160	150	7.001	0.600	5.665	5.259	0.406	17.2	225	5.04	57.6
26.002	161	150	21.658	0.600	5.375	5.184	0.191	113.4	300	5.38	56.3
26.001	162	161	7.500	0.600	5.475	5.375	0.100	75.0	300	5.14	57.2
26.000	163	162	5.500	0.600	6.240	6.147	0.093	59.1	150	5.07	57.5
23.004	152	151	11.668	0.600	5.300	5.250	0.050	233.4	300	5.81	54.7
25.001	158	151	22.679	0.600	5.060	5.000	0.060	378.0	450	5.76	54.9
25.000	159	158	24.139	0.600	5.120	5.060	0.060	402.3	450	5.40	56.2
23.003	153	152	16.835	0.600	5.475	5.300	0.175	96.5	300	5.62	55.4
23.002	154	153	12.786	0.600	5.575	5.475	0.100	127.9	300	5.44	56.1
24.000	157	153	5.409	0.600	6.340	6.303	0.037	150.0	150	5.11	57.3
23.001	155	154	12.731	0.600	5.650	5.575	0.075	170.4	300	5.29	56.6
23.000	156	155	5.500	0.600	6.540	6.503	0.037	150.0	150	5.11	57.3
31.008	8	7	38.500	0.600	2.906	2.800	0.106	316.0	450	9.96	42.1
31.007	9	8	19.816	0.600	2.972	2.906	0.066	300.0	450	9.47	43.3
34.000	19	8	6.500	0.600	3.250	2.906	0.344	24.7	450	5.03	57.6
31.006	10	9	71.184	0.600	3.359	3.122	0.237	300.0	300	9.18	44.0
31.005	11	10	33.469	0.600	3.471	3.359	0.112	300.0	300	7.87	47.6
31.004	12	11	19.142	0.600	3.821	3.471	0.350	54.7	300	7.25	49.6
33.000	18	11	14.675	0.600	3.500	3.451	0.049	300.0	300	5.27	56.7
31.003	13	12	42.461	0.600	3.963	3.821	0.142	300.0	300	7.10	50.1
31.002	14	13	22.045	0.600	4.036	3.963	0.073	302.0	300	6.32	52.9
32.000	17	13	10.001	0.600	5.240	3.963	1.277	7.8	150	5.05	57.5
31.001	15	14	35.048	0.600	4.153	4.036	0.117	299.6	300	5.91	54.4
31.000	16	15	14.118	0.600	4.200	4.153	0.047	300.4	300	5.26	56.7

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
27.000	3.166	125.9	0.0	0.485	0.966	0.000	0.0
26.002	1.475	104.3	9.4	0.900	0.966	0.056	0.0
26.001	1.817	128.4	0.0	0.900	0.900	0.000	0.0
26.000	1.310	23.2	0.0	0.410	0.378	0.000	0.0
23.004	1.025	72.4	14.0	1.400	1.400	0.086	0.0
25.001	1.039	165.3	9.3	1.340	1.500	0.057	0.0
25.000	1.007	160.2	3.4	1.455	1.340	0.020	0.0
23.003	1.601	113.1	11.1	1.200	1.400	0.067	0.0
23.002	1.389	98.2	10.0	1.200	1.200	0.060	0.0
24.000	0.818	14.5	0.0	0.410	0.522	0.000	0.0
23.001	1.201	84.9	5.7	1.200	1.200	0.034	0.0
23.000	0.818	14.5	0.0	0.410	0.497	0.000	0.0
31.008	1.138	181.0	104.2	1.694	1.450	0.831	0.0
31.007	1.168	185.8	85.3	1.728	1.694	0.661	0.0
34.000	4.103	652.5	16.3	1.150	1.694	0.095	0.0
31.006	0.902	63.8	52.0	1.941	1.728	0.397	0.0
31.005	0.902	63.8	50.5	1.979	1.941	0.356	0.0
31.004	2.130	150.6	24.5	1.529	1.979	0.166	0.0
33.000	0.902	63.8	23.5	1.500	1.999	0.139	0.0
31.003	0.902	63.8	19.4	1.512	1.529	0.130	0.0
31.002	0.899	63.6	18.3	1.614	1.512	0.116	0.0
32.000	3.623	64.0	0.0	0.410	1.662	0.000	0.0
31.001	0.903	63.8	4.4	1.322	1.614	0.027	0.0
31.000	0.902	63.7	0.0	1.200	1.322	0.000	0.0

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Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
35.006	124	123	18.500	0.600	3.917	3.850	0.067	276.1	450	8.14	46.8
35.005	125	124	27.821	0.600	3.999	3.917	0.082	339.3	450	7.88	47.6
41.000	134	124	5.000	0.600	5.015	4.982	0.033	150.0	150	5.10	57.3
39.001	135	124	17.417	0.600	4.125	4.067	0.058	300.0	300	5.45	56.1
40.000	137	135	4.999	0.600	4.990	4.957	0.033	150.0	150	5.10	57.3
39.000	136	135	8.936	0.600	4.175	4.125	0.050	178.7	300	5.13	57.2
35.004	126	125	63.000	0.600	4.125	3.999	0.126	500.0	450	7.46	48.9
38.000	133	125	5.000	0.600	5.240	5.207	0.033	150.0	150	5.10	57.3
35.003	127	126	10.722	0.600	4.146	4.125	0.021	500.0	450	6.30	52.9
37.000	132	126	5.002	0.600	5.340	5.307	0.033	150.0	150	5.10	57.3
35.002	128	127	8.089	0.600	4.162	4.146	0.016	500.0	450	6.10	53.7
35.001	129	128	6.801	0.600	4.176	4.162	0.014	500.0	450	5.95	54.2
35.000	130	129	44.614	0.600	4.475	4.326	0.149	300.0	300	5.82	54.7
36.000	131	129	21.991	0.600	5.100	4.476	0.624	35.2	150	5.32	56.9
42.002	2	1	82.982	0.600	1.740	1.110	0.630	131.7	300	6.42	52.5
42.001	3	2	24.242	0.600	2.695	1.740	0.955	25.4	300	5.41	56.2
42.000	4	3	15.750	0.600	2.750	2.695	0.055	286.4	300	5.28	56.7
43.004	61	60	37.750	0.600	3.760	3.650	0.110	252.3	300	7.20	49.7
43.003	62	61	20.300	0.600	3.828	3.760	0.068	300.0	300	6.73	51.4
43.002	63	62	35.578	0.600	3.947	3.825	0.122	291.6	300	6.36	52.7
44.000	66	62	9.331	0.600	4.250	3.950	0.300	31.1	150	5.09	57.4
43.001	64	63	22.861	0.600	4.023	3.947	0.076	300.0	300	5.71	55.1
43.000	65	64	15.554	0.600	4.075	4.023	0.052	300.0	300	5.29	56.7
47.004	68	67	8.751	0.600	3.922	3.650	0.272	32.2	300	6.64	51.7

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
35.006	1.218	193.8	40.6	1.208	0.950	0.291	0.0
35.005	1.098	174.6	23.3	1.426	1.208	0.164	0.0
41.000	0.818	14.5	0.0	0.410	0.443	0.000	0.0
39.001	0.902	63.8	13.7	1.200	1.208	0.082	0.0
40.000	0.818	14.5	0.0	0.410	0.518	0.000	0.0
39.000	1.173	82.9	0.0	1.200	1.200	0.000	0.0
35.004	0.902	143.5	14.7	1.375	1.426	0.101	0.0
38.000	0.818	14.5	0.0	0.410	0.518	0.000	0.0
35.003	0.902	143.5	13.3	1.229	1.375	0.084	0.0
37.000	0.818	14.5	0.0	0.410	0.493	0.000	0.0
35.002	0.902	143.5	13.4	1.138	1.229	0.084	0.0
35.001	0.902	143.5	13.6	1.024	1.138	0.084	0.0
35.000	0.902	63.8	0.0	1.000	1.024	0.000	0.0
36.000	1.701	30.1	0.0	0.000	1.024	0.000	0.0
42.002	1.368	96.7	5.0	1.900	0.450	0.032	0.0
42.001	3.133	221.4	5.4	1.755	1.900	0.032	0.0
42.000	0.924	65.3	5.4	1.650	1.755	0.032	0.0
43.004	0.985	69.6	26.6	1.390	0.800	0.179	0.0
43.003	0.902	63.8	20.2	1.122	1.390	0.132	0.0
43.002	0.915	64.7	13.5	0.903	1.125	0.086	0.0
44.000	1.811	32.0	0.0	0.090	1.150	0.000	0.0
43.001	0.902	63.8	0.0	1.052	0.903	0.000	0.0
43.000	0.902	63.8	0.0	1.375	1.052	0.000	0.0
47.004	2.781	196.6	39.5	0.903	0.800	0.256	0.0

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Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
47.003	70	68	35.314	0.600	4.041	3.922	0.119	300.0	300	6.59	51.9
50.000	69	68	51.075	0.600	4.150	3.922	0.228	224.0	300	5.81	54.7
47.002	71	70	27.629	0.600	4.133	4.041	0.092	300.0	300	5.93	54.3
49.000	75	70	4.912	0.600	4.250	4.175	0.075	65.5	150	5.07	57.5
47.001	72	71	19.999	0.600	4.200	4.133	0.067	300.0	300	5.42	56.2
48.000	74	71	4.913	0.600	4.500	4.283	0.217	22.6	150	5.04	57.6
47.000	73	72	5.000	0.600	4.500	4.350	0.150	33.3	150	5.05	57.5
45.002	23	22	10.000	0.600	3.576	3.400	0.176	56.8	300	6.19	53.3
45.001	24	23	31.878	0.600	3.682	3.576	0.106	300.7	300	6.11	53.6
45.000	25	24	27.932	0.600	3.775	3.682	0.093	300.2	300	5.52	55.8
51.002	29	28	12.750	0.600	3.900	3.800	0.100	127.5	300	5.77	54.9
51.001	30	29	21.319	0.600	4.050	3.900	0.150	142.1	300	5.62	55.4
51.000	31	30	26.593	0.600	4.225	4.050	0.175	152.0	300	5.35	56.4
22.001	77	76	21.500	0.600	3.875	3.700	0.175	122.9	300	5.30	56.6
22.000	78	77	5.500	0.600	4.690	4.500	0.190	28.9	150	5.05	57.5
45.004	6	5	20.500	0.600	3.100	2.900	0.200	102.5	450	6.51	52.2
46.000	21	20	16.500	0.600	3.500	3.400	0.100	165.0	450	5.17	57.1
12.014	27	26	11.249	0.600	3.400	3.350	0.050	225.0	525	14.13	34.4
46.001	20	6	20.823	0.600	3.400	3.100	0.300	69.4	450	5.32	56.5
45.003	22	6	14.605	0.600	3.400	3.250	0.150	97.4	300	6.34	52.8
12.013	79	27	31.844	0.600	3.460	3.400	0.060	530.7	525	14.00	34.6
22.002	76	27	13.169	0.600	3.700	3.625	0.075	175.6	300	5.49	55.9

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
47.003	0.902	63.8	17.0	1.284	0.903	0.110	0.0
50.000	1.046	73.9	0.0	1.000	0.903	0.000	0.0
47.002	0.902	63.8	7.1	1.342	1.284	0.044	0.0
49.000	1.244	22.0	4.8	1.275	1.300	0.028	0.0
47.001	0.902	63.8	4.4	1.125	1.342	0.026	0.0
48.000	2.125	37.6	0.0	1.200	1.342	0.000	0.0
47.000	1.749	30.9	0.0	1.100	1.125	0.000	0.0
45.002	2.090	147.7	31.5	1.049	1.050	0.198	0.0
45.001	0.901	63.7	4.6	1.268	1.049	0.029	0.0
45.000	0.902	63.7	0.0	1.200	1.268	0.000	0.0
51.002	1.391	98.3	32.9	1.325	1.150	0.201	0.0
51.001	1.317	93.1	17.2	1.200	1.325	0.104	0.0
51.000	1.273	90.0	3.4	1.200	1.200	0.020	0.0
22.001	1.417	100.2	19.2	1.200	0.900	0.114	0.0
22.000	1.878	33.2	0.0	0.560	0.725	0.000	0.0
45.004	2.008	319.3	51.6	1.175	1.350	0.332	0.0
46.000	1.580	251.2	22.8	0.800	0.900	0.134	0.0
12.014	1.489	322.3	198.2	0.975	0.975	1.931	0.0
46.001	2.442	388.5	22.6	0.900	1.175	0.134	0.0
45.003	1.593	112.6	31.2	1.050	1.175	0.198	0.0
12.013	0.965	208.9	184.9	0.915	0.975	1.792	0.0
22.002	1.183	83.6	19.0	0.900	0.975	0.114	0.0

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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.010	21.724	28.0	450	Circular	5.700	4.275	0.975	5.250	3.500	1.300
1.009	104.223	505.9	500	Ditch	5.900	4.481	0.919	5.700	4.275	0.925
1.008	105.992	500.0	500	Ditch	6.000	4.693	0.807	5.900	4.481	0.919
9.009	12.238	500.0	525	Circular	6.575	4.525	1.525	5.900	4.501	0.874
9.008	21.682	500.0	525	Circular	6.500	4.573	1.402	6.575	4.530	1.520
9.007	12.915	500.0	525	Circular	6.425	4.599	1.301	6.500	4.573	1.402
9.006	23.308	500.0	525	Circular	6.250	4.591	1.134	6.425	4.544	1.356
9.005	54.452	500.0	525	Circular	6.475	4.700	1.250	6.250	4.591	1.134
9.004	48.910	500.0	525	Circular	6.100	4.798	0.777	6.475	4.700	1.250
11.002	30.000	285.7	300	Circular	6.250	5.130	0.820	6.100	5.025	0.775
9.003	30.891	500.0	525	Circular	6.100	4.840	0.735	6.100	4.798	0.777
9.002	29.819	500.0	525	Circular	6.325	4.900	0.900	6.100	4.840	0.735
10.000	8.000	22.0	225	Circular	6.350	5.790	0.335	6.325	5.426	0.674
9.001	39.687	400.0	450	Circular	6.650	5.100	1.100	6.325	5.001	0.874
9.000	9.999	59.5	150	Circular	6.825	6.265	0.410	6.650	6.097	0.403
11.001	14.062	281.2	300	Circular	6.350	5.180	0.870	6.250	5.130	0.820
11.000	20.306	290.1	300	Circular	6.525	5.250	0.975	6.350	5.180	0.870
1.007	4.360	500.0	500	Ditch	6.100	4.702	0.898	6.000	4.693	0.807
4.003	9.373	300.0	300	Circular	5.525	4.800	0.425	6.000	4.769	0.931
8.000	5.500	150.0	150	Circular	5.750	5.190	0.410	5.525	5.153	0.222
6.002	26.429	293.7	300	Circular	5.750	4.890	0.560	5.525	4.800	0.425
4.002	41.410	276.1	300	Circular	5.700	4.950	0.450	5.525	4.800	0.425
5.000	5.500	150.0	150	Circular	5.925	5.365	0.410	5.700	5.328	0.222
4.001	41.201	164.8	300	Circular	6.100	5.200	0.600	5.700	4.950	0.450
4.000	5.500	150.0	150	Circular	6.350	5.790	0.410	6.100	5.753	0.197

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.010	33	1350	Junction		32		Manhole	Adoptable
1.009	34	1350	Junction		33	1350	Junction	
1.008	35		Junction		34	1350	Junction	
9.009	55	1350	Manhole	Adoptable	34	1350	Junction	
9.008	111	1350	Manhole	Adoptable	55	1350	Manhole	Adoptable
9.007	110	1350	Manhole	Adoptable	111	1350	Manhole	Adoptable
9.006	98	1500	Manhole	Adoptable	110	1350	Manhole	Adoptable
9.005	99	1500	Manhole	Adoptable	98	1500	Manhole	Adoptable
9.004	100	1500	Manhole	Adoptable	99	1500	Manhole	Adoptable
11.002	107	1500	Manhole	Adoptable	100	1500	Manhole	Adoptable
9.003	101	1500	Manhole	Adoptable	100	1500	Manhole	Adoptable
9.002	102	1350	Manhole	Adoptable	101	1500	Manhole	Adoptable
10.000	105		Manhole	Adoptable	102	1350	Manhole	Adoptable
9.001	103	1350	Manhole	Adoptable	102	1350	Manhole	Adoptable
9.000	104		Manhole	Adoptable	103	1350	Manhole	Adoptable
11.001	108	1350	Manhole	Adoptable	107	1500	Manhole	Adoptable
11.000	109	1350	Manhole	Adoptable	108	1350	Manhole	Adoptable
1.007	36	1350	Junction		35		Junction	
4.003	49	1350	Manhole	Adoptable	35		Junction	
8.000	50		Manhole	Adoptable	49	1350	Manhole	Adoptable
6.002	51	1350	Manhole	Adoptable	49	1350	Manhole	Adoptable
4.002	56	1350	Manhole	Adoptable	49	1350	Manhole	Adoptable
5.000	57		Manhole	Adoptable	56	1350	Manhole	Adoptable
4.001	58	1350	Manhole	Adoptable	56	1350	Manhole	Adoptable
4.000	59		Manhole	Adoptable	58	1350	Manhole	Adoptable

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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
7.000	5.439	150.0	150	Circular	5.975	5.415	0.410	5.750	5.378	0.222
6.001	24.970	299.8	300	Circular	6.025	4.975	0.750	5.750	4.890	0.560
6.000	5.500	150.0	150	Circular	6.250	5.690	0.410	6.025	5.653	0.222
1.006	108.769	500.0	500	Ditch	6.600	4.920	1.180	6.100	4.702	0.898
1.005	6.035	500.0	500	Ditch	6.500	4.932	1.068	6.600	4.920	1.180
1.004	34.539	500.0	500	Ditch	6.600	5.001	1.099	6.500	4.932	1.068
2.003	35.479	300.0	300	Circular	6.775	5.121	1.354	6.500	5.003	1.197
2.002	19.484	300.0	300	Circular	6.900	5.186	1.414	6.775	5.121	1.354
2.001	11.982	300.0	300	Circular	6.875	5.226	1.349	6.900	5.186	1.414
3.001	14.845	300.0	300	Circular	6.775	5.275	1.200	6.875	5.226	1.349
2.000	35.064	236.3	300	Circular	6.725	5.375	1.050	6.875	5.226	1.349
3.000	11.064	221.3	300	Circular	6.825	5.325	1.200	6.775	5.275	1.200
1.003	48.260	500.0	500	Ditch	6.500	5.098	0.902	6.600	5.001	1.099
1.002	64.091	500.0	500	Ditch	6.400	5.228	0.672	6.500	5.098	0.902
1.001	32.402	500.0	500	Ditch	6.200	5.293	0.407	6.400	5.228	0.672
1.000	28.405	500.0	500	Circular	6.100	5.350	0.250	6.200	5.293	0.407
12.012	10.250	120.6	525	Circular	5.500	3.545	1.430	4.900	3.460	0.915
12.011	26.981	224.8	600	Circular	5.700	3.590	1.510	5.500	3.470	1.430
21.000	7.799	141.8	300	Circular	5.300	3.750	1.250	5.500	3.695	1.505
12.010	75.319	1476.8	600	Circular	5.375	3.641	1.134	5.700	3.590	1.510
12.009	27.254	495.5	525	Circular	5.600	3.771	1.304	5.375	3.716	1.134
20.000	25.299	81.9	450	Circular	5.600	4.100	1.050	5.375	3.791	1.134
18.003	38.729	189.8	450	Circular	5.925	3.995	1.480	5.375	3.791	1.134
18.002	6.207	300.0	300	Circular	6.000	4.166	1.534	5.925	4.145	1.480
19.000	5.837	150.0	150	Circular	6.000	5.440	0.410	6.000	5.401	0.449

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
7.000	52		Manhole	Adoptable	51	1350	Manhole	Adoptable
6.001	53	1350	Manhole	Adoptable	51	1350	Manhole	Adoptable
6.000	54		Manhole	Adoptable	53	1350	Manhole	Adoptable
1.006	37	1350	Junction		36	1350	Junction	
1.005	38		Junction		37	1350	Junction	
1.004	39	1350	Junction		38		Junction	
3.003	44	1350	Manhole	Adoptable	38		Junction	
2.002	45	1350	Manhole	Adoptable	44	1350	Manhole	Adoptable
2.001	46	1350	Manhole	Adoptable	45	1350	Manhole	Adoptable
3.001	47	1350	Manhole	Adoptable	46	1350	Manhole	Adoptable
2.000	106	1350	Manhole	Adoptable	46	1350	Manhole	Adoptable
3.000	48	1350	Manhole	Adoptable	47	1350	Manhole	Adoptable
1.003	40	1350	Junction		39	1350	Junction	
1.002	41	1350	Junction		40	1350	Junction	
1.001	42	1350	Junction		41	1350	Junction	
1.000	43	1350	Manhole	Adoptable	42	1350	Junction	
12.012	80	1500	Manhole	Adoptable	79	1500	Manhole	Adoptable
12.011	82	1350	Manhole	Adoptable	80	1500	Manhole	Adoptable
21.000	81	1200	Manhole	Adoptable	80	1500	Manhole	Adoptable
12.010	83	1350	Manhole	Adoptable	82	1350	Manhole	Adoptable
12.009	84	1350	Manhole	Adoptable	83	1350	Manhole	Adoptable
20.000	117	1350	Manhole	Adoptable	83	1350	Manhole	Adoptable
18.003	118	1350	Manhole	Adoptable	83	1350	Manhole	Adoptable
18.002	119	1350	Manhole	Adoptable	118	1350	Manhole	Adoptable
19.000	122		Manhole	Adoptable	119	1350	Manhole	Adoptable

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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
18.001	40.001	300.0	300	Circular	5.950	4.299	1.351	6.000	4.166	1.534
18.000	7.671	295.1	300	Circular	5.825	4.325	1.200	5.950	4.299	1.351
12.008	44.346	500.0	525	Circular	6.025	3.860	1.640	5.600	3.771	1.304
12.007	28.239	137.1	450	Circular	6.350	4.141	1.759	6.025	3.935	1.640
15.003	28.781	500.0	525	Circular	6.025	3.918	1.582	6.025	3.860	1.640
15.002	28.899	500.0	525	Circular	5.750	3.976	1.249	6.025	3.918	1.582
17.000	17.984	500.0	450	Circular	5.500	4.000	1.050	5.750	3.964	1.336
16.002	41.237	87.0	450	Circular	5.950	4.450	1.050	5.750	3.976	1.324
15.001	56.767	191.8	450	Circular	5.900	4.272	1.178	5.750	3.976	1.324
15.000	21.605	53.8	450	Circular	6.175	4.675	1.050	5.900	4.272	1.178
16.001	19.357	129.0	450	Circular	6.100	4.600	1.050	5.950	4.450	1.050
16.000	14.525	145.3	450	Circular	6.200	4.700	1.050	6.100	4.600	1.050
12.006	27.821	500.0	450	Circular	6.025	4.197	1.378	6.350	4.141	1.759
12.005	26.363	500.0	450	Circular	5.750	4.250	1.050	6.025	4.197	1.378
12.004	29.904	416.4	450	Circular	6.050	4.322	1.278	5.750	4.250	1.050
14.000	6.962	27.8	225	Circular	5.750	5.000	0.525	5.750	4.750	0.775
12.003	8.628	500.0	450	Circular	6.200	4.339	1.411	6.050	4.322	1.278
12.002	75.327	300.0	300	Circular	6.425	4.740	1.385	6.200	4.489	1.411
12.001	78.143	300.0	300	Circular	6.300	5.000	1.000	6.425	4.740	1.385
13.000	5.500	59.1	150	Circular	6.550	5.990	0.410	6.425	5.897	0.378
12.000	5.500	150.0	150	Circular	6.400	5.840	0.410	6.300	5.803	0.347
23.011	18.000	240.0	600	Circular	5.925	4.175	1.150	5.500	4.100	0.800
23.010	77.778	370.4	600	Circular	6.750	4.385	1.765	5.925	4.175	1.150
30.000	7.500	150.0	150	Circular	5.950	5.000	0.800	5.925	4.950	0.825
23.009	15.587	311.7	600	Circular	6.950	4.435	1.915	6.750	4.385	1.765

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
18.001	120	1350	Manhole	Adoptable	119	1350	Manhole	Adoptable
18.000	121	1350	Manhole	Adoptable	120	1350	Manhole	Adoptable
12.008	85	1350	Manhole	Adoptable	84	1350	Manhole	Adoptable
12.007	86	1800	Manhole	Adoptable	85	1350	Manhole	Adoptable
15.003	95	1350	Manhole	Adoptable	85	1350	Manhole	Adoptable
15.002	96	1800	Manhole	Adoptable	95	1350	Manhole	Adoptable
17.000	113	1500	Manhole	Adoptable	96	1800	Manhole	Adoptable
16.002	114	1500	Manhole	Adoptable	96	1800	Manhole	Adoptable
15.001	97	1500	Manhole	Adoptable	96	1800	Manhole	Adoptable
15.000	112	1350	Manhole	Adoptable	97	1500	Manhole	Adoptable
16.001	115	1350	Manhole	Adoptable	114	1500	Manhole	Adoptable
16.000	116	1350	Manhole	Adoptable	115	1350	Manhole	Adoptable
12.006	87	1350	Manhole	Adoptable	86	1800	Manhole	Adoptable
12.005	88	1500	Manhole	Adoptable	87	1350	Manhole	Adoptable
12.004	89	1350	Manhole	Adoptable	88	1500	Manhole	Adoptable
14.000	166		Manhole	Adoptable	88	1500	Manhole	Adoptable
12.003	90	1350	Manhole	Adoptable	89	1350	Manhole	Adoptable
12.002	91	1350	Manhole	Adoptable	90	1350	Manhole	Adoptable
12.001	92	1350	Manhole	Adoptable	91	1350	Manhole	Adoptable
13.000	94		Manhole	Adoptable	91	1350	Manhole	Adoptable
12.000	93		Manhole	Adoptable	92	1350	Manhole	Adoptable
23.011	141	1350	Manhole	Adoptable	140		Manhole	Adoptable
23.010	142	1350	Manhole	Adoptable	141	1350	Manhole	Adoptable
30.000	165		Manhole	Adoptable	141	1350	Manhole	Adoptable
23.009	143	1350	Manhole	Adoptable	142	1350	Manhole	Adoptable

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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
29.000	7.500	150.0	150	Circular	6.500	5.000	1.350	6.750	4.950	1.650
23.008	13.366	334.1	600	Circular	6.975	4.475	1.900	6.950	4.435	1.915
23.007	17.366	347.3	600	Circular	6.900	4.525	1.775	6.975	4.475	1.900
23.006	64.013	426.8	600	Circular	6.450	4.675	1.175	6.900	4.525	1.775
28.003	48.457	173.1	450	Circular	6.600	4.975	1.175	6.900	4.695	1.755
28.002	8.266	110.2	450	Circular	6.475	5.050	0.975	6.600	4.975	1.175
28.001	53.040	176.8	450	Circular	6.575	5.350	0.775	6.475	5.050	0.975
28.000	67.250	168.1	450	Circular	7.350	5.750	1.150	6.575	5.350	0.775
23.005	64.778	370.2	450	Circular	6.950	5.000	1.500	6.450	4.825	1.175
27.000	7.001	17.2	225	Circular	6.375	5.665	0.485	6.450	5.259	0.966
26.002	21.658	113.4	300	Circular	6.575	5.375	0.900	6.450	5.184	0.966
26.001	7.500	75.0	300	Circular	6.675	5.475	0.900	6.575	5.375	0.900
26.000	5.500	59.1	150	Circular	6.800	6.240	0.410	6.675	6.147	0.378
23.004	11.668	233.4	300	Circular	7.000	5.300	1.400	6.950	5.250	1.400
25.001	22.679	378.0	450	Circular	6.850	5.060	1.340	6.950	5.000	1.500
25.000	24.139	402.3	450	Circular	7.025	5.120	1.455	6.850	5.060	1.340
23.003	16.885	96.5	300	Circular	6.975	5.475	1.200	7.000	5.300	1.400
23.002	12.786	177.9	300	Circular	7.075	5.575	1.200	6.975	5.475	1.200
24.000	5.499	150.0	150	Circular	6.900	6.340	0.410	6.975	6.303	0.522
23.001	12.781	170.4	300	Circular	7.150	5.650	1.200	7.075	5.575	1.200
23.000	5.500	150.0	150	Circular	7.100	6.540	0.410	7.150	6.503	0.497
31.008	32.500	316.0	450	Circular	5.050	2.906	1.694	4.700	2.800	1.450
31.007	19.816	300.0	450	Circular	5.150	2.972	1.728	5.050	2.906	1.694
34.000	8.500	24.7	450	Circular	4.850	3.250	1.150	5.050	2.906	1.694
31.006	71.184	300.0	300	Circular	5.600	3.359	1.941	5.150	3.122	1.728

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
29.000	164		Manhole	Adoptable	142	1350	Manhole	Adoptable
23.008	144	1350	Manhole	Adoptable	143	1350	Manhole	Adoptable
23.007	145	1350	Manhole	Adoptable	144	1350	Manhole	Adoptable
23.006	150	1500	Manhole	Adoptable	145	1350	Manhole	Adoptable
28.003	146	1350	Manhole	Adoptable	145	1350	Manhole	Adoptable
28.002	147	1500	Manhole	Adoptable	146	1350	Manhole	Adoptable
28.001	148	1500	Manhole	Adoptable	147	1500	Manhole	Adoptable
28.000	149	1350	Manhole	Adoptable	148	1500	Manhole	Adoptable
23.005	151	1350	Manhole	Adoptable	150	1500	Manhole	Adoptable
27.000	160		Manhole	Adoptable	150	1500	Manhole	Adoptable
26.002	161	1350	Manhole	Adoptable	150	1500	Manhole	Adoptable
26.001	162	1350	Manhole	Adoptable	161	1350	Manhole	Adoptable
26.000	163		Manhole	Adoptable	162	1350	Manhole	Adoptable
23.004	152	1350	Manhole	Adoptable	151	1350	Manhole	Adoptable
25.001	158	1350	Manhole	Adoptable	151	1350	Manhole	Adoptable
25.000	159	1350	Manhole	Adoptable	158	1350	Manhole	Adoptable
23.003	153	1350	Manhole	Adoptable	152	1350	Manhole	Adoptable
23.002	154	1350	Manhole	Adoptable	153	1350	Manhole	Adoptable
24.000	157		Manhole	Adoptable	153	1350	Manhole	Adoptable
23.001	155	1350	Manhole	Adoptable	154	1350	Manhole	Adoptable
23.000	156		Manhole	Adoptable	155	1350	Manhole	Adoptable
31.008	8	1350	Manhole	Adoptable	7		Manhole	Adoptable
31.007	9	1350	Manhole	Adoptable	8	1350	Manhole	Adoptable
34.000	19	1800	Manhole	Adoptable	8	1350	Manhole	Adoptable
31.006	10	1350	Manhole	Adoptable	9	1350	Manhole	Adoptable

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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
31.005	33.469	300.0	300	Circular	5.750	3.471	1.979	5.600	3.359	1.941
31.004	19.142	54.7	300	Circular	5.650	3.821	1.529	5.750	3.471	1.979
33.000	14.675	300.0	300	Circular	5.300	3.500	1.500	5.750	3.451	1.999
31.003	42.461	300.0	300	Circular	5.775	3.963	1.512	5.650	3.821	1.529
31.002	22.045	302.0	300	Circular	5.950	4.036	1.614	5.775	3.963	1.512
32.000	10.001	7.8	150	Circular	5.800	5.240	0.410	5.775	3.963	1.662
31.001	35.048	299.6	300	Circular	5.775	4.153	1.322	5.950	4.036	1.614
31.000	14.110	300.4	300	Circular	5.700	4.200	1.200	5.775	4.153	1.322
35.006	18.500	276.1	450	Circular	5.575	3.917	1.208	5.250	3.850	0.950
35.005	27.821	339.3	450	Circular	5.875	3.999	1.426	5.575	3.917	1.208
41.000	5.000	150.0	150	Circular	5.575	5.015	0.410	5.575	4.982	0.443
39.001	17.417	300.0	300	Circular	5.625	4.125	1.200	5.575	4.067	1.208
40.000	4.999	150.0	150	Circular	5.550	4.990	0.410	5.625	4.957	0.518
39.000	8.036	178.7	300	Circular	5.675	4.175	1.200	5.625	4.125	1.200
35.004	63.000	500.0	450	Circular	5.950	4.125	1.375	5.875	3.999	1.426
38.000	5.000	150.0	150	Circular	5.800	5.240	0.410	5.875	5.207	0.518
35.003	10.732	500.0	450	Circular	5.825	4.146	1.229	5.950	4.125	1.375
37.000	5.002	150.0	150	Circular	5.900	5.340	0.410	5.950	5.307	0.493
35.002	8.089	500.0	450	Circular	5.750	4.162	1.138	5.825	4.146	1.229
35.001	6.801	500.0	450	Circular	5.650	4.176	1.024	5.750	4.162	1.138
35.000	44.614	300.0	300	Circular	5.775	4.475	1.000	5.650	4.326	1.024
26.000	21.991	35.2	150	Circular	5.250	5.100	0.000	5.650	4.476	1.024
42.002	82.962	131.7	300	Circular	3.940	1.740	1.900	1.860	1.110	0.450
42.001	24.242	25.4	300	Circular	4.750	2.695	1.755	3.940	1.740	1.900
42.000	15.750	286.4	300	Circular	4.700	2.750	1.650	4.750	2.695	1.755

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
31.005	11	1500	Manhole	Adoptable	10	1350	Manhole	Adoptable
31.004	12	1350	Manhole	Adoptable	11	1500	Manhole	Adoptable
33.000	18		Manhole	Adoptable	11	1500	Manhole	Adoptable
31.003	13	1350	Manhole	Adoptable	12	1350	Manhole	Adoptable
31.002	14	1350	Manhole	Adoptable	13	1350	Manhole	Adoptable
32.000	17		Manhole	Adoptable	13	1350	Manhole	Adoptable
31.001	15	1350	Manhole	Adoptable	14	1350	Manhole	Adoptable
31.000	16	1350	Manhole	Adoptable	15	1350	Manhole	Adoptable
35.006	124	1350	Manhole	Adoptable	123		Manhole	Adoptable
35.005	125	1350	Manhole	Adoptable	124	1350	Manhole	Adoptable
41.000	134		Manhole	Adoptable	124	1350	Manhole	Adoptable
39.001	135	1350	Manhole	Adoptable	124	1350	Manhole	Adoptable
40.000	137		Manhole	Adoptable	135	1350	Manhole	Adoptable
39.000	136	1350	Manhole	Adoptable	135	1350	Manhole	Adoptable
35.004	126	1350	Manhole	Adoptable	125	1350	Manhole	Adoptable
38.000	133		Manhole	Adoptable	125	1350	Manhole	Adoptable
35.003	127	1350	Manhole	Adoptable	126	1350	Manhole	Adoptable
37.000	132		Manhole	Adoptable	126	1350	Manhole	Adoptable
35.002	128	1350	Manhole	Adoptable	127	1350	Manhole	Adoptable
35.001	129	1350	Manhole	Adoptable	128	1350	Manhole	Adoptable
35.000	130	1350	Manhole	Adoptable	129	1350	Manhole	Adoptable
26.000	131	1350	Junction		129	1350	Manhole	Adoptable
42.002	2	1350	Manhole	Adoptable	1	1350	Manhole	Adoptable
42.001	3	1800	Manhole	Adoptable	2	1350	Manhole	Adoptable
42.000	4		Manhole	Adoptable	3	1800	Manhole	Adoptable

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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
43.004	27.750	252.3	300	Circular	5.450	3.760	1.390	4.750	3.650	0.800
43.003	20.300	300.0	300	Circular	5.250	3.828	1.122	5.450	3.760	1.390
43.002	35.578	291.6	300	Circular	5.150	3.947	0.903	5.250	3.825	1.125
44.000	9.331	31.1	150	Circular	4.490	4.250	0.090	5.250	3.950	1.150
43.001	22.861	300.0	300	Circular	5.375	4.023	1.052	5.150	3.947	0.903
43.000	15.554	300.0	300	Circular	5.750	4.075	1.375	5.375	4.023	1.052
47.004	8.751	32.2	300	Circular	5.125	3.922	0.903	4.750	3.650	0.800
47.003	35.814	300.0	300	Circular	5.625	4.041	1.284	5.125	3.922	0.903
50.000	51.075	224.0	300	Circular	5.450	4.150	1.000	5.125	3.922	0.903
47.002	27.629	300.0	300	Circular	5.775	4.133	1.342	5.625	4.041	1.284
49.000	4.912	65.5	150	Circular	5.675	4.250	1.275	5.625	4.175	1.300
47.001	19.999	300.0	300	Circular	5.625	4.200	1.125	5.775	4.133	1.342
48.000	4.913	22.6	150	Circular	5.850	4.500	1.200	5.775	4.283	1.342
47.000	5.000	33.3	150	Circular	5.750	4.500	1.100	5.625	4.350	1.125
45.002	10.000	56.8	300	Circular	4.925	3.576	1.049	4.750	3.400	1.050
45.001	31.878	300.7	300	Circular	5.250	3.682	1.268	4.925	3.576	1.049
45.000	27.932	300.3	300	Circular	5.275	3.775	1.200	5.250	3.682	1.268
51.002	12.750	177.5	300	Circular	5.525	3.900	1.325	5.250	3.800	1.150
51.001	21.319	142.1	300	Circular	5.550	4.050	1.200	5.525	3.900	1.325
51.000	26.593	152.0	300	Circular	5.725	4.225	1.200	5.550	4.050	1.200
22.001	21.500	132.9	300	Circular	5.375	3.875	1.200	4.900	3.700	0.900
22.000	5.500	28.9	150	Circular	5.400	4.690	0.560	5.375	4.500	0.725
45.004	20.500	102.5	450	Circular	4.725	3.100	1.175	4.700	2.900	1.350
46.000	16.500	165.0	450	Circular	4.750	3.500	0.800	4.750	3.400	0.900
12.014	11.249	225.0	525	Circular	4.900	3.400	0.975	4.850	3.350	0.975

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
43.004	61	1350	Manhole	Adoptable	60		Manhole	Adoptable
43.003	62	1350	Manhole	Adoptable	61	1350	Manhole	Adoptable
43.002	63	1350	Manhole	Adoptable	62	1350	Manhole	Adoptable
44.000	66		Manhole	Adoptable	62	1350	Manhole	Adoptable
43.001	64	1350	Manhole	Adoptable	63	1350	Manhole	Adoptable
43.000	65	1350	Manhole	Adoptable	64	1350	Manhole	Adoptable
47.004	68	1350	Manhole	Adoptable	67		Manhole	Adoptable
47.003	70	1350	Manhole	Adoptable	68	1350	Manhole	Adoptable
50.000	69	1350	Manhole	Adoptable	68	1350	Manhole	Adoptable
47.002	71	1350	Manhole	Adoptable	70	1350	Manhole	Adoptable
49.000	75		Manhole	Adoptable	70	1350	Manhole	Adoptable
47.001	72	1350	Manhole	Adoptable	71	1350	Manhole	Adoptable
48.000	74		Manhole	Adoptable	71	1350	Manhole	Adoptable
47.000	73		Manhole	Adoptable	72	1350	Manhole	Adoptable
45.002	23	1350	Manhole	Adoptable	22	1200	Manhole	Adoptable
45.001	24	1350	Manhole	Adoptable	23	1350	Manhole	Adoptable
45.000	25	1350	Manhole	Adoptable	24	1350	Manhole	Adoptable
51.002	29	1350	Manhole	Adoptable	28		Manhole	Adoptable
51.001	30	1350	Manhole	Adoptable	29	1350	Manhole	Adoptable
51.000	31	1350	Manhole	Adoptable	30	1350	Manhole	Adoptable
22.001	77	1350	Manhole	Adoptable	76	1200	Manhole	Adoptable
22.000	78		Manhole	Adoptable	77	1350	Manhole	Adoptable
45.004	6	1200	Manhole	Adoptable	5		Manhole	Adoptable
46.000	21		Manhole	Adoptable	20	1350	Manhole	Adoptable
12.014	27	1500	Manhole	Adoptable	26		Manhole	Adoptable

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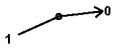
ARUN DISTRICT COUNCIL CM/48/21/RES

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
46.001	20.823	69.4	450	Circular	4.750	3.400	0.900	4.725	3.100	1.175
45.003	14.605	97.4	300	Circular	4.750	3.400	1.050	4.725	3.250	1.175
12.013	31.844	530.7	525	Circular	4.900	3.460	0.915	4.900	3.400	0.975
22.002	13.169	175.6	300	Circular	4.900	3.700	0.900	4.900	3.625	0.975

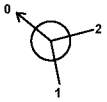
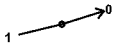
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
46.001	20	1350	Manhole	Adoptable	6	1200	Manhole	Adoptable
45.003	22	1200	Manhole	Adoptable	6	1200	Manhole	Adoptable
12.013	79	1500	Manhole	Adoptable	27	1500	Manhole	Adoptable
22.002	76	1200	Manhole	Adoptable	27	1500	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
43	499618.879	101994.507	6.100	0.750	1350		0	1.000	5.350	500
42	499644.792	102006.141	6.200	0.907	1350	1 	1 0	1.000 1.001	5.293 5.293	500 500
41	499676.956	102010.060	6.400	1.172	1350	1 	1 0	1.001 1.002	5.228 5.228	500 500
40	499738.309	102031.498	6.500	1.402	1350	1 	1 0	1.002 1.003	5.098 5.098	500 500
39	499785.427	102041.935	6.600	1.599	1350	1 	1 0	1.003 1.004	5.001 5.001	500 500
106	499869.547	102001.228	6.725	1.350	1350		0	2.000	5.375	300
48	499842.994	101967.614	6.825	1.500	1350		0	3.000	5.325	300
47	499838.582	101977.760	6.775	1.500	1350	1 	1 0	3.000 3.001	5.275 5.275	300 300

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
46	499835.636	101992.310	6.875	1.649	1350		1 2 0	5.226 5.226 5.226	300 300 300
45	499826.360	101999.895	6.900	1.714	1350		1 0	5.186 5.186	300 300
44	499826.253	102019.379	6.775	1.654	1350		1 0	5.121 5.121	300 300
38	499817.866	102053.852	6.500	1.568			1 2 0	5.003 4.932 4.932	300 500 500
37	499823.531	102055.933	6.600	1.680	1350		1 0	4.920 4.920	500 500
36	499929.256	102081.486	6.100	1.398	1350		1 0	4.702 4.702	500 500
59	499856.698	102050.129	6.350	0.560			0	5.790	150
58	499855.654	102055.529	6.100	0.900	1350		1 0	5.753 5.200	150 300
57	499897.061	102058.396	5.925	0.560			0	5.365	150
56	499896.017	102063.796	5.700	0.750	1350		1 2 0	5.328 4.950 4.950	150 300 300
54	499986.370	102085.451	6.250	0.560			0	5.690	150
53	499984.743	102090.705	6.025	1.050	1350		1 0	5.653 4.975	150 300
52	499962.800	102077.212	5.975	0.560			0	5.415	150

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
51	499961.172	102082.465	5.750	0.860	1350	1	7.000	5.378	150
						2	6.001	4.890	300
						0	6.002	4.890	300
50	499937.817	102068.586	5.750	0.560		0	8.000	5.190	150
49	499936.190	102073.840	5.525	0.725	1350	1	8.000	5.153	150
						2	6.002	4.800	300
						3	4.002	4.800	300
						0	4.003	4.800	300
35	499933.416	102082.793	6.000	1.307		1	4.003	4.769	300
						2	1.007	4.693	500
						0	1.008	4.693	500
104	499912.717	101962.003	6.825	0.560		0	9.000	6.265	150
103	499918.787	101969.949	6.650	1.550	1350	1	9.000	6.097	150
						0	9.001	5.100	450
105	499908.667	102002.928	6.350	0.560		0	10.000	5.790	225
102	499913.524	102009.285	6.325	1.425	1350	1	10.000	5.426	225
						2	9.001	5.001	450
						0	9.002	4.900	525
101	499942.429	102016.613	6.100	1.260	1500	1	9.002	4.840	525
						0	9.003	4.840	525
109	499984.705	101963.478	6.525	1.275	1350	0	11.000	5.250	300
108	499980.296	101983.300	6.350	1.170	1350	1	11.000	5.180	300
						0	11.001	5.180	300
107	499972.787	101995.189	6.250	1.120	1500	1	11.001	5.130	300
						0	11.002	5.130	300
100	499962.231	102023.270	6.100	1.302	1500	1	11.002	5.025	300
						2	9.003	4.798	525
						0	9.004	4.798	525

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
99	500009.217	102036.855	6.475	1.775	1500	1	9.004	4.700	525
						0	9.005	4.700	525
98	500061.628	102051.624	6.250	1.659	1500	1	9.005	4.591	525
						0	9.006	4.591	525
110	500051.102	102072.420	6.425	1.881	1350	1	9.006	4.544	525
						0	9.007	4.599	525
111	500048.605	102085.091	6.500	1.927	1350	1	9.007	4.573	525
						0	9.008	4.573	525
55	500043.430	102106.146	6.575	2.050	1350	1	9.008	4.530	525
						0	9.009	4.525	525
34	500034.537	102114.554	5.900	1.419	1350	1	9.009	4.501	525
						2	1.008	4.481	500
						0	1.009	4.481	500
33	500135.576	102140.119	5.700	1.425	1350	1	1.009	4.275	500
						0	1.010	4.275	450
32	500157.300	102139.980	5.250	1.750		1	1.010	3.500	450
93	500054.095	101885.610	6.400	0.560		0	12.000	5.840	150
92	500052.819	101890.960	6.300	1.300	1350	1	12.000	5.803	150
						0	12.001	5.000	300
94	500130.106	101903.740	6.550	0.560		0	13.000	5.990	150
91	500128.830	101909.090	6.425	1.685	1350	1	13.000	5.897	150
						2	12.001	4.740	300
						0	12.002	4.740	300
90	500201.491	101928.954	6.200	1.861	1350	1	12.002	4.489	300
						0	12.003	4.339	450

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
89	500207.311	101935.324	6.050	1.728	1350	1	12.003	4.322	450
						0	12.004	4.322	450
166	500215.524	101964.274	5.750	0.750		0	14.000	5.000	225
88	500208.635	101965.279	5.750	1.500	1500	1	14.000	4.750	225
						2	12.004	4.250	450
						0	12.005	4.250	450
87	500207.392	101991.613	6.025	1.828	1350	1	12.005	4.197	450
						0	12.006	4.197	450
86	500203.671	102019.184	6.350	2.209	1800	1	12.006	4.141	450
						0	12.007	4.141	450
112	500062.981	102001.238	6.175	1.500	1350	0	15.000	4.675	450
97	500083.305	102008.798	5.900	1.628	1500	1	15.000	4.272	450
						0	15.001	4.272	450
116	500106.325	102097.263	6.200	1.500	1350	0	16.000	4.700	450
115	500110.728	102083.421	6.100	1.500	1350	1	16.000	4.600	450
						0	16.001	4.600	450
114	500119.169	102066.001	5.950	1.500	1500	1	16.001	4.450	450
						0	16.002	4.450	450
113	500130.499	102011.639	5.500	1.500	1500	0	17.000	4.000	450
96	500136.511	102028.588	5.750	1.786	1800	1	17.000	3.964	450
						2	16.002	3.976	450
						3	15.001	3.976	450
						0	15.002	3.976	525
95	500164.790	102034.542	6.025	2.107	1350	1	15.002	3.918	525
						0	15.003	3.918	525

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
85	500191.697	102044.759	6.025	2.165	1350	1	15.003	3.860	525
						2	12.007	3.935	450
						0	12.008	3.860	525
84	500231.338	102064.637	5.600	1.829	1350	1	12.008	3.771	525
						0	12.009	3.771	525
121	500317.613	102035.100	5.825	1.500	1350	0	18.000	4.325	300
120	500310.017	102036.173	5.950	1.651	1350	1	18.000	4.299	300
						0	18.001	4.299	300
122	500276.288	102026.440	6.000	0.560		0	19.000	5.440	150
119	500270.764	102028.475	6.000	1.834	1350	1	19.000	5.401	150
						2	18.001	4.166	300
						0	18.002	4.166	300
118	500265.605	102031.926	5.925	1.930	1350	1	18.002	4.145	300
						0	18.003	3.995	450
117	500243.135	102090.332	5.600	1.500	1350	0	20.000	4.100	450
83	500258.076	102069.916	5.375	1.734	1350	1	20.000	3.791	450
						2	18.003	3.791	450
						3	12.009	3.716	525
						0	12.010	3.641	600
82	500331.965	102084.504	5.700	2.110	1350	1	12.010	3.590	600
						0	12.011	3.590	600
81	500359.174	102077.091	5.300	1.550	1200	0	21.000	3.750	300
80	500358.943	102084.887	5.500	2.030	1500	1	21.000	3.695	300
						2	12.011	3.470	600
						0	12.012	3.545	525
79	500358.640	102095.133	4.900	1.440	1500	1	12.012	3.460	525
						0	12.013	3.460	525

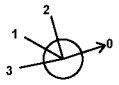
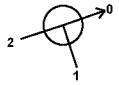
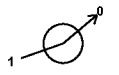
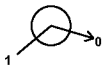
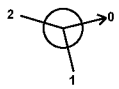
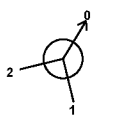
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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
156	499861.159	101852.854	7.100	0.560		0			
						0	23.000	6.540	150
155	499864.039	101857.540	7.150	1.500	1350	1	23.000	6.503	150
						0	23.001	5.650	300
154	499860.411	101869.795	7.075	1.500	1350	1	23.001	5.575	300
						0	23.002	5.575	300
157	499853.563	101881.217	6.900	0.560		0			
						0	24.000	6.340	150
153	499858.912	101882.493	6.975	1.500	1350	1	24.000	6.303	150
						2	23.002	5.475	300
						0	23.003	5.475	300
152	499860.225	101899.327	7.000	1.700	1350	1	23.003	5.300	300
						0	23.004	5.300	300
159	499857.266	101946.147	7.025	1.905	1350	0	25.000	5.120	450
158	499864.723	101923.189	6.850	1.790	1350	1	25.000	5.060	450
						0	25.001	5.060	450
151	499871.669	101901.600	6.950	1.950	1350	1	25.001	5.000	450
						2	23.004	5.250	300
						0	23.005	5.000	450
163	499926.765	101947.091	6.800	0.560		0	26.000	6.240	150
162	499925.442	101941.753	6.675	1.200	1350	1	26.000	6.147	150
						0	26.001	5.475	300
161	499929.314	101935.330	6.575	1.200	1350	1	26.001	5.375	300
						0	26.002	5.375	300
160	499929.053	101917.907	6.375	0.710		0	27.000	5.665	225

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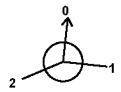
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
150	499935.155	101914.475	6.450	1.775	1500		1 2 3 0	27.000 26.002 23.005 23.006	5.259 5.184 4.825 4.675	225 300 450 600
149	499893.934	101841.001	7.350	1.600	1350		0	28.000	5.750	450
148	499957.410	101863.212	6.575	1.225	1500		1 0	28.000 28.001	5.350 5.350	450 450
147	500007.474	101880.730	6.475	1.425	1500		1 0	28.001 28.002	5.050 5.050	450 450
146	500011.061	101888.177	6.600	1.625	1350		1 0	28.002 28.003	4.975 4.975	450 450
145	499996.038	101934.246	6.900	2.375	1350		1 2 0	28.003 23.006 23.007	4.695 4.525 4.525	450 600 600
144	500012.426	101939.993	6.975	2.500	1350		1 0	23.007 23.008	4.475 4.475	600 600
143	500022.658	101948.592	6.950	2.515	1350		1 0	23.008 23.009	4.435 4.435	600 600
164	500039.378	101936.882	6.500	1.500			0	29.000	5.000	150
142	500037.604	101944.169	6.750	2.365	1350		1 2 0	29.000 23.009 23.010	4.950 4.385 4.385	150 600 600
165	500114.949	101955.277	5.950	0.950			0	30.000	5.000	150
141	500113.175	101962.564	5.925	1.750	1350		1 2 0	30.000 23.010 23.011	4.950 4.175 4.175	150 600 600
140	500122.532	101977.941	5.500	1.465			1	23.011	4.100	600

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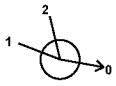
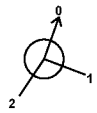
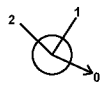
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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
16	500298.269	102126.833	5.700	1.500	1350				
									
						0	31.000	4.200	300
15	500284.432	102124.031	5.775	1.622	1350	1	31.000	4.153	300
									
						0	31.001	4.153	300
14	500250.082	102117.073	5.950	1.914	1350	1	31.001	4.036	300
									
						0	31.002	4.036	300
17	500242.800	102102.263	5.800	0.560					
									
						0	32.000	5.240	150
13	500232.855	102103.317	5.775	1.812	1350	1	32.000	3.963	150
						2	31.002	3.963	300
									
						0	31.003	3.963	300
12	500205.530	102135.818	5.650	1.829	1350	1	31.003	3.821	300
									
						0	31.004	3.821	300
18	500187.305	102146.317	5.300	1.800					
									
						0	33.000	3.500	300
11	500199.764	102154.071	5.750	2.299	1500	1	33.000	3.451	300
						2	31.004	3.471	300
									
						0	31.005	3.471	300
10	500232.313	102161.866	5.600	2.241	1350	1	31.005	3.359	300
									
						0	31.006	3.359	300
9	500302.025	102176.266	5.150	2.178	1350	1	31.006	3.122	300
									
						0	31.007	2.972	450
19	500328.734	102183.048	4.850	1.600	1800				
									
						0	34.000	3.250	450
8	500320.284	102183.966	5.050	2.144	1350	1	34.000	2.906	450
						2	31.007	2.906	450
									
						0	31.008	2.906	450
7	500323.899	102217.270	4.700	1.927		1	31.008	2.800	450
									

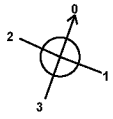
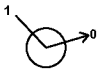
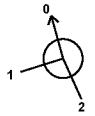
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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
130	500272.059	102007.745	5.775	1.300	1350				
						0	35.000	4.475	300
131	500261.876	101972.284	5.250	0.150	1350				
						0	36.000	5.100	150
129	500282.383	101964.342	5.650	1.474	1350		1	36.000	4.476	150
							2	35.000	4.326	300
						0	35.001	4.176	450
128	500289.078	101963.147	5.750	1.588	1350		1	35.001	4.162	450
						0	35.002	4.162	450
127	500296.949	101965.012	5.825	1.679	1350		1	35.002	4.146	450
						0	35.003	4.146	450
132	500309.359	101968.353	5.900	0.560					
						0	37.000	5.340	150
126	500305.485	101971.516	5.950	1.825	1350		1	37.000	5.307	150
							2	35.003	4.125	450
						0	35.004	4.125	450
133	500345.201	102022.095	5.800	0.560					
						0	38.000	5.240	150
125	500340.527	102023.871	5.875	1.876	1350		1	38.000	5.207	150
							2	35.004	3.999	450
						0	35.005	3.999	450
136	500327.586	102063.540	5.675	1.500	1350				
						0	39.000	4.175	300
137	500336.705	102061.506	5.550	0.560					
						0	40.000	4.990	150
135	500333.990	102057.308	5.625	1.500	1350		1	40.000	4.957	150
							2	39.000	4.125	300
						0	39.001	4.125	300
134	500354.514	102048.311	5.575	0.560					
						0	41.000	5.015	150

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
124	500349.840	102050.087	5.575	1.658	1350		1	41.000	4.382	150
							2	39.001	4.067	300
							3	35.005	3.917	450
							0	35.006	3.917	450
123	500356.032	102067.520	5.250	1.495			1	35.006	3.850	450
4	500333.959	102218.369	4.700	1.950			0	42.000	2.750	300
3	500344.762	102206.908	4.750	2.055	1800		1	42.000	2.695	300
							0	42.001	2.695	300
2	500368.018	102213.752	3.940	2.200	1350		1	42.001	1.740	300
							0	42.002	1.740	300
1	500441.039	102253.173	1.860	0.750	1350		1	42.002	1.110	300
65	500186.398	102183.419	5.750	1.675	1350		0	43.000	4.075	300
64	500183.542	102198.709	5.375	1.352	1350		1	43.000	4.023	300
							0	43.001	4.023	300
63	500176.943	102220.597	5.150	1.203	1350		1	43.001	3.947	300
							0	43.002	3.947	300
66	500153.378	102250.217	4.490	0.240			0	44.000	4.250	150
62	500162.280	102253.013	5.250	1.425	1350		1	44.000	3.950	150
							2	43.002	3.825	300
							0	43.003	3.828	300
61	500156.876	102272.581	5.450	1.690	1350		1	43.003	3.760	300
							0	43.004	3.760	300
60	500174.950	102293.638	4.750	1.139			1	43.004	3.650	300

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
73	500242.253	102193.693	5.750	1.250		0	47.000	4.500	150
72	500247.126	102194.812	5.625	1.425	1350	1 0	47.000 47.001	4.350 4.200	150 300
74	500237.755	102213.181	5.850	1.350		0	48.000	4.500	150
71	500242.544	102214.279	5.775	1.642	1350	1 2 0	48.000 47.001 47.002	4.283 4.133 4.133	150 300 300
75	500229.490	102239.545	5.675	1.425		0	49.000	4.250	150
70	500234.278	102240.643	5.625	1.584	1350	1 2 0	49.000 47.002 47.003	4.175 4.041 4.041	150 300 300
69	500191.728	102283.756	5.450	1.300	1350	0	50.000	4.150	300
68	500242.145	102275.582	5.125	1.203	1350	1 2 0	50.000 47.003 47.004	3.922 3.922 3.922	300 300 300
67	500244.067	102284.119	4.750	1.139		1	47.004	3.650	300
25	500310.984	102212.135	5.275	1.500	1350	0	45.000	3.775	300
24	500300.327	102237.954	5.250	1.568	1350	1 0	45.000 45.001	3.682 3.682	300 300
23	500289.438	102267.915	4.925	1.349	1350	1 0	45.001 45.002	3.576 3.576	300 300
22	500298.836	102271.331	4.750	1.350	1200	1 0	45.002 45.003	3.400 3.400	300 300

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
31	500178.667	102074.878	5.725	1.500	1350	0	S1.000	4.225	300
30	500168.604	102099.494	5.550	1.500	1350	1	S1.000	4.050	300
						0	S1.001	4.050	300
29	500159.308	102118.680	5.525	1.625	1350	1	S1.001	3.900	300
						0	S1.002	3.900	300
28	500164.377	102130.379	5.250	1.722		1	S1.002	3.800	300
78	500328.499	102120.688	5.400	0.710		0	22.000	4.690	150
77	500328.499	102115.188	5.375	1.500	1350	1	22.000	4.500	150
						0	22.001	3.875	300
76	500349.999	102115.244	4.900	1.200	1200	1	22.001	3.700	300
						0	22.002	3.700	300
6	500312.328	102265.739	4.725	1.625	1200	1	46.001	3.100	450
						2	45.003	3.250	300
						0	45.004	3.100	450
5	500317.590	102245.926	4.700	1.927		1	45.004	2.900	450
21	500282.626	102282.751	4.750	1.250		0	46.000	3.500	450
20	500299.100	102281.820	4.750	1.350	1350	1	46.000	3.400	450
						0	46.001	3.400	450
27	500356.164	102126.881	4.900	1.500	1500	1	22.002	3.625	300
						2	12.013	3.400	525
						0	12.014	3.400	525
26	500351.360	102137.053	4.850	1.553		1	12.014	3.350	525

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Simulation Settings

Rainfall Methodology	FEH-13	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	1.000	Drain Down Time (mins)	1440	Check Discharge Volume	x
Analysis Speed	Detailed	Additional Storage (m³/ha)	21.0		

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	40	0	0
10	40	0	0
30	40	0	0
100	40	0	0
100	40	10	0

Node 140 Online Orifice Control

Flap Valve	x	Invert Level (m)	4.035	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.600		

Node 28 Online Orifice Control

Flap Valve	x	Invert Level (m)	3.528	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.300		

Node 32 Online Orifice Control

Flap Valve	x	Invert Level (m)	3.500	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.450		

Node 60 Online Orifice Control

Flap Valve	x	Invert Level (m)	3.611	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.300		

Node 67 Online Orifice Control

Flap Valve	x	Invert Level (m)	3.611	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.300		

Node 5 Online Orifice Control

Flap Valve	x	Invert Level (m)	2.773	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.450		

Node 7 Online Orifice Control

Flap Valve	x	Invert Level (m)	2.773	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.450		

Node 26 Online Orifice Control

Flap Valve	x	Invert Level (m)	3.297	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.450		

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Node 123 Online Orifice Control

Flap Valve	x	Invert Level (m)	3.755	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.450		

Node 3 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	2.695	Product Number	CTL-SHE-0185-2050-2055-2050
Design Depth (m)	2.055	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	20.5	Min Node Diameter (mm)	1800

Node 11 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	3.471	Product Number	CTL-SHE-0120-7500-1529-7500
Design Depth (m)	1.529	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	7.5	Min Node Diameter (mm)	1200

Node 19 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	3.250	Product Number	CTL-SHE-0202-2250-1500-2250
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	22.5	Min Node Diameter (mm)	1800

Node 81 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	3.750	Product Number	CTL-SHE-0069-2500-1500-2500
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.5	Min Node Diameter (mm)	1200

Node 96 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	3.976	Product Number	CTL-SHE-0098-5000-1527-5000
Design Depth (m)	1.527	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.0	Min Node Diameter (mm)	1200

Node 59 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.790	Diameter (m)	0.057		

Node 57 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.365	Diameter (m)	0.057		

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Node 50 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.190	Diameter (m)	0.057		

Node 52 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.415	Diameter (m)	0.057		

Node 54 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.690	Diameter (m)	0.057		

Node 105 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.790	Diameter (m)	0.057		

Node 104 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	6.265	Diameter (m)	0.057		

Node 163 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	6.240	Diameter (m)	0.057		

Node 160 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.710	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.665	Diameter (m)	0.053		

Node 156 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Flow (l/s)	5.0		
Invert Level (m)	6.540	Diameter (m)	0.057		

Node 157 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	6.340	Diameter (m)	0.057		

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Node 165 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.000	Diameter (m)	0.057		

Node 164 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.000	Diameter (m)	0.057		

Node 122 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.440	Diameter (m)	0.057		

Node 132 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.340	Diameter (m)	0.057		

Node 133 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.240	Diameter (m)	0.057		

Node 134 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.015	Diameter (m)	0.057		

Node 137 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	4.990	Diameter (m)	0.057		

Node 78 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.710	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	4.690	Diameter (m)	0.053		

Node 17 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	5.240	Diameter (m)	0.057		

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Node 73 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	4.500	Diameter (m)	0.057		

Node 74 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	4.500	Diameter (m)	0.057		

Node 75 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.560	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		
Invert Level (m)	4.250	Diameter (m)	0.057		

Node 59 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.790	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	41	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	43.566		

Node 57 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.365	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	41	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	43.566		

Node 50 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.190	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	36	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	43.566		

Node 52 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.415	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	38	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.45	Length (m)	43.566		

Node 54 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.690	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	41	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	43.566		

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Node 105 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.790	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	24.993	Inf Depth (m)	
Porosity	0.32	Length (m)	5.500		

Node 104 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.265	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	24.993	Inf Depth (m)	
Porosity	0.32	Length (m)	5.500		

Node 163 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.240	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	24.993	Inf Depth (m)	
Porosity	0.32	Length (m)	5.500		

Node 160 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.665	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.600
Safety Factor	1.0	Width (m)	24.993	Inf Depth (m)	
Porosity	0.32	Length (m)	5.500		

Node 156 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.540	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	33.339		

Node 157 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.340	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	33.339		

Node 165 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.000	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	1080	Depth (m)	0.450
Safety Factor	1.0	Width (m)	88.111	Inf Depth (m)	
Porosity	0.32	Length (m)	5.500		

Node 164 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.000	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	1080	Depth (m)	0.450
Safety Factor	1.0	Width (m)	88.111	Inf Depth (m)	
Porosity	0.32	Length (m)	5.500		

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Node 122 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.440	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	153.461	Inf Depth (m)	
Porosity	0.32	Length (m)	5.500		

Node 132 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.340	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	161.537		

Node 133 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.240	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	60.238		

Node 134 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.015	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	60.238		

Node 137 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.990	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	60.238	Inf Depth (m)	
Porosity	0.32	Length (m)	5.500		

Node 78 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.690	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.600
Safety Factor	1.0	Width (m)	109.674	Inf Depth (m)	
Porosity	0.32	Length (m)	5.500		

Node 17 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.240	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	133.985	Inf Depth (m)	
Porosity	0.32	Length (m)	10.000		

Node 73 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.500	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	40.617		

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Node 74 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.500	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	40.617		

Node 75 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.250	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	13	Depth (m)	0.450
Safety Factor	1.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.32	Length (m)	40.617		

Node 166 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.000	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.600
Safety Factor	2.0	Width (m)	100.000	Inf Depth (m)	
Porosity	0.32	Length (m)	10.000		

Node 100 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.798	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	13	Depth (m)	0.600
Safety Factor	2.0	Width (m)	51.647	Inf Depth (m)	
Porosity	0.32	Length (m)	6.000		

Node 131 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	5.100
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	1897.9	0.0	0.150	1968.0	0.0	0.151	0.0	0.0

Node 66 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	4.250
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	190.0	0.0	0.240	226.8	0.0

Node 21 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	111.400
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	3.500	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)	645	Main Channel n	0.025

Inlets

60 67

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Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	439.6	0.0	1.250	1337.5	0.0

Node 4 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	23.007
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	2.750	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.025

Inlets

5 7

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	71.5	0.0	1.750	315.5	0.0

Node 19 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	46.507
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	3.250	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)	1368	Main Channel n	0.025

Inlets

26

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	401.1	0.0	1.500	949.4	0.0

Node 18 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	27.923
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	3.500	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)	0	Main Channel n	0.025

Inlets

28

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	686.6	0.0	1.750	1260.8	0.0

Node 81 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	4.806
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	3.750	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)	860	Main Channel n	0.025

Inlets

123

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	41.7	0.0	1.500	272.3	0.0

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Node 113 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	34.627
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.000	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.025

Inlets

140

Depth (m)	Area (m^2)	Inf Area (m^2)	Depth (m)	Area (m^2)	Inf Area (m^2)	Depth (m)	Area (m^2)	Inf Area (m^2)	Depth (m)	Area (m^2)	Inf Area (m^2)
0.000	1043.5	0.0	0.500	1486.3	0.0	1.000	1968.9	0.0	1.500	2491.1	0.0
0.250	1258.2	0.0	0.750	1723.6	0.0	1.250	2222.3	0.0			

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Results for 2 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	43	1	5.350	0.000	0.0	0.0000	0.0000	OK
15 minute winter	42	1	5.293	0.000	0.0	0.0000	0.0000	OK
15 minute winter	41	1	5.228	0.000	0.0	0.0000	0.0000	OK
15 minute winter	40	1	5.098	0.000	0.0	0.0000	0.0000	OK
15 minute winter	39	14	5.057	0.056	6.6	0.0000	0.0000	OK
15 minute winter	106	10	5.440	0.065	7.8	0.1239	0.0000	OK
15 minute winter	48	11	5.376	0.051	2.3	0.0792	0.0000	OK
15 minute winter	47	11	5.375	0.100	7.0	0.1724	0.0000	OK
15 minute winter	46	11	5.372	0.146	26.2	0.2990	0.0000	OK
15 minute winter	45	11	5.326	0.140	25.6	0.2007	0.0000	OK
15 minute winter	44	12	5.265	0.144	29.9	0.2434	0.0000	OK
15 minute winter	38	13	5.053	0.121	47.1	0.1282	0.0000	OK
15 minute winter	37	14	5.041	0.121	38.7	0.0000	0.0000	OK
15 minute winter	36	15	4.875	0.173	35.5	0.0000	0.0000	OK
15 minute winter	59	14	5.920	0.130	6.0	1.6201	0.0000	OK
15 minute winter	58	11	5.267	0.067	10.0	0.1482	0.0000	OK
15 minute winter	57	14	5.495	0.130	6.0	1.6201	0.0000	OK
15 minute winter	56	11	5.071	0.121	23.9	0.3420	0.0000	OK
15 minute winter	54	14	5.820	0.130	6.0	1.6201	0.0000	OK
15 minute winter	53	10	5.078	0.103	16.8	0.2705	0.0000	OK
30 minute winter	52	24	5.530	0.115	4.6	1.7558	0.0000	OK
15 minute winter	51	11	5.048	0.158	26.2	0.3488	0.0000	OK
15 minute winter	50	14	5.320	0.130	6.0	1.6201	0.0000	OK
15 minute winter	49	11	5.030	0.230	66.4	0.7951	0.0000	OK
15 minute winter	35	15	4.873	0.180	82.3	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	43	1.000	42	0.0	0.000	0.000	0.0000	
15 minute winter	42	1.001	41	0.0	0.000	0.000	0.0005	
15 minute winter	41	1.002	40	0.0	0.000	0.000	0.0010	
15 minute winter	40	1.003	39	0.0	0.000	0.000	0.8219	
15 minute winter	39	1.004	38	-6.6	-0.140	-0.010	2.1330	
15 minute winter	106	2.000	46	7.5	0.354	0.104	0.7883	
15 minute winter	48	3.000	47	2.1	0.234	0.028	0.1571	
15 minute winter	47	3.001	46	7.1	0.287	0.111	0.4036	
15 minute winter	46	2.001	45	25.6	0.774	0.402	0.3964	
15 minute winter	45	2.002	44	25.2	0.772	0.396	0.6395	
15 minute winter	44	2.003	38	29.6	0.936	0.465	1.1245	
15 minute winter	38	1.005	37	38.7	0.490	0.060	0.5402	
15 minute winter	37	1.006	36	35.5	0.343	0.055	12.7373	
15 minute winter	36	1.007	35	36.7	-0.387	0.057	0.6584	
15 minute winter	59	4.000	58	2.0	0.564	0.141	0.0199	
15 minute winter	58	4.001	56	9.7	0.525	0.113	0.7895	
15 minute winter	57	5.000	56	2.0	0.564	0.141	0.0199	
15 minute winter	56	4.002	49	23.3	0.545	0.350	1.7487	
15 minute winter	54	6.000	53	2.0	0.564	0.141	0.0199	
15 minute winter	53	6.001	51	16.6	0.630	0.257	0.7295	
30 minute winter	52	7.000	51	1.9	0.552	0.130	0.0188	
15 minute winter	51	6.002	49	24.7	0.543	0.384	1.2609	
15 minute winter	50	8.000	49	2.0	0.564	0.141	0.0199	
15 minute winter	49	4.003	35	65.0	1.207	1.019	0.5038	
15 minute winter	35	1.008	34	76.3	0.359	0.119	25.6705	

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Results for 2 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	104	1	6.265	0.000	0.0	0.0000	0.0000	OK
15 minute winter	103	1	5.100	0.000	0.0	0.0000	0.0000	OK
15 minute winter	105	1	5.790	0.000	0.0	0.0000	0.0000	OK
15 minute winter	102	11	5.089	0.189	52.1	0.8462	0.0000	OK
15 minute winter	101	12	5.071	0.231	68.0	0.7003	0.0000	OK
15 minute winter	109	11	5.308	0.058	4.0	0.0975	0.0000	OK
15 minute winter	108	11	5.304	0.124	20.0	0.3251	0.0000	OK
15 minute winter	107	11	5.270	0.140	27.5	0.3352	0.0000	OK
15 minute winter	100	13	5.065	0.267	143.4	24.9624	0.0000	OK
15 minute winter	99	14	4.990	0.290	101.6	0.5124	0.0000	OK
15 minute winter	98	14	4.945	0.354	118.5	1.3296	0.0000	OK
15 minute winter	110	14	4.918	0.374	121.1	0.7306	0.0000	OK
15 minute winter	111	14	4.875	0.302	123.5	0.5154	0.0000	OK
30 minute winter	55	23	4.815	0.290	121.2	0.4885	0.0000	OK
15 minute winter	34	16	4.783	0.302	199.5	0.0000	0.0000	OK
30 minute winter	33	26	4.522	0.247	189.2	0.0000	0.0000	OK
30 minute winter	32	26	3.927	0.427	184.9	0.0000	0.0000	OK
15 minute winter	93	1	5.840	0.000	0.0	0.0000	0.0000	OK
15 minute winter	92	11	5.087	0.087	12.6	0.1946	0.0000	OK
15 minute winter	94	1	5.990	0.000	0.0	0.0000	0.0000	OK
15 minute winter	91	12	4.900	0.160	38.7	0.4451	0.0000	OK
15 minute winter	90	11	4.570	0.231	60.5	0.6326	0.0000	OK
15 minute winter	89	12	4.541	0.219	62.3	0.3405	0.0000	OK
15 minute winter	166	1	5.000	0.000	0.0	0.0000	0.0000	OK
15 minute winter	88	12	4.503	0.253	79.5	0.7257	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	104	9.000	103	0.0	0.000	0.000	0.0000	
15 minute winter	103	9.001	102	0.0	0.000	0.000	0.4310	
15 minute winter	105	10.000	102	0.0	0.000	0.000	0.0000	
15 minute winter	102	9.002	101	49.1	0.664	0.228	2.3634	
15 minute winter	101	9.003	100	64.1	0.903	0.298	2.1085	
15 minute winter	109	11.000	108	4.0	0.233	0.061	0.3754	
15 minute winter	108	11.001	107	19.7	0.661	0.299	0.4213	
15 minute winter	107	11.002	100	27.5	0.906	0.420	0.9096	
15 minute winter	100	9.004	99	101.6	0.917	0.472	5.6535	
15 minute winter	99	9.005	98	99.0	0.713	0.460	7.5488	
15 minute winter	98	9.006	110	116.2	0.728	0.540	3.7211	
15 minute winter	110	9.007	111	121.0	0.919	0.562	1.7165	
15 minute winter	111	9.008	55	123.0	1.045	0.571	2.6766	
30 minute winter	55	9.009	34	120.5	1.108	0.559	1.4606	
15 minute winter	34	1.009	33	188.0	0.681	0.294	29.3716	
30 minute winter	33	1.010	32	184.9	1.454	0.581	2.6557	
30 minute winter	32	Orifice		185.1				216.7
15 minute winter	93	12.000	92	0.0	0.000	0.000	0.0000	
15 minute winter	92	12.001	91	11.9	0.459	0.187	2.1376	
15 minute winter	94	13.000	91	0.0	0.000	0.000	0.0000	
15 minute winter	91	12.002	90	34.4	0.964	0.539	2.6843	
15 minute winter	90	12.003	89	59.9	0.766	0.418	0.6836	
15 minute winter	89	12.004	88	61.1	0.726	0.388	2.5223	
15 minute winter	166	14.000	88	0.0	0.000	0.000	0.0000	
15 minute winter	88	12.005	87	78.1	0.876	0.544	2.3522	

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Results for 2 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	87	12	4.439	0.242	83.8	0.4272	0.0000	OK
15 minute winter	86	12	4.333	0.192	89.8	0.5355	0.0000	OK
15 minute winter	112	10	4.758	0.083	34.0	0.2757	0.0000	OK
960 minute winter	97	930	4.586	0.314	4.1	0.8149	0.0000	OK
15 minute winter	116	10	4.783	0.083	18.1	0.2014	0.0000	OK
15 minute winter	115	10	4.684	0.084	20.7	0.1333	0.0000	OK
960 minute winter	114	930	4.586	0.136	3.4	0.4011	0.0000	OK
960 minute winter	113	930	4.586	0.586	18.6	3.0800	0.0000	SURCHARGED
960 minute winter	96	930	4.586	0.622	10.6	2.7324	0.0000	SURCHARGED
15 minute winter	95	13	4.165	0.247	16.9	0.4744	0.0000	OK
15 minute winter	85	12	4.167	0.307	126.0	0.7938	0.0000	OK
15 minute winter	84	13	4.094	0.323	129.5	0.5887	0.0000	OK
15 minute winter	121	11	4.378	0.053	0.5	0.0756	0.0000	OK
15 minute winter	120	11	4.378	0.079	10.3	0.1540	0.0000	OK
15 minute winter	122	1	5.440	0.000	0.0	0.0000	0.0000	OK
15 minute winter	119	11	4.291	0.125	20.9	0.2429	0.0000	OK
15 minute winter	118	11	4.084	0.089	20.7	0.1269	0.0000	OK
15 minute winter	117	1	4.100	0.000	0.0	0.0000	0.0000	OK
15 minute winter	83	13	4.039	0.398	170.5	1.2300	0.0000	OK
480 minute winter	82	456	3.945	0.355	38.6	0.8926	0.0000	OK
360 minute winter	81	344	4.385	0.635	6.8	0.9507	0.0000	SURCHARGED
480 minute winter	80	456	3.945	0.475	41.5	1.0401	0.0000	OK
480 minute winter	79	456	3.945	0.485	40.9	0.8563	0.0000	OK
15 minute winter	156	1	6.540	0.000	0.0	0.0000	0.0000	OK
15 minute winter	155	10	5.716	0.066	8.6	0.1256	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	87	12.006	86	84.7	1.121	0.590	2.1040	
15 minute winter	86	12.007	85	90.0	1.227	0.326	2.0720	
15 minute winter	112	15.000	97	33.7	1.132	0.076	0.6561	
960 minute winter	97	15.001	96	4.0	0.185	0.017	7.8529	
15 minute winter	116	16.000	115	17.9	0.888	0.067	0.2928	
15 minute winter	115	16.001	114	20.4	0.862	0.072	0.4597	
960 minute winter	114	16.002	96	3.4	0.122	0.010	4.1011	
960 minute winter	113	17.000	96	-5.0	-0.122	-0.035	2.8494	
960 minute winter	96	Hydro-Brake®	95	4.9				
15 minute winter	95	15.003	85	12.9	0.407	0.060	3.3182	
15 minute winter	85	12.008	84	122.8	0.923	0.570	5.9670	
15 minute winter	84	12.009	83	126.5	0.914	0.585	3.7976	
15 minute winter	121	18.000	120	-0.5	-0.119	-0.008	0.0885	
15 minute winter	120	18.001	119	9.9	0.469	0.155	0.8489	
15 minute winter	122	19.000	119	0.0	0.000	0.000	0.0000	
15 minute winter	119	18.002	118	20.7	0.813	0.324	0.1580	
15 minute winter	118	18.003	83	20.5	0.665	0.088	2.1090	
15 minute winter	117	20.000	83	0.0	0.000	0.000	1.1322	
15 minute winter	83	12.010	82	162.8	0.919	0.922	13.5122	
480 minute winter	82	12.011	80	38.0	0.639	0.083	5.5663	
360 minute winter	81	Hydro-Brake®	80	2.1				
480 minute winter	80	12.012	79	40.9	0.826	0.093	1.9722	
480 minute winter	79	12.013	27	40.1	0.677	0.192	6.7577	
15 minute winter	156	Orifice	155	0.0				
15 minute winter	155	23.001	154	8.5	0.623	0.100	0.1745	

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Results for 2 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	154	10	5.658	0.083	15.0	0.1493	0.0000	OK
15 minute winter	157	1	6.340	0.000	0.0	0.0000	0.0000	OK
15 minute winter	153	10	5.554	0.079	16.6	0.1208	0.0000	OK
15 minute winter	152	11	5.419	0.119	21.2	0.1979	0.0000	OK
15 minute winter	159	10	5.173	0.053	5.0	0.0874	0.0000	OK
15 minute winter	158	11	5.168	0.108	14.1	0.2015	0.0000	OK
15 minute winter	151	12	5.163	0.163	47.5	0.3336	0.0000	OK
15 minute winter	163	1	6.240	0.000	0.0	0.0000	0.0000	OK
15 minute winter	162	1	5.475	0.000	0.0	0.0000	0.0000	OK
15 minute winter	161	10	5.451	0.076	14.1	0.1832	0.0000	OK
15 minute winter	160	1	5.665	0.000	0.0	0.0000	0.0000	OK
15 minute winter	150	11	4.959	0.284	138.2	1.6460	0.0000	OK
15 minute winter	149	1	5.750	0.000	0.0	0.0000	0.0000	OK
15 minute winter	148	11	5.446	0.096	26.2	0.3404	0.0000	OK
15 minute winter	147	11	5.188	0.138	43.8	0.4027	0.0000	OK
15 minute winter	146	11	5.139	0.164	66.5	0.4378	0.0000	OK
15 minute winter	145	12	4.908	0.383	203.3	0.5484	0.0000	OK
15 minute winter	144	12	4.859	0.384	195.3	0.5489	0.0000	OK
15 minute winter	143	12	4.810	0.375	212.7	0.8164	0.0000	OK
15 minute winter	164	1	5.000	0.000	0.0	0.0000	0.0000	OK
15 minute winter	142	12	4.742	0.357	221.7	0.6641	0.0000	OK
15 minute winter	165	1	5.000	0.000	0.0	0.0000	0.0000	OK
15 minute winter	141	12	4.593	0.418	283.0	2.2596	0.0000	OK
960 minute winter	140	945	4.587	0.553	27.2	0.0000	0.0000	OK
15 minute winter	16	11	4.218	0.018	0.3	0.0255	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	154	23.002	153	14.8	0.964	0.151	0.1962	
15 minute winter	157	24.000	153	0.0	0.000	0.000	0.0000	
15 minute winter	153	23.003	152	16.6	0.822	0.146	0.3432	
15 minute winter	152	23.004	151	21.3	0.863	0.294	0.2878	
15 minute winter	159	25.000	158	4.8	0.302	0.030	0.4775	
15 minute winter	158	25.001	151	12.8	0.394	0.077	0.9145	
15 minute winter	151	23.005	150	45.6	0.947	0.273	3.1228	
15 minute winter	163	26.000	162	0.0	0.000	0.000	0.0000	
15 minute winter	162	26.001	161	0.0	0.000	0.000	0.0525	
15 minute winter	161	26.002	150	13.7	1.012	0.132	0.2946	
15 minute winter	160	27.000	150	0.0	0.000	0.000	0.0000	
15 minute winter	150	23.006	145	135.8	0.890	0.410	10.1937	
15 minute winter	149	28.000	148	0.0	0.000	0.000	0.8288	
15 minute winter	148	28.001	147	25.0	0.764	0.103	1.7461	
15 minute winter	147	28.002	146	43.7	0.954	0.142	0.3857	
15 minute winter	146	28.003	145	67.5	1.187	0.275	2.9486	
15 minute winter	145	23.007	144	195.3	1.037	0.531	3.3013	
15 minute winter	144	23.008	143	195.2	1.039	0.521	2.5106	
15 minute winter	143	23.009	142	212.3	1.185	0.547	2.8092	
15 minute winter	164	29.000	142	0.0	0.000	0.000	0.0000	
15 minute winter	142	23.010	141	217.9	1.138	0.612	14.9616	
15 minute winter	165	30.000	141	0.0	0.000	0.000	0.0000	
15 minute winter	141	23.011	140	276.6	1.350	0.624	3.6978	
960 minute winter	140	Flow through pond	113	9.6	0.017	0.000	735.7180	
15 minute winter	16	31.000	15	-0.3	-0.079	-0.005	0.0882	

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Results for 2 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	15	11	4.216	0.063	6.8	0.1128	0.0000	OK
15 minute winter	14	11	4.183	0.147	28.5	0.3551	0.0000	OK
15 minute winter	17	1	5.240	0.000	0.0	0.0000	0.0000	OK
15 minute winter	13	11	4.113	0.150	31.2	0.2385	0.0000	OK
15 minute winter	12	11	3.925	0.104	39.6	0.1915	0.0000	OK
720 minute winter	18	735	3.791	0.291	8.9	0.4724	0.0000	OK
720 minute winter	11	735	3.791	0.340	5.7	0.7597	0.0000	SURCHARGED
480 minute winter	10	456	3.794	0.435	6.4	0.7895	0.0000	SURCHARGED
480 minute winter	9	456	3.794	0.822	13.6	3.2681	0.0000	SURCHARGED
480 minute winter	19	456	3.942	0.692	42.9	2.6255	0.0000	SURCHARGED
480 minute winter	8	456	3.794	0.888	30.6	1.9227	0.0000	SURCHARGED
480 minute winter	7	456	3.794	1.021	28.7	0.0000	0.0000	OK
15 minute winter	130	1	4.475	0.000	0.0	0.0000	0.0000	OK
15 minute winter	131	1	5.100	0.000	0.0	0.0000	0.0000	OK
360 minute winter	129	336	4.387	0.211	3.7	0.5534	0.0000	OK
360 minute winter	128	336	4.386	0.224	3.7	0.3211	0.0000	OK
360 minute winter	127	336	4.386	0.240	3.7	0.3437	0.0000	OK
15 minute winter	132	1	5.340	0.000	0.0	0.0000	0.0000	OK
360 minute winter	126	336	4.386	0.261	4.3	0.4241	0.0000	OK
15 minute winter	133	1	5.240	0.000	0.0	0.0000	0.0000	OK
360 minute winter	125	352	4.387	0.388	6.9	0.8288	0.0000	OK
360 minute winter	136	352	4.388	0.213	1.2	0.3042	0.0000	OK
15 minute winter	137	1	4.990	0.000	0.0	0.0000	0.0000	OK
360 minute winter	135	352	4.387	0.262	3.6	0.6754	0.0000	OK
15 minute winter	134	1	5.015	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	15	31.001	14	6.4	0.290	0.100	0.7933	
15 minute winter	14	31.002	13	27.9	0.802	0.438	0.7668	
15 minute winter	17	32.000	13	0.0	0.000	0.000	0.0880	
15 minute winter	13	31.003	12	31.1	1.101	0.488	1.2043	
15 minute winter	12	31.004	11	39.4	0.951	0.262	0.8208	
720 minute winter	18	33.000	11	5.7	0.216	0.090	1.0292	
720 minute winter	11	Hydro-Brake®	10	5.8				
480 minute winter	10	31.006	9	5.9	0.548	0.093	5.0127	
480 minute winter	9	31.007	8	12.2	0.391	0.066	3.1397	
480 minute winter	19	34.000	8	19.2	0.756	0.029	1.3468	
480 minute winter	8	31.008	7	28.7	0.626	0.159	5.3079	
480 minute winter	7	Flow through pond	4	78.1	0.051	0.005	147.5411	
15 minute winter	130	35.000	129	0.0	0.000	0.000	0.0000	
15 minute winter	131	36.000	129	0.0	0.000	0.000	0.0000	
360 minute winter	129	35.001	128	3.7	0.365	0.026	0.5159	
360 minute winter	128	35.002	127	3.7	0.365	0.026	0.6673	
360 minute winter	127	35.003	126	3.6	0.357	0.025	0.9723	
15 minute winter	132	37.000	126	0.0	0.000	0.000	0.0000	
360 minute winter	126	35.004	125	4.2	0.347	0.030	7.5648	
15 minute winter	133	38.000	125	0.0	0.000	0.000	0.0000	
360 minute winter	125	35.005	124	5.3	0.375	0.031	4.2250	
360 minute winter	136	39.000	135	-1.2	-0.023	-0.015	0.5300	
15 minute winter	137	40.000	135	0.0	0.000	0.000	0.0000	
360 minute winter	135	39.001	124	3.5	0.488	0.055	1.1814	
15 minute winter	134	41.000	124	0.0	0.000	0.000	0.0000	

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Results for 2 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	124	352	4.387	0.470	10.7	0.9400	0.0000	SURCHARGED
360 minute winter	123	320	4.389	0.634	9.6	0.0000	0.0000	OK
480 minute winter	4	456	3.791	1.041	78.9	0.3590	0.0000	SURCHARGED
480 minute winter	3	456	3.784	1.089	20.9	2.7713	0.0000	SURCHARGED
60 minute winter	2	484	1.834	0.094	20.5	0.1348	0.0000	OK
240 minute winter	1	1064	1.203	0.093	20.5	0.0000	0.0000	OK
15 minute winter	65	1	4.075	0.000	0.0	0.0000	0.0000	OK
15 minute winter	64	11	4.064	0.041	1.3	0.0593	0.0000	OK
15 minute winter	63	11	4.061	0.114	21.7	0.3349	0.0000	OK
15 minute winter	66	1	4.250	0.000	0.0	0.0000	0.0000	OK
15 minute winter	62	11	3.989	0.164	31.3	0.3466	0.0000	OK
15 minute winter	61	11	3.937	0.177	42.0	0.3576	0.0000	OK
15 minute winter	60	12	3.828	0.217	41.6	0.0000	0.0000	OK
15 minute winter	73	1	4.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	72	10	4.263	0.063	6.5	0.1148	0.0000	OK
15 minute winter	74	1	4.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	71	11	4.215	0.082	10.9	0.1364	0.0000	OK
30 minute winter	75	24	4.395	0.145	5.4	1.9326	0.0000	OK
15 minute winter	70	11	4.165	0.124	21.9	0.2396	0.0000	OK
15 minute winter	69	1	4.150	0.000	0.0	0.0000	0.0000	OK
15 minute winter	68	11	4.050	0.128	57.2	0.5089	0.0000	OK
15 minute winter	67	11	3.874	0.262	56.5	0.0000	0.0000	OK
480 minute winter	25	448	3.792	0.017	0.1	0.0243	0.0000	OK
480 minute winter	24	448	3.791	0.109	1.0	0.1983	0.0000	OK
480 minute winter	23	464	3.791	0.215	14.5	0.8720	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	124	35.006	123	9.6	0.496	0.050	2.9312	
360 minute winter	123	Flow through pond	81	6.2	0.006	0.000	57.1634	
480 minute winter	4	42.000	3	20.9	0.442	0.319	1.1091	
480 minute winter	3	Hydro-Brake®	2	20.5				
60 minute winter	2	42.002	1	20.5	1.095	0.212	1.5526	958.4
15 minute winter	65	43.000	64	0.0	0.000	0.000	0.0455	
15 minute winter	64	43.001	63	-1.3	-0.126	-0.021	0.3480	
15 minute winter	63	43.002	62	20.4	0.637	0.315	1.1402	
15 minute winter	66	44.000	62	0.0	0.000	0.000	0.0172	
15 minute winter	62	43.003	61	30.9	0.754	0.485	0.8322	
15 minute winter	61	43.004	60	41.6	0.975	0.597	1.1948	
15 minute winter	60	Flow through pond	21	74.7	0.208	0.011	48.5366	
15 minute winter	73	47.000	72	0.0	0.000	0.000	0.0000	
15 minute winter	72	47.001	71	6.4	0.491	0.100	0.2629	
15 minute winter	74	48.000	71	0.0	0.000	0.000	0.0000	
15 minute winter	71	47.002	70	10.7	0.500	0.168	0.5944	
30 minute winter	75	49.000	70	2.3	0.775	0.103	0.0143	
15 minute winter	70	47.003	68	21.7	0.790	0.341	1.0034	
15 minute winter	69	50.000	68	0.0	0.000	0.000	0.7308	
15 minute winter	68	47.004	67	56.5	1.471	0.288	0.3713	
15 minute winter	67	Flow through pond	21	74.7	0.208	0.011	48.5366	
480 minute winter	25	45.000	24	0.1	0.011	0.002	0.3443	
480 minute winter	24	45.001	23	1.0	0.221	0.016	1.2272	
480 minute winter	23	45.002	22	12.2	0.936	0.083	0.6218	

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Results for 2 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	22	464	3.791	0.391	12.2	0.4423	0.0000	SURCHARGED
15 minute winter	31	10	4.272	0.047	5.0	0.0805	0.0000	OK
15 minute winter	30	10	4.156	0.106	26.0	0.2776	0.0000	OK
15 minute winter	29	10	4.064	0.164	49.8	0.4416	0.0000	OK
720 minute winter	28	720	3.793	0.265	5.6	0.0000	0.0000	OK
15 minute winter	78	1	4.690	0.000	0.0	0.0000	0.0000	OK
15 minute winter	77	10	3.990	0.115	28.7	0.3478	0.0000	OK
480 minute winter	76	456	3.944	0.244	4.0	0.2764	0.0000	OK
480 minute winter	6	448	3.790	0.690	24.0	0.7809	0.0000	SURCHARGED
480 minute winter	5	464	3.792	1.019	23.4	0.0000	0.0000	OK
480 minute winter	21	464	3.791	0.291	19.9	0.6543	0.0000	OK
480 minute winter	20	464	3.791	0.391	18.8	0.5597	0.0000	OK
480 minute winter	27	456	3.944	0.544	45.0	1.1525	0.0000	SURCHARGED
480 minute winter	26	456	3.945	0.649	44.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	22	45.003	6	12.4	0.812	0.110	1.0285	
15 minute winter	31	51.000	30	4.9	0.343	0.054	0.3911	
15 minute winter	30	51.001	29	25.4	0.822	0.273	0.6599	
15 minute winter	29	51.002	28	49.0	1.324	0.498	0.4717	
720 minute winter	28	Flow through pond	18	2.9	0.008	0.000	203.2909	
15 minute winter	78	22.000	77	0.0	0.000	0.000	0.0000	
15 minute winter	77	22.001	76	28.3	1.061	0.282	0.5735	
480 minute winter	76	22.002	27	4.0	0.601	0.048	0.8684	
480 minute winter	6	45.004	5	23.4	0.823	0.073	3.2481	
480 minute winter	5	Flow through pond	4	78.1	0.051	0.005	147.5411	
480 minute winter	21	46.000	20	18.8	0.989	0.075	2.1001	
480 minute winter	20	46.001	6	17.7	0.851	0.046	3.1727	
480 minute winter	27	12.014	26	44.0	0.803	0.137	2.4302	
480 minute winter	26	Flow through pond	19	42.9	0.060	0.002	349.9577	

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Results for 10 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	43	1	5.350	0.000	0.0	0.0000	0.0000	OK
15 minute winter	42	1	5.293	0.000	0.0	0.0000	0.0000	OK
15 minute winter	41	1	5.228	0.000	0.0	0.0000	0.0000	OK
15 minute winter	40	15	5.106	0.008	2.3	0.0000	0.0000	OK
15 minute winter	39	13	5.109	0.108	14.4	0.0000	0.0000	OK
15 minute winter	106	10	5.466	0.091	15.0	0.1734	0.0000	OK
15 minute winter	48	11	5.456	0.131	4.3	0.2041	0.0000	OK
15 minute winter	47	11	5.456	0.181	13.5	0.3126	0.0000	OK
15 minute winter	46	11	5.453	0.227	49.7	0.4660	0.0000	OK
15 minute winter	45	11	5.404	0.218	48.8	0.3113	0.0000	OK
15 minute winter	44	12	5.338	0.217	57.3	0.3655	0.0000	OK
15 minute winter	38	13	5.107	0.175	90.9	0.1848	0.0000	OK
15 minute winter	37	13	5.094	0.174	76.6	0.0000	0.0000	OK
15 minute winter	36	15	4.949	0.247	71.0	0.0000	0.0000	OK
30 minute winter	59	25	5.996	0.206	8.9	3.9338	0.0000	SURCHARGED
15 minute winter	58	10	5.291	0.091	18.1	0.2002	0.0000	OK
30 minute winter	57	25	5.571	0.206	8.9	3.9338	0.0000	SURCHARGED
15 minute winter	56	12	5.221	0.271	43.9	0.7660	0.0000	OK
30 minute winter	54	25	5.896	0.206	8.9	3.9338	0.0000	SURCHARGED
15 minute winter	53	11	5.230	0.255	31.2	0.6713	0.0000	OK
30 minute winter	52	25	5.594	0.179	8.9	4.1470	0.0000	SURCHARGED
15 minute winter	51	11	5.215	0.325	44.1	0.7182	0.0000	SURCHARGED
30 minute winter	50	25	5.396	0.206	8.9	3.9338	0.0000	SURCHARGED
15 minute winter	49	12	5.163	0.363	112.9	1.2559	0.0000	SURCHARGED
15 minute winter	35	15	4.947	0.254	159.4	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	43	1.000	42	0.0	0.000	0.000	0.0000	
15 minute winter	42	1.001	41	0.0	0.000	0.000	0.0005	
15 minute winter	41	1.002	40	0.0	0.000	0.000	0.1385	
15 minute winter	40	1.003	39	-2.3	-0.068	-0.004	1.9163	
15 minute winter	39	1.004	38	-14.4	-0.196	-0.022	3.9006	
15 minute winter	106	2.000	46	14.6	0.414	0.203	1.3120	
15 minute winter	48	3.000	47	4.1	0.244	0.055	0.4096	
15 minute winter	47	3.001	46	13.3	0.294	0.209	0.7543	
15 minute winter	46	2.001	45	48.8	0.878	0.765	0.6702	
15 minute winter	45	2.002	44	48.2	0.886	0.756	1.0602	
15 minute winter	44	2.003	38	56.6	1.128	0.887	1.7766	
15 minute winter	38	1.005	37	76.6	0.574	0.119	0.8919	
15 minute winter	37	1.006	36	71.0	0.382	0.110	21.2656	
15 minute winter	36	1.007	35	70.5	-0.440	0.110	1.0941	
30 minute winter	59	4.000	58	2.7	0.609	0.187	0.0245	
15 minute winter	58	4.001	56	17.6	0.580	0.204	1.7200	
30 minute winter	57	5.000	56	2.7	0.609	0.187	0.0245	
15 minute winter	56	4.002	49	39.9	0.588	0.600	2.8431	
30 minute winter	54	6.000	53	2.7	0.609	0.187	0.0245	
15 minute winter	53	6.001	51	27.4	0.651	0.426	1.6764	
30 minute winter	52	7.000	51	2.5	0.596	0.172	0.0230	
15 minute winter	51	6.002	49	43.1	0.612	0.668	1.8611	
30 minute winter	50	8.000	49	2.7	0.609	0.187	0.0245	
15 minute winter	49	4.003	35	112.3	1.604	1.761	0.6317	
15 minute winter	35	1.008	34	151.4	0.408	0.235	40.3319	

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Results for 10 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	104	1	6.265	0.000	0.0	0.0000	0.0000	OK
15 minute winter	103	14	5.262	0.162	7.3	0.2325	0.0000	OK
15 minute winter	105	1	5.790	0.000	0.0	0.0000	0.0000	OK
15 minute winter	102	14	5.256	0.356	99.9	1.5978	0.0000	OK
15 minute winter	101	13	5.255	0.415	119.3	1.2584	0.0000	OK
15 minute winter	109	11	5.377	0.127	7.7	0.2158	0.0000	OK
15 minute winter	108	11	5.375	0.195	38.6	0.5107	0.0000	OK
15 minute winter	107	11	5.342	0.212	52.6	0.5055	0.0000	OK
15 minute winter	100	13	5.251	0.453	262.2	44.3838	0.0000	OK
15 minute winter	99	13	5.192	0.492	162.1	0.8691	0.0000	OK
15 minute winter	98	12	5.135	0.544	203.2	2.0404	0.0000	SURCHARGED
15 minute winter	110	12	5.074	0.530	219.2	1.0363	0.0000	OK
15 minute winter	111	12	5.014	0.441	228.4	0.7510	0.0000	OK
15 minute winter	55	14	4.928	0.403	237.7	0.6797	0.0000	OK
15 minute winter	34	15	4.874	0.393	368.7	0.0000	0.0000	OK
30 minute winter	33	27	4.819	0.544	360.1	0.0000	0.0000	SURCHARGED
30 minute winter	32	27	4.147	0.647	274.6	0.0000	0.0000	OK
15 minute winter	93	1	5.840	0.000	0.0	0.0000	0.0000	OK
15 minute winter	92	11	5.123	0.123	24.1	0.2759	0.0000	OK
15 minute winter	94	1	5.990	0.000	0.0	0.0000	0.0000	OK
15 minute winter	91	11	5.013	0.273	74.7	0.7575	0.0000	OK
15 minute winter	90	13	4.807	0.468	119.9	1.2829	0.0000	SURCHARGED
15 minute winter	89	13	4.792	0.470	120.3	0.7305	0.0000	SURCHARGED
15 minute winter	166	1	5.000	0.000	0.0	0.0000	0.0000	OK
15 minute winter	88	13	4.734	0.484	152.7	1.3897	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	104	9.000	103	0.0	0.000	0.000	0.0000	
15 minute winter	103	9.001	102	-7.3	0.256	-0.046	2.8658	
15 minute winter	105	10.000	102	0.0	0.000	0.000	0.0000	
15 minute winter	102	9.002	101	82.6	0.723	0.384	5.0465	
15 minute winter	101	9.003	100	108.2	0.975	0.503	3.9830	
15 minute winter	109	11.000	108	7.5	0.251	0.116	0.7817	
15 minute winter	108	11.001	107	37.5	0.745	0.569	0.7152	
15 minute winter	107	11.002	100	52.5	1.085	0.804	1.5246	
15 minute winter	100	9.004	99	162.1	0.957	0.753	9.9921	
15 minute winter	99	9.005	98	167.4	0.803	0.777	11.6069	
15 minute winter	98	9.006	110	201.5	0.933	0.936	5.0347	
15 minute winter	110	9.007	111	219.0	1.096	1.017	2.5770	
15 minute winter	111	9.008	55	228.3	1.266	1.060	3.9976	
15 minute winter	55	9.009	34	237.2	1.525	1.102	2.0872	
15 minute winter	34	1.009	33	374.0	0.806	0.585	64.7204	
30 minute winter	33	1.010	32	274.6	1.737	0.863	3.4420	
30 minute winter	32	Orifice		274.6				419.2
15 minute winter	93	12.000	92	0.0	0.000	0.000	0.0000	
15 minute winter	92	12.001	91	23.1	0.529	0.362	3.6926	
15 minute winter	94	13.000	91	0.0	0.000	0.000	0.0000	
15 minute winter	91	12.002	90	67.2	1.061	1.054	4.9153	
15 minute winter	90	12.003	89	115.8	0.840	0.807	1.3671	
15 minute winter	89	12.004	88	118.2	0.805	0.751	4.7508	
15 minute winter	166	14.000	88	0.0	0.000	0.000	0.0000	
15 minute winter	88	12.005	87	148.4	1.026	1.034	4.1770	

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Results for 10 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	87	13	4.703	0.506	161.2	0.8933	0.0000	SURCHARGED
15 minute winter	86	13	4.630	0.489	168.1	1.3666	0.0000	SURCHARGED
1440 minute winter	112	1410	4.864	0.189	3.0	0.6283	0.0000	OK
1440 minute winter	97	1440	4.862	0.590	4.4	1.5299	0.0000	SURCHARGED
1440 minute winter	116	1410	4.863	0.163	1.6	0.3973	0.0000	OK
1440 minute winter	115	1410	4.864	0.264	1.8	0.4177	0.0000	OK
1440 minute winter	114	1410	4.863	0.413	3.7	1.2165	0.0000	OK
1440 minute winter	113	1410	4.863	0.863	53.6	4.5342	0.0000	SURCHARGED
1440 minute winter	96	1410	4.862	0.898	10.8	3.9443	0.0000	SURCHARGED
15 minute winter	95	13	4.605	0.687	28.2	1.3195	0.0000	SURCHARGED
15 minute winter	85	13	4.590	0.730	230.1	1.8887	0.0000	SURCHARGED
15 minute winter	84	13	4.560	0.789	226.8	1.4378	0.0000	SURCHARGED
15 minute winter	121	14	4.527	0.202	0.6	0.2884	0.0000	OK
15 minute winter	120	14	4.516	0.217	19.8	0.4243	0.0000	OK
15 minute winter	122	1	5.440	0.000	0.0	0.0000	0.0000	OK
15 minute winter	119	14	4.476	0.310	40.5	0.6040	0.0000	SURCHARGED
15 minute winter	118	13	4.490	0.495	39.9	0.7081	0.0000	SURCHARGED
15 minute winter	117	13	4.474	0.374	11.3	0.5354	0.0000	OK
15 minute winter	83	13	4.486	0.845	288.3	2.6128	0.0000	SURCHARGED
15 minute winter	82	13	4.393	0.803	275.2	2.0198	0.0000	SURCHARGED
360 minute winter	81	352	4.718	0.968	12.4	1.4494	0.0000	SURCHARGED
15 minute winter	80	13	4.333	0.863	268.3	1.8915	0.0000	SURCHARGED
15 minute winter	79	13	4.264	0.804	265.6	1.4201	0.0000	SURCHARGED
15 minute winter	156	1	6.540	0.000	0.0	0.0000	0.0000	OK
15 minute winter	155	10	5.745	0.095	16.4	0.1813	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	87	12.006	86	156.3	1.257	1.089	4.4081	
15 minute winter	86	12.007	85	160.3	1.261	0.581	4.4743	
1440 minute winter	112	15.000	97	3.0	0.504	0.007	2.4035	
1440 minute winter	97	15.001	96	4.0	0.129	0.017	8.9944	
1440 minute winter	116	16.000	115	1.6	0.458	0.006	1.0761	
1440 minute winter	115	16.001	114	1.8	0.427	0.006	2.4085	
1440 minute winter	114	16.002	96	3.6	0.124	0.010	6.4093	
1440 minute winter	113	17.000	96	-5.6	-0.092	-0.039	2.8494	
1440 minute winter	96	Hydro-Brake®	95	4.8				
15 minute winter	95	15.003	85	16.8	0.415	0.078	6.2176	
15 minute winter	85	12.008	84	211.3	1.007	0.981	9.5802	
15 minute winter	84	12.009	83	209.4	0.984	0.968	5.8878	
15 minute winter	121	18.000	120	4.9	-0.137	0.076	0.4026	
15 minute winter	120	18.001	119	25.4	0.560	0.398	2.5014	
15 minute winter	122	19.000	119	0.0	0.000	0.000	0.0000	
15 minute winter	119	18.002	118	39.9	0.987	0.626	0.4371	
15 minute winter	118	18.003	83	37.1	0.688	0.158	6.1364	
15 minute winter	117	20.000	83	14.0	-0.114	0.039	3.7861	
15 minute winter	83	12.010	82	229.2	0.981	1.298	21.2145	
15 minute winter	82	12.011	80	257.0	0.949	0.561	7.5999	
360 minute winter	81	Hydro-Brake®	80	2.1				
15 minute winter	80	12.012	79	265.6	1.230	0.602	2.2143	
15 minute winter	79	12.013	27	264.7	1.225	1.267	6.8793	
15 minute winter	156	Orifice	155	0.0				
15 minute winter	155	23.001	154	16.2	0.715	0.191	0.2902	

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Results for 10 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	154	10	5.695	0.120	28.8	0.2152	0.0000	OK
15 minute winter	157	1	6.340	0.000	0.0	0.0000	0.0000	OK
15 minute winter	153	10	5.589	0.114	31.8	0.1738	0.0000	OK
15 minute winter	152	11	5.474	0.174	40.7	0.2901	0.0000	OK
15 minute winter	159	13	5.359	0.239	30.3	0.3946	0.0000	OK
15 minute winter	158	13	5.384	0.324	58.3	0.6049	0.0000	OK
15 minute winter	151	13	5.372	0.372	105.0	0.7605	0.0000	OK
15 minute winter	163	1	6.240	0.000	0.0	0.0000	0.0000	OK
15 minute winter	162	10	5.483	0.008	0.1	0.0116	0.0000	OK
15 minute winter	161	10	5.483	0.108	27.0	0.2593	0.0000	OK
15 minute winter	160	1	5.665	0.000	0.0	0.0000	0.0000	OK
15 minute winter	150	11	5.318	0.643	274.1	3.7285	0.0000	SURCHARGED
15 minute winter	149	1	5.750	0.000	0.0	0.0000	0.0000	OK
15 minute winter	148	11	5.484	0.134	50.2	0.4745	0.0000	OK
15 minute winter	147	12	5.330	0.280	85.1	0.8153	0.0000	OK
15 minute winter	146	12	5.321	0.346	128.6	0.9244	0.0000	OK
15 minute winter	145	12	5.246	0.721	348.4	1.0315	0.0000	SURCHARGED
15 minute winter	144	12	5.195	0.720	313.0	1.0306	0.0000	SURCHARGED
15 minute winter	143	11	5.162	0.727	337.4	1.5822	0.0000	SURCHARGED
15 minute winter	164	15	5.009	0.009	2.0	0.2100	0.0000	OK
15 minute winter	142	11	5.106	0.721	345.0	1.3396	0.0000	SURCHARGED
15 minute winter	165	1	5.000	0.000	0.0	0.0000	0.0000	OK
15 minute winter	141	11	4.884	0.709	478.6	3.8311	0.0000	SURCHARGED
1440 minute winter	140	1440	4.870	0.836	28.8	0.0000	0.0000	OK
15 minute winter	16	11	4.272	0.072	1.5	0.1027	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	154	23.002	153	28.4	1.122	0.290	0.3242	
15 minute winter	157	24.000	153	0.0	0.000	0.000	0.0000	
15 minute winter	153	23.003	152	31.6	0.951	0.279	0.5617	
15 minute winter	152	23.004	151	40.7	1.027	0.563	0.4630	
15 minute winter	159	25.000	158	23.2	0.318	0.145	2.5078	
15 minute winter	158	25.001	151	58.8	0.447	0.355	2.9758	
15 minute winter	151	23.005	150	85.4	0.890	0.511	9.6694	
15 minute winter	163	26.000	162	0.0	0.000	0.000	0.0000	
15 minute winter	162	26.001	161	-0.1	-0.016	-0.001	0.0870	
15 minute winter	161	26.002	150	26.2	1.200	0.251	0.5705	
15 minute winter	160	27.000	150	0.0	0.000	0.000	0.0288	
15 minute winter	150	23.006	145	220.7	0.955	0.666	18.0310	
15 minute winter	149	28.000	148	0.0	0.000	0.000	1.3243	
15 minute winter	148	28.001	147	48.2	0.873	0.199	3.7143	
15 minute winter	147	28.002	146	82.3	1.098	0.267	0.9681	
15 minute winter	146	28.003	145	127.7	1.214	0.521	7.0077	
15 minute winter	145	23.007	144	313.0	1.136	0.851	4.8916	
15 minute winter	144	23.008	143	315.4	1.120	0.841	3.7649	
15 minute winter	143	23.009	142	335.6	1.264	0.864	4.3905	
15 minute winter	164	29.000	142	-7.6	-0.530	-0.524	0.1195	
15 minute winter	142	23.010	141	350.2	1.259	0.984	21.9083	
15 minute winter	165	30.000	141	0.0	0.000	0.000	0.0000	
15 minute winter	141	23.011	140	471.2	1.673	1.063	5.0702	
1440 minute winter	140	Flow through pond	113	52.8	0.013	0.001	1201.7008	
15 minute winter	16	31.000	15	-1.5	-0.111	-0.024	0.2739	

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Results for 10 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	15	11	4.272	0.119	13.0	0.2113	0.0000	OK
15 minute winter	14	11	4.262	0.226	52.3	0.5432	0.0000	OK
15 minute winter	17	1	5.240	0.000	0.0	0.0000	0.0000	OK
15 minute winter	13	11	4.181	0.218	58.0	0.3474	0.0000	OK
960 minute winter	12	1035	4.020	0.199	5.1	0.3681	0.0000	OK
960 minute winter	18	1035	4.020	0.520	12.1	0.8443	0.0000	SURCHARGED
960 minute winter	11	1035	4.020	0.569	8.1	1.2717	0.0000	SURCHARGED
480 minute winter	10	472	4.060	0.701	6.6	1.2731	0.0000	SURCHARGED
480 minute winter	9	472	4.060	1.088	16.0	4.3282	0.0000	SURCHARGED
480 minute winter	19	464	4.220	0.970	38.5	3.6770	0.0000	SURCHARGED
480 minute winter	8	472	4.060	1.154	30.7	2.5003	0.0000	SURCHARGED
480 minute winter	7	472	4.061	1.288	29.4	0.0000	0.0000	OK
360 minute winter	130	360	4.720	0.245	1.2	0.3507	0.0000	OK
15 minute winter	131	1	5.100	0.000	0.0	0.0000	0.0000	OK
360 minute winter	129	352	4.719	0.543	5.9	1.4281	0.0000	SURCHARGED
360 minute winter	128	352	4.719	0.557	5.3	0.7971	0.0000	SURCHARGED
360 minute winter	127	352	4.719	0.573	4.9	0.8193	0.0000	SURCHARGED
15 minute winter	132	1	5.340	0.000	0.0	0.0000	0.0000	OK
360 minute winter	126	352	4.718	0.593	5.6	0.9649	0.0000	SURCHARGED
15 minute winter	133	1	5.240	0.000	0.0	0.0000	0.0000	OK
360 minute winter	125	352	4.719	0.720	8.1	1.5391	0.0000	SURCHARGED
360 minute winter	136	352	4.723	0.548	1.1	0.7844	0.0000	SURCHARGED
15 minute winter	137	1	4.990	0.000	0.0	0.0000	0.0000	OK
360 minute winter	135	352	4.720	0.595	5.7	1.5350	0.0000	SURCHARGED
15 minute winter	134	1	5.015	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	15	31.001	14	13.0	0.382	0.203	1.4497	
15 minute winter	14	31.002	13	51.6	0.924	0.812	1.2307	
15 minute winter	17	32.000	13	0.0	0.000	0.000	0.0880	
15 minute winter	13	31.003	12	57.3	1.294	0.899	1.9359	
960 minute winter	12	31.004	11	5.1	0.353	0.034	1.1501	
960 minute winter	18	33.000	11	-8.1	-0.146	-0.126	1.0334	
960 minute winter	11	Hydro-Brake®	10	5.3				
480 minute winter	10	31.006	9	6.1	0.550	0.095	5.0127	
480 minute winter	9	31.007	8	15.2	0.437	0.082	3.1397	
480 minute winter	19	34.000	8	19.0	0.724	0.029	1.3468	
480 minute winter	8	31.008	7	29.4	0.625	0.163	5.3079	
480 minute winter	7	Flow through pond	4	94.1	0.053	0.006	209.9721	
360 minute winter	130	35.000	129	-1.2	-0.024	-0.019	2.9454	
15 minute winter	131	36.000	129	0.0	0.000	0.000	0.0000	
360 minute winter	129	35.001	128	5.3	0.384	0.037	1.0776	
360 minute winter	128	35.002	127	4.9	0.386	0.034	1.2816	
360 minute winter	127	35.003	126	4.4	0.376	0.031	1.7004	
15 minute winter	132	37.000	126	0.0	0.000	0.000	0.0000	
360 minute winter	126	35.004	125	4.6	0.334	0.032	9.9819	
15 minute winter	133	38.000	125	0.0	0.000	0.000	0.0000	
360 minute winter	125	35.005	124	6.7	0.364	0.039	4.4081	
360 minute winter	136	39.000	135	-1.1	-0.057	-0.013	0.6293	
15 minute winter	137	40.000	135	0.0	0.000	0.000	0.0000	
360 minute winter	135	39.001	124	5.0	0.502	0.078	1.2265	
15 minute winter	134	41.000	124	0.0	0.000	0.000	0.0000	

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Results for 10 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	124	352	4.719	0.802	14.5	1.6049	0.0000	SURCHARGED
360 minute winter	123	352	4.722	0.967	14.4	0.0000	0.0000	OK
480 minute winter	4	472	4.058	1.308	95.9	0.4511	0.0000	SURCHARGED
480 minute winter	3	472	4.052	1.357	20.9	3.4541	0.0000	SURCHARGED
30 minute winter	2	857	1.834	0.094	20.5	0.1348	0.0000	OK
30 minute winter	1	857	1.203	0.093	20.5	0.0000	0.0000	OK
15 minute winter	65	12	4.149	0.074	1.6	0.1061	0.0000	OK
15 minute winter	64	12	4.144	0.121	4.0	0.1738	0.0000	OK
15 minute winter	63	12	4.137	0.190	41.5	0.5577	0.0000	OK
15 minute winter	66	1	4.250	0.000	0.0	0.0000	0.0000	OK
15 minute winter	62	11	4.106	0.281	56.5	0.5936	0.0000	OK
600 minute winter	61	585	4.058	0.298	8.2	0.5997	0.0000	OK
480 minute winter	60	464	4.059	0.448	9.9	0.0000	0.0000	OK
15 minute winter	73	1	4.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	72	10	4.291	0.091	12.6	0.1650	0.0000	OK
15 minute winter	74	1	4.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	71	11	4.252	0.119	21.1	0.1979	0.0000	OK
30 minute winter	75	25	4.479	0.229	10.4	4.7255	0.0000	SURCHARGED
15 minute winter	70	11	4.223	0.182	40.7	0.3521	0.0000	OK
15 minute winter	69	12	4.160	0.010	0.6	0.0147	0.0000	OK
15 minute winter	68	11	4.160	0.238	109.0	0.9470	0.0000	OK
600 minute winter	67	585	4.059	0.447	11.7	0.0000	0.0000	OK
480 minute winter	25	480	4.059	0.284	0.5	0.4062	0.0000	OK
600 minute winter	24	585	4.060	0.378	1.3	0.6878	0.0000	SURCHARGED
600 minute winter	23	585	4.059	0.483	13.8	1.9613	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	124	35.006	123	14.4	0.491	0.074	2.9312	
360 minute winter	123	Flow through pond	81	10.8	0.017	0.000	111.9478	
480 minute winter	4	42.000	3	20.9	0.442	0.320	1.1091	
480 minute winter	3	Hydro-Brake®	2	20.5				
30 minute winter	2	42.002	1	20.5	1.095	0.212	1.5526	1321.4
15 minute winter	65	43.000	64	-1.6	-0.162	-0.026	0.3129	
15 minute winter	64	43.001	63	5.2	0.228	0.081	0.8436	
15 minute winter	63	43.002	62	34.5	0.686	0.533	2.0444	
15 minute winter	66	44.000	62	0.0	0.000	0.000	0.0821	
15 minute winter	62	43.003	61	53.5	0.804	0.838	1.4044	
600 minute winter	61	43.004	60	8.2	0.653	0.118	1.9529	
480 minute winter	60	Flow through pond	21	18.6	0.069	0.003	312.4063	
15 minute winter	73	47.000	72	0.0	0.000	0.000	0.0000	
15 minute winter	72	47.001	71	12.4	0.573	0.194	0.4341	
15 minute winter	74	48.000	71	0.0	0.000	0.000	0.0000	
15 minute winter	71	47.002	70	20.6	0.586	0.323	0.9771	
30 minute winter	75	49.000	70	3.0	0.832	0.134	0.0174	
15 minute winter	70	47.003	68	39.9	0.836	0.626	1.8737	
15 minute winter	69	50.000	68	-0.6	-0.022	-0.008	1.5318	
15 minute winter	68	47.004	67	102.6	1.487	0.522	0.5703	
600 minute winter	67	Flow through pond	21	16.5	0.064	0.002	312.5181	
480 minute winter	25	45.000	24	0.6	-0.034	0.009	1.9470	
600 minute winter	24	45.001	23	1.3	0.215	0.020	2.2448	
600 minute winter	23	45.002	22	8.8	0.895	0.059	0.7042	

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Results for 10 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	22	585	4.058	0.658	8.8	0.7445	0.0000	SURCHARGED
15 minute winter	31	10	4.290	0.065	9.7	0.1116	0.0000	OK
15 minute winter	30	11	4.218	0.168	50.1	0.4373	0.0000	OK
15 minute winter	29	11	4.172	0.272	95.1	0.7306	0.0000	OK
960 minute winter	28	1020	4.021	0.493	6.2	0.0000	0.0000	OK
15 minute winter	78	1	4.690	0.000	0.0	0.0000	0.0000	OK
480 minute winter	77	464	4.222	0.347	6.3	1.0511	0.0000	SURCHARGED
480 minute winter	76	464	4.222	0.522	6.3	0.5907	0.0000	SURCHARGED
480 minute winter	6	472	4.058	0.958	27.7	1.0837	0.0000	SURCHARGED
600 minute winter	5	600	4.060	1.287	21.3	0.0000	0.0000	OK
480 minute winter	21	472	4.058	0.558	24.7	1.2550	0.0000	SURCHARGED
480 minute winter	20	472	4.058	0.658	21.3	0.9418	0.0000	SURCHARGED
480 minute winter	27	464	4.222	0.822	59.9	1.7406	0.0000	SURCHARGED
480 minute winter	26	464	4.223	0.926	59.4	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	22	45.003	6	18.1	0.766	0.160	1.0285	
15 minute winter	31	51.000	30	9.5	0.380	0.106	0.6857	
15 minute winter	30	51.001	29	48.4	0.892	0.520	1.1476	
15 minute winter	29	51.002	28	93.6	1.496	0.953	0.7968	
960 minute winter	28	Flow through pond	18	-3.2	0.008	0.000	390.2626	
15 minute winter	78	22.000	77	0.0	0.000	0.000	0.0000	
480 minute winter	77	22.001	76	6.3	0.718	0.063	1.5140	
480 minute winter	76	22.002	27	5.8	0.636	0.070	0.9274	
480 minute winter	6	45.004	5	27.0	0.845	0.085	3.2481	
600 minute winter	5	Flow through pond	4	103.9	0.050	0.006	209.7600	
480 minute winter	21	46.000	20	21.3	1.003	0.085	2.6143	
480 minute winter	20	46.001	6	20.1	0.840	0.052	3.2993	
480 minute winter	27	12.014	26	59.4	0.792	0.184	2.4302	
480 minute winter	26	Flow through pond	19	33.4	0.057	0.002	542.8885	

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	43	1	5.350	0.000	0.0	0.0000	0.0000	OK
15 minute winter	42	1	5.293	0.000	0.0	0.0000	0.0000	OK
15 minute winter	41	1	5.228	0.000	0.0	0.0000	0.0000	OK
15 minute winter	40	15	5.127	0.029	5.3	0.0000	0.0000	OK
15 minute winter	39	13	5.130	0.129	19.1	0.0000	0.0000	OK
15 minute winter	106	11	5.512	0.137	19.3	0.2616	0.0000	OK
15 minute winter	48	12	5.505	0.180	5.6	0.2807	0.0000	OK
15 minute winter	47	12	5.505	0.230	17.4	0.3966	0.0000	OK
15 minute winter	46	11	5.502	0.276	61.6	0.5678	0.0000	OK
15 minute winter	45	12	5.451	0.265	60.1	0.3793	0.0000	OK
15 minute winter	44	12	5.381	0.260	70.8	0.4375	0.0000	OK
15 minute winter	38	13	5.128	0.196	114.9	0.2079	0.0000	OK
15 minute winter	37	13	5.116	0.196	97.4	0.0000	0.0000	OK
15 minute winter	36	14	4.982	0.280	90.3	0.0000	0.0000	OK
30 minute winter	59	26	6.037	0.247	11.7	5.6173	0.0000	SURCHARGED
15 minute winter	58	12	5.384	0.184	22.9	0.4041	0.0000	OK
30 minute winter	57	26	5.612	0.247	11.7	5.6173	0.0000	SURCHARGED
15 minute winter	56	12	5.365	0.415	52.2	1.1747	0.0000	SURCHARGED
30 minute winter	54	26	5.937	0.247	11.7	5.6173	0.0000	SURCHARGED
15 minute winter	53	11	5.406	0.431	39.7	1.1328	0.0000	SURCHARGED
30 minute winter	52	26	5.629	0.214	11.7	5.8710	0.0000	SURCHARGED
15 minute winter	51	11	5.368	0.478	58.4	1.0580	0.0000	SURCHARGED
30 minute winter	50	26	5.437	0.247	11.7	5.6178	0.0000	SURCHARGED
15 minute winter	49	11	5.271	0.471	144.9	1.6280	0.0000	FLOOD RISK
15 minute winter	35	14	4.980	0.287	202.7	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	43	1.000	42	0.0	0.000	0.000	0.0000	
15 minute winter	42	1.001	41	0.0	0.000	0.000	0.0005	
15 minute winter	41	1.002	40	0.0	0.000	0.000	0.5335	
15 minute winter	40	1.003	39	-5.3	-0.122	-0.008	2.6188	
15 minute winter	39	1.004	38	-19.1	-0.216	-0.030	4.7138	
15 minute winter	106	2.000	46	17.0	0.433	0.235	1.7372	
15 minute winter	48	3.000	47	5.0	0.241	0.068	0.5651	
15 minute winter	47	3.001	46	16.5	0.304	0.259	0.9327	
15 minute winter	46	2.001	45	60.1	0.913	0.942	0.7995	
15 minute winter	45	2.002	44	59.4	0.918	0.931	1.2730	
15 minute winter	44	2.003	38	70.1	1.193	1.099	2.0670	
15 minute winter	38	1.005	37	97.4	0.611	0.151	1.0588	
15 minute winter	37	1.006	36	90.3	0.404	0.140	25.5076	
15 minute winter	36	1.007	35	89.5	-0.479	0.139	1.3196	
30 minute winter	59	4.000	58	3.0	0.627	0.209	0.0265	
15 minute winter	58	4.001	56	23.5	0.601	0.273	2.3816	
30 minute winter	57	5.000	56	3.0	0.627	0.209	0.0265	
15 minute winter	56	4.002	49	51.0	0.724	0.766	2.9161	
30 minute winter	54	6.000	53	3.0	0.627	0.209	0.0265	
15 minute winter	53	6.001	51	37.4	0.662	0.580	1.7584	
30 minute winter	52	7.000	51	2.8	0.613	0.192	0.0249	
15 minute winter	51	6.002	49	58.9	0.837	0.914	1.8611	
30 minute winter	50	8.000	49	3.0	0.627	0.209	0.0294	
15 minute winter	49	4.003	35	145.2	2.062	2.276	0.6501	
15 minute winter	35	1.008	34	194.4	0.448	0.302	47.0516	

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	104	1	6.265	0.000	0.0	0.0000	0.0000	OK
15 minute winter	103	13	5.456	0.356	19.1	0.5099	0.0000	OK
15 minute winter	105	1	5.790	0.000	0.0	0.0000	0.0000	OK
15 minute winter	102	13	5.500	0.600	128.6	2.6871	0.0000	SURCHARGED
15 minute winter	101	14	5.471	0.631	144.0	1.9147	0.0000	SURCHARGED
15 minute winter	109	14	5.502	0.252	9.9	0.4265	0.0000	OK
15 minute winter	108	13	5.497	0.317	49.3	0.8305	0.0000	SURCHARGED
15 minute winter	107	13	5.496	0.366	67.1	0.8743	0.0000	SURCHARGED
15 minute winter	100	13	5.470	0.672	324.9	60.1143	0.0000	SURCHARGED
15 minute winter	99	13	5.367	0.667	196.2	1.1782	0.0000	SURCHARGED
15 minute winter	98	13	5.263	0.672	250.5	2.5226	0.0000	SURCHARGED
15 minute winter	110	13	5.162	0.618	261.6	1.2079	0.0000	SURCHARGED
15 minute winter	111	13	5.083	0.510	267.2	0.8693	0.0000	OK
30 minute winter	55	26	4.988	0.463	264.8	0.7819	0.0000	OK
30 minute winter	34	28	4.958	0.477	453.2	0.0000	0.0000	OK
30 minute winter	33	27	4.943	0.668	434.0	0.0000	0.0000	SURCHARGED
30 minute winter	32	27	4.194	0.694	289.7	0.0000	0.0000	OK
15 minute winter	93	1	5.840	0.000	0.0	0.0000	0.0000	OK
15 minute winter	92	13	5.725	0.725	31.1	1.6226	0.0000	SURCHARGED
15 minute winter	94	1	5.990	0.000	0.0	0.0000	0.0000	OK
15 minute winter	91	13	5.690	0.950	94.2	2.6370	0.0000	SURCHARGED
15 minute winter	90	13	5.452	1.113	139.9	3.0494	0.0000	SURCHARGED
15 minute winter	89	13	5.432	1.110	134.9	1.7238	0.0000	SURCHARGED
15 minute winter	166	15	5.044	0.044	37.8	6.2913	0.0000	OK
15 minute winter	88	13	5.383	1.133	180.9	3.2558	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	104	9.000	103	0.0	0.000	0.000	0.0000	
15 minute winter	103	9.001	102	-19.1	-0.274	-0.119	5.8158	
15 minute winter	105	10.000	102	0.0	0.000	0.000	0.0450	
15 minute winter	102	9.002	101	96.8	0.743	0.450	6.4419	
15 minute winter	101	9.003	100	127.1	1.007	0.590	4.5131	
15 minute winter	109	11.000	108	9.1	0.228	0.141	1.3555	
15 minute winter	108	11.001	107	47.1	0.771	0.715	0.9902	
15 minute winter	107	11.002	100	64.1	1.131	0.981	2.1126	
15 minute winter	100	9.004	99	196.2	0.973	0.911	10.5662	
15 minute winter	99	9.005	98	196.6	0.910	0.913	11.7634	
15 minute winter	98	9.006	110	244.9	1.134	1.137	5.0353	
15 minute winter	110	9.007	111	258.3	1.196	1.200	2.7788	
15 minute winter	111	9.008	55	266.7	1.337	1.239	4.4326	
30 minute winter	55	9.009	34	265.4	1.482	1.232	2.4506	
30 minute winter	34	1.009	33	434.0	0.797	0.679	99.8393	
30 minute winter	33	1.010	32	289.7	1.829	0.910	3.4420	
30 minute winter	32	Orifice		289.7				550.5
15 minute winter	93	12.000	92	0.0	0.000	0.000	0.0000	
15 minute winter	92	12.001	91	27.2	0.545	0.426	5.5028	
15 minute winter	94	13.000	91	0.0	0.000	0.000	0.0000	
15 minute winter	91	12.002	90	67.9	1.044	1.064	5.3045	
15 minute winter	90	12.003	89	128.7	0.856	0.897	1.3671	
15 minute winter	89	12.004	88	131.8	0.832	0.837	4.7508	
15 minute winter	166	14.000	88	-37.8	-1.484	-0.382	0.1576	
15 minute winter	88	12.005	87	175.1	1.106	1.220	4.1770	

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	87	13	5.350	1.153	193.0	2.0357	0.0000	SURCHARGED
15 minute winter	86	13	5.298	1.157	198.5	3.2314	0.0000	SURCHARGED
1440 minute winter	112	1410	5.030	0.355	3.7	1.1801	0.0000	OK
1440 minute winter	97	1410	5.030	0.758	5.4	1.9661	0.0000	SURCHARGED
1440 minute winter	116	1410	5.030	0.330	2.0	0.8056	0.0000	OK
1440 minute winter	115	1410	5.030	0.430	2.3	0.6819	0.0000	OK
1440 minute winter	114	1410	5.030	0.580	4.6	1.7074	0.0000	SURCHARGED
1440 minute winter	113	1410	5.030	1.030	28.9	5.4125	0.0000	SURCHARGED
1440 minute winter	96	1410	5.030	1.066	13.3	4.6822	0.0000	SURCHARGED
15 minute winter	95	13	5.232	1.314	33.4	2.5237	0.0000	SURCHARGED
15 minute winter	85	13	5.246	1.386	235.8	3.5832	0.0000	SURCHARGED
15 minute winter	84	13	5.159	1.388	238.2	2.5285	0.0000	SURCHARGED
15 minute winter	121	12	5.147	0.822	28.3	1.1768	0.0000	SURCHARGED
15 minute winter	120	12	5.149	0.850	79.5	1.6609	0.0000	SURCHARGED
15 minute winter	122	1	5.440	0.000	0.0	0.0000	0.0000	OK
15 minute winter	119	13	5.103	0.937	52.4	1.8235	0.0000	SURCHARGED
15 minute winter	118	13	5.090	1.095	50.6	1.5673	0.0000	SURCHARGED
15 minute winter	117	13	5.066	0.966	38.5	1.3823	0.0000	SURCHARGED
15 minute winter	83	13	5.078	1.437	305.0	4.4411	0.0000	FLOOD RISK
15 minute winter	82	13	4.941	1.351	334.9	3.3980	0.0000	SURCHARGED
360 minute winter	81	360	4.917	1.167	12.0	1.7469	0.0000	SURCHARGED
15 minute winter	80	13	4.851	1.381	343.3	3.0257	0.0000	SURCHARGED
15 minute winter	79	13	4.743	1.283	333.9	2.2670	0.0000	FLOOD RISK
15 minute winter	156	1	6.540	0.000	0.0	0.0000	0.0000	OK
15 minute winter	155	12	5.899	0.249	21.1	0.4746	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	87	12.006	86	182.3	1.272	1.271	4.4081	
15 minute winter	86	12.007	85	151.4	1.266	0.549	4.4743	
1440 minute winter	112	15.000	97	3.7	0.502	0.008	3.1738	
1440 minute winter	97	15.001	96	5.0	0.140	0.021	8.9944	
1440 minute winter	116	16.000	115	2.0	0.487	0.007	2.0388	
1440 minute winter	115	16.001	114	2.3	0.447	0.008	3.0437	
1440 minute winter	114	16.002	96	4.2	0.124	0.012	6.5337	
1440 minute winter	113	17.000	96	-8.2	-0.108	-0.057	2.8494	
1440 minute winter	96	Hydro-Brake®	95	4.8				
15 minute winter	95	15.003	85	18.9	0.416	0.088	6.2176	
15 minute winter	85	12.008	84	217.1	1.026	1.008	9.5802	
15 minute winter	84	12.009	83	217.3	1.006	1.004	5.8878	
15 minute winter	121	18.000	120	-28.3	-0.501	-0.440	0.5402	
15 minute winter	120	18.001	119	-55.5	-0.796	-0.870	2.8168	
15 minute winter	122	19.000	119	0.0	0.000	0.000	0.0000	
15 minute winter	119	18.002	118	50.6	1.062	0.793	0.4371	
15 minute winter	118	18.003	83	41.0	0.694	0.175	6.1364	
15 minute winter	117	20.000	83	-38.5	-0.315	-0.108	4.0085	
15 minute winter	83	12.010	82	282.0	1.001	1.597	21.2145	
15 minute winter	82	12.011	80	323.4	1.148	0.706	7.5999	
360 minute winter	81	Hydro-Brake®	80	2.1				
15 minute winter	80	12.012	79	333.9	1.546	0.757	2.2143	
15 minute winter	79	12.013	27	334.8	1.550	1.603	6.8793	
15 minute winter	156	Orifice	155	0.0				
15 minute winter	155	23.001	154	37.1	0.750	0.437	0.8491	

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	154	12	5.899	0.324	49.7	0.5807	0.0000	SURCHARGED
15 minute winter	157	1	6.340	0.000	0.0	0.0000	0.0000	OK
15 minute winter	153	13	5.880	0.405	46.4	0.6197	0.0000	SURCHARGED
15 minute winter	152	13	5.851	0.551	81.8	0.9182	0.0000	SURCHARGED
15 minute winter	159	11	5.864	0.744	21.6	1.2293	0.0000	SURCHARGED
15 minute winter	158	11	5.854	0.794	34.5	1.4810	0.0000	SURCHARGED
15 minute winter	151	11	5.887	0.887	100.4	1.8131	0.0000	SURCHARGED
15 minute winter	163	1	6.240	0.000	0.0	0.0000	0.0000	OK
15 minute winter	162	12	5.791	0.316	0.5	0.4526	0.0000	SURCHARGED
15 minute winter	161	12	5.831	0.456	45.1	1.0986	0.0000	SURCHARGED
15 minute winter	160	14	5.683	0.018	1.6	0.1312	0.0000	OK
15 minute winter	150	12	5.768	1.093	318.0	6.3414	0.0000	SURCHARGED
15 minute winter	149	14	5.750	0.000	0.2	0.0005	0.0000	OK
15 minute winter	148	13	5.752	0.402	77.1	1.4286	0.0000	OK
15 minute winter	147	13	5.692	0.642	109.9	1.8717	0.0000	SURCHARGED
15 minute winter	146	12	5.696	0.721	147.0	1.9268	0.0000	SURCHARGED
15 minute winter	145	12	5.637	1.112	382.1	1.5912	0.0000	SURCHARGED
15 minute winter	144	12	5.552	1.077	358.3	1.5414	0.0000	SURCHARGED
15 minute winter	143	12	5.481	1.046	384.2	2.2755	0.0000	SURCHARGED
1440 minute winter	164	1470	5.031	0.031	0.2	2.5805	0.0000	OK
15 minute winter	142	12	5.387	1.002	402.3	1.8609	0.0000	SURCHARGED
1440 minute winter	165	1470	5.031	0.031	0.3	2.5803	0.0000	OK
15 minute winter	141	12	5.075	0.900	550.0	4.8622	0.0000	SURCHARGED
1440 minute winter	140	1440	5.038	1.003	33.9	0.0000	0.0000	OK
15 minute winter	16	12	4.334	0.134	3.0	0.1913	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	154	23.002	153	43.0	1.206	0.438	0.9004	
15 minute winter	157	24.000	153	0.0	0.000	0.000	0.0000	
15 minute winter	153	23.003	152	45.9	1.004	0.406	1.1890	
15 minute winter	152	23.004	151	53.0	1.093	0.732	0.8217	
15 minute winter	159	25.000	158	16.5	0.330	0.103	3.8247	
15 minute winter	158	25.001	151	65.3	0.477	0.395	3.5933	
15 minute winter	151	23.005	150	111.9	0.879	0.669	10.2636	
15 minute winter	163	26.000	162	0.0	0.000	0.000	0.0000	
15 minute winter	162	26.001	161	17.9	0.255	0.140	0.5281	
15 minute winter	161	26.002	150	50.4	1.237	0.483	1.5251	
15 minute winter	160	27.000	150	-11.9	0.534	-0.094	0.2020	
15 minute winter	150	23.006	145	274.7	0.979	0.829	18.0310	
15 minute winter	149	28.000	148	-0.2	-0.003	-0.001	5.0291	
15 minute winter	148	28.001	147	82.4	0.893	0.340	8.1683	
15 minute winter	147	28.002	146	116.9	1.081	0.380	1.3097	
15 minute winter	146	28.003	145	145.5	1.227	0.593	7.6777	
15 minute winter	145	23.007	144	358.3	1.272	0.974	4.8916	
15 minute winter	144	23.008	143	362.2	1.286	0.966	3.7649	
15 minute winter	143	23.009	142	390.0	1.385	1.004	4.3905	
1440 minute winter	164	29.000	142	-0.5	-0.094	-0.036	0.0459	
15 minute winter	142	23.010	141	405.4	1.439	1.139	21.9083	
1440 minute winter	165	30.000	141	-0.3	-0.057	-0.022	0.0458	
15 minute winter	141	23.011	140	547.7	1.945	1.236	5.0702	
1440 minute winter	140	Flow through pond	113	27.8	0.012	0.000	1519.0525	
15 minute winter	16	31.000	15	-3.0	-0.157	-0.047	0.5262	

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	15	12	4.333	0.180	16.8	0.3210	0.0000	OK
15 minute winter	14	11	4.325	0.289	66.3	0.6966	0.0000	OK
15 minute winter	17	1	5.240	0.000	0.0	0.0000	0.0000	OK
15 minute winter	13	12	4.247	0.284	70.9	0.4521	0.0000	OK
960 minute winter	12	1080	4.157	0.336	6.3	0.6192	0.0000	SURCHARGED
960 minute winter	18	1065	4.157	0.657	16.3	1.0650	0.0000	SURCHARGED
960 minute winter	11	1080	4.157	0.706	11.4	1.5756	0.0000	SURCHARGED
600 minute winter	10	600	4.205	0.846	6.1	1.5370	0.0000	SURCHARGED
600 minute winter	9	600	4.206	1.234	14.9	4.9068	0.0000	SURCHARGED
360 minute winter	19	352	4.382	1.132	52.1	4.2908	0.0000	SURCHARGED
600 minute winter	8	600	4.206	1.300	31.3	2.8155	0.0000	SURCHARGED
600 minute winter	7	600	4.206	1.433	31.4	0.0000	0.0000	OK
360 minute winter	130	344	4.919	0.444	0.9	0.6347	0.0000	SURCHARGED
15 minute winter	131	1	5.100	0.000	0.0	0.0000	0.0000	OK
360 minute winter	129	352	4.918	0.742	7.3	1.9495	0.0000	SURCHARGED
360 minute winter	128	352	4.918	0.756	6.0	1.0816	0.0000	SURCHARGED
360 minute winter	127	344	4.918	0.772	5.5	1.1044	0.0000	SURCHARGED
15 minute winter	132	1	5.340	0.000	0.0	0.0000	0.0000	OK
360 minute winter	126	344	4.918	0.793	6.2	1.2902	0.0000	SURCHARGED
15 minute winter	133	1	5.240	0.000	0.0	0.0000	0.0000	OK
360 minute winter	125	360	4.918	0.919	10.3	1.9630	0.0000	SURCHARGED
360 minute winter	136	368	4.916	0.741	0.5	1.0603	0.0000	SURCHARGED
15 minute winter	137	1	4.990	0.000	0.0	0.0000	0.0000	OK
360 minute winter	135	352	4.918	0.793	7.1	2.0453	0.0000	SURCHARGED
15 minute winter	134	1	5.015	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	15	31.001	14	17.7	0.411	0.277	1.9870	
15 minute winter	14	31.002	13	62.7	0.935	0.986	1.5265	
15 minute winter	17	32.000	13	0.0	0.000	0.000	0.0880	
15 minute winter	13	31.003	12	69.6	1.304	1.091	2.7811	
960 minute winter	12	31.004	11	6.3	0.268	0.042	1.3480	
960 minute winter	18	33.000	11	-11.3	-0.160	-0.177	1.0334	
960 minute winter	11	Hydro-Brake®	10	4.8				
600 minute winter	10	31.006	9	5.3	0.530	0.082	5.0127	
600 minute winter	9	31.007	8	15.4	0.433	0.083	3.1397	
360 minute winter	19	34.000	8	19.8	0.647	0.030	1.3468	
600 minute winter	8	31.008	7	31.4	0.621	0.173	5.3079	
600 minute winter	7	Flow through pond	4	50.2	0.052	0.003	248.1943	
360 minute winter	130	35.000	129	-0.9	-0.027	-0.013	3.1417	
15 minute winter	131	36.000	129	0.0	0.000	0.000	0.0000	
360 minute winter	129	35.001	128	6.0	0.379	0.042	1.0776	
360 minute winter	128	35.002	127	5.5	0.381	0.038	1.2816	
360 minute winter	127	35.003	126	4.8	0.374	0.034	1.7004	
15 minute winter	132	37.000	126	0.0	0.000	0.000	0.0000	
360 minute winter	126	35.004	125	5.7	0.328	0.039	9.9819	
15 minute winter	133	38.000	125	0.0	0.000	0.000	0.0000	
360 minute winter	125	35.005	124	10.0	0.349	0.058	4.4081	
360 minute winter	136	39.000	135	0.6	-0.018	0.007	0.6293	
15 minute winter	137	40.000	135	0.0	0.000	0.000	0.0000	
360 minute winter	135	39.001	124	6.5	0.487	0.102	1.2265	
15 minute winter	134	41.000	124	0.0	0.000	0.000	0.0000	

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	124	360	4.917	1.000	19.6	2.0015	0.0000	SURCHARGED
360 minute winter	123	352	4.922	1.167	19.4	0.0000	0.0000	OK
600 minute winter	4	600	4.203	1.453	51.8	0.5013	0.0000	SURCHARGED
600 minute winter	3	600	4.197	1.502	20.8	3.8234	0.0000	SURCHARGED
15 minute winter	2	836	1.834	0.094	20.5	0.1348	0.0000	OK
15 minute winter	1	836	1.203	0.093	20.5	0.0000	0.0000	OK
15 minute winter	65	12	4.333	0.258	6.2	0.3687	0.0000	OK
15 minute winter	64	12	4.331	0.308	18.3	0.4410	0.0000	SURCHARGED
15 minute winter	63	12	4.329	0.382	53.4	1.1198	0.0000	SURCHARGED
15 minute winter	66	13	4.250	0.000	1.6	0.0874	0.0000	OK
15 minute winter	62	12	4.260	0.435	64.2	0.9170	0.0000	SURCHARGED
600 minute winter	61	585	4.204	0.444	10.0	0.8944	0.0000	SURCHARGED
600 minute winter	60	585	4.206	0.594	10.0	0.0000	0.0000	OK
15 minute winter	73	1	4.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	72	13	4.346	0.146	16.2	0.2655	0.0000	OK
15 minute winter	74	1	4.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	71	12	4.348	0.215	27.1	0.3580	0.0000	OK
30 minute winter	75	26	4.523	0.273	13.6	6.7123	0.0000	SURCHARGED
15 minute winter	70	12	4.335	0.294	50.2	0.5694	0.0000	OK
15 minute winter	69	11	4.293	0.143	13.6	0.2046	0.0000	OK
15 minute winter	68	12	4.289	0.367	128.0	1.4618	0.0000	SURCHARGED
600 minute winter	67	585	4.206	0.595	14.4	0.0000	0.0000	OK
600 minute winter	25	600	4.205	0.430	0.4	0.6147	0.0000	SURCHARGED
600 minute winter	24	600	4.204	0.522	1.6	0.9500	0.0000	SURCHARGED
600 minute winter	23	600	4.204	0.628	21.4	2.5496	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	124	35.006	123	19.4	0.530	0.100	2.9312	
360 minute winter	123	Flow through pond	81	9.7	0.020	0.000	152.7455	
600 minute winter	4	42.000	3	20.8	0.440	0.319	1.1091	
600 minute winter	3	Hydro-Brake®	2	20.5				
15 minute winter	2	42.002	1	20.5	1.095	0.212	1.5526	1302.1
15 minute winter	65	43.000	64	-6.2	-0.220	-0.097	1.0484	
15 minute winter	64	43.001	63	-18.3	-0.349	-0.286	1.6099	
15 minute winter	63	43.002	62	45.9	0.694	0.710	2.5054	
15 minute winter	66	44.000	62	-1.6	-0.159	-0.049	0.0822	
15 minute winter	62	43.003	61	62.7	0.890	0.983	1.4295	
600 minute winter	61	43.004	60	10.0	0.678	0.143	1.9541	
600 minute winter	60	Flow through pond	21	15.7	0.061	0.002	437.1156	
15 minute winter	73	47.000	72	0.0	0.000	0.000	0.0000	
15 minute winter	72	47.001	71	15.9	0.592	0.249	0.8773	
15 minute winter	74	48.000	71	0.0	0.000	0.000	0.0181	
15 minute winter	71	47.002	70	24.0	0.595	0.376	1.7164	
30 minute winter	75	49.000	70	3.3	0.855	0.148	0.0254	
15 minute winter	70	47.003	68	47.0	0.861	0.737	2.5162	
15 minute winter	69	50.000	68	-13.6	-0.295	-0.183	2.6441	
15 minute winter	68	47.004	67	113.7	1.615	0.578	0.6162	
600 minute winter	67	Flow through pond	21	15.7	0.061	0.002	437.1156	
600 minute winter	25	45.000	24	0.6	-0.019	0.010	1.9670	
600 minute winter	24	45.001	23	1.4	0.224	0.022	2.2448	
600 minute winter	23	45.002	22	-11.7	0.900	-0.079	0.7042	

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	22	600	4.204	0.804	11.3	0.9093	0.0000	SURCHARGED
15 minute winter	31	11	4.359	0.134	12.4	0.2285	0.0000	OK
15 minute winter	30	11	4.347	0.297	63.2	0.7752	0.0000	OK
15 minute winter	29	11	4.266	0.366	114.5	0.9838	0.0000	SURCHARGED
960 minute winter	28	1065	4.158	0.630	7.7	0.0000	0.0000	OK
15 minute winter	78	1	4.690	0.000	0.0	0.0000	0.0000	OK
15 minute winter	77	13	4.601	0.726	70.8	2.1976	0.0000	SURCHARGED
15 minute winter	76	13	4.566	0.866	64.2	0.9789	0.0000	SURCHARGED
600 minute winter	6	600	4.203	1.103	21.8	1.2476	0.0000	SURCHARGED
600 minute winter	5	600	4.208	1.435	21.1	0.0000	0.0000	OK
600 minute winter	21	600	4.204	0.704	21.8	1.5836	0.0000	SURCHARGED
600 minute winter	20	600	4.204	0.804	17.0	1.1507	0.0000	SURCHARGED
15 minute winter	27	13	4.537	1.137	384.9	2.4066	0.0000	SURCHARGED
30 minute winter	26	22	4.387	1.090	357.8	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	22	45.003	6	19.1	0.728	0.170	1.0285	
15 minute winter	31	51.000	30	14.2	0.383	0.158	1.3379	
15 minute winter	30	51.001	29	60.3	0.895	0.648	1.5003	
15 minute winter	29	51.002	28	113.5	1.619	1.154	0.8606	
960 minute winter	28	Flow through pond	18	-4.6	0.008	0.000	509.4606	
15 minute winter	78	22.000	77	0.0	0.000	0.000	0.0347	
15 minute winter	77	22.001	76	64.2	1.235	0.641	1.5140	
15 minute winter	76	22.002	27	58.7	1.154	0.702	0.9274	
600 minute winter	6	45.004	5	21.1	0.835	0.066	3.2481	
600 minute winter	5	Flow through pond	4	50.2	0.052	0.003	248.1943	
600 minute winter	21	46.000	20	16.8	0.942	0.067	2.6143	
600 minute winter	20	46.001	6	-17.0	0.787	-0.044	3.2993	
15 minute winter	27	12.014	26	385.2	1.783	1.195	2.4302	
30 minute winter	26	Flow through pond	19	164.7	0.145	0.008	410.6746	

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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	43	1	5.350	0.000	0.0	0.0000	0.0000	OK
15 minute winter	42	1	5.293	0.000	0.0	0.0000	0.0000	OK
15 minute winter	41	1	5.228	0.000	0.0	0.0000	0.0000	OK
15 minute winter	40	15	5.150	0.052	8.9	0.0000	0.0000	OK
15 minute winter	39	13	5.150	0.149	22.7	0.0000	0.0000	OK
15 minute winter	106	12	5.644	0.269	24.2	0.5154	0.0000	OK
15 minute winter	48	12	5.642	0.317	7.0	0.4933	0.0000	SURCHARGED
15 minute winter	47	12	5.641	0.366	21.1	0.6308	0.0000	SURCHARGED
15 minute winter	46	12	5.633	0.407	72.2	0.8364	0.0000	SURCHARGED
15 minute winter	45	12	5.557	0.371	70.9	0.5310	0.0000	SURCHARGED
15 minute winter	44	12	5.448	0.327	83.4	0.5512	0.0000	SURCHARGED
15 minute winter	38	13	5.148	0.216	139.0	0.2287	0.0000	OK
15 minute winter	37	13	5.137	0.217	117.2	0.0000	0.0000	OK
30 minute winter	36	26	5.077	0.375	103.0	0.0000	0.0000	OK
60 minute winter	59	46	6.079	0.289	10.1	7.6474	0.0000	FLOOD RISK
15 minute winter	58	11	5.580	0.380	28.4	0.8365	0.0000	SURCHARGED
60 minute winter	57	46	5.654	0.289	10.1	7.6474	0.0000	FLOOD RISK
15 minute winter	56	11	5.547	0.597	64.2	1.6889	0.0000	FLOOD RISK
60 minute winter	54	46	5.979	0.289	10.1	7.6474	0.0000	FLOOD RISK
15 minute winter	53	11	5.578	0.603	49.4	1.5866	0.0000	SURCHARGED
60 minute winter	52	46	5.667	0.252	10.1	8.0912	0.0000	SURCHARGED
15 minute winter	51	11	5.523	0.633	71.2	1.4000	0.0000	FLOOD RISK
30 minute winter	50	27	5.480	0.290	14.8	7.6580	0.0000	FLOOD RISK
15 minute winter	49	11	5.394	0.594	181.7	2.0532	0.0000	FLOOD RISK
30 minute winter	35	26	5.077	0.384	235.7	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	43	1.000	42	0.0	0.000	0.000	0.0000	
15 minute winter	42	1.001	41	0.0	0.000	0.000	0.0005	
15 minute winter	41	1.002	40	0.0	0.000	0.000	1.0124	
15 minute winter	40	1.003	39	-8.9	-0.158	-0.014	3.4502	
15 minute winter	39	1.004	38	-22.7	-0.229	-0.035	5.5290	
15 minute winter	106	2.000	46	21.3	0.449	0.295	2.4032	
15 minute winter	48	3.000	47	6.7	0.248	0.090	0.7791	
15 minute winter	47	3.001	46	19.6	0.315	0.307	1.0454	
15 minute winter	46	2.001	45	70.9	1.007	1.112	0.8438	
15 minute winter	45	2.002	44	71.2	1.011	1.117	1.3720	
15 minute winter	44	2.003	38	83.8	1.234	1.314	2.2595	
15 minute winter	38	1.005	37	117.2	0.647	0.182	1.2184	
15 minute winter	37	1.006	36	109.7	0.421	0.171	30.6480	
30 minute winter	36	1.007	35	91.9	-0.353	0.143	2.0822	
60 minute winter	59	4.000	58	3.3	0.642	0.229	0.0283	
15 minute winter	58	4.001	56	27.2	0.606	0.315	2.9013	
60 minute winter	57	5.000	56	3.3	0.642	0.229	0.0283	
15 minute winter	56	4.002	49	61.8	0.877	0.928	2.9161	
60 minute winter	54	6.000	53	3.3	0.642	0.229	0.0283	
15 minute winter	53	6.001	51	45.7	0.666	0.710	1.7584	
60 minute winter	52	7.000	51	3.1	0.628	0.211	0.0267	
15 minute winter	51	6.002	49	69.9	0.993	1.084	1.8611	
30 minute winter	50	8.000	49	3.8	0.642	0.260	0.0887	
15 minute winter	49	4.003	35	180.3	2.561	2.827	0.6534	
30 minute winter	35	1.008	34	220.1	0.448	0.342	78.1500	

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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	104	1	6.265	0.000	0.0	0.0000	0.0000	OK
30 minute winter	103	20	6.157	1.057	28.5	1.5130	0.0000	SURCHARGED
30 minute winter	105	23	5.835	0.045	3.8	0.8179	0.0000	OK
15 minute winter	102	12	6.194	1.294	161.5	5.7993	0.0000	FLOOD RISK
15 minute winter	101	12	6.100	1.260	168.1	3.8228	3.9325	FLOOD
15 minute winter	109	12	6.350	1.100	26.6	1.8646	0.0000	FLOOD RISK
15 minute winter	108	12	6.273	1.093	58.1	2.8581	0.0000	FLOOD RISK
15 minute winter	107	12	6.203	1.073	77.9	2.5591	0.0000	FLOOD RISK
15 minute winter	100	12	6.091	1.293	380.0	63.3852	0.0000	FLOOD RISK
15 minute winter	99	12	5.917	1.217	274.9	2.1512	0.0000	SURCHARGED
15 minute winter	98	12	5.719	1.128	364.3	4.2340	0.0000	SURCHARGED
15 minute winter	110	12	5.514	0.970	390.4	1.8976	0.0000	SURCHARGED
15 minute winter	111	12	5.346	0.773	405.1	1.3168	0.0000	SURCHARGED
30 minute winter	55	23	5.121	0.596	404.8	1.0051	0.0000	SURCHARGED
30 minute winter	34	27	5.071	0.590	619.4	0.0000	0.0000	SURCHARGED
30 minute winter	33	28	5.066	0.791	536.4	0.0000	0.0000	SURCHARGED
30 minute winter	32	28	4.242	0.742	304.0	0.0000	0.0000	OK
15 minute winter	93	12	6.301	0.461	11.9	0.0000	0.0000	FLOOD RISK
15 minute winter	92	12	6.300	1.300	47.4	2.9107	0.9724	FLOOD
15 minute winter	94	12	6.322	0.332	11.3	0.0000	0.0000	FLOOD RISK
15 minute winter	91	12	6.327	1.587	106.8	4.4061	0.0000	FLOOD RISK
15 minute winter	90	12	5.884	1.545	153.3	4.2340	0.0000	SURCHARGED
15 minute winter	89	12	5.843	1.521	154.7	2.3625	0.0000	FLOOD RISK
30 minute winter	166	25	5.113	0.113	82.2	28.2368	0.0000	OK
15 minute winter	88	12	5.750	1.500	202.4	4.3095	2.8293	FLOOD

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	104	9.000	103	0.0	0.000	0.000	0.0304	
30 minute winter	103	9.001	102	-28.5	-0.231	-0.178	6.2881	
30 minute winter	105	10.000	102	-13.9	0.768	-0.125	0.3182	
15 minute winter	102	9.002	101	120.6	0.750	0.560	6.4419	
15 minute winter	101	9.003	100	144.9	1.041	0.673	4.5131	
15 minute winter	109	11.000	108	-14.8	0.232	-0.228	1.4299	
15 minute winter	108	11.001	107	52.1	0.793	0.791	0.9902	
15 minute winter	107	11.002	100	71.6	1.139	1.095	2.1126	
15 minute winter	100	9.004	99	274.9	1.273	1.277	10.5662	
15 minute winter	99	9.005	98	275.3	1.275	1.279	11.7634	
15 minute winter	98	9.006	110	361.8	1.675	1.680	5.0353	
15 minute winter	110	9.007	111	389.9	1.805	1.811	2.7901	
15 minute winter	111	9.008	55	405.1	1.875	1.881	4.6840	
30 minute winter	55	9.009	34	403.7	1.894	1.875	2.6438	
30 minute winter	34	1.009	33	536.4	0.813	0.839	137.0664	
30 minute winter	33	1.010	32	304.0	1.919	0.955	3.4420	
30 minute winter	32	Orifice		304.0				694.1
15 minute winter	93	12.000	92	-11.9	0.748	-0.821	0.0968	
15 minute winter	92	12.001	91	33.6	0.546	0.527	5.5028	
15 minute winter	94	13.000	91	-11.3	-0.748	-0.489	0.0968	
15 minute winter	91	12.002	90	78.7	1.118	1.235	5.3045	
15 minute winter	90	12.003	89	148.6	0.938	1.035	1.3671	
15 minute winter	89	12.004	88	154.2	0.973	0.979	4.7508	
30 minute winter	166	14.000	88	-82.2	-2.786	-0.831	0.2081	
15 minute winter	88	12.005	87	181.7	1.147	1.266	4.1770	

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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	87	19	5.717	1.520	182.2	2.6837	0.0000	SURCHARGED
30 minute winter	86	19	5.669	1.528	174.0	4.2654	0.0000	SURCHARGED
2160 minute winter	112	2100	5.210	0.535	3.2	1.7772	0.0000	SURCHARGED
2160 minute winter	97	2100	5.210	0.938	4.7	2.4329	0.0000	SURCHARGED
2160 minute winter	116	2100	5.210	0.510	1.7	1.2440	0.0000	SURCHARGED
2160 minute winter	115	2100	5.210	0.610	2.0	0.9671	0.0000	SURCHARGED
2160 minute winter	114	2100	5.210	0.760	4.2	2.2379	0.0000	SURCHARGED
2160 minute winter	113	2100	5.210	1.210	21.5	6.3575	0.0000	FLOOD RISK
2160 minute winter	96	2100	5.211	1.247	11.6	5.4736	0.0000	SURCHARGED
30 minute winter	95	19	5.611	1.693	30.2	3.2501	0.0000	SURCHARGED
30 minute winter	85	19	5.604	1.744	229.1	4.5098	0.0000	SURCHARGED
30 minute winter	84	19	5.474	1.703	235.0	3.1026	0.0000	FLOOD RISK
15 minute winter	121	11	5.545	1.220	26.7	1.7459	0.0000	FLOOD RISK
15 minute winter	120	11	5.544	1.245	94.6	2.4316	0.0000	SURCHARGED
15 minute winter	122	16	5.442	0.002	0.1	0.0143	0.0000	OK
15 minute winter	119	11	5.447	1.281	66.6	2.4946	0.0000	SURCHARGED
15 minute winter	118	11	5.415	1.420	63.5	2.0315	0.0000	SURCHARGED
15 minute winter	117	11	5.461	1.361	39.0	1.9469	0.0000	FLOOD RISK
15 minute winter	83	11	5.375	1.734	400.7	5.3598	7.7747	FLOOD
15 minute winter	82	11	5.199	1.609	378.6	4.0479	0.0000	SURCHARGED
360 minute winter	81	352	5.102	1.352	15.4	2.0244	0.0000	FLOOD RISK
15 minute winter	80	11	5.064	1.594	403.4	3.4921	0.0000	SURCHARGED
30 minute winter	79	19	4.900	1.440	397.4	2.5445	16.3464	FLOOD
15 minute winter	156	13	6.541	0.001	0.1	0.0001	0.0000	OK
15 minute winter	155	12	6.548	0.898	26.5	1.7134	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	87	12.006	86	158.8	1.248	1.107	4.4081	
30 minute winter	86	12.007	85	150.1	1.228	0.544	4.4743	
2160 minute winter	112	15.000	97	3.2	0.455	0.007	3.4358	
2160 minute winter	97	15.001	96	4.5	0.132	0.019	8.9944	
2160 minute winter	116	16.000	115	1.8	0.458	0.007	2.3014	
2160 minute winter	115	16.001	114	2.2	0.400	0.008	3.0670	
2160 minute winter	114	16.002	96	3.3	0.099	0.010	6.5337	
2160 minute winter	113	17.000	96	-6.7	-0.082	-0.047	2.8494	
2160 minute winter	96	Hydro-Brake®	95	4.8				
30 minute winter	95	15.003	85	35.9	0.415	0.167	6.2176	
30 minute winter	85	12.008	84	217.2	1.006	1.009	9.5802	
30 minute winter	84	12.009	83	234.3	1.085	1.083	5.8878	
15 minute winter	121	18.000	120	-26.7	-0.491	-0.415	0.5402	
15 minute winter	120	18.001	119	-62.6	-0.898	-0.982	2.8168	
15 minute winter	122	19.000	119	0.2	0.226	0.016	0.0136	
15 minute winter	119	18.002	118	63.5	1.095	0.996	0.4371	
15 minute winter	118	18.003	83	63.8	0.706	0.272	6.1364	
15 minute winter	117	20.000	83	-39.0	-0.274	-0.109	4.0085	
15 minute winter	83	12.010	82	322.1	1.144	1.824	21.2145	
15 minute winter	82	12.011	80	378.5	1.344	0.826	7.5999	
360 minute winter	81	Hydro-Brake®	80	2.1				
15 minute winter	80	12.012	79	401.6	1.859	0.910	2.2143	
30 minute winter	79	12.013	27	340.9	1.578	1.632	6.8793	
15 minute winter	156	Orifice	155	0.0				
15 minute winter	155	23.001	154	26.2	0.777	0.309	0.9000	

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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	154	12	6.512	0.937	46.5	1.6812	0.0000	SURCHARGED
15 minute winter	157	14	6.396	0.056	2.5	0.2783	0.0000	OK
15 minute winter	153	13	6.489	1.014	53.9	1.5508	0.0000	SURCHARGED
15 minute winter	152	12	6.460	1.160	59.7	1.9324	0.0000	SURCHARGED
15 minute winter	159	13	6.446	1.326	26.4	2.1911	0.0000	SURCHARGED
15 minute winter	158	13	6.450	1.390	38.3	2.5917	0.0000	SURCHARGED
15 minute winter	151	13	6.438	1.438	125.0	2.9414	0.0000	SURCHARGED
15 minute winter	163	14	6.266	0.026	2.4	0.2716	0.0000	OK
15 minute winter	162	12	6.396	0.921	23.9	1.3184	0.0000	FLOOD RISK
15 minute winter	161	12	6.394	1.019	43.7	2.4564	0.0000	FLOOD RISK
15 minute winter	160	16	5.721	0.056	4.8	1.2644	0.0000	OK
15 minute winter	150	13	6.379	1.704	353.9	9.8866	0.0000	FLOOD RISK
15 minute winter	149	12	6.718	0.968	53.1	1.3846	0.0000	SURCHARGED
15 minute winter	148	13	6.469	1.119	155.3	3.9713	0.0000	FLOOD RISK
15 minute winter	147	13	6.364	1.314	125.4	3.8316	0.0000	FLOOD RISK
15 minute winter	146	13	6.351	1.376	154.7	3.6775	0.0000	FLOOD RISK
15 minute winter	145	13	6.235	1.710	421.6	2.4475	0.0000	SURCHARGED
15 minute winter	144	13	6.115	1.640	424.4	2.3469	0.0000	SURCHARGED
15 minute winter	143	13	6.011	1.576	468.7	3.4270	0.0000	SURCHARGED
2160 minute winter	164	2160	5.212	0.212	1.3	30.7747	0.0000	SURCHARGED
15 minute winter	142	13	5.871	1.486	497.2	2.7618	0.0000	SURCHARGED
2160 minute winter	165	2160	5.212	0.212	1.3	30.7827	0.0000	SURCHARGED
15 minute winter	141	12	5.417	1.242	663.1	6.7091	0.0000	SURCHARGED
2160 minute winter	140	2160	5.221	1.187	29.6	0.0000	0.0000	OK
15 minute winter	16	12	4.734	0.534	10.3	0.7640	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	154	23.002	153	45.7	1.208	0.465	0.9004	
15 minute winter	157	24.000	153	2.7	0.454	0.184	0.0968	
15 minute winter	153	23.003	152	48.1	1.027	0.425	1.1890	
15 minute winter	152	23.004	151	59.7	1.117	0.825	0.8217	
15 minute winter	159	25.000	158	15.7	0.330	0.098	3.8247	
15 minute winter	158	25.001	151	67.8	0.495	0.410	3.5933	
15 minute winter	151	23.005	150	116.0	0.872	0.694	10.2636	
15 minute winter	163	26.000	162	-8.8	-0.498	-0.378	0.0968	
15 minute winter	162	26.001	161	-23.9	-0.351	-0.186	0.5281	
15 minute winter	161	26.002	150	51.2	1.233	0.491	1.5251	
15 minute winter	160	27.000	150	-15.1	0.922	-0.120	0.2784	
15 minute winter	150	23.006	145	330.4	1.173	0.997	18.0310	
15 minute winter	149	28.000	148	-53.1	-0.524	-0.213	10.6553	
15 minute winter	148	28.001	147	109.2	0.911	0.450	8.4038	
15 minute winter	147	28.002	146	139.6	1.038	0.453	1.3097	
15 minute winter	146	28.003	145	156.7	1.232	0.639	7.6777	
15 minute winter	145	23.007	144	424.4	1.507	1.154	4.8916	
15 minute winter	144	23.008	143	428.9	1.523	1.144	3.7649	
15 minute winter	143	23.009	142	475.7	1.689	1.225	4.3905	
2160 minute winter	164	29.000	142	-1.4	-0.098	-0.094	0.1320	
15 minute winter	142	23.010	141	497.2	1.765	1.397	21.9083	
2160 minute winter	165	30.000	141	-1.3	-0.096	-0.092	0.1320	
15 minute winter	141	23.011	140	662.1	2.351	1.494	5.0702	
2160 minute winter	140	Flow through pond	113	9.4	0.012	0.000	1891.7977	
15 minute winter	16	31.000	15	-10.3	0.218	-0.162	0.9942	

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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	15	12	4.718	0.565	31.0	1.0056	0.0000	SURCHARGED
15 minute winter	14	12	4.719	0.683	77.3	1.6437	0.0000	SURCHARGED
15 minute winter	17	1	5.240	0.000	0.0	0.0000	0.0000	OK
15 minute winter	13	12	4.588	0.625	82.8	0.9964	0.0000	SURCHARGED
1440 minute winter	12	1470	4.324	0.503	5.6	0.9275	0.0000	SURCHARGED
1440 minute winter	18	1470	4.324	0.824	15.5	1.3362	0.0000	SURCHARGED
1440 minute winter	11	1470	4.324	0.873	11.1	1.9489	0.0000	SURCHARGED
720 minute winter	10	720	4.366	1.007	6.3	1.8282	0.0000	SURCHARGED
720 minute winter	9	720	4.366	1.394	15.8	5.5448	0.0000	SURCHARGED
360 minute winter	19	352	4.583	1.333	68.3	5.0531	0.0000	FLOOD RISK
720 minute winter	8	720	4.366	1.460	33.9	3.1628	0.0000	SURCHARGED
720 minute winter	7	720	4.367	1.594	33.7	0.0000	0.0000	OK
480 minute winter	130	472	5.104	0.629	1.0	0.9004	0.0000	SURCHARGED
480 minute winter	131	488	5.101	0.001	0.8	1.2587	0.0000	OK
480 minute winter	129	472	5.104	0.928	7.1	2.4381	0.0000	SURCHARGED
480 minute winter	128	472	5.104	0.942	5.9	1.3479	0.0000	SURCHARGED
480 minute winter	127	472	5.104	0.958	5.7	1.3711	0.0000	SURCHARGED
15 minute winter	132	1	5.340	0.000	0.0	0.0000	0.0000	OK
480 minute winter	126	472	5.104	0.979	7.0	1.5931	0.0000	SURCHARGED
15 minute winter	133	1	5.240	0.000	0.0	0.0000	0.0000	OK
480 minute winter	125	456	5.103	1.104	12.0	2.3593	0.0000	SURCHARGED
480 minute winter	136	464	5.104	0.929	0.4	1.3290	0.0000	SURCHARGED
600 minute winter	137	600	5.098	0.108	1.1	8.4902	0.0000	OK
360 minute winter	135	352	5.103	0.978	8.8	2.5224	0.0000	SURCHARGED
480 minute winter	134	464	5.103	0.088	0.2	0.5152	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	15	31.001	14	29.5	0.473	0.462	2.4681	
15 minute winter	14	31.002	13	74.3	1.055	1.169	1.5524	
15 minute winter	17	32.000	13	0.0	0.000	0.000	0.0880	
15 minute winter	13	31.003	12	83.2	1.285	1.304	2.9901	
1440 minute winter	12	31.004	11	5.6	0.246	0.037	1.3480	
1440 minute winter	18	33.000	11	-11.0	-0.156	-0.173	1.0334	
1440 minute winter	11	Hydro-Brake®	10	4.3				
720 minute winter	10	31.006	9	-5.2	0.523	-0.082	5.0127	
720 minute winter	9	31.007	8	14.5	0.428	0.078	3.1397	
360 minute winter	19	34.000	8	21.2	0.623	0.033	1.3468	
720 minute winter	8	31.008	7	33.7	0.621	0.186	5.3079	
720 minute winter	7	Flow through pond	4	63.4	0.051	0.004	293.6417	
480 minute winter	130	35.000	129	-1.0	-0.022	-0.015	3.1417	
480 minute winter	131	36.000	129	-0.8	-0.081	-0.027	0.1937	
480 minute winter	129	35.001	128	5.9	0.360	0.041	1.0776	
480 minute winter	128	35.002	127	5.7	0.362	0.040	1.2816	
480 minute winter	127	35.003	126	5.6	0.354	0.039	1.7004	
15 minute winter	132	37.000	126	0.0	0.000	0.000	0.0000	
480 minute winter	126	35.004	125	6.8	0.308	0.048	9.9819	
15 minute winter	133	38.000	125	0.0	0.000	0.000	0.0000	
480 minute winter	125	35.005	124	11.8	0.346	0.068	4.4081	
480 minute winter	136	39.000	135	0.4	-0.028	0.005	0.6293	
600 minute winter	137	40.000	135	-1.0	-0.110	-0.072	0.0778	
360 minute winter	135	39.001	124	8.2	0.492	0.128	1.2265	
480 minute winter	134	41.000	124	-0.3	-0.041	-0.020	0.0651	

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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	124	464	5.104	1.187	21.8	2.3748	0.0000	SURCHARGED
480 minute winter	123	464	5.110	1.355	21.5	0.0000	0.0000	OK
720 minute winter	4	720	4.363	1.613	65.0	0.5565	0.0000	SURCHARGED
720 minute winter	3	720	4.357	1.662	20.7	4.2293	0.0000	SURCHARGED
15 minute winter	2	1092	1.834	0.094	20.5	0.1348	0.0000	OK
15 minute winter	1	1092	1.203	0.093	20.5	0.0000	0.0000	OK
15 minute winter	65	12	4.694	0.619	7.8	0.8863	0.0000	SURCHARGED
15 minute winter	64	12	4.694	0.671	24.6	0.9602	0.0000	SURCHARGED
15 minute winter	63	12	4.690	0.743	67.1	2.1805	0.0000	SURCHARGED
720 minute winter	66	720	4.364	0.114	3.5	22.6252	0.0000	OK
15 minute winter	62	12	4.586	0.761	82.5	1.6046	0.0000	SURCHARGED
15 minute winter	61	12	4.442	0.682	109.5	1.3732	0.0000	SURCHARGED
720 minute winter	60	705	4.366	0.755	9.8	0.0000	0.0000	OK
15 minute winter	73	13	4.547	0.047	2.0	0.1963	0.0000	OK
15 minute winter	72	12	4.621	0.421	21.9	0.7635	0.0000	SURCHARGED
15 minute winter	74	13	4.545	0.045	1.9	0.1858	0.0000	OK
15 minute winter	71	12	4.612	0.479	31.2	0.7964	0.0000	SURCHARGED
30 minute winter	75	27	4.572	0.322	17.3	9.2721	0.0000	SURCHARGED
15 minute winter	70	12	4.597	0.556	56.1	1.0753	0.0000	SURCHARGED
15 minute winter	69	12	4.512	0.362	18.9	0.5180	0.0000	SURCHARGED
15 minute winter	68	12	4.519	0.597	149.3	2.3776	0.0000	SURCHARGED
720 minute winter	67	720	4.366	0.754	15.2	0.0000	0.0000	OK
720 minute winter	25	705	4.365	0.590	0.3	0.8441	0.0000	SURCHARGED
720 minute winter	24	705	4.365	0.683	1.7	1.2432	0.0000	SURCHARGED
720 minute winter	23	705	4.364	0.788	11.5	3.2021	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	124	35.006	123	21.5	0.519	0.111	2.9312	
480 minute winter	123	Flow through pond	81	10.5	0.016	0.000	196.2130	
720 minute winter	4	42.000	3	20.7	0.441	0.317	1.1091	
720 minute winter	3	Hydro-Brake®	2	20.5				
15 minute winter	2	42.002	1	20.5	1.095	0.212	1.5526	1516.4
15 minute winter	65	43.000	64	-7.8	-0.281	-0.122	1.0953	
15 minute winter	64	43.001	63	-24.6	-0.442	-0.386	1.6099	
15 minute winter	63	43.002	62	54.5	0.774	0.842	2.5054	
720 minute winter	66	44.000	62	-3.5	-0.288	-0.110	0.1491	
15 minute winter	62	43.003	61	80.3	1.140	1.258	1.4295	
15 minute winter	61	43.004	60	109.4	1.553	1.571	1.9541	
720 minute winter	60	Flow through pond	21	14.4	0.060	0.002	591.5139	
15 minute winter	73	47.000	72	-3.6	0.671	-0.118	0.0820	
15 minute winter	72	47.001	71	18.0	0.600	0.283	1.4083	
15 minute winter	74	48.000	71	-4.4	0.715	-0.118	0.0779	
15 minute winter	71	47.002	70	29.0	0.596	0.455	1.9456	
30 minute winter	75	49.000	70	4.3	0.876	0.194	0.0865	
15 minute winter	70	47.003	68	50.3	0.883	0.789	2.5220	
15 minute winter	69	50.000	68	-18.9	-0.359	-0.256	3.5967	
15 minute winter	68	47.004	67	136.1	1.934	0.693	0.6162	
720 minute winter	67	Flow through pond	21	14.4	0.060	0.002	591.5139	
720 minute winter	25	45.000	24	-0.3	-0.021	-0.005	1.9670	
720 minute winter	24	45.001	23	1.4	0.217	0.023	2.2448	
720 minute winter	23	45.002	22	11.1	0.848	0.075	0.7042	

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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	22	705	4.364	0.964	11.1	1.0907	0.0000	SURCHARGED
15 minute winter	31	11	4.673	0.448	16.7	0.7665	0.0000	SURCHARGED
15 minute winter	30	11	4.667	0.617	74.9	1.6076	0.0000	SURCHARGED
15 minute winter	29	11	4.545	0.645	142.4	1.7322	0.0000	SURCHARGED
1440 minute winter	28	1530	4.325	0.797	6.8	0.0000	0.0000	OK
30 minute winter	78	24	4.707	0.017	2.2	0.5317	0.0000	OK
15 minute winter	77	12	4.892	1.017	89.0	3.0783	0.0000	SURCHARGED
15 minute winter	76	12	4.778	1.078	72.1	1.2189	0.0000	FLOOD RISK
720 minute winter	6	705	4.365	1.265	20.0	1.4306	0.0000	SURCHARGED
720 minute winter	5	705	4.367	1.594	19.6	0.0000	0.0000	OK
720 minute winter	21	705	4.364	0.864	24.3	1.9441	0.0000	SURCHARGED
720 minute winter	20	705	4.364	0.964	15.7	1.3796	0.0000	SURCHARGED
60 minute winter	27	38	4.719	1.319	348.5	2.7918	0.0000	FLOOD RISK
60 minute winter	26	38	4.602	1.306	346.9	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	22	45.003	6	11.0	0.697	0.098	1.0285	
15 minute winter	31	51.000	30	20.5	0.386	0.228	1.8727	
15 minute winter	30	51.001	29	72.4	1.028	0.778	1.5013	
15 minute winter	29	51.002	28	140.2	1.991	1.426	0.8978	
1440 minute winter	28	Flow through pond	18	-4.6	0.006	0.000	664.1426	
30 minute winter	78	22.000	77	-3.4	0.473	-0.103	0.0968	
15 minute winter	77	22.001	76	72.1	1.273	0.719	1.5140	
15 minute winter	76	22.002	27	71.8	1.210	0.859	0.9274	
720 minute winter	6	45.004	5	19.6	0.842	0.061	3.2481	
720 minute winter	5	Flow through pond	4	63.4	0.051	0.004	293.6417	
720 minute winter	21	46.000	20	-15.7	0.888	-0.063	2.6143	
720 minute winter	20	46.001	6	-15.7	0.769	-0.040	3.2993	
60 minute winter	27	12.014	26	346.9	1.606	1.076	2.4302	
60 minute winter	26	Flow through pond	19	150.7	0.133	0.007	642.4478	

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Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	43	1	5.350	0.000	0.0	0.0000	0.0000	OK
15 minute winter	42	1	5.293	0.000	0.0	0.0000	0.0000	OK
15 minute winter	41	1	5.228	0.000	0.0	0.0000	0.0000	OK
15 minute winter	40	15	5.161	0.063	11.1	0.0000	0.0000	OK
15 minute winter	39	13	5.160	0.159	24.0	0.0000	0.0000	OK
15 minute winter	106	12	5.751	0.376	26.6	0.7370	0.0000	SURCHARGED
15 minute winter	48	12	5.747	0.422	7.7	0.6627	0.0000	SURCHARGED
15 minute winter	47	12	5.746	0.471	22.1	0.8264	0.0000	SURCHARGED
15 minute winter	46	12	5.736	0.510	81.8	1.0805	0.0000	SURCHARGED
15 minute winter	45	12	5.643	0.457	79.2	0.6535	0.0000	SURCHARGED
15 minute winter	44	12	5.507	0.386	94.0	0.6601	0.0000	SURCHARGED
15 minute winter	38	13	5.159	0.227	153.6	0.2638	0.0000	OK
15 minute winter	37	13	5.147	0.227	128.7	0.0000	0.0000	OK
30 minute winter	36	26	5.110	0.408	111.1	0.0000	0.0000	OK
60 minute winter	59	46	6.099	0.309	11.1	8.7315	0.0000	FLOOD RISK
15 minute winter	58	11	5.661	0.461	31.0	1.0493	0.0000	SURCHARGED
60 minute winter	57	46	5.674	0.309	11.1	8.7315	0.0000	FLOOD RISK
15 minute winter	56	11	5.627	0.677	71.8	2.0105	0.0000	FLOOD RISK
60 minute winter	54	46	5.999	0.309	11.1	8.7315	0.0000	FLOOD RISK
15 minute winter	53	11	5.673	0.698	54.1	1.9189	0.0000	SURCHARGED
60 minute winter	52	47	5.684	0.269	11.1	9.2027	0.0000	FLOOD RISK
15 minute winter	51	11	5.605	0.715	76.7	1.6391	0.0000	FLOOD RISK
30 minute winter	50	27	5.499	0.309	16.3	8.7467	0.0000	FLOOD RISK
15 minute winter	49	11	5.449	0.649	197.4	2.3765	0.0000	FLOOD RISK
30 minute winter	35	26	5.110	0.417	255.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	43	1.000	42	0.0	0.000	0.000	0.0000	
15 minute winter	42	1.001	41	0.0	0.000	0.000	0.0005	
15 minute winter	41	1.002	40	0.0	0.000	0.000	1.2734	
15 minute winter	40	1.003	39	-11.1	-0.174	-0.017	3.9166	
15 minute winter	39	1.004	38	-24.0	-0.236	-0.037	5.9856	
15 minute winter	106	2.000	46	24.3	0.456	0.337	2.4692	
15 minute winter	48	3.000	47	7.7	0.247	0.104	0.7791	
15 minute winter	47	3.001	46	21.7	0.316	0.340	1.0454	
15 minute winter	46	2.001	45	79.2	1.124	1.241	0.8438	
15 minute winter	45	2.002	44	79.5	1.129	1.246	1.3720	
15 minute winter	44	2.003	38	94.0	1.361	1.474	2.3146	
15 minute winter	38	1.005	37	128.7	0.661	0.200	1.3066	
15 minute winter	37	1.006	36	120.8	0.430	0.188	33.0174	
30 minute winter	36	1.007	35	97.9	-0.363	0.152	2.3873	
60 minute winter	59	4.000	58	3.4	0.648	0.238	0.0291	
15 minute winter	58	4.001	56	29.8	0.612	0.345	2.9013	
60 minute winter	57	5.000	56	3.4	0.648	0.238	0.0291	
15 minute winter	56	4.002	49	65.9	0.937	0.991	2.9161	
60 minute winter	54	6.000	53	3.4	0.648	0.238	0.0291	
15 minute winter	53	6.001	51	49.9	0.708	0.773	1.7584	
60 minute winter	52	7.000	51	3.2	0.635	0.219	0.0274	
15 minute winter	51	6.002	49	75.1	1.067	1.165	1.8611	
30 minute winter	50	8.000	49	4.2	0.648	0.290	0.0968	
15 minute winter	49	4.003	35	194.6	2.764	3.051	0.6534	
30 minute winter	35	1.008	34	237.7	0.444	0.369	87.6945	

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Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	104	1	6.265	0.000	0.0	0.0000	0.0000	OK
15 minute winter	103	12	6.173	1.073	29.3	1.5358	0.0000	SURCHARGED
30 minute winter	105	24	5.844	0.054	3.8	1.1617	0.0000	OK
15 minute winter	102	11	6.235	1.335	180.1	6.3921	0.0000	FLOOD RISK
30 minute winter	101	19	6.100	1.260	200.9	3.9816	15.6291	FLOOD
30 minute winter	109	19	6.321	1.071	15.5	1.8433	0.0000	FLOOD RISK
15 minute winter	108	12	6.292	1.112	64.6	3.0407	0.0000	FLOOD RISK
15 minute winter	107	12	6.250	1.120	86.7	2.7418	1.0113	FLOOD
15 minute winter	100	11	6.100	1.302	411.0	63.8883	6.0177	FLOOD
15 minute winter	99	11	5.934	1.234	273.9	2.1798	0.0000	SURCHARGED
15 minute winter	98	12	5.731	1.140	369.9	4.5076	0.0000	SURCHARGED
15 minute winter	110	12	5.531	0.987	393.7	1.9831	0.0000	SURCHARGED
15 minute winter	111	12	5.362	0.789	413.1	1.3660	0.0000	SURCHARGED
30 minute winter	55	23	5.166	0.641	426.3	1.0978	0.0000	SURCHARGED
30 minute winter	34	28	5.108	0.627	645.0	0.0000	0.0000	SURCHARGED
30 minute winter	33	27	5.106	0.831	570.3	0.0000	0.0000	SURCHARGED
30 minute winter	32	27	4.257	0.757	308.5	0.0000	0.0000	OK
15 minute winter	93	11	6.336	0.496	2.8	0.0000	0.0000	FLOOD RISK
15 minute winter	92	11	6.300	1.300	45.0	3.0160	5.0411	FLOOD
15 minute winter	94	11	6.342	0.352	5.8	0.0000	0.0000	FLOOD RISK
15 minute winter	91	11	6.359	1.619	111.1	4.7132	0.0000	FLOOD RISK
15 minute winter	90	11	5.931	1.592	165.8	4.5720	0.0000	FLOOD RISK
15 minute winter	89	11	5.877	1.555	179.0	2.4342	0.0000	FLOOD RISK
30 minute winter	166	26	5.134	0.134	90.0	34.7238	0.0000	OK
15 minute winter	88	11	5.750	1.500	245.0	4.4760	10.6558	FLOOD

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	104	9.000	103	0.0	0.000	0.000	0.0449	
15 minute winter	103	9.001	102	-29.3	-0.319	-0.182	6.2881	
30 minute winter	105	10.000	102	-11.5	0.832	-0.103	0.3182	
15 minute winter	102	9.002	101	165.6	0.766	0.769	6.4419	
30 minute winter	101	9.003	100	122.9	0.933	0.571	4.5131	
30 minute winter	109	11.000	108	10.8	0.221	0.166	1.4299	
15 minute winter	108	11.001	107	64.6	0.917	0.980	0.9902	
15 minute winter	107	11.002	100	72.0	1.164	1.102	2.1126	
15 minute winter	100	9.004	99	273.9	1.268	1.272	10.5662	
15 minute winter	99	9.005	98	279.5	1.294	1.298	11.7634	
15 minute winter	98	9.006	110	362.2	1.677	1.682	5.0353	
15 minute winter	110	9.007	111	396.3	1.835	1.841	2.7901	
15 minute winter	111	9.008	55	415.0	1.921	1.927	4.6840	
30 minute winter	55	9.009	34	425.7	1.986	1.977	2.6438	
30 minute winter	34	1.009	33	570.3	0.817	0.892	150.4454	
30 minute winter	33	1.010	32	308.5	1.947	0.969	3.4420	
30 minute winter	32	Orifice		308.4				750.9
15 minute winter	93	12.000	92	5.7	0.394	0.397	0.0968	
15 minute winter	92	12.001	91	31.6	0.553	0.495	5.5028	
15 minute winter	94	13.000	91	-5.8	0.514	-0.249	0.0968	
15 minute winter	91	12.002	90	79.9	1.135	1.253	5.3045	
15 minute winter	90	12.003	89	170.9	1.078	1.191	1.3671	
15 minute winter	89	12.004	88	181.3	1.144	1.152	4.7508	
30 minute winter	166	14.000	88	-90.0	-2.931	-0.909	0.2238	
15 minute winter	88	12.005	87	193.1	1.219	1.346	4.1770	

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Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	87	11	5.749	1.552	216.5	2.7905	0.0000	FLOOD RISK
15 minute winter	86	11	5.748	1.607	208.9	4.5258	0.0000	SURCHARGED
4320 minute winter	112	4140	5.316	0.641	2.1	2.2486	0.0000	SURCHARGED
4320 minute winter	97	4140	5.316	1.044	3.0	2.7921	0.0000	SURCHARGED
4320 minute winter	116	4140	5.316	0.616	1.1	1.5635	0.0000	SURCHARGED
4320 minute winter	115	4140	5.316	0.716	1.5	1.1459	0.0000	SURCHARGED
4320 minute winter	114	4140	5.316	0.866	2.6	2.6507	0.0000	SURCHARGED
4320 minute winter	113	4140	5.316	1.316	19.6	7.3709	0.0000	FLOOD RISK
4320 minute winter	96	4140	5.316	1.352	7.6	6.1858	0.0000	SURCHARGED
15 minute winter	95	11	5.725	1.807	43.2	3.5586	0.0000	FLOOD RISK
15 minute winter	85	11	5.721	1.861	268.7	5.0270	0.0000	SURCHARGED
15 minute winter	84	11	5.555	1.784	286.4	3.3199	0.0000	FLOOD RISK
15 minute winter	121	11	5.659	1.334	31.8	1.9093	0.0000	FLOOD RISK
15 minute winter	120	11	5.662	1.363	88.5	2.7335	0.0000	FLOOD RISK
15 minute winter	122	14	5.445	0.005	1.3	0.0714	0.0000	OK
15 minute winter	119	11	5.503	1.337	87.3	2.6706	0.0000	SURCHARGED
15 minute winter	118	11	5.420	1.425	85.1	2.0389	0.0000	SURCHARGED
15 minute winter	117	11	5.362	1.262	74.9	1.8053	0.0000	FLOOD RISK
15 minute winter	83	11	5.375	1.734	489.8	5.6459	15.2349	FLOOD
15 minute winter	82	11	5.195	1.605	384.7	4.2137	0.0000	SURCHARGED
240 minute winter	81	232	5.135	1.385	23.8	2.1232	0.0000	FLOOD RISK
15 minute winter	80	11	5.065	1.595	413.1	3.5642	0.0000	SURCHARGED
30 minute winter	79	18	4.900	1.440	405.8	2.5445	26.8018	FLOOD
15 minute winter	156	13	6.591	0.051	2.7	0.2354	0.0000	OK
15 minute winter	155	12	6.736	1.086	48.2	2.1227	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	87	12.006	86	187.9	1.241	1.310	4.4081	
15 minute winter	86	12.007	85	146.6	1.264	0.531	4.4743	
4320 minute winter	112	15.000	97	2.0	0.387	0.005	3.4358	
4320 minute winter	97	15.001	96	2.9	0.082	0.013	8.9944	
4320 minute winter	116	16.000	115	1.3	0.404	0.005	2.3014	
4320 minute winter	115	16.001	114	1.3	0.345	0.005	3.0670	
4320 minute winter	114	16.002	96	2.3	0.087	0.007	6.5337	
4320 minute winter	113	17.000	96	4.6	0.077	0.032	2.8494	
4320 minute winter	96	Hydro-Brake®	95	4.8				
15 minute winter	95	15.003	85	46.2	0.416	0.214	6.2176	
15 minute winter	85	12.008	84	258.9	1.199	1.202	9.5802	
15 minute winter	84	12.009	83	293.0	1.356	1.355	5.8878	
15 minute winter	121	18.000	120	-31.8	-0.452	-0.495	0.5402	
15 minute winter	120	18.001	119	-53.3	-0.757	-0.836	2.8168	
15 minute winter	122	19.000	119	-2.5	0.380	-0.175	0.0590	
15 minute winter	119	18.002	118	84.3	1.197	1.321	0.4371	
15 minute winter	118	18.003	83	86.1	0.717	0.368	6.1364	
15 minute winter	117	20.000	83	-74.9	-0.563	-0.210	4.0085	
15 minute winter	83	12.010	82	320.3	1.137	1.814	21.2145	
15 minute winter	82	12.011	80	381.4	1.354	0.833	7.5999	
240 minute winter	81	Hydro-Brake®	80	2.1				
15 minute winter	80	12.012	79	408.9	1.893	0.927	2.2143	
30 minute winter	79	12.013	27	325.7	1.508	1.559	6.8793	
15 minute winter	156	Orifice	155	0.9				
15 minute winter	155	23.001	154	31.4	0.780	0.369	0.9000	

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Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	154	12	6.734	1.159	88.3	2.1232	0.0000	SURCHARGED
15 minute winter	157	14	6.421	0.081	3.8	0.5899	0.0000	OK
15 minute winter	153	12	6.692	1.217	71.5	1.8737	0.0000	FLOOD RISK
15 minute winter	152	12	6.645	1.345	65.1	2.2727	0.0000	SURCHARGED
15 minute winter	159	11	6.671	1.551	19.9	2.5968	0.0000	SURCHARGED
15 minute winter	158	12	6.574	1.514	75.4	2.8893	0.0000	FLOOD RISK
15 minute winter	151	12	6.575	1.575	167.8	3.3179	0.0000	SURCHARGED
15 minute winter	163	15	6.278	0.038	3.0	0.5858	0.0000	OK
15 minute winter	162	12	6.477	1.002	32.0	1.4332	0.0000	FLOOD RISK
15 minute winter	161	12	6.479	1.104	65.1	2.7691	0.0000	FLOOD RISK
30 minute winter	160	25	5.737	0.072	5.0	1.9410	0.0000	OK
15 minute winter	150	12	6.450	1.775	411.4	11.0139	9.6719	FLOOD
15 minute winter	149	13	6.536	0.786	142.3	1.1249	0.0000	SURCHARGED
15 minute winter	148	12	6.514	1.164	172.4	4.3386	0.0000	FLOOD RISK
15 minute winter	147	12	6.475	1.425	146.8	4.3206	3.6282	FLOOD
15 minute winter	146	13	6.445	1.470	160.6	4.1088	0.0000	FLOOD RISK
15 minute winter	145	12	6.347	1.822	420.1	2.6068	0.0000	SURCHARGED
15 minute winter	144	12	6.247	1.772	423.1	2.5353	0.0000	SURCHARGED
15 minute winter	143	12	6.155	1.720	467.2	3.8679	0.0000	SURCHARGED
4320 minute winter	164	4140	5.317	0.317	1.3	46.9745	0.0000	SURCHARGED
15 minute winter	142	12	6.017	1.632	492.9	3.1004	0.0000	SURCHARGED
4320 minute winter	165	4140	5.317	0.317	1.3	46.9805	0.0000	SURCHARGED
15 minute winter	141	12	5.540	1.365	723.8	7.9176	0.0000	SURCHARGED
4320 minute winter	140	4140	5.324	1.290	22.6	0.0000	0.0000	OK
15 minute winter	16	12	4.943	0.743	7.7	1.0627	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	154	23.002	153	-66.0	1.227	-0.673	0.9004	
15 minute winter	157	24.000	153	-9.7	0.580	-0.668	0.0968	
15 minute winter	153	23.003	152	-65.5	1.047	-0.579	1.1890	
15 minute winter	152	23.004	151	64.5	1.081	0.890	0.8217	
15 minute winter	159	25.000	158	22.0	0.334	0.137	3.8247	
15 minute winter	158	25.001	151	65.1	0.499	0.394	3.5933	
15 minute winter	151	23.005	150	136.8	0.874	0.819	10.2636	
15 minute winter	163	26.000	162	-4.4	0.576	-0.191	0.0968	
15 minute winter	162	26.001	161	-32.0	-0.455	-0.250	0.5281	
15 minute winter	161	26.002	150	46.0	1.260	0.441	1.5251	
30 minute winter	160	27.000	150	-16.7	0.978	-0.133	0.2784	
15 minute winter	150	23.006	145	317.5	1.127	0.958	18.0310	
15 minute winter	149	28.000	148	-142.3	-1.022	-0.572	10.6553	
15 minute winter	148	28.001	147	111.9	0.906	0.461	8.4038	
15 minute winter	147	28.002	146	136.9	1.065	0.445	1.3097	
15 minute winter	146	28.003	145	155.6	1.234	0.635	7.6777	
15 minute winter	145	23.007	144	423.1	1.502	1.150	4.8916	
15 minute winter	144	23.008	143	428.2	1.520	1.142	3.7649	
15 minute winter	143	23.009	142	469.3	1.666	1.208	4.3905	
4320 minute winter	164	29.000	142	-1.6	-0.105	-0.108	0.1320	
15 minute winter	142	23.010	141	489.9	1.739	1.376	21.9083	
4320 minute winter	165	30.000	141	-1.5	-0.106	-0.103	0.1320	
15 minute winter	141	23.011	140	698.7	2.481	1.577	5.0702	
4320 minute winter	140	Flow through pond	113	18.9	0.007	0.000	2125.9280	
15 minute winter	16	31.000	15	8.4	-0.200	0.131	0.9942	

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Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	15	12	4.940	0.787	23.2	1.4295	0.0000	SURCHARGED
15 minute winter	14	12	4.919	0.883	84.2	2.2120	0.0000	SURCHARGED
15 minute winter	17	1	5.240	0.000	0.0	0.0000	0.0000	OK
15 minute winter	13	12	4.765	0.802	89.8	1.2915	0.0000	SURCHARGED
15 minute winter	12	12	4.423	0.602	115.0	1.1356	0.0000	SURCHARGED
1440 minute winter	18	1500	4.408	0.908	17.2	1.6197	0.0000	SURCHARGED
1440 minute winter	11	1470	4.408	0.957	12.4	2.1818	0.0000	SURCHARGED
960 minute winter	10	945	4.445	1.086	6.2	2.0141	0.0000	SURCHARGED
960 minute winter	9	945	4.446	1.474	13.7	6.2345	0.0000	SURCHARGED
360 minute winter	19	352	4.689	1.439	74.1	5.6352	0.0000	FLOOD RISK
960 minute winter	8	945	4.446	1.540	31.9	3.4471	0.0000	SURCHARGED
960 minute winter	7	945	4.446	1.673	31.8	0.0000	0.0000	OK
360 minute winter	130	344	5.137	0.662	1.3	0.9477	0.0000	SURCHARGED
600 minute winter	131	615	5.112	0.012	2.5	23.6454	0.0000	OK
360 minute winter	129	344	5.137	0.961	9.9	2.6407	0.0000	SURCHARGED
360 minute winter	128	344	5.137	0.975	8.6	1.3950	0.0000	SURCHARGED
360 minute winter	127	320	5.137	0.991	8.3	1.4178	0.0000	SURCHARGED
15 minute winter	132	1	5.340	0.000	0.0	0.0000	0.0000	OK
360 minute winter	126	320	5.137	1.012	10.1	1.6662	0.0000	SURCHARGED
15 minute winter	133	1	5.240	0.000	0.0	0.0000	0.0000	OK
240 minute winter	125	232	5.136	1.137	23.3	2.5093	0.0000	SURCHARGED
240 minute winter	136	236	5.136	0.961	0.5	1.3756	0.0000	SURCHARGED
480 minute winter	137	464	5.125	0.135	1.7	11.4190	0.0000	OK
240 minute winter	135	236	5.136	1.011	13.4	2.7247	0.0000	SURCHARGED
240 minute winter	134	236	5.136	0.121	0.4	0.9696	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	15	31.001	14	31.9	0.509	0.500	2.4681	
15 minute winter	14	31.002	13	80.4	1.142	1.264	1.5524	
15 minute winter	17	32.000	13	0.0	0.000	0.000	0.0880	
15 minute winter	13	31.003	12	90.9	1.292	1.426	2.9901	
15 minute winter	12	31.004	11	116.7	1.658	0.775	1.3480	
1440 minute winter	18	33.000	11	-12.3	-0.175	-0.193	1.0334	
1440 minute winter	11	Hydro-Brake®	10	4.3				
960 minute winter	10	31.006	9	-5.0	0.519	-0.079	5.0127	
960 minute winter	9	31.007	8	12.0	0.400	0.065	3.1397	
360 minute winter	19	34.000	8	21.7	0.558	0.033	1.3468	
960 minute winter	8	31.008	7	31.8	0.612	0.175	5.3079	
960 minute winter	7	Flow through pond	4	39.4	0.058	0.002	317.3352	
360 minute winter	130	35.000	129	-1.3	-0.045	-0.020	3.1417	
600 minute winter	131	36.000	129	-2.5	0.296	-0.085	0.2012	
360 minute winter	129	35.001	128	8.6	0.379	0.060	1.0776	
360 minute winter	128	35.002	127	8.3	0.381	0.058	1.2816	
360 minute winter	127	35.003	126	8.1	0.374	0.057	1.7004	
15 minute winter	132	37.000	126	0.0	0.000	0.000	0.0000	
360 minute winter	126	35.004	125	9.9	0.317	0.069	9.9819	
15 minute winter	133	38.000	125	0.0	0.000	0.000	0.0000	
240 minute winter	125	35.005	124	22.8	0.411	0.131	4.4081	
240 minute winter	136	39.000	135	0.6	-0.055	0.008	0.6293	
480 minute winter	137	40.000	135	-1.8	-0.136	-0.124	0.0868	
240 minute winter	135	39.001	124	12.4	0.533	0.194	1.2265	
240 minute winter	134	41.000	124	-0.5	-0.082	-0.035	0.0820	

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Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	124	232	5.136	1.219	41.8	2.5087	0.0000	SURCHARGED
360 minute winter	123	328	5.138	1.384	30.3	0.0000	0.0000	OK
960 minute winter	4	945	4.442	1.692	40.9	0.6413	0.0000	FLOOD RISK
960 minute winter	3	945	4.435	1.740	20.7	4.4294	0.0000	SURCHARGED
15 minute winter	2	1208	1.834	0.094	20.5	0.1348	0.0000	OK
15 minute winter	1	1208	1.203	0.093	20.5	0.0000	0.0000	OK
15 minute winter	65	12	4.866	0.791	17.4	1.1323	0.0000	SURCHARGED
15 minute winter	64	12	4.865	0.842	39.5	1.2050	0.0000	SURCHARGED
15 minute winter	63	12	4.860	0.913	73.8	2.8149	0.0000	FLOOD RISK
960 minute winter	66	945	4.443	0.193	5.3	39.4555	0.0000	FLOOD RISK
15 minute winter	62	12	4.733	0.908	90.7	1.9761	0.0000	SURCHARGED
15 minute winter	61	12	4.566	0.806	120.3	1.6723	0.0000	SURCHARGED
960 minute winter	60	945	4.445	0.833	8.1	0.0000	0.0000	OK
15 minute winter	73	14	4.575	0.075	3.1	0.5030	0.0000	OK
15 minute winter	72	12	4.764	0.564	22.3	1.0452	0.0000	SURCHARGED
15 minute winter	74	14	4.574	0.074	3.0	0.4889	0.0000	OK
15 minute winter	71	12	4.757	0.624	34.5	1.0509	0.0000	SURCHARGED
30 minute winter	75	28	4.599	0.349	19.0	10.9086	0.0000	SURCHARGED
15 minute winter	70	12	4.731	0.690	51.6	1.3709	0.0000	SURCHARGED
15 minute winter	69	12	4.678	0.528	23.8	0.7557	0.0000	SURCHARGED
15 minute winter	68	12	4.643	0.721	159.8	3.0539	0.0000	SURCHARGED
960 minute winter	67	945	4.445	0.833	12.9	0.0000	0.0000	OK
960 minute winter	25	930	4.444	0.669	0.3	0.9574	0.0000	SURCHARGED
960 minute winter	24	960	4.442	0.760	1.5	1.4138	0.0000	SURCHARGED
960 minute winter	23	945	4.443	0.867	14.6	3.7487	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	124	35.006	123	41.3	0.618	0.213	2.9312	
360 minute winter	123	Flow through pond	81	14.6	0.010	0.000	204.2714	
960 minute winter	4	42.000	3	20.7	0.440	0.316	1.1091	
960 minute winter	3	Hydro-Brake®	2	20.5				
15 minute winter	2	42.002	1	20.5	1.095	0.212	1.5526	1605.8
15 minute winter	65	43.000	64	-17.4	-0.374	-0.273	1.0953	
15 minute winter	64	43.001	63	-39.5	-0.581	-0.619	1.6099	
15 minute winter	63	43.002	62	59.8	0.850	0.925	2.5054	
960 minute winter	66	44.000	62	-5.3	-0.377	-0.164	0.1643	
15 minute winter	62	43.003	61	86.4	1.227	1.355	1.4295	
15 minute winter	61	43.004	60	118.8	1.687	1.705	1.9541	
960 minute winter	60	Flow through pond	21	11.4	0.054	0.002	673.8144	
15 minute winter	73	47.000	72	-6.2	0.840	-0.202	0.0880	
15 minute winter	72	47.001	71	20.0	0.606	0.313	1.4083	
15 minute winter	74	48.000	71	-5.6	0.907	-0.148	0.0865	
15 minute winter	71	47.002	70	31.2	0.600	0.489	1.9456	
30 minute winter	75	49.000	70	5.2	0.886	0.238	0.0865	
15 minute winter	70	47.003	68	54.0	0.859	0.847	2.5220	
15 minute winter	69	50.000	68	-23.8	-0.445	-0.322	3.5967	
15 minute winter	68	47.004	67	146.4	2.080	0.745	0.6162	
960 minute winter	67	Flow through pond	21	11.4	0.054	0.002	673.8144	
960 minute winter	25	45.000	24	-0.3	-0.021	-0.005	1.9670	
960 minute winter	24	45.001	23	1.4	0.204	0.022	2.2448	
960 minute winter	23	45.002	22	14.1	0.789	0.096	0.7042	

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Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	22	945	4.443	1.043	14.1	1.1796	0.0000	SURCHARGED
15 minute winter	31	11	4.861	0.636	24.3	1.1065	0.0000	SURCHARGED
15 minute winter	30	11	4.854	0.804	81.7	2.1905	0.0000	SURCHARGED
15 minute winter	29	11	4.711	0.811	156.2	2.2786	0.0000	SURCHARGED
1440 minute winter	28	1440	4.409	0.881	7.4	0.0000	0.0000	OK
60 minute winter	78	42	4.712	0.022	1.9	0.8382	0.0000	OK
15 minute winter	77	11	4.985	1.110	97.9	3.5373	0.0000	SURCHARGED
15 minute winter	76	11	4.820	1.120	81.5	1.2664	0.0000	FLOOD RISK
960 minute winter	6	945	4.443	1.343	17.0	1.5187	0.0000	FLOOD RISK
960 minute winter	5	930	4.445	1.672	14.7	0.0000	0.0000	OK
960 minute winter	21	945	4.442	0.942	21.9	2.3329	0.0000	SURCHARGED
960 minute winter	20	945	4.442	1.042	15.1	1.4918	0.0000	SURCHARGED
60 minute winter	27	39	4.748	1.348	363.5	2.9017	0.0000	FLOOD RISK
360 minute winter	26	352	4.692	1.395	122.3	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	22	45.003	6	17.0	0.648	0.151	1.0285	
15 minute winter	31	51.000	30	24.1	0.395	0.268	1.8727	
15 minute winter	30	51.001	29	79.0	1.121	0.849	1.5013	
15 minute winter	29	51.002	28	153.2	2.175	1.558	0.8978	
1440 minute winter	28	Flow through pond	18	-5.2	0.006	0.000	745.5053	
60 minute winter	78	22.000	77	-3.4	0.509	-0.101	0.0942	
15 minute winter	77	22.001	76	81.5	1.287	0.814	1.5140	
15 minute winter	76	22.002	27	80.7	1.178	0.965	0.9274	
960 minute winter	6	45.004	5	14.7	0.815	0.046	3.2481	
960 minute winter	5	Flow through pond	4	39.4	0.058	0.002	317.3352	
960 minute winter	21	46.000	20	-14.9	0.832	-0.059	2.6143	
960 minute winter	20	46.001	6	-15.1	0.741	-0.039	3.2993	
60 minute winter	27	12.014	26	362.6	1.679	1.125	2.4302	
360 minute winter	26	Flow through pond	19	63.0	0.072	0.003	933.5906	

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