

Job Name:	Lands at Burfield Valley and Reef Way
Job No:	49366-2001
Note No:	TN01
Date:	30/07/2020
Prepared By:	Anthony Thorpe
Subject:	Drainage Statement & Planning comment responses for the 6 Home Development

1. Introduction

- 1.1. Persimmons Homes South East have commissioned Stantec UK Limited to provide drainage advice associated with a change in land use on an individual plot adjacent Reef Way, Hailsham, East Sussex.
- 1.2. This note is intended to support planning application WD/2018/1271/F and respond to planning comments and requirements provided on 16.01.2020 & 17.01.2020.
- 1.3. This note should be read in conjunction with the following documents:
 - 49366-2001-TN03
- 1.4. This note is deemed to supersede PBA document 43124 TN002 issued on 22/05/2018.

2. Site Proposal

- 2.1. The existing site is an area adjacent to Reef Way which previous developments in the area have left as soft landscaping. The current site proposal would see this land replaced by 6 new dwellings.
- 2.2. The following extracts shown the original and proposed layouts for the area:



Figure 2.1 - Extract from Hillreed Homes Master Access Plan and Proposed Illustrative Layout (2010)

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Figure 2.2 - Extract from ECE Architecture DWG No. 6491/202

3. Planning Comments

- 3.1. A planning application for the site has previously been submitted with supporting drainage statements and documents. Below are comments received from East Sussex County Council (ESCC) and Wealden District Council (WDC). The current design has been developed based on these comments and responses can be seen in section 4.1 and 4.2 for ESCC and WDC respectively.
- 3.2. ESCC Comments received on 17/01/2020:
 - 3.2.1. "There have been a few planning applications seeking to make changes to the details approved under permission WD/2009/2705/MEA. Most of the changes resulted in increased impermeable area compared to that allowed for in the design of the strategic drainage system. However each drainage capacity assessment undertaken in support of the proposed changes only assessed the impact of that particular change. **Therefore, there is the risk that the cumulative impact of all the proposed changes will result in unacceptable flooding within the strategic network**. It is not yet clear whether this drainage system has already been adopted by Southern Water, if it is adopted the water company usually carries out the capacity assessment.
 - 3.2.2. The drainage capacity assessment only considers the impact of the proposed six dwellings. It also gives an indication of the anticipated flooding in the strategic drainage network following connection of the proposed development at two manholes. It is also not clear whether the surface water runoff from this plot will be attenuated. The assessment should use 40% allowance for climate change for this proposal as it is a new application and is not part of the approved scheme of permission WD/2009/2705/MEA.

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- 3.2.3. The capacity assessment of the strategic drainage network in Reef Way should take into account all the additional connections and impermeable area being proposed by the various applications. This should also include the capacity of the attenuation ponds to receive the additional volume. We are aware that the resulting flooding on the highway to be adopted was agreed by East Sussex Highways when considering only one of the plots. However, it could be that the resulting highway flooding when considering all the additional impermeable area would be unacceptable to the highway authority.
- 3.2.4. The application site drains surface water runoff to the Pevensey and Cuckmere Water Level Management Board drainage district, which is downstream of the application site. Therefore the applicant should apply for consent to discharge surface water runoff into the Water Level Management Board's area as required by the Board's Byelaw 3, which is the process by which the Board agrees the proposed discharge rates."
- 3.3. WDC Comments received on 16/01/2020:
 - 3.3.1. "The latter states that surface water will be discharged to a main sewer via a SUDs scheme. The Technical Note amplifies this by stating that it will discharge into the existing surface water sewer in the highway outside the site. I am unsure as to whether this has been, or is intended to be, adopted as public. The site is proposed to be drained in two parts, which will drain to the same existing surface water sewer with two different connection points. I am not aware of any agreement by Southern Water or the private owners of the existing system to these staggered (or any) connections.
 - 3.3.2. There is no mention of any storage or hydrobraking arrangements on the two parts of the system so all discharge from these areas will be unchecked. Values for the discharge rates are given. For a 1 in 100 year event, it is noted that this will cause additional flooding elsewhere on the parts of the estate which are already constructed. Whilst this is stated to be a small increase "retained in highway or public land" rather than properties, this is wholly unacceptable as the clear aim of the national planning system is for new development not to increase the flood risk elsewhere.
 - 3.3.3. The calculations provided have been made using a 30% climate change allowance. Reworking to the correct 40% allowance will obviously further increase the flooding and surcharging. This site and the others in the area eventually drain to a chain of attenuation ponds to the east of the application site. Sufficient room exists on the ground for these storage devices to be upsized to accommodate the water which the system cannot cope with at present. The pipe sizes and available storage need to be redesigned to accommodate all water without using the highway or public areas as a flood storage device. The whole system will need to be adequate for all the development areas feeding into it, both existing and proposed.
 - 3.3.4.1 understand that there are concerns with pollution control and would suggest that suitable devices for the area as a whole need to be provided in the vicinity of the attenuation ponds. This is of particular importance with the Pevensey Levels Ramsar site just downstream of the site.
 - 3.3.5.No comments on maintenance are provided.
 - 3.3.6. For the reasons given above I would object to this proposed surface water scheme.
 - 3.3.7. Provision of foul sewage drainage is a matter for Southern Water to comment on."

4. Comment Responses

4.1. Responses to ESSC Comments:

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- 4.1.1.Technical note 49366-2001-TN03 should be read in conjunction with this document. The technical note covers the combined effect that the multiple land use changes across the development will have on the existing sewer. It highlights that there is an overall reduction in flood volumes experienced within the existing sewer network during a 1 in 100 year +40% climate change event. The existing sewer has not yet been adopted by Southern Water but is in the process of being offered for adoption.
- 4.1.2.Section 5 of this document shows the re-design of the surface water drainage networks. The re-design assesses the impact of 1 in 100 +40% climate change events in line with current government guidance.
- 4.1.3. Section 5 of this document shows the volume of flooding expected within the highways as a direct result of the land use changes highlighted in section 2. The flood volume within the highways is maintained at or below existing levels. For the combined effect of multiple land use changes, refer to Technical note 49366-2001-TN03.
- 4.1.4. The Pevensey and Cuckmere Water Level Management Board has not yet been consulted. It is intended that the management board will be contacted.
- 4.2. Responses to WDC Comments:
 - 4.2.1. The existing sewer that the development proposes to connect to is not yet adopted by Southern Water but is in the process of being offered for adoption. The current owner of the sewer is therefore the contractor (Persimmons Homes). It is therefore assumed that connections onto the sewer are accepted by the sewer owner and changes will be written into future adoption agreements with Southern Water. A re-design of the development network has reduced the development to a single connection point (refer to Section 5 for details).
 - 4.2.2. As part of the development redesign (Section 5), a flow control has been added to the development discharge point. The re-design has assessed the impact of the development to the wider highways network and determined that there is no increase in flood risk if attenuation is provided.
 - 4.2.3. The development redesign has assessed flood volumes up to the 1 in 100-year + 40% climate change event in line with current government guidance. An assessment of the overall impact from the multiple land use changes on the existing surface water network has been undertaken (see Technical Note 49366-2001-TN03). It has determined that there is an overall decrease in flood volume from that of the existing approved network (under planning application WD/2009/2705/MEA). As a result, the only additional attenuation facilities introduced are plot specific.
 - 4.2.4. The potential resultant pollution from the development has been mitigated in line with the Ciria document C753 The SuDS Manual (an industry recognised document). The development utilises catchpits and trapped gullies to mitigate the 5mm first flush pollutants and connects into an established attenuation pond. Refer to section 5 for specific details.

5. Surface Water Re-design

- 5.1. Existing Surface Water
 - 5.1.1.The development is not currently served by any existing drainage network (private or adopted), however the adjacent road and turning head contain surface water drains. It is intended that both these drains will be offered for adoption.

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5.1.2. The extract below, from PBA drawing 24336/003/010 Rev D, shows the main surface water network running down reef way as a 225mm dia. pipe and the pipe within the turning head as a 150mm dia. pipe



Figure 5.1 - Extract from PBA Drawing 24336/003/010 Rev D

5.2. Proposed Design Parameters

5.2.1.Rainfall data: Flood Studies Report

- R = 0.356
- M5-60 = 20.3mm

5.2.2.Storm Return Period

- 1 in 1-year No surcharging (except where flow controls exist)
- 1 in 30-year (Worst case storm) No flooding
- 1 in 100-year +40% (Worst case event) No internal flooding of buildings, no increase in flooding off-site
- 5.2.3.PIMP coefficient 100% runoff assumed from impermeable surfaces
- 5.2.4.Catchment Area 0.28ha Total, 0.13ha considered impermeable
- 5.3. Proposed Surface Water
 - 5.3.1.The proposed site consists of 0.28ha. 0.12ha are considered impermeable and 0.16ha are considered permeable. It is assumed that the 0.12ha shall drain into the surface water sewer, while the 0.16ha shall drain to ground (as per existing conditions). A small consideration for land creep has been given to the catchment area (4% based on Table 3 of KCC's Drainage and Planning Policy). The total drainable catchment area is therefore 0.13ha (refer to Stantec drawing 49366-2001-502 for catchment areas).

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5.3.2. Since the proposed site has not been considered as part of the wider drainage network, it is expected that the additional area will result in flooding during extreme storm events if not restricted and attenuated.

Table 5.1 shows the modelled flood volumes for the network during a 1 in 100+40% storm pre-development and post development assuming no flow control is used.

Manhole Ref	<i>Flooded volume during Worst Case 1 in 100-year +40% Storm</i> <i>Event, m</i> ³						
	Pre-Development	Post-Development	Change in Volume				
S2	0.662	0.662	0.000				
S3	5.389	5.389	0.000				
S4	4.781	4.781	0.000				
S5	0.553	0.552	-0.001				
S12	1.109	1.109	0.000				
S14	6.340	7.076	0.736				
S21	6.362	8.858	2.496				
S26	18.500	18.606	0.106				
S30	11.345	11.490	0.145				
S31	7.761	7.914	0.153				
S36	0.125	0.125	0.000				
S37	8.605	8.604	-0.001				
S49	5.122	5.128	0.006				
S57	6.499	7.139	0.640				
S58	2.988	4.265	1.277				
S59	59 22.800 27.080		4.280				
S76	29.337	30.712	1.375				
S89	4.855	4.855	0.000				
Total	143.133	154.345	11.212				

- 5.3.3. As table 5.1 shows, the introduction of the 6 homes will cause the overall network to flood by an additional 11.212m³. This is a very small volume of water spread across several locations on the site. Since the development falls under a new planning application it is considered a new site the site should not cause additional flooding outside of it. Thus, a flow control with attenuation is required.
- 5.3.4. A nominal flow of 5 l/s has been taken as a maximum flow for all storm events. This is achieved using a hydrobrake.
- 5.3.5.An additional manhole chamber has been introduced within Reef Way. This will act as an outfall location and will restrict flows that arise from the footway running along the plots.
- 5.3.6.Preliminary attenuation assessments (See Appendix C) have determined that approximately 45 m³ attenuation will be required to ensure there is no flooding during the 1 in 100+40%. This volume has been achieved using attenuation crates, oversized pipes, and oversized manholes.
- 5.3.7. The proposed design is shown on Stantec drawing 49366-2001-501

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Table 5.2 shows the perceived flood volumes for the network during a 1 in 100+40% storm event pre-development and post development (with and without a flow control)

Manhole Ref	Flooded volume during Worst Case 1 in 100-year +40% Storm Event, m ³						
	Pre-Development	Post-Development	Change in Volume				
S2	0.662	0.662	0.000				
S3	5.389	5.389	0.000				
S4	4.781	4.781	0.000				
S5	0.553	0.552	-0.001				
S12	1.109	1.109	0.000				
S14	6.340	6.340	0.000				
S21	6.362	5.543	-0.819				
S26	18.500	18.458	-0.042				
S30	11.345	11.296	-0.049				
S31	7.761	7.712	-0049				
S36	0.125	0.125	0.000				
S37	8.605	8.604	-0.001				
S49	5.122	5.117	-0.005				
S57	6.499	6.140	-0.359				
S58	2.988	2.813	-0.175				
S59	22.800	22.239	-0.561				
S76	29.337	29.105	-0.232				
S89	4.855	4.855	0.000				
Total	143.133	140.840	-2.293				

- 5.3.8. As table 5.2 shows, if the site discharge rate is restricted to 5.0 l/s and attenuated during extreme storm events, the overall site flooded volume will reduce from the existing conditions (reduction of 2.293m³) and not increase flood risk downstream.
- 5.3.9.The overall effect the proposed development has on the existing drainage strategy is positive.
- 5.4. Pollution Considerations
 - 5.4.1.Government guidance (pollution prevention for businesses) suggests that car parks larger than 800m² may need an oil separator or an alternative method of water treatment (such as sustainable drainage (SuDS)) to protect against hydrocarbons. The site has a single outfall discharging private driveways less than 800m² in total area. Thus, the site does not require the specific pollution control under government guidance.
 - 5.4.2.It is generally good practise to assess the pollution impact from a site. Since a large SuDS pond is situated downstream of the site, it would be appropriate to consider this as an existing pollution treatment feature. As the entire network has been required for analysis, it should then be acceptable that this can act also as pollution control.

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5.4.3. The surface water run-off catchment area is 0.13ha and consists of roof area and private driveways. The SuDS manual simple index approach to classifying pollution hazards identifies roof areas and private car parks as very low and low risk. These types of land use are characterised as having the following pollution levels:

Land Use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydro- carbons
Residential Roofs	Very Low	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie <300 traffic movements/day	Low	0.5	0.4	0.4

5.4.4.To mitigate the pollution through the simple index approach, any treatment facility/SuDS must have a TSS, Metals, and hydrocarbon mitigation value higher than that produced by the land use (see table 5.4). i.e. for individual property driveways, the mitigation index for hydrocarbons must be 0.4 or greater.

Table 5.4 – Pollution mitigation by treatment feature. Extract of Table 26.3 from the SuDS

 Manual

	Mitigation Indices				
Treatment feature	Total suspended solids (TSS)	Metals	Hydro-carbons		
Ponds	0.7	0.7	0.5		

- 5.4.5. As shown in the table above, ponds can provide sufficient pollution mitigation for the individual property driveways and residential roofs. Thus, the existing and established pond should be considered capable of treating flows arising from the site.
- 5.4.6. The SuDS manual also highlights the principle of first flush, which theorises that the majority contaminants from a site are washed into sewer systems within the first 5mm of rainfall. Without mitigation, contaminants can overwhelm treatment features. Traditional trapped gullies, manhole catchpits, and sumps are all capable of containing this first 5mm of rainfall provided regular maintenance is undertaken. The site is collected via trapped gullies and discharge manhole have catchpit.

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6. Foul Water

- 6.1. Existing Foul Water
 - 6.1.1.The proposed development is not currently served by any existing drainage network (private or adopted), however the adjacent road contains an adoptable foul water drain.
 - 6.1.2. The extract below, from PBA drawing 24336/003/007 Rev F, shows the main surface water network running down reef way as a 150mm dia. pipe.

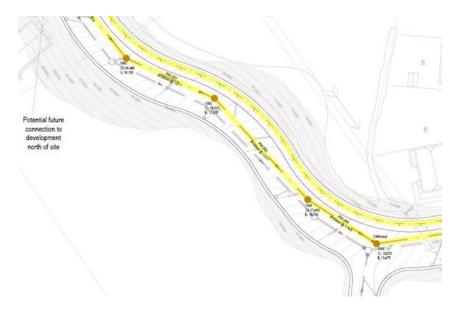


Figure 5.1 - Extract from PBA Drawing 24336/003/007 Rev F

- 6.2. Proposed Foul Water
 - 6.2.1.Since the plot was not originally considered during the design process, it is expected that introducing these houses will increase the overall foul water discharge volume.
 - 6.2.2. Following Sewers Sector Guidance Appendix C Design and Construction Guidance the peak flow from residential buildings is regarded as 4000 l/day/dwelling. The proposed plot development includes 6 dwellings;

Q= 6 x 4000 / (24 x 60 x60) = 0.27 l/s peak or 0.04 l/s DWF

- 6.2.3.The overall peak foul flow for the development is 16.55 l/s (based on PBA S104 Foul Sewer Design). The expected increase in peak flow is 1.6% of the total foul flow.
- 6.2.4. Technical note 49366-2001-TN02 shows that a reduction in proposed peak foul flows (0.4l/s) with a change in land use. This is greater than the 0.27 l/s gain from these additional 6 houses, thus the capacity within the foul water network should not be negatively impacted.
- 6.2.5. The proposed design is shown on Stantec drawing 49366-2001-501

7. Conclusions

7.1. The existing surface water network is sufficiently sized to accommodate the additional surface water flows from the development outlined in section 2.2, provided the flow control and attenuation volumes stated in section 5 are provided.

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	Original Design	Proposed Arrangement
Storm Event	Level of Flooding	Level of Flooding
1 in 1-year	No Flooding	No Flooding
1 in 30-year	No Flooding	No Flooding
1 in 100-year + 40% CC	143.33 m ³ Flooding	140.840 m ³ Flooding

Table 6 - Summary of Flooding

- 7.2. The table above shows that the proposed drainage strategy has an overall positive effect on the development. Thus, no additional site wide upgrades should be considered.
- 7.3. The existing SuDS features are considered sufficient in mitigating and pollution arising from the development, in line with best practise.
 - 7.4. Any foul water drainage coming from the plots is anticipated to connect to the existing network within Reef Way.

DOCUMENT ISSUE RECORD

Technical Note No	Rev	Date	Prepared	Checked	Reviewed (Discipline Lead)	Approved (Project Director)
49366/2001/TN01	-	12.08.20	AT	DC	PH	PH

This report has been prepared by Stantec UK Limited ('Stantec') on behalf of its client to whom this report is addressed ('Client') in connection with the project described in this report and takes into account the Client's particular instructions and requirements. This report was prepared in accordance with the professional services appointment under which Stantec was appointed by its Client. This report is not intended for and should not be relied on by any third party (i.e. parties other than the Client). Stantec accepts no duty or responsibility (including in negligence) to any party other than the Client and disclaims all liability of any nature whatsoever to any such party in respect of this report.

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APPENDIX A

Planning Comments – ESSC Comments

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Working in partnership with

Claire Turner Wealden District Council Council Offices Vicarage Lane, Hailsham BN27 2AX

Date: 17 January 2020

Our ref:SUD/PC/WD/20/001 Your ref:WD/2018/1271/F

Dear Mrs Turner

SUD/PC/WD/20/001 - Construction of 6 dwellings ...with associated car parking and landscaping, Land Adjacent to Reefway, Hailsham

Received Date: 8 January 2020

Position of the Pevensey and Cuckmere Water Level Management Board and Lead Local Flood Authority: No objection The information provided is satisfactory and enables the PCWLMB and LLFA to determine that the proposed development is capable of managing flood risk effectively. The information provided is satisfactory and enables the The information provided is satisfactory and enables the

	development is capable of managing flood risk effectively.	
No objection	The information provided is satisfactory and enables the PCWLMB and LLFA to determine that the proposed development is capable of managing flood risk effectively. Although there will be a need for standard conditions which are outlined in this response.	
No objection in principle subject to the imposition of conditions	Whilst the application documentation has not met all the County Council's and the Board's requirements, it is possible that the risk is capable of being mitigated to acceptable levels by the application of planning conditions which are outlined in this response.	
Objection due to Insufficient Information	The applicant has failed to meet the requirements to assess its acceptability in flood risk terms. The PCWLMB and LLFA will respond in 21 days of receipt of the requested information	x
Objection	The application presents an unacceptable on site/off site flood risk.	

Cont./...

Pevensey and Cuckmere Water Level Management Board and East Sussex County Council are working together to advise planning authorities on the impact of development on local flood risk within the Board's catchment

Detailed Comments:

It is our understanding that the proposals involve developing land which was intended to remain green space under planning permission WD/2009/2705/MEA. It is also our understanding that the drainage system which was constructed to implement permission WD/2009/2705/MEA was designed to serve only the details under conditions of the permission.

There have been a few planning applications seeking to make changes to the details approved under permission WD/2009/2705/MEA. Most of the changes resulted in increased impermeable area compared to that allowed for in the design of the strategic drainage system. However, each drainage capacity assessment undertaken in support of the proposed changes only assessed the impact of that particular change. Therefore, there is the risk that the cumulative impact of all the proposed changes will result in unacceptable flooding within the strategic network. It is not yet clear whether this drainage system has already been adopted by Southern Water, if it is adopted the water company usually carries out the capacity assessment.

The drainage capacity assessment only considers the impact of the proposed six dwellings. It also gives an indication of the anticipated flooding in the strategic drainage network following connection of the proposed development at two manholes. It is also not clear whether the surface water runoff from this plot will be attenuated. The assessment should use 40% allowance for climate change for this proposal as it is a new application and is not part of the approved scheme of permission WD/2009/2705/MEA.

The capacity assessment of the strategic drainage network in Reef Way should take into account all the additional connections and impermeable area being proposed by the various applications. This should also include the capacity of the attenuation ponds to receive the additional volume. We are aware that the resulting flooding on the highway to be adopted was agreed by East Sussex Highways when considering only one of the plots. However, it could be that the resulting highway flooding when considering all the additional impermeable area would be unacceptable to the highway authority.

The application site drains surface water runoff to the Pevensey and Cuckmere Water Level Management Board drainage district, which is downstream of the application site. Therefore the applicant should apply for consent to discharge surface water runoff into the Water Level Management Board's area as required by the Board's Byelaw 3, which is the process by which the Board agrees the proposed discharge rates.

If you or the applicant/agent wishes to discuss any of the points raised in this letter, please contact the case officer on <u>SUDS@eastsussex.gov.uk</u>

Yours sincerely

Nick Claxton

Nick Claxton Team Manager - Flood Risk Management On behalf of the Lead Local Flood Authority, ESCC and Pevensey and Cuckmere WLMB

Case Officer: Revai Kinsella T: 01273 335534 E: <u>SUDS@eastsussex.gov.uk</u>





Planning Comments – WDC Comments

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My reference GK/LV8000

ask for Graham Kean

date 16 January 2020

MEMORANDUM

Mrs C Turner, Planning

your reference

Wealden District Council

Council Offices, Vicarage Lane Hailsham East Sussex BN27 2AX

website : www.wealden.gov.uk

Planning Application WD/2018/1271/F Reef Way, Hailsham

I write further to our discussions of 15 January 2020 regarding the above planning application and would have the following comments. I have not commented on this application previously as it is de minimus for SUDs purposes as a stand-alone site. However, in this context in constitutes six further dwellings being added to a developing SUDs scheme for the Burfield Valley site. No new information appears to have been submitted on the surface water arrangements at this location since August 2018.

No drainage plan is submitted so I am relying on information supplied in the Technical Note, dated 22 May 2018 and the planning application form.

The latter states that surface water will be discharged to a main sewer via a SUDs scheme. The Technical Note amplifies this by stating that it will discharge into the existing surface water sewer in the highway outside the site. I am unsure as to whether this has been, or is intended to be, adopted as public. The site is proposed to be drained in two parts, which will drain to the same existing surface water sewer with two different connection points. I am not aware of any agreement by Southern Water or the private owners of the existing system to these staggered (or any) connections.

There is no mention of any storage or hydrobraking arrangements on the two parts of the system so all discharge from these areas will be unchecked. Values for the discharge rates are given. For a 1 in 100 year event, it is noted that this will cause additional flooding elsewhere on the parts of the estate which are already constructed. Whilst this is stated to be a small increase "retained in highway or public land" rather than properties, this is **wholly unacceptable** as the clear aim of the national planning system is for new development not to increase the flood risk elsewhere.

The calculations provided have been made using a 30% climate change allowance. Reworking to the correct 40% allowance will obviously further increase the flooding and surcharging.

This site and the others in the area eventually drain to a chain of attenuation ponds to the east of the application site. Sufficient room exists on the ground for these storage devices to be upsized to accommodate the water which the system cannot cope with at present. The pipe sizes and available storage need to be redesigned to accommodate all water without using the highway or public areas as a flood storage device. The whole system will need to be adequate for all the development areas feeding into it, both existing and proposed.

I understand that there are concerns with pollution control and would suggest that suitable devices for the area as a whole need to be provided in the vicinity of the attenuation ponds. This is of particular importance with the Pevensey Levels Ramsar site just downstream of the site.

No comments on maintenance are provided.

For the reasons given above I would **object** to this proposed surface water scheme.

Provision of foul sewage drainage is a matter for Southern Water to comment on.

For information, please note that the development may increase the rate and/or volume of water being discharged into the Pevensey Levels Internal Drainage District (compared to the status quo), and so an application may need to be made to the Pevensev & Cuckmere Water Level Management Board seeking consent under the terms of its Byelaws. If it is considered that a proposed increase in flows can be safely and adequately dealt with by the receiving waterbody and wider drainage network, then consent may be issued (although consent is not guaranteed to be given). Any permission granted by the Board would be subject to conditions, usually including entry into a legal agreement and the payment of a Surface Water Development Contribution to the Board. Details and further information be found can at https://www.wlma.org.uk/uploads/WMA Table of Charges and Fees.pdf . Further details regarding the Board's application procedure and associated payments which may become due are also available on this website.

Please contact Graham Kean on extension 3126 if you wish to discuss the matter further or to meet on site.

Graham Kean Engineer and Countryside Officer

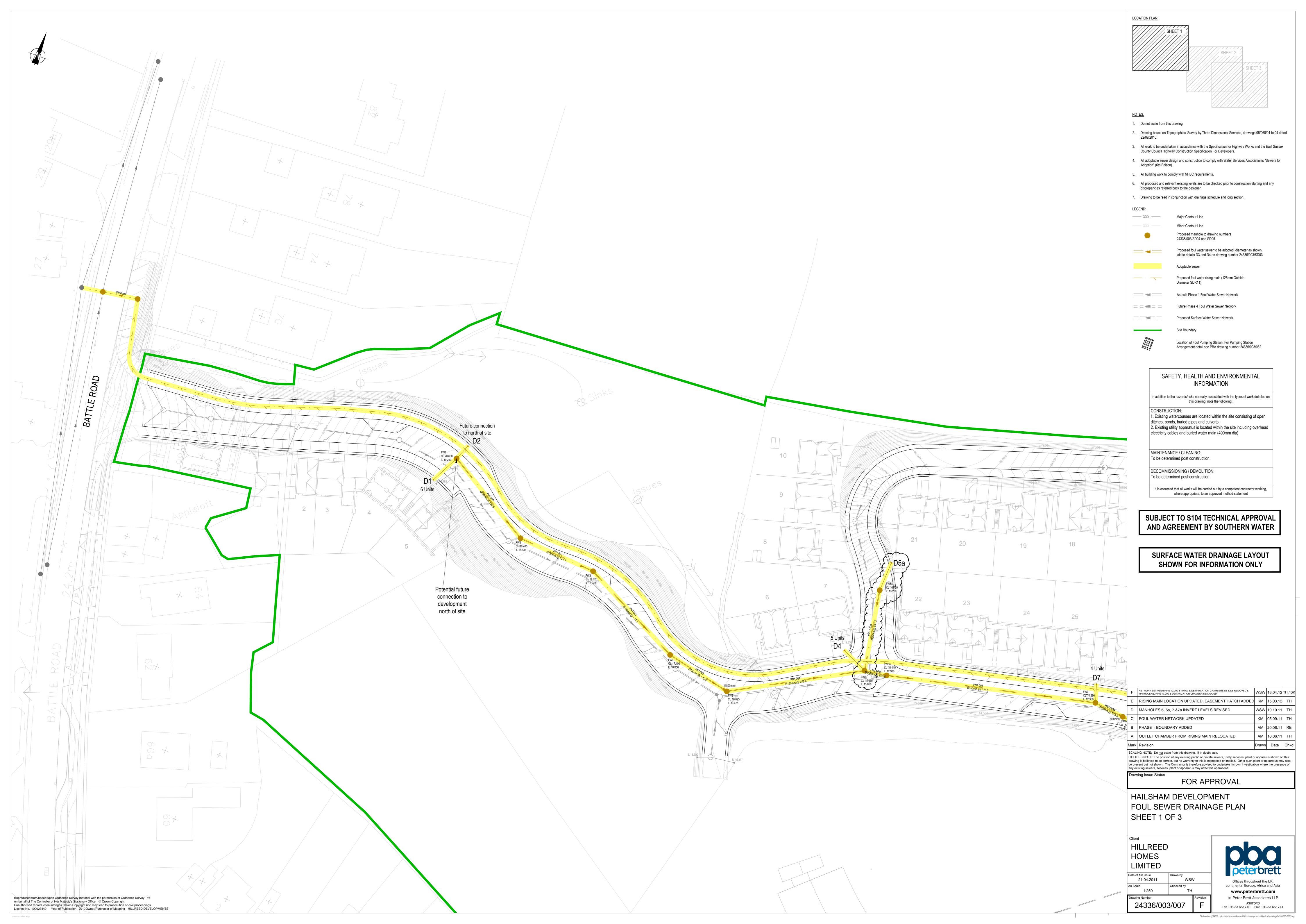




APPENDIX B

Drawings

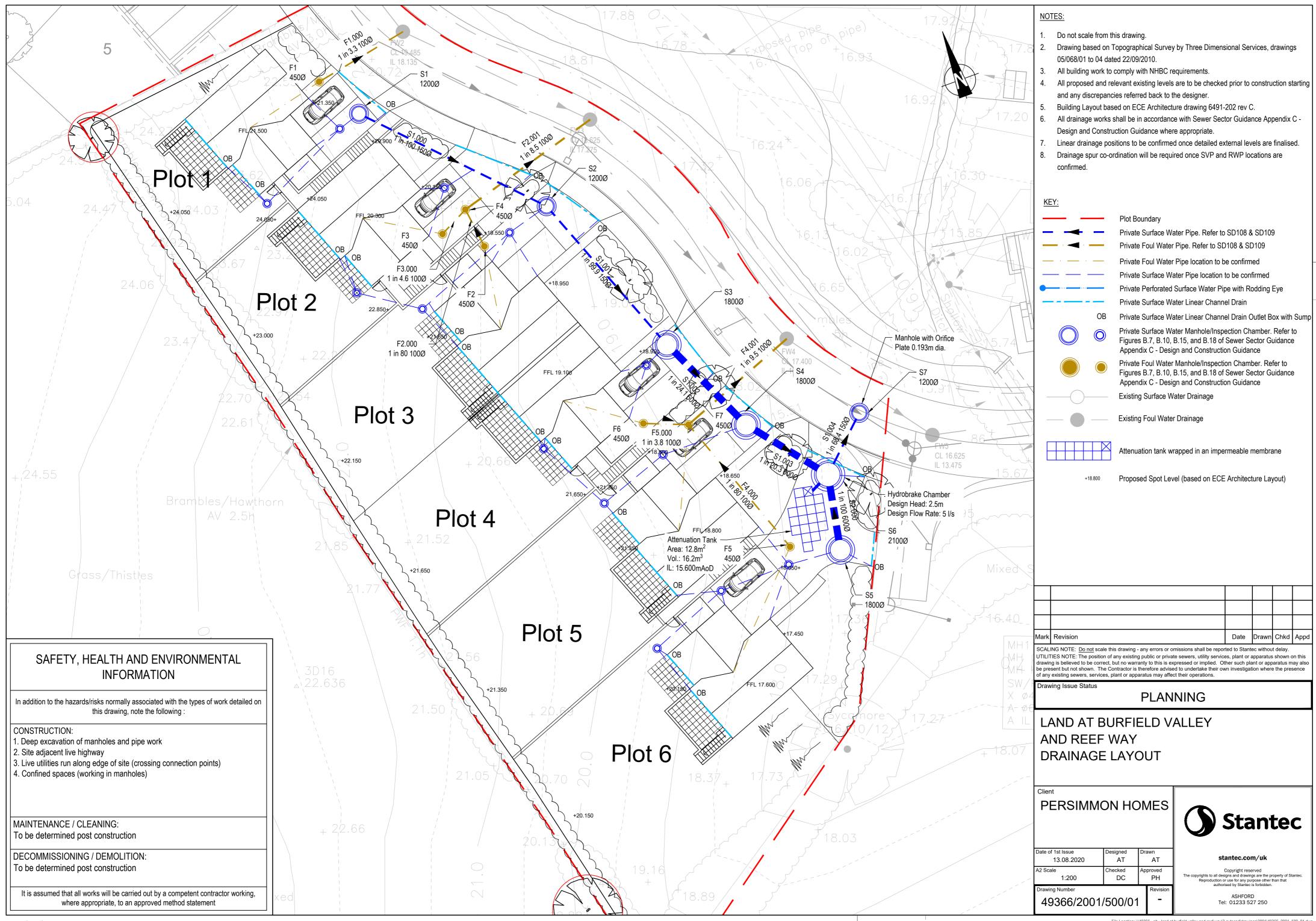
\\Ash-vfps-001.pba.int\ash\Projects\49366 - PH - Land at Burfield Valley and Reef Way\BRIEF 2001 - Detailed Drainage Review\TECHNICAL NOTES\49366-2001-TN01\49366-2001-TN01.docx

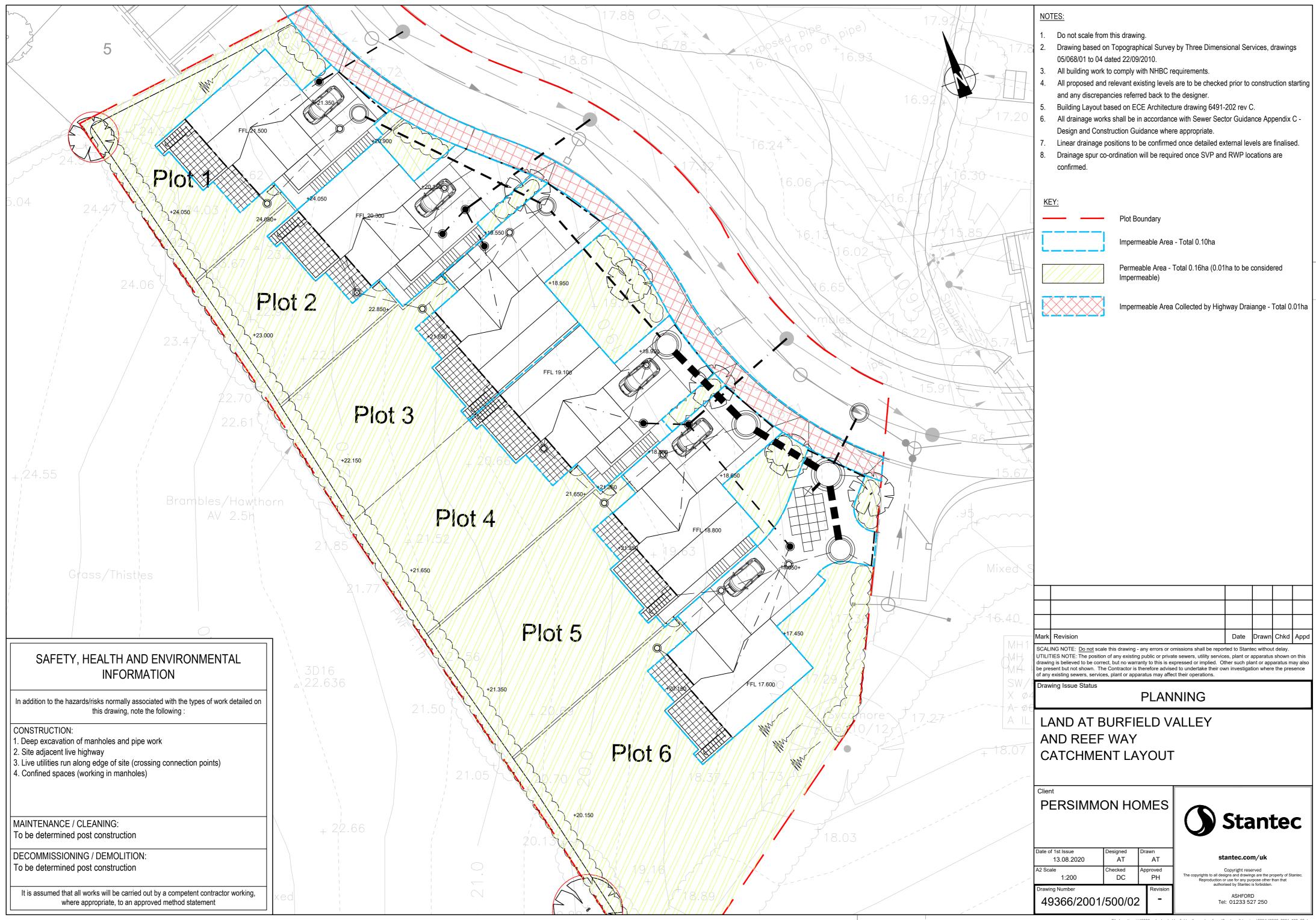




	LOCATION PLAN: SHEET 1 SHEET 2 SHEET 2 <td colspan<="" t<="" th=""><th>s 05/068/01 to 04 dated and the East Sussex ation's "Sewers for</th><th></th></td>	<th>s 05/068/01 to 04 dated and the East Sussex ation's "Sewers for</th> <th></th>	s 05/068/01 to 04 dated and the East Sussex ation's "Sewers for	
	discrepancies referred back to the designer. 7. Earthworks to be adjusted to suit future adjacent Finished Floor Level's. <u>LEGEND:</u>			
	Proposed Surface Water Sewer Network, diameter as shown, laid to details D3 and D4 on drawing number 24336/003/SD03 Proposed manhole to drawing numbers 24336/003/SD04, SD05, SD06 and SD07 Proposed Gully and Pipe run to drawing numbers 24336/003/SD01 and SD02 Site Boundary Limit of Phase 1 Surface Water drainage work SAFETY HEALTH AND ENIVIRONMENT	- 41		
	SAFETY, HEALTH AND ENVIRONMENT INFORMATION In addition to the hazards/risks normally associated with the types of work this drawing, note the following : CONSTRUCTION: 1. Existing watercourses are located within the site consisting of ditches, ponds, buried pipes and culverts. 2. Existing utility apparatus is located within the site including of electricity cables and buried water main (400mm dia) MAINTENANCE / CLEANING: To be determined post construction	detailed on of open		
20.000 SW17 CL 19.450 BL 18.100 CL 19.450 CL 19.450 BL 19.450 CL 19.500 CL 19.5000 CL 19.5000 CL 19.5000 CL 19.5000 CL 19.5000 CL 19.5000 CL	DECOMMISSIONING / DEMOLITION: To be determined post construction It is assumed that all works will be carried out by a competent contracto where appropriate, to an approved method statement GULLY SETTING OUT CO-ORDINATES: Co-ordinates Eastings Northings G1 4656.013E	r working,		
18	G1 4030.013E 1233.270N G2 4654.317E 1224.148N G3 4661.444E 1223.426N G4 4663.101E 1231.201N G5 4669.748E 1229.256N G6 4678.460E 1221.703N G7 4695.590E 1220.609N G8 4728.640E 1205.950N G9 4754.582E 1187.312N G10 4767.940E 1172.526N G11 4787.138E 1153.985N G12 4797.686E 1159.679N G13 4811.849E 1163.246N G14 4821.005E 1163.641N G15 4828.125E 1162.733N G16 4822.331E 1191.808N G17 4819.889E 1206.934N G17 4819.889E 1206.934N G18 4832.384E 1215.010N G19 4843.049E 1160.756N G20 4853.800E 1159.331N G21 4876.185E 1156.223N G29 4871.848E 1213.385N G30 4852.129E 1214.327N			
	DLOCATION OF MANHOLES 5, 6, 7 REVISEDCSURFACE WATER MANHOLE BACK DROPS ADDED	WSW 19.10.11 TH KM 22.09.11 TH		
	B SURFACE WATER NETWORK UPDATED A PHASE 1 BOUNDARY AND LATERAL CONNECTIONS ADDED Mark Revision SCALING NOTE: Do not scale from this drawing. If in doubt, ask. UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or drawing is believed to be correct, but no warranty to this is expressed or implied. Other such p be present but not shown. The Contractor is therefore advised to undertake his own investigati any existing sewers, services, plant or apparatus may affect his operations.	lant or apparatus may also	E kd	
	FOR APPROVAL HAILSHAM DEVELOPMENT SURFACE WATER SEWER DRAINA SHEET 1 OF 3	AGE PLAN		
	Client HILLREED HOMES LIMITED Date of 1st Issue 28.04.2011 A0 Scale 1:250 Drawing Number 24336/0003/010 D	hout the UK, e, Africa and Asia brett.com ssociates LLP		

File Location: j:\24336 - tph - hailsham development\003 - drainage and utilities\cad\drawings\24336-003-010d.dwg





user name: thorpe, anthony

	Surface Water Manhole Schedule										
Manhole Name	Cover Level (m)	Depth to Invert (m)	Eastings (m)	Northings (m)	Manhole Dia. (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)
S1	21.350	4.137	559071.676	110048.401	1200	S1.000	17.213	150			<u> </u>
S2	19.550	2.518	559084.459	110035.598	1200	S1.001	17.032	150	S1.000	17.032	150
S3	18.711	2.290	559089.701	110020.385	1800	S1.002	16.421	600	S1.001	16.871	150
S4	18.800	2.800	559094.342	110011.384	1800	S1.003	16.000	600	S1.002	16.000	600
S5	18.050	2.383	559097.871	109998.233	1800	S2.000	15.667	600	S1.003		
S6	18.050	2.450	559099.112	110004.824	2100	S1.004	15.600	150	S1.003	15.600	600
									S2.000	15.600	600
S7	16.926	1.490	559103.551	110008.987	1200	OUTFALL	15.436	225	S1.004	15.511	150

	Foul Water Manhole Schedule										
Manhole Name	Cover Level (m)	Depth to Invert (m)	Eastings (m)	Northings (m)	Manhole Dia. (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)
F1	21.350	0.650	559068.899	110052.568	450	F1.000	20.700	100			
							OUTFALL		F1.000	18.135	100
F2	19.550	0.650	559077.596	110034.015	450	F2.000	18.900	100			
F3	20.150	0.650	559074.510	110036.288	450	F3.000	19.500	100			
F4	20.150	1.286	559077.137	110037.620	450	F2.001	18.855	100	F2.000	18.855	100
									F3.000	18.855	100
							OUTFALL		F2.001	17.275	100
F5	18.050	0.650	559093.809	110000.004	450	F4.000	17.400	100			
F6	18.950	0.650	559085.402	110014.598	450	F5.000	18.300	100			
F7	18.800	1.540	559089.087	110013.143	450	F4.001	17.255	100	F4.000	17.255	100
									F5.000	17.255	100
							OUTFALL		F4.001	16.050	100

NOTES:

- 1. Do not scale from this drawing.
- 2. All building work to comply with NHBC requirements.
- 3. All proposed and relevant existing levels are to be checked prior to construction starting and any discrepancies referred back to the designer.
- 4. All drainage works shall be in accordance with Sewer Sector Guidance Appendix C -Design and Construction Guidance where appropriate.
- 5. Round the houses drainage not included as this is dependant on detailed levels design and location of RWPs and SVPs.

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Mark	Revision	Date	Drawn	Chkd	Appd				
UTILIT drawin be pre	SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay. UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.								
Draw	ving Issue Status								

PLANNING

LAND AT BURFIELD VALLEY AND REEF WAY DRAINAGE MANHOLE SCHEDULES

Drawn

AT

Approved

PH

Revisio

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Client

Date of 1st Issue

Drawing Number

A2 Scale

13.08.2020

NTS

49366/2001/500/03

PERSIMMON HOMES

Designed AT

Checked DC

	Stantec
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ASHFORD Tel: 01233 527 250

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APPENDIX C

Hydraulic Calculations – Existing Conditions

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Peter Brett Associates							Page 1
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	ficient 0.600 Inve	rt Level (m) 8.	.530

Peter Brett Associates		Page 3
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	ORIGINAL MODEL	Mirrn
Date 06/07/2020 09:26	Designed by AT	Drainane
File ORIGINAL MODEL - NO ADD	Checked by PH	Diamage
Micro Drainage	Network 2018.1	I

Offline Controls for Transfer.txt

Weir Manhole: 81, DS/PN: 20.021, Loop to PN: 41.010

Discharge Coef 0.544 Width (m) 0.700 Invert Level (m) 8.382

Weir Manhole: 96, DS/PN: 41.010, Loop to PN: 20.023

Discharge Coef 0.544 Width (m) 2.000 Invert Level (m) 8.800

Peter Brett Associates		Page 4
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	ORIGINAL MODEL	Micro
Date 06/07/2020 09:26	Designed by AT	Drainage
File ORIGINAL MODEL - NO ADD	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

Storage Structures for Transfer.txt

Tank or Pond Manhole: 96, DS/PN: 41.010

Invert Level (m) 7.990

Depth (m) Area (m^2) Depth (m) Area (m^2) Depth (m) Area (m^2) Depth (m) Area (m^2)

0.000	314.0	0.700	883.0	1.400	1166.0	2.100	1209.0
0.100	407.0	0.800	921.0	1.500	1209.0	2.200	1209.0
0.200	696.0	0.900	960.0	1.600	1209.0	2.300	1209.0
0.300	732.0	1.000	1000.0	1.700	1209.0	2.400	1209.0
0.400	769.0	1.100	1041.0	1.800	1209.0	2.500	1209.0
0.500	806.0	1.200	1082.0	1.900	1209.0		
0.600	844.0	1.300	1124.0	2.000	1209.0		

Tank or Pond Manhole: 99, DS/PN: 20.023

Invert Level (m) 7.940

Depth (m)	Area (m²)						
0.000	348.0	0.700	1333.0	1.400	1853.0	2.100	1933.0
0.100	471.0	0.800	1403.0	1.500	1933.0	2.200	1933.0
0.200	931.0	0.900	1474.0	1.600	1933.0	2.300	1933.0
0.300	1034.0	1.000	1547.0	1.700	1933.0	2.400	1933.0
0.400	1123.0	1.100	1621.0	1.800	1933.0	2.500	1933.0
0.500	1197.0	1.200	1697.0	1.900	1933.0		
0.600	1264.0	1.300	1774.0	2.000	1933.0		
		I		I		I	

Peter Bre	ett A	ssociate	S				P	age 5
30 Tower			-	Т	ANDS AT BURF	TELD VALLEV		
						TUTTA ATTET		
Kings Hi		NE10 45	-		AILSHAM	-		
West Mal				-	RIGINAL MODE		N	<i>l</i> icro
Date 06/	07/20	20 09:26		De	esigned by A	Т)rainago
File ORI	GINAL	MODEL -	NO ADI	D Cl	hecked by PH			
Micro Dra	ainag	e		Ne	etwork 2018.	1		
Manho	A ole He ul Sew	Hot Start Hot Start adloss Coe age per he Number of	ction Fa Start (m : Level eff (Glo ectare (Input Hy	<u>Simul</u> ctor 1.0 ins) (mm) bal) 0.5 1/s) 0.0 vdrograpł	000 Flow per Pe 000 ns 0 Number of	L Al Flow - % of Factor * 10m³/ Inlet Co erson per Day (Storage Struc	Total Flow ha Storage oeffiecient (1/per/day) tures 2	0.000 2.000 0.800
	Mar	Number of Number of Rainf M gin for Fl	f Online Offline all Mode Regic 5-60 (mm ood Ris) Ana: : : : : : : : : : : : : : : : : : :	<pre>e Control e Control Synthetic el on Englan) c Warning Lysis Tir DTS { DVD { s} s) s) s) </pre>	ls 2 Number of ls 2 Number of <u>c Rainfall Deta</u> FSR nd and Wales C 20.300 C g (mm) mestep 2.5 Seco Status Status Status 5, 30, 60, 120,	Time/Area Dia Real Time Con ails Ratio R 0.3 v (Summer) 0.7 v (Winter) 0.8 ond Increment Summe: , 180, 240, 360	grams 0 trols 0 56 50 40 (Extended) ON ON oN r and Winte 0, 480, 600 720, 96 1, 30, 10 0, 0, 4	
PN	US/MH Name	Storm		Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
20.000	1	15 Winter	100	+40%	100/15 Summer			
20.001		15 Winter	100	+40%		100/15 Summer		
20.002	3	15 Winter	100	+40%	30/15 Summer	100/15 Summer		
20.003		15 Winter		+40%		100/15 Summer		
20.004		15 Winter		+40%		100/15 Summer		
20.005		15 Winter		+40%				
20.006		15 Winter	100	+40%				
20.007		15 Winter 15 Winter	100 100	+40% +40%	100/15 Summer			
21.000 20.008		15 Winter 15 Winter		+40% +40%	100/15 Summer 30/15 Summer			
20.008		15 Winter 15 Winter	100		100/15 Summer			
22.000		15 Winter 15 Winter			100/15 Summer 100/15 Summer			
22.001		15 Winter 15 Summer	100	+40%				
22.002		15 Winter	100		30/15 Summer			
20.009		15 Winter	100		100/15 Summer			
		15 Winter		+40%				
20.010		15 Winter	100		100/15 Summer			
20.010 23.000	17	ID WINCEL			100/10 00001			
		15 Winter 15 Winter			100/15 Summer			
23.000	18		100	+40%				

Peter Brett Associates		Page 6
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	ORIGINAL MODEL	Micro
Date 06/07/2020 09:26	Designed by AT	Drainage
File ORIGINAL MODEL - NO ADD	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded	
20.000	1	23.563	0.993	0.000	0.73		25.8	FLOOD RISK		
20.001	2	23.231	1.201	0.662	1.00		36.2	FLOOD	2	
20.002	3	22.315	1.205	5.389	1.00		37.4	FLOOD	5	
20.003	4	21.175	1.205	4.781	1.36		47.5	FLOOD	6	
20.004	5	20.491	1.201	0.553	1.51		55.4	FLOOD	3	
20.005	6	18.253	-0.087	0.000	0.68		70.3	OK		
20.006	7	17.320	-0.070	0.000	0.80		85.3	OK		
20.007	8	15.965	-0.065	0.000	0.83		92.4	OK		
21.000	9	15.636	0.206	0.000	1.56		25.3	SURCHARGED		
20.008	10	14.546	1.254	0.000	2.15		140.3	SURCHARGED		
22.000	11	19.161	0.711	0.000	0.72		37.5	SURCHARGED		
22.001	12	18.601	1.201	1.109	1.01		52.8	FLOOD	2	
22.002	13	17.744	1.194	0.000	0.99		52.5	FLOOD RISK		
22.003	14	16.656	1.206	6.340	1.44		59.3	FLOOD	5	
20.009	15	14.097	0.947	0.000	0.62		225.6	SURCHARGED		
20.010	16	13.282	2.457	0.000	1.51		214.2	SURCHARGED		
23.000	17	18.791	0.541	0.000	0.95		35.6	SURCHARGED		
23.001	18	17.097	0.747	0.000	1.16		52.6	SURCHARGED		
23.002	19	15.326	0.326	0.000	1.12		52.2	SURCHARGED		

Peter Brett Associates		Page 7
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	ORIGINAL MODEL	Mirro
Date 06/07/2020 09:26	Designed by AT	Drainage
File ORIGINAL MODEL - NO ADD	Checked by PH	Diamada
Micro Drainage	Network 2018.1	

PN	US/MH Name	Storm		Climate Change			(Y) od	First (Z) Overflow	Overflow Act.
23.003	20	15 Winter	100	+40%	100/15 Summ	er			
24.000		15 Winter	100	+40%		er 100/15	Summer		
23.004		15 Winter		+40%					
23.005		15 Winter			100/15 Summ				
23.006		15 Winter	100	+40%	30/15 Summ				
20.011		15 Winter	100	+40%					
25.000		15 Winter		+40%		er 100/15	Summer		
25.001	27	15 Winter	100	+40%	100/15 Summ	er			
20.012	28	15 Winter	100	+40%	30/15 Summ	er			
26.000	29	15 Winter	100	+40%	100/15 Summ	er			
27.000	30	15 Winter	100	+40%	30/15 Summ	er 100/15	Summer		
28.000	31	15 Winter	100	+40%	30/15 Summ	er 100/15	Summer		
26.001	32	15 Winter	100	+40%	30/15 Summ	er			
20.013	33	15 Winter	100	+40%	30/15 Summ	er			
20.014	34	15 Winter	100	+40%	30/15 Summ	er			
20.015	35	15 Winter	100	+40%	30/15 Summ	er			
29.000	36	15 Winter	100	+40%	30/15 Summ	er 100/15	Summer		
30.000	37	15 Winter	100	+40%	30/15 Summ	er 100/15	Summer		
29.001	38	15 Summer	100	+40%	30/15 Summ	er			
20.016	39	15 Winter	100	+40%	30/15 Summ	er			
31.000	40	15 Winter	100	+40%	100/15 Summ	er			
31.001		15 Winter	100	+40%	30/15 Summ				
31.002		15 Winter		+40%					
31.003		15 Winter		+40%					
20.017		15 Winter	100	+40%					
32.000		15 Winter	100		100/15 Summ				
32.001		15 Winter		+40%	30/15 Summ				
32.002		30 Winter		+40%	30/15 Wint				
32.003		30 Winter			100/15 Summ		~		
33.000		15 Winter	100		30/15 Summ		Summer		
32.004		30 Winter	100	+40%	30/15 Summ				
32.005		30 Winter	100		100/15 Summ				
32.006		30 Winter		+40%	30/15 Summ				
32.007		30 Winter		+40%	30/15 Summ				
34.000		30 Winter	100	+40%	30/15 Summ		C		
34.001		30 Winter 30 Winter		+40%		er 100/15			
32.008		30 Winter	100 100	+40% +40%		er 100/15 er 100/15			
32.009 35.000		15 Winter		+40%	30/15 Summ		Summer		
35.000		15 Winter	100		100/15 Summ				
35.001		15 Winter	100		100/15 Summ				
35.002		15 Winter	100		100/15 Summ				
36.000		15 Winter			100/15 Summ				
36.001		15 Winter			100/15 Summ				
35.004		15 Winter	100		100/15 Summ				
37.000		15 Winter	100		100/15 Summ				
35.005		15 Winter	100		100/15 Summ				
32.010		15 Winter			30/15 Summ				
38.000		15 Winter			30/15 Wint				
					2018 Innov				

Peter Brett Associates		Page 8
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	ORIGINAL MODEL	Micro
Date 06/07/2020 09:26	Designed by AT	Drainage
File ORIGINAL MODEL - NO ADD	Checked by PH	Diamage
Micro Drainage	Network 2018.1	1

	US/MH	Water Level	Surcharged Depth		Flow /	Overflow	Pipe Flow		Level
PN	Name	(m)	(m)	(m ³)	Cap.	(1/s)	(1/s)	Status	Exceeded
	Name	(111)	(111)	(111)	cap.	(1/3)	(1/3)	blatus	DACEEded
23.003	20	14.067	0.117	0.000	0.57		83.5	SURCHARGED	
24.000	21	13.471	1.021	6.362	2.28		45.6	FLOOD	4
23.004	22	13.626	1.303	0.000	2.20		94.4	FLOOD RISK	
23.005	23	13.455	1.225	0.000	0.69		99.0	SURCHARGED	
23.006	24	13.214	2.014	0.000	0.84		84.2	SURCHARGED	
20.011	25	12.982	2.288	0.000	2.11		292.3	SURCHARGED	
25.000	26	18.018	1.218	18.500	1.18		52.8	FLOOD	6
25.001	27	14.407	0.607	0.000	0.89		56.4	SURCHARGED	
20.012	28	12.636	2.020	0.000	1.79		352.1	SURCHARGED	
26.000	29	13.268	0.493	0.000	1.14		118.8	SURCHARGED	
27.000	30	13.911	1.211	11.345	1.78		77.0	FLOOD	5
28.000		13.908	1.208	7.761	1.71		79.6	FLOOD	4
26.001		12.657	0.507	0.000	1.54			SURCHARGED	
20.013		12.249	1.754	0.000	2.36			SURCHARGED	
20.014		11.920	1.477	0.000	2.30			SURCHARGED	
20.015		11.562	1.187	0.000	2.40			SURCHARGED	
29.000		13.600	1.125	0.125	1.33		53.2	FLOOD	2
30.000		13.609	1.134	8.605	2.16		86.3	FLOOD	4
29.001		13.460	1.065	0.000	1.51			FLOOD RISK	
20.016		11.154	0.848	0.000	2.32			SURCHARGED	
31.000		12.231	0.956	0.000	0.89			FLOOD RISK	
31.000		11.849	1.074	0.000	1.27			FLOOD RISK	
31.002		11.666	1.032	0.000	2.20			SURCHARGED	
31.002		11.386	0.822	0.000	1.51			SURCHARGED	
20.017		10.780	0.535	0.000	2.93			SURCHARGED	
32.000		13.916	1.016	0.000	1.06			FLOOD RISK	
32.000		12.501	1.010	0.000	1.00			FLOOD RISK	
32.001		11.729	0.579	0.000	1.16			SURCHARGED	
32.002		11.657	0.547	0.000	0.70			SURCHARGED	
					1.34				4
33.000		13.005	1.205	5.122			53.1	FLOOD	4
32.004		11.435	0.835	0.000	1.58			SURCHARGED	
32.005		11.286	0.721	0.000	0.73			SURCHARGED	
32.006		10.983	0.983	0.000	0.92			FLOOD RISK	
32.007		10.815	1.015	0.000	0.71			FLOOD RISK	
34.000		11.035	1.135	0.000	0.91			FLOOD RISK	
34.001		10.606	1.206	6.499	2.25		67.3	FLOOD	6
32.008		10.603	1.233	2.988	1.30		139.1	FLOOD	3
32.009		10.523	1.223	22.800	0.88		144.3	FLOOD	5
35.000		12.697	0.897	0.000	2.11			SURCHARGED	
35.001		11.913	0.313	0.000	1.36			SURCHARGED	
35.002		11.764	0.295	0.000	0.64			SURCHARGED	
35.003		11.555	0.755	0.000	1.00			SURCHARGED	
36.000		11.689	0.259	0.000	0.55			SURCHARGED	
36.001		11.644	0.594	0.000	1.01			SURCHARGED	
35.004		11.404	0.769	0.000	1.38			SURCHARGED	
37.000		10.899	0.469	0.000	0.94			SURCHARGED	
35.005		10.857	0.587	0.000	0.57			SURCHARGED	
32.010	69	10.542	1.188	0.000	1.07		183.8	SURCHARGED	

Peter Brett Associates		Page 9
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	ORIGINAL MODEL	Mirrn
Date 06/07/2020 09:26	Designed by AT	Drainage
File ORIGINAL MODEL - NO ADD	Checked by PH	Diamage
Micro Drainage	Network 2018.1	1

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)		Flow / Cap.	Overflow (1/s)		Status	Level Exceeded
38.000	70	10.568	0.683	0.000	0.28		10.1	SURCHARGED	

	Page 10
LANDS AT BURFIELD VALLEY	
HAILSHAM	
ORIGINAL MODEL	Mirro
Designed by AT	Drainage
Checked by PH	Diamage
Network 2018.1	
	HAILSHAM ORIGINAL MODEL Designed by AT Checked by PH

PN	US/MH Name	Storm		Climate Change	First Surcl	t (X) harge	First Flo			t (Z) flow	Overflow Act.
32.011	71	15 Winter	100	+40%	30/15	Summer					
32.012	72	15 Winter		+40%		Summer					
32.013	73	15 Winter		+40%		Summer					
32.014	74	15 Winter		+40%		Summer					
20.018	75	15 Winter		+40%		Summer					
39.000	76	30 Winter	100	+40%	30/15	Summer	100/15	Summer			
40.000	77	15 Winter	100	+40%	100/15	Summer					
39.001	78	15 Winter	100	+40%	1/15	Summer					
20.019	79	15 Winter	100	+40%	30/15	Summer					
20.020	80	15 Winter	100	+40%	30/15	Summer					
20.021	81	60 Winter	100	+40%					1/15	Summer	66
41.000	82	15 Winter	100	+40%							
41.001	83	15 Winter	100	+40%							
41.002	84	15 Winter	100	+40%	100/15	Summer					
41.003	85	15 Winter	100	+40%	100/15	Summer					
41.004	86	15 Winter	100	+40%	30/15	Summer					
42.000	87	15 Winter	100	+40%	30/15	Summer					
41.005	88	15 Winter	100	+40%	100/15	Summer					
43.000	89	15 Winter	100	+40%	30/15	Summer	100/15	Summer			
43.001	90	15 Winter	100	+40%	30/15	Summer					
43.002	91	15 Winter	100	+40%	30/15	Summer					
41.006	92	15 Winter	100	+40%	100/15	Summer					
41.007	93	15 Winter	100	+40%	100/15	Summer					
41.008	94	15 Winter	100	+40%	30/15	Summer					
41.009	95	360 Winter	100	+40%							
41.010	96	360 Winter	100	+40%					100/30	Summer	20
41.011	97	360 Winter	100	+40%	30/240	Winter					
20.022	98	360 Winter	100	+40%							
20.023	99	360 Winter	100	+40%							
20.024	109	360 Winter	100	+40%	30/60	Summer					

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)		Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
32.011	71	10.536	1.202	0.000	1.16		202.8	SURCHARGED	
32.012	72	10.528	1.215	0.000	1.13		192.4	SURCHARGED	
32.013	73	10.520	1.227	0.000	0.85		180.0	SURCHARGED	
32.014	74	10.513	1.234	0.000	0.62		178.3	SURCHARGED	
20.018	75	10.482	1.258	0.000	3.84		1007.2	SURCHARGED	
39.000	76	10.059	0.929	29.337	1.85		68.2	FLOOD	6
40.000	77	10.711	0.536	0.000	1.22		77.8	FLOOD RISK	
39.001	78	10.165	1.180	0.000	2.22		140.0	SURCHARGED	
20.019	79	10.061	0.862	0.000	4.31		1079.7	SURCHARGED	
20.020	80	9.573	0.395	0.000	2.78		1074.6	SURCHARGED	
20.021	81	9.132	0.000	0.000	1.08	523.9	495.7	OK	
41.000	82	21.528	-0.102	0.000	0.22		13.0	OK	
41.001	83	19.321	-0.079	0.000	0.46		23.4	OK	
			C	1982-20	18 Inn	novyze			

Peter Brett Associates		Page 11
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	ORIGINAL MODEL	Micro
Date 06/07/2020 09:26	Designed by AT	Drainage
File ORIGINAL MODEL - NO ADD	Checked by PH	Diamage
Micro Drainage	Network 2018.1	1

	US/MH	Water Level	Surcharged Depth		Flow /	Overflow	Pipe Flow		Level
PN	Name	(m)	(m)	(m³)	Cap.	(1/s)	(1/s)	Status	Exceeded
41.002	84	18.857	0.706	0.000	0.95		41.2	SURCHARGED	
41.003	85	15.708	1.119	0.000	1.20		50.2	FLOOD RISK	
41.004	86	14.764	0.909	0.000	1.72		74.9	FLOOD RISK	
42.000	87	14.858	0.955	0.000	1.71		28.8	FLOOD RISK	
41.005	88	14.116	0.482	0.000	1.09		129.2	SURCHARGED	
43.000	89	12.255	1.205	4.855	2.39		39.3	FLOOD	4
43.001	90	12.319	1.440	0.000	1.12		50.5	FLOOD RISK	
43.002	91	12.245	1.505	0.000	1.73		64.9	FLOOD RISK	
41.006	92	11.832	1.202	0.000	1.25		215.1	SURCHARGED	
41.007	93	10.697	0.792	0.000	1.21		213.3	SURCHARGED	
41.008	94	9.771	0.516	0.000	1.12		211.8	SURCHARGED	
41.009	95	9.076	-0.985	0.000	0.13		46.0	OK	
41.010	96	9.075	-0.425	0.000	0.13	44.0	24.1	OK	
41.011	97	9.121	0.391	0.000	0.09		23.0	SURCHARGED	
20.022	98	9.050	-0.450	0.000	0.25		298.9	OK	
20.023	99	9.047	-0.453	0.000	0.06		101.8	OK	
20.024	109	9.032	0.577	0.000	0.28		90.9	SURCHARGED	

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Hydraulic Calculations – Site and 6 Homes Free Flowing

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Peter Brett Associates		Page 1
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
Nest Malling ME19 4PR	6 HOUSE MODEL - FREEFLOW	Micro
Date 24/07/2020 13:51	Designed by AT	Drainag
File Single Outfall - 6 Home		Brainiac
licro Drainage	Network 2018.1	
Simulation	<u>Criteria for Transfer.txt</u>	
Areal Reduction Factor Hot Start (mins) Hot Start Level (mm) Manhole Headloss Coeff (Global) Foul Sewage per hectare (l/s) Number of Input Hydrog	0 Inlet Coeffied 0 Flow per Person per Day (l/per/ 0.500 Run Time (m 0.000 Output Interval (m graphs 0 Number of Storage Structures	prage 2.000 cient 0.800 (day) 0.000 mins) 60 mins) 1 2
	ntrols 2 Number of Time/Area Diagrams ntrols 2 Number of Real Time Controls	
Synthe	tic Rainfall Details	
M5-60 (mm)	FSR Profile Type W 100 Cv (Summer) land and Wales Cv (Winter) 20.300 Storm Duration (mins) 0.356	0.840 0.840

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			m) 0.870 s) 31.0			eter (5 SW	226	Inver	L Teve	er (m) 7.90	50
Depth ((m) Flo	ow (1/s) Depth	(m)	Flow	(l/s)	Depth	(m)	Flow	(l/s)	Depth	n (m)	Flow	(l/s)
0.1		8.		.200		34.1		000		53.2		7.000		81.3
	200	19.	-	.400		36.6		500		57.5		7.500		84.2 86.9
0.3		27. 30.		.600		39.0 41.3	1			61.5 65.2		B.000 B.500		86.9 89.6
0.4		30. 30.		.000		41.3	1	000		65.2 68.7		9.000		89.6 92.2
0.6		30.	-	.200		45.6	1	500		72.1		9.500		94.7
0.8		30.				47.6				75.3				-
1.0		31.		.600		49.6	1			78.4				
	Co	mplex	Manhol	e: 1	.09,	DS/PN	1: 20.0)24,	Vol	ume (m³):	73.0	5	
													_	
						<u>Ori</u>	fice							
	Diame	ter (m)	0.130	Discl	harge	Coeff	icient	0.60)0 Inv	ert Le	evel (m) 7.	930	
						<u>Ori</u>	<u>fice</u>							
	Diame	ter (m)	0.204	Discl	harge	Coeff	icient	0.60)0 Inv	ert Le	evel (m) 8.	530	
		()			-) -						- (

Peter Brett Associates		Page 3
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL - FREEFLOW	Micro
Date 24/07/2020 13:51	Designed by AT	Drainage
File Single Outfall - 6 Home	Checked by PH	Dialitada
Micro Drainage	Network 2018.1	

Offline Controls for Transfer.txt

Weir Manhole: 81, DS/PN: 20.021, Loop to PN: 42.007

Discharge Coef 0.544 Width (m) 0.700 Invert Level (m) 8.382

Weir Manhole: 96, DS/PN: 42.007, Loop to PN: 20.023

Discharge Coef 0.544 Width (m) 2.000 Invert Level (m) 8.800

Peter Brett Associates		Page 4
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL - FREEFLOW	Micro
Date 24/07/2020 13:51	Designed by AT	Drainage
File Single Outfall - 6 Home	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

Storage Structures for Transfer.txt

Tank or Pond Manhole: 96, DS/PN: 42.007

Invert Level (m) 7.990

Depth (m) Area (m^2) Depth (m) Area (m^2) Depth (m) Area (m^2) Depth (m) Area (m^2)

0.000	314.0	0.700	883.0	1.400	1166.0	2.100	1209.0
0.100	407.0	0.800	921.0	1.500	1209.0	2.200	1209.0
0.200	696.0	0.900	960.0	1.600	1209.0	2.300	1209.0
0.300	732.0	1.000	1000.0	1.700	1209.0	2.400	1209.0
0.400	769.0	1.100	1041.0	1.800	1209.0	2.500	1209.0
0.500	806.0	1.200	1082.0	1.900	1209.0		
0.600	844.0	1.300	1124.0	2.000	1209.0		

Tank or Pond Manhole: 99, DS/PN: 20.023

Invert Level (m) 7.940

Depth (m)	Area (m²)						
0.000	348.0	0.700	1333.0	1.400	1853.0	2.100	1933.0
0.100	471.0	0.800	1403.0	1.500	1933.0	2.200	1933.0
0.200	931.0	0.900	1474.0	1.600	1933.0	2.300	1933.0
0.300	1034.0	1.000	1547.0	1.700	1933.0	2.400	1933.0
0.400	1123.0	1.100	1621.0	1.800	1933.0	2.500	1933.0
0.500	1197.0	1.200	1697.0	1.900	1933.0		
0.600	1264.0	1.300	1774.0	2.000	1933.0		
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30 Tower	: View	1		Lž	LANDS AT BURFIELD VALLEY					
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	nole He Dul Sew	Hot S Hot Start adloss Coe age per he	tart (m Level ff (Gloi ctare (ctor 1.0 ins) (mm) bal) 0.5 l/s) 0.0	00 Flow per Pe	l Flow - % of Factor * 10m³/ Inlet Co rson per Day (ha Storage effiecient l/per/day)	e 2.000 0.800		
	1	Number o	f Online	Control	ls 2 Number of Ls 2 Number of	Time/Area Diag	grams O			
				-	<u>c Rainfall Deta</u>					
		Rainf	all Mode			Ratio R 0.3				
		ъл	Regic 5-60 (mm		nd and Wales C	v (Summer) 0.7 v (Winter) 0.8				
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	Mar	gin for Fl	ood Ris}	. Warning	g (mm)		300.0			
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Peter Brett Associates		Page 6
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL - FREEFLOW	Micro
Date 24/07/2020 13:51	Designed by AT	Drainage
File Single Outfall - 6 Home	Checked by PH	Diamage
Micro Drainage	Network 2018.1	1

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)			Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
20.000	1	23.563	0.993	0.000	0.73		25 8	FLOOD RISK	
20.001		23.231	1.201	0.662	1.00		36.2	FLOOD	2
20.002		22.315	1.205	5.389	1.00		37.4	FLOOD	5
20.003	4	21.175	1.205	4.781	1.36		47.5	FLOOD	6
20.004	5	20.491	1.201	0.552	1.51		55.4	FLOOD	3
20.005	6	18.253	-0.087	0.000	0.68		70.3	OK	
20.006	7	17.320	-0.070	0.000	0.80		85.3	OK	
20.007	8	15.965	-0.065	0.000	0.83		92.4	OK	
21.000	S1	20.304	-0.096	0.000	0.28		11.7	OK	
21.001	S2	19.566	-0.084	0.000	0.40		24.0	OK	
21.002	s3	18.282	-0.093	0.000	0.65		35.7	OK	
21.003	S4	18.171	0.041	0.000	1.28		48.3	SURCHARGED	
21.004	S5	17.921	-0.138	0.000	0.32		60.2	OK	
22.000	S6	16.742	-0.183	0.000	0.08		11.0	OK	
21.005	S7	16.190	0.240	0.000	0.49		77.2	SURCHARGED	
21.006	S8	16.048	1.573	0.000	2.08		82.0	SURCHARGED	
21.007		15.817	1.421	0.000	0.46			SURCHARGED	
20.008		15.596	2.304	0.000	2.68		175.2	SURCHARGED	
23.000	11	19.161	0.711	0.000	0.72		37.5	SURCHARGED	

Peter Brett Associates		Page 7
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL - FREEFLOW	Micro
Date 24/07/2020 13:51	Designed by AT	Drainage
File Single Outfall - 6 Home	Checked by PH	Diamarje
Micro Drainage	Network 2018.1	1

PN	US/MH Name	Storm		Climate Change		First (Y) Flood	First (Z) Overflow Overflow Act.
23.001	12	15 Winter	100	+40%	100/15 Summer	100/15 Summer	
23.002		15 Summer	100	+40%	30/15 Summer		
23.003	14	15 Winter	100	+40%		100/15 Summer	
20.009	15	15 Winter	100		100/15 Summer		
20.010		15 Winter	100	+40%	30/15 Summer		
24.000	17	15 Winter	100	+40%	100/15 Summer		
24.001	18	15 Winter	100	+40%	100/15 Summer		
24.002	19	15 Winter	100	+40%	100/15 Summer		
24.003	20	15 Winter	100	+40%	100/15 Summer		
25.000	21	15 Winter	100	+40%	30/15 Summer	100/15 Summer	
24.004	22	15 Winter	100	+40%	30/15 Summer	100/15 Winter	
24.005	23	15 Winter	100	+40%	100/15 Summer		
24.006	24	15 Winter	100	+40%	30/15 Summer		
20.011	25	15 Winter	100	+40%	30/15 Summer		
26.000	26	15 Winter	100	+40%	30/15 Summer	100/15 Summer	
26.001	27	15 Winter	100	+40%	100/15 Summer		
20.012	28	15 Winter	100	+40%	30/15 Summer		
27.000	29	15 Winter	100	+40%	100/15 Summer		
28.000	30	15 Winter	100	+40%	30/15 Summer	100/15 Summer	
29.000	31	15 Winter	100	+40%	30/15 Summer	100/15 Summer	
27.001	32	15 Winter	100	+40%	30/15 Summer		
20.013		15 Winter	100	+40%			
20.014		15 Winter	100	+40%			
20.015		15 Winter	100	+40%			
30.000		15 Winter	100	+40%		100/15 Summer	
31.000		15 Winter	100	+40%		100/15 Summer	
30.001		15 Summer	100	+40%			
20.016		15 Winter	100	+40%	30/15 Summer		
32.000		15 Winter	100		100/15 Summer		
32.001		15 Winter	100	+40%			
32.002		15 Winter	100	+40%			
32.003		15 Winter	100	+40%			
20.017		15 Winter	100	+40%	30/15 Summer		
33.000		15 Winter 15 Winter	100		100/15 Summer 30/15 Summer		
33.001		30 Winter	100	+40% +40%			
33.002 33.003		15 Winter	100 100		30/15 Winter 100/15 Summer		
34.000		15 Winter	100	+40%		100/15 Summer	
33.004		30 Winter	100	+40%	30/15 Summer	100/15 Sulliller	
33.005		30 Winter	100		100/15 Summer		
33.006		30 Winter	100	+40%	30/15 Summer		
33.007		30 Winter	100	+40%	30/15 Summer		
35.007		30 Winter		+40%			
35.000		30 Winter	100	+40%		100/15 Summer	
33.008		30 Winter	100	+40%		100/15 Summer	
33.009		30 Winter	100	+40%		100/15 Summer	
36.000		15 Winter	100		30/15 Summer	,,,_, builde	
36.001		15 Winter	100		100/15 Summer		
36.002		15 Winter	100		100/15 Summer		
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Peter Brett Associates		Page 8
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL - FREEFLOW	Micro
Date 24/07/2020 13:51	Designed by AT	Drainage
File Single Outfall - 6 Home	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

	US/MH	Water Level	Surcharged		Flore /	Overflow	Pipe Flow		Level
PN	Name	(m)	Depth (m)	(m ³)	Flow / Cap.	(1/s)	flow (1/s)	Status	Exceeded
PN	Name	(111)	(11)	(111-)	Cap.	(1/5)	(1/5)	Status	Fxceedeo
23.001	12	18.601	1.201	1.109	1.01		52.8	FLOOD	2
23.002	13	17.744	1.194	0.000	0.99		52.5	FLOOD RISK	
23.003	14	16.657	1.207	7.076	1.44		59.3	FLOOD	5
20.009	15	14.721	1.571	0.000	0.72		262.7	SURCHARGED	
20.010	16	13.615	2.790	0.000	1.76		249.4	SURCHARGED	
24.000	17	18.791	0.541	0.000	0.95		35.6	SURCHARGED	
24.001	18	17.100	0.750	0.000	1.16		52.5	SURCHARGED	
24.002	19	15.359	0.359	0.000	1.11		51.4	SURCHARGED	
24.003	20	14.106	0.156	0.000	0.56		82.5	SURCHARGED	
25.000	21	13.474	1.024	8.858	2.39		47.8	FLOOD	5
24.004	22	13.700	1.377	0.075	2.14		91.9	FLOOD	1
24.005	23	13.590	1.360	0.000	0.67		95.7	SURCHARGED	
24.006	24	13.408	2.208	0.000	0.84		83.9	SURCHARGED	
20.011	25	13.214	2.520	0.000	2.32		320.6	SURCHARGED	
26.000	26	18.019	1.219	18.606	1.18		52.8	FLOOD	6
26.001		14.519	0.719	0.000	0.89			SURCHARGED	
20.012		12.806	2.190	0.000	1.93			SURCHARGED	
27.000		13.268	0.493	0.000	1.13			SURCHARGED	
28.000		13.911	1.211	11.490	1.77		76.7	FLOOD	5
29.000		13.908	1.208	7.914	1.69		78.3	FLOOD	4
27.001		12.740	0.590	0.000	1.53			SURCHARGED	
20.013		12.358	1.863	0.000	2.44			SURCHARGED	
20.014		12.007	1.564	0.000	2.37			SURCHARGED	
20.015		11.624	1.249	0.000	2.48			SURCHARGED	
30.000		13.600	1.125	0.125	1.33		53.2	FLOOD	2
31.000		13.609	1.134	8.604	2.16		86.3	FLOOD	4
30.001		13.460	1.065	0.000	1.51			FLOOD RISK	
20.016		11.190	0.884	0.000	2.37			SURCHARGED	
32.000		12.234	0.959	0.000	0.88		63.4	FLOOD RISK	
32.001		11.855	1.080	0.000	1.27		60.5	FLOOD RISK	
32.002		11.682	1.048	0.000	2.20			SURCHARGED	
32.003		11.404	0.840	0.000	1.51			SURCHARGED	
20.017		10.801	0.556	0.000	2.98		873.1	SURCHARGED	
33.000		13.917	1.017	0.000	1.06			FLOOD RISK	
33.001		12.505	1.055	0.000	1.67		38.9	FLOOD RISK	
33.002		11.734	0.584	0.000	1.16			SURCHARGED	
33.003		11.662	0.552	0.000	0.77			SURCHARGED	
34.000		13.006	1.207	5.128	1.34		53.1	FLOOD	4
33.004		11.439	0.839	0.000	1.58			SURCHARGED	
33.005		11.290	0.725	0.000	0.73		102.7	SURCHARGED	
33.006		10.985	0.985	0.000	0.92			FLOOD RISK	
33.007		10.818	1.018	0.000	0.71			FLOOD RISK	
35.000		11.041	1.141	0.000	0.92			FLOOD RISK	
35.001		10.607	1.208	7.139	2.21		66.0	FLOOD	6
33.008		10.604	1.234	4.265	1.27		135.7	FLOOD	4
33.009		10.527	1.227	27.080	0.88		143.4	FLOOD	6
36.000		12.698	0.898	0.000	2.11			SURCHARGED	
36.001		11.919	0.319	0.000	1.36			SURCHARGED	
	÷ +				18 Inn				

Peter Brett Associates		Page 9
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL - FREEFLOW	Micro
Date 24/07/2020 13:51	Designed by AT	
File Single Outfall - 6 Home	Checked by PH	Dialitada
Micro Drainage	Network 2018.1	

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)			Overflow (l/s)	Pipe Flow (1/s)	Status	Level Exceeded
36.002	62	11.769	0.300	0.000	0.64		59.6	SURCHARGED	

	Page 10
LANDS AT BURFIELD VALLEY	
HAILSHAM	
6 HOUSE MODEL - FREEFLOW	Mirro
Designed by AT	Drainage
Checked by PH	Diamage
Network 2018.1	
	HAILSHAM 6 HOUSE MODEL - FREEFLOW Designed by AT Checked by PH

PN	US/MH Name	Storm		Climate Change		t (X) harge	First (Y) Flood	First (Z) Overflow	Overflow Act.
36.003	63	15 Winter	100	+40%	100/15	Summer			
37.000	64	15 Winter	100	+40%	100/15	Summer			
37.001	65	15 Winter	100	+40%	100/15	Summer			
36.004	66	15 Winter	100	+40%	100/15	Summer			
38.000	67	15 Winter	100	+40%	100/15	Summer			
36.005	68	15 Winter	100	+40%	100/15	Summer			
33.010	69	15 Winter	100	+40%	30/15	Summer			
39.000	70	15 Winter	100	+40%	30/15	Winter			
33.011	71	15 Winter	100	+40%	30/15	Summer			
33.012	72	15 Winter	100	+40%	30/15	Summer			
33.013	73	15 Winter	100	+40%	30/15	Summer			
33.014	74	15 Winter	100	+40%	30/15	Summer			
20.018	75	15 Winter	100	+40%	30/15	Summer			
40.000	76	30 Winter	100	+40%	1/30	Winter	100/15 Summer		
41.000	77	15 Winter	100	+40%	100/15	Summer			
40.001	78	15 Winter	100	+40%	1/15	Summer			
20.019	79	15 Winter	100	+40%	30/15	Summer			
20.020	80	15 Winter	100	+40%	30/15	Summer			
20.021	81	60 Winter	100	+40%				1/15 Summe	r 66
42.000	89	15 Winter	100	+40%	30/15	Summer	100/15 Summer		
42.001	90	15 Winter	100	+40%	30/15	Summer			
42.002	91	15 Winter	100	+40%	30/15	Summer			
43.000	82	15 Winter	100	+40%					
43.001	83	15 Winter	100	+40%					
43.002	84	15 Winter	100	+40%	100/15	Summer			
43.003	85	15 Winter	100	+40%	100/15	Summer			
43.004	86	15 Winter	100	+40%	30/15	Summer			
44.000	87	15 Winter	100	+40%	30/15	Summer			
43.005	88	15 Winter	100		100/15				
42.003	92	15 Winter	100		100/15				
42.004	93	15 Winter	100	+40%	100/15				
42.005	94	15 Winter	100	+40%	30/15	Summer			
42.006		360 Winter	100	+40%					
42.007		360 Winter	100	+40%				100/30 Summe	r 20
42.008		360 Winter	100		30/120	Winter			
20.022		360 Winter	100	+40%					
20.023		360 Winter	100	+40%					
20.024	109	360 Winter	100	+40%	30/60	Summer			

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
36.003	63	11.561	0.761	0.000	1.00		54.3	SURCHARGED	
37.000	64	11.694	0.264	0.000	0.55		16.8	SURCHARGED	
37.001	65	11.649	0.599	0.000	1.01		31.4	SURCHARGED	
36.004	66	11.410	0.775	0.000	1.38		97.9	SURCHARGED	
38.000	67	10.908	0.478	0.000	0.94		15.4	SURCHARGED	

Peter Brett Associates		Page 11
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL - FREEFLOW	Micro
Date 24/07/2020 13:51	Designed by AT	Drainage
File Single Outfall - 6 Home	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)		Flow / Cap.	Overflow (1/s)	Pipe Flow (1/s)	Status	Level Exceeded
36.005	68	10.865	0.595	0.000	0.57		99 1	SURCHARGED	
33.010		10.548	1.194	0.000	1.07			SURCHARGED	
39.000		10.573	0.688	0.000	0.28			SURCHARGED	
33.011		10.543	1.209	0.000	1.16			SURCHARGED	
33.012		10.536	1.223	0.000	1.13			SURCHARGED	
33.013		10.528	1.235	0.000	0.85			SURCHARGED	
33.014		10.522	1.243	0.000	0.60			SURCHARGED	
20.018	75	10.494	1.270	0.000	3.85		1011.5	SURCHARGED	
40.000		10.062	0.932	30.712	1.86		68.6	FLOOD	6
41.000	77	10.713	0.538	0.000	1.21		77.6	FLOOD RISK	
40.001	78	10.171	1.186	0.000	2.22		139.9	SURCHARGED	
20.019	79	10.070	0.871	0.000	4.33		1083.2	SURCHARGED	
20.020	80	9.579	0.401	0.000	2.79		1079.8	SURCHARGED	
20.021	81	9.132	0.000	0.000	1.13	538.0	521.2	OK	
42.000	89	12.255	1.205	4.855	2.39		39.3	FLOOD	4
42.001	90	12.319	1.440	0.000	1.12		50.5	FLOOD RISK	
42.002	91	12.245	1.505	0.000	1.73		64.9	FLOOD RISK	
43.000	82	21.528	-0.102	0.000	0.22		13.0	OK	
43.001		19.321	-0.079	0.000	0.46		23.4	OK	
43.002	84	18.857	0.706	0.000	0.95		41.2	SURCHARGED	
43.003	85	15.709	1.120	0.000	1.20		50.2	FLOOD RISK	
43.004		14.764	0.909	0.000	1.72		74.9	FLOOD RISK	
44.000		14.858	0.955	0.000	1.71			FLOOD RISK	
43.005		14.116	0.482	0.000	1.09			SURCHARGED	
42.003		11.832	1.202	0.000	1.25			SURCHARGED	
42.004		10.697	0.792	0.000	1.21			SURCHARGED	
42.005	94	9.771	0.516	0.000	1.12			SURCHARGED	
42.006	95	9.100	-0.961	0.000	0.13		46.0	OK	
42.007	96	9.099	-0.401	0.000	0.13	51.3	24.2	OK	
42.008	97	9.141	0.411	0.000	0.09			SURCHARGED	
20.022	98	9.073	-0.427	0.000	0.25		308.0	OK	
20.023	99	9.069	-0.431	0.000	0.06		104.0	OK	
20.024	109	9.053	0.598	0.000	0.29		92.6	SURCHARGED	



TECHNICAL NOTE

Quick Storage Attenuation Calculations

🖌 Quick Storage	Estimate		
	Variables		
Micro Drainage	FSR Rainfall ~ Return Period (years) 100	Cv (Summer) Cv (Winter)	0.750
Variables	Region England and Wales 🗸	Impermeable Area (ha)	0.130
Results	Map M5-60 (mm) 20.300	Maximum Allowable Discharge (I/s)	5.0
Design	Ratio R 0.356	Infiltration Coefficient (m/hr)	0.00000
Overview 2D		Safety Factor Climate Change (%)	2.0
Overview 3D			
Vt			
		Analyse OK	Cancel Help
	Enter Climate Change	between -100 and 600	.:

🖌 Quick Storage	Estimate
	Results
Micro Drainage	Global Variables require approximate storage of between 45 m³ and 71 m³.
Variables	These values are estimates only and should not be used for design purposes.
Results	
Design	
Overview 2D	
Overview 3D	
Vt	
	Analyse OK Cancel Help
	Enter Climate Change between -100 and 600

^{\\}Ash-vfps-001.pba.int\ash\Projects\49366 - PH - Land at Burfield Valley and Reef Way\BRIEF 2001 - Detailed Drainage Review\TECHNICAL NOTES\49366-2001-TN01\49366-2001-TN01.docx





Hydraulic Calculations – Site and 6 homes with Flow Control

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30 Tower Vi	Associat	es					Page 2
	ew		LANDS	AT BURFI	ELD VALLE	Y	
Kings Hill			HAILS	MAH			
Nest Mallin	g ME194	PR	6 HOU	SE MODEL			Micro
Date 10/08/	2020 14:3	8	Desig	ned by AT			
File SINGLE	OUTFALL	- 6 HOME	Check	ed by PH			Drainago
Aicro Drain	age		Netwo	rk 2018.1			
Hy	dro-Brake	® Manhole:	97, DS/	PN: 43.00	8, Volume	(m³): 15	5.7
Depth (m)	Flow (l/s)	Depth (m) Flo	ow (1/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
2.000	43.5		57.5	6.000	75.3	8.500	
2.200	45.6		61.5	6.500	78.4		
2.400	47.6		65.2	7.000	81.3	9.500	94.7
2.600	49.6		68.7	7.500	84.2		
3.000	53.2	5.500	72.1	8.000	86.9		
	Complex M	anhole: 109	, DS/PN	: 20.025,	Volume (m³): 73.0	<u>6</u>
			<u>Ori</u>	fice			
Dia	ameter (m)	0.130 Dischar	ge Coeffi	cient 0.60	0 Invert Le	evel (m) 7.	930
			Orit				
Dia	ameter (m)	0.204 Dischar	ge Coeffi	cient 0.60	0 Invert Le	evel (m) 8.	530

D VALLEY Micro Micro Draina fer.txt /PN: 21.004 Safety Factor 2.0 Porosity 0.96 ea (m ²) Inf. Area (m ²) 0.0 0.0 N: 43.007 ea (m ²) Depth (m) Area (m ²) 1166.0 2.100 1209.0 1209.0 2.200 1209.0 1209.0 2.300 1209.0 1209.0 2.400 1209.0
Image: fer.txt /PN: 21.004 Safety Factor 2.0 Porosity 0.96 ea (m²) Inf. Area (m²) 0.0 0.0 N: 43.007 ea (m²) Depth (m) Area (m²) 1166.0 2.100 1209.0 1209.0 2.200 1209.0
Image: fer.txt /PN: 21.004 Safety Factor 2.0 Porosity 0.96 ea (m²) Inf. Area (m²) 0.0 0.0 N: 43.007 ea (m²) Depth (m) Area (m²) 1166.0 2.100 1209.0 1209.0 2.200 1209.0
Image: fer.txt /PN: 21.004 Safety Factor 2.0 Porosity 0.96 ea (m²) Inf. Area (m²) 0.0 0.0 N: 43.007 ea (m²) Depth (m) Area (m²) 1166.0 2.100 1209.0 1209.0 2.200 1209.0
fer.txt /PN: 21.004 Safety Factor 2.0 Porosity 0.96 ea (m ²) Inf. Area (m ²) 0.0 0.0 N: 43.007 ea (m ²) Depth (m) Area (m ²) 1166.0 2.100 1209.0 1209.0 2.200 1209.0
<u>/PN: 21.004</u> Safety Factor 2.0 Porosity 0.96 ea (m ²) Inf. Area (m ²) 0.0 0.0 <u>N: 43.007</u> ea (m ²) Depth (m) Area (m ²) 1166.0 2.100 1209.0 2.200 1209.0
<u>/PN: 21.004</u> Safety Factor 2.0 Porosity 0.96 ea (m ²) Inf. Area (m ²) 0.0 0.0 <u>N: 43.007</u> ea (m ²) Depth (m) Area (m ²) 1166.0 2.100 1209.0 2.200 1209.0
Safety Factor 2.0 Porosity 0.96 ea (m ²) Inf. Area (m ²) 0.0 0.0 <u>N: 43.007</u> ea (m ²) Depth (m) Area (m ²) 1166.0 2.100 1209.0 1209.0 2.200 1209.0
Safety Factor 2.0 Porosity 0.96 ea (m ²) Inf. Area (m ²) 0.0 0.0 <u>N: 43.007</u> ea (m ²) Depth (m) Area (m ²) 1166.0 2.100 1209.0 1209.0 2.200 1209.0
 ea (m²) Inf. Area (m²) 0.0 0.0 N: 43.007 ea (m²) Depth (m) Area (m²) 1166.0 2.100 1209.0 1209.0 2.200 1209.0
0.0 0.0 N: 43.007 ea (m ²) Depth (m) Area (m ²) 1166.0 2.100 1209.0 1209.0 2.200 1209.0
N: 43.007 ea (m ²) Depth (m) Area (m ²) 1166.0 2.100 1209.0 1209.0 2.200 1209.0
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1209.0 2.500 1209.0
1209.0 1209.0
N: 20.024
ea (m²) Depth (m) Area (m²)
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Peter B	rett A	ssociate	S				P	age 4				
30 Tower	r View	1		Li	LANDS AT BURFIELD VALLEY							
Kings H:	-			н	AILSHAM							
		ME19 4P	D		HOUSE MODE							
	2	20 14:38		-								
					esigned by A			Drainage				
		UTFALL -	6 HOM		hecked by PI			Siainage				
Micro Di	rainag	le		Ne	etwork 2018	.1						
<u>l year</u>	Retur	n Period	Summa		<u>ritical Res</u> Transfer.tx	ults by Maxin <u>t</u>	mum Level	(Rank 1)				
	hole He oul Sew	Hot Start Hot Start eadloss Coe rage per he Number of Number o	tart (m Level ff (Glo ctare (Input Hy f Online	ctor 1.0 ins) (mm) bal) 0.5 1/s) 0.0 ydrograph control	0 MADD 0 500 Flow per P 100 ns 0 Number of 1s 4 Number of	al Flow - % of Factor * 10m³, Inlet Ca erson per Day Storage Struc Time/Area Dia	/ha Storage peffiecient (l/per/day) stures 3 grams 0	2.000 0.800				
		Number of	Offline	e Control	ls 2 Number of	E Real Time Con	trols 0					
	<u>Synthetic Rainfall Details</u> Rainfall Model FSR Ratio R 0.356											
		ina fiif				Cv (Summer) 0.7						
		М	5-60 (mr			Cv (Winter) 0.8						
	Retur		rofile(s) (min) (year	DTS : DVD : Inertia : s) s) 1:	Status Status Status	cond Increment Summe), 180, 240, 36	ON ON ON r and Winte), 50 00				
	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow				
PN	Name	Storm		Change		Flood	Overflow	Act.				
20.000	1	15 Winter	1	+0%	100/15 Summe:	c						
20.001		15 Winter	1	+0%		r 100/15 Summer	<u>-</u>					
20.002		15 Winter	1	+0%		r 100/15 Summer						
20.003		15 Winter	1	+0%		r 100/15 Summer						
20.004		15 Winter 15 Winter	1 1	+0% +0%		r 100/15 Summer	-					
20.005		15 Winter 15 Winter	1		100/15 Summe:	r						
20.000		15 Winter	1	+0%								
21.000		15 Winter	1		100/15 Summe:							
21.001		15 Winter	1		100/15 Summe:							
21.002		15 Winter	1		100/15 Winte:							
21.003		15 Winter	1		100/15 Summe:							
22.000		30 Winter	1 1	+0%								
21.004 20.008		30 Winter 15 Winter	1	+0% +0%								
20.000		15 Winter 15 Winter	1		100/15 Summe:							
20.009		15 Winter	1	+0%								
24.000		15 Winter	1	+0%	100/15 Summe:	r						
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				ST 202-	-0+0 +1110V}	10						

Peter Brett Associates		Page 5
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

	US/MH	Water Level	Surcharged Depth			Overflow	Pipe Flow		Level
PN	Name	(m)	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded
20.000	1	22.467	-0.103	0.000	0.21		7.6	OK	
20.001	2	21.938	-0.092	0.000	0.32		11.5	OK	2
20.002	3	21.031	-0.079	0.000	0.45		16.8	OK	5
20.003	4	19.903	-0.067	0.000	0.58		20.2	OK	6
20.004	5	19.232	-0.058	0.000	0.68		25.1	OK	3
20.005	6	18.195	-0.145	0.000	0.27		28.1	OK	
20.006	7	17.248	-0.142	0.000	0.29		31.1	OK	
20.007	8	15.903	-0.127	0.000	0.39		33.5	OK	
21.000	S1	17.253	-0.110	0.000	0.16		2.6	OK	
21.001	S2	17.087	-0.095	0.000	0.29		4.7	OK	
21.002	S3	16.442	-0.579	0.000	0.01		4.8	OK	
21.003	S4	16.041	-0.559	0.000	0.01		9.0	OK	
22.000	S5	15.921	-0.346	0.000	0.01		1.8	OK	
21.004	S6	15.921	0.171	0.000	0.20		3.7	SURCHARGED	
20.008	S7	15.737	0.076	0.000	0.41		34.9	SURCHARGED	
23.000	9	16.340	-0.090	0.000	0.33		5.4	FLOOD RISK	
20.009	10	13.179	-0.113	0.000	0.69		45.1	OK	
24.000	11	18.345	-0.105	0.000	0.20		10.5	OK	

Peter Brett Associates		Page 6
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamarje
Micro Drainage	Network 2018.1	

PN	US/MH Name	:	Storm		Climate Change		t (X) harge		t (Y) bod	First (Z) Overflow	Overflow Act.
04 001	1.0	1 -	Winter	1	. 0.9	100/15	0	100/15	Q		
24.001 24.002			Winter	1	+0% +0%		Summer Summer	100/13	Summer		
24.002			Winter	1	+0%		Summer	100/15	Summor		
20.010			Winter	1		100/15		100/13	Summer		
20.010			Winter	1	+0%		Summer				
25.000			Winter	1		100/15					
25.000			Winter	1		100/15					
25.002			Winter	1		100/15					
25.003			Winter	1		100/15					
26.000			Summer	1	+0%		Summer	100/15	Summer		
25.004			Winter	1	+0%		Summer	100,10	6 dillino 1		
25.005			Winter	1		100/15					
25.006			Winter	1	+0%		Summer				
20.012			Winter	1	+0%		Summer				
27.000			Winter	1	+0%		Summer	100/15	Summer		
27.001			Winter	1		100/15		,			
20.013	28	15	Winter	1	+0%		Summer				
28.000			Winter	1		100/15					
29.000	30	15	Summer	1	+0%		Summer	100/15	Summer		
30.000	31	15	Summer	1	+0%		Summer				
28.001	32	15	Summer	1	+0%		Summer				
20.014	33	15	Winter	1	+0%	30/15	Summer				
20.015	34	15	Winter	1	+0%	30/15	Summer				
20.016	35	15	Winter	1	+0%	30/15	Summer				
31.000	36	15	Summer	1	+0%	30/15	Summer	100/15	Summer		
32.000	37	15	Summer	1	+0읭	30/15	Summer	100/15	Summer		
31.001	38	15	Winter	1	+0%	30/15	Summer				
20.017	39	15	Winter	1	+0%	30/15	Summer				
33.000	40	15	Winter	1	+0%	100/15	Summer				
33.001	41	15	Summer	1	+0%	30/15	Summer				
33.002	42	15	Winter	1	+0%	30/15	Summer				
33.003	43	15	Winter	1	+0읭	30/15	Summer				
20.018	44	15	Winter	1	+0%	30/15	Summer				
34.000	45	15	Winter	1	+0%	100/15	Summer				
34.001	46	15	Summer	1	+0%	30/15	Summer				
34.002	47	15	Summer	1	+0%	30/15	Winter				
34.003	48	15	Winter	1	+0읭	100/15	Summer				
35.000			Summer	1	+0읭	30/15	Summer	100/15	Summer		
34.004			Winter	1	+0%	30/15	Summer				
34.005			Winter	1		100/15					
34.006	52	15	Winter	1	+0%		Summer				
34.007			Winter	1	+0%	30/15	Summer				
36.000			Winter	1	+0%		Winter				
36.001			Winter	1	+0%		Summer				
34.008			Winter	1	+0%		Summer				
34.009			Winter	1	+0%		Summer	100/15	Summer		
37.000			Summer	1		30/15					
37.001	61	15	Winter	1		100/15					
					©1982-	2018 1	Innovyz	ze			

Peter Brett Associates		Page 7
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

	US/MH	Level	Surcharged Depth			Overflow	Pipe Flow		Level
PN	Name	(m)	(m)	(m ³)	Cap.	(1/s)		Statuc	Exceeded
FN	naiile	(11)	(10)	()	Cap.	(1/5)	(1/5)	SLATUS	PYCGEOGO
24.001	12	17.308	-0.092	0.000	0.31		16.4	OK	2
24.002	13	16.457	-0.093	0.000	0.31		16.4	OK	
24.003	14	15.382	-0.068	0.000	0.57		23.4	OK	5
20.010	15	12.892	-0.258	0.000	0.21		76.2	OK	
20.011	16	10.648	-0.177	0.000	0.54		76.6	OK	
25.000	17	18.153	-0.097	0.000	0.27		10.0	OK	
25.001	18	16.258	-0.092	0.000	0.31		14.3	OK	
25.002		14.907	-0.093	0.000	0.31		14.2	OK	
25.003		13.781	-0.169	0.000	0.14		20.7	OK	
26.000		12.344	-0.106	0.000	0.19		3.8	OK	4
25.004		12.228	-0.095	0.000	0.62		26.8	OK	-
25.005		12.075	-0.155	0.000	0.21		30.3	OK	
25.005		11.060	-0.140	0.000	0.21		30.4	OK	
20.012		10.549	-0.140	0.000	0.78		108.4	OK	
27.000		16.743	-0.056	0.000	0.71		31.6	OK	6
27.000		13.725	-0.035	0.000	0.50		31.5	OK	0
20.013		10.425	-0.191	0.000	0.50		131.0	OK	
		12.630			0.88		28.6		
28.000		12.630	-0.145	0.000	0.27		28.6 30.4	OK	E
29.000			-0.057					OK	5 4
30.000		12.635	-0.065	0.000	0.62 0.51		28.6 89.5	OK	4
		11.965	-0.185	0.000				OK	
20.014		10.317	-0.178	0.000	0.76		184.9	OK	
20.015		10.254	-0.189	0.000	0.72		182.1	OK	
20.016		10.168	-0.207	0.000	0.73		186.8	OK	0
31.000		12.336	-0.139	0.000	0.31		12.6	OK	2
32.000		12.391	-0.084	0.000	0.71		28.3	OK	4
31.001		12.283	-0.112	0.000	0.50		46.8	OK	
20.017		10.060	-0.245	0.000	0.63		209.1	OK	
33.000		11.127	-0.148	0.000	0.25		18.2	OK	
33.001		10.647	-0.128	0.000	0.38		18.3	OK	
33.002		10.541	-0.093	0.000	0.64		21.9	OK	
33.003		10.443	-0.121	0.000	0.43		25.7	OK	
20.018	44	9.985	-0.261	0.000	0.76		221.8	OK	
34.000		12.807	-0.093	0.000	0.31		12.8	OK	
34.001		11.380	-0.070	0.000	0.55		12.9	OK	
34.002	47	11.029	-0.121	0.000	0.43		12.9	OK	
34.003	48	10.960	-0.150	0.000	0.24		16.3	OK	
35.000	49	11.725	-0.074	0.000	0.51		20.3	OK	4
34.004	50	10.475	-0.125	0.000	0.63		38.4	OK	
34.005	51	10.375	-0.190	0.000	0.29		40.2	OK	
34.006	52	9.825	-0.174	0.000	0.36		40.7	OK	
34.007	53	9.607	-0.192	0.000	0.28		40.9	OK	
36.000	56	9.799	-0.175	0.000	0.11		8.7	OK	
36.001	57	9.266	-0.133	0.000	0.35		10.5	OK	6
34.008	58	9.217	-0.152	0.000	0.39		41.5	OK	3
34.009	59	9.205	-0.095	0.000	0.24		39.4	OK	5
37.000		11.730	-0.070	0.000	0.56		10.2	OK	0
				82-2018				010	

Peter Brett Associates		Page 8
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Volume	•	Overflow (1/s)		Status	Level Exceeded	
37.001	61	11.463	-0.137	0.000	0.32		15.8	OK		

	Page 9
LANDS AT BURFIELD VALLEY	
HAILSHAM	
6 HOUSE MODEL	Micro
Designed by AT	Drainage
Checked by PH	Diamage
Network 2018.1	
	HAILSHAM 6 HOUSE MODEL Designed by AT Checked by PH

	US/MH		Return	Climate	Firs	t (X)	First (Y)	First	t (Z)	Overflow
PN	Name	Storm	Period	Change	Surc	harge	Flood		Over	flow	Act.
37.002	62	15 Winte	r 1	+0%	100/15	Summer					
37.003	63	15 Winte	r 1	+0%	100/15	Summer					
38.000	64	15 Winte	r 1	+0읭	100/15	Summer					
38.001	65	15 Winte	r 1	+0읭	100/15	Summer					
37.004	66	15 Winte	r 1	+0읭	100/15	Summer					
39.000	67	15 Winte	r 1	+0응	100/15	Summer					
37.005	68	15 Winte	r 1	+0응	100/15	Summer					
34.010	69	15 Winte	r 1	+0응	30/15	Summer					
40.000	70	15 Summe	r 1	+0읭	30/15	Winter					
34.011	71	15 Winte	r 1	+0읭	30/15	Summer					
34.012	72	15 Winte	r 1	+0읭	30/15	Summer					
34.013	73	15 Winte	r 1	+0읭	30/15	Summer					
34.014	74	15 Winte	r 1	+0읭	30/15	Summer					
20.019	75	15 Winte	r 1	+0%	30/15	Summer					
41.000	76	30 Winte	r 1	+0%	1/30	Winter	100/15 Su	mmer			
42.000	77	15 Summe	r 1	+0%	100/15	Summer					
41.001	78	30 Winte	r 1	+0%	1/15	Summer					
20.020	79	15 Winte	r 1	+0%	30/15	Summer					
20.021	80	15 Winte	r 1	+0%	30/15	Summer					
20.022	81	15 Winte	r 1	+0%					1/15	Summer	66
43.000	89	15 Winte	r 1	+0%	30/15	Summer	100/15 Su	mmer			
43.001	90	15 Winte	r 1	+0%	30/15	Summer					
43.002	91	15 Winte	r 1	+0%	30/15	Summer					
44.000	82	15 Winte	r 1	+0%							
44.001	83	15 Winte	r 1	+0%							
44.002	84	15 Winte	r 1	+0%	100/15	Summer					
44.003	85	15 Winte	r 1	+0%	100/15	Summer					
44.004	86	15 Winte	r 1	+0읭	30/15	Summer					
45.000	87	15 Winte	r 1	+0읭	30/15	Summer					
44.005	88	15 Winte	r 1	+0읭	100/15	Summer					
43.003	92	15 Winte	r 1	+0읭	100/15	Summer					
43.004	93	15 Winte	r 1	+0읭	100/15	Summer					
43.005	94	15 Winte	r 1	+0%	30/15	Summer					
43.006	95	240 Winte		+0%							
43.007		240 Winte		+0%					100/30	Summer	20
43.008		240 Winte			30/120	Winter			,		
20.023		480 Winte		+0%							
20.024		480 Winte		+0%							
20.025		480 Winte		+0%	30/60	Summer					
	100		-		23, 00						
		Wate	r Surcha	rged Flo	oded		Pi	pe			

		Water	Surcharged	Flooded			Pipe			
	US/MH	Level	Depth	Volume	Flow /	Overflow	Flow		Level	
PN	Name	(m)	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded	
37.002	62	11.306	-0.163	0.000	0.17		15.7	OK		
37.003	63	10.658	-0.142	0.000	0.29		15.7	OK		
38.000	64	11.317	-0.113	0.000	0.14		4.2	OK		
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Peter Brett Associates		Page 10
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Dialitada
Micro Drainage	Network 2018.1	

		Water	-	Flooded			Pipe		
	US/MH	Level	Depth	Volume	Flow /	Overflow	Flow		Level
PN	Name	(m)	(m)	(m³)	Cap.	(1/s)	(l/s)	Status	Exceeded
38.001	65	10.952	-0.098	0.000	0.26		8.2	OK	
37.004	66	10.506	-0.129	0.000	0.38		26.8	OK	
39.000	67	10.328	-0.102	0.000	0.22		3.6	OK	
37.005	68	10.054	-0.216	0.000	0.17		30.4	OK	
34.010	69	9.171	-0.183	0.000	0.44		75.9	OK	
40.000	70	9.760	-0.125	0.000	0.07		2.3	OK	
34.011	71	9.163	-0.171	0.000	0.45		77.8	OK	
34.012	72	9.154	-0.159	0.000	0.43		72.5	OK	
34.013	73	9.146	-0.147	0.000	0.31		65.9	OK	
34.014	74	9.137	-0.142	0.000	0.22		61.8	OK	
20.019	75	9.076	-0.148	0.000	1.03		269.3	OK	
41.000	76	9.129	0.000	0.000	0.41		15.0	SURCHARGED	6
42.000	77	10.037	-0.138	0.000	0.32		20.3	OK	
41.001	78	9.108	0.122	0.000	0.49		30.6	SURCHARGED	
20.020	79	9.041	-0.158	0.000	1.16		289.9	OK	
20.021	80	8.914	-0.264	0.000	0.74		288.5	OK	
20.022	81	8.648	-0.484	0.000	0.27	163.0	125.5	OK	
43.000	89	10.976	-0.074	0.000	0.51		8.4	OK	4
43.001	90	10.744	-0.135	0.000	0.34		15.1	OK	
43.002	91	10.639	-0.101	0.000	0.58		21.6	OK	
44.000	82	21.502	-0.128	0.000	0.05		2.9	OK	
44.001	83	19.281	-0.119	0.000	0.09		4.8	OK	
44.002	84	18.049	-0.102	0.000	0.22		9.7	OK	
44.003	85	14.494	-0.095	0.000	0.29		12.1	OK	
44.004	86	13.734	-0.121	0.000	0.43		18.7	OK	
45.000	87	13.828	-0.075	0.000	0.50		8.4	OK	
44.005	88	13.491	-0.143	0.000	0.28		33.5	OK	
43.003	92	10.454	-0.176	0.000	0.36		61.9	OK	
43.004	93	9.727	-0.178	0.000	0.35		61.6	OK	
43.005	94	9.073	-0.182	0.000	0.32		61.2	OK	
43.006	95	8.474	-1.587	0.000	0.04		15.4	OK	
43.007	96	8.473	-1.027	0.000	0.12	0.0	21.6	OK	
43.008	97	8.468	-0.262	0.000	0.08		21.1	OK	
20.023	98	8.332	-1.168	0.000	0.04		51.3	OK	
20.024	99	8.331	-1.169	0.000	0.03		54.2	OK	
20.025	109	8.328	-0.127	0.000	0.06		20.4	OK	

30 Tower View				P	age 11			
	LAN	IDS AT BURF	ELD VALLEY		-			
Kings Hill	НАТ	LSHAM						
West Malling ME19 4PR		HOUSE MODEL						
Date 10/08/2020 14:38	-							
			-)rainage			
File SINGLE OUTFALL - 6 HO		ecked by PH						
Micro Drainage	Net	work 2018.1	-					
30 year Return Period Summ		itical Resu ransfer.txt	lts by Maxir	num Level	(Rank 1)			
Areal Reduction H Hot Start Hot Start Leve Manhole Headloss Coeff (G Foul Sewage per hectare Number of Input Number of Onli	Factor 1.000 (mins) (((mm) (lobal) 0.500 (l/s) 0.000 Hydrographs) MADD)) Flow per Pe) 0 Number of	Factor * 10m³/1 Inlet Co rson per Day (Storage Struct	ha Storage effiecient l/per/day) cures 3	2.000 0.800			
Number of Onli Number of Offli			-					
		Rainfall Deta						
Rainfall Mo			Ratio R 0.35					
Reg M5-60 ((Summer) 0.75 (Winter) 0.84					
F15 00 (20.300 00	(WINCEI) 0.0-	10				
Margin for Flood Ri	.sk Warning	(mm)		300.0				
An	alysis Time	step 2.5 Seco	nd Increment (Extended)				
	DTS St			ON				
	DVD St			ON				
	Inertia St	atus						
				ON				
				ON				
Profile Duration(s) (mi	. ,	30, 60, 120,		and Winte				
Profile Duration(s) (mi	. ,	30, 60, 120,		and Winte	,			
Duration(s) (mi Return Period(s) (yea	ars) 15,	30, 60, 120,		and Winte , 480, 600 720, 96 1, 30, 10	, 0 0			
Duration(s) (mi	ars) 15,	30, 60, 120,		and Winte , 480, 600 720, 96	, 0 0			
Duration(s) (mi Return Period(s) (yea Climate Change	ns) 15, ars) (%)		180, 240, 360	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4	, 0 0			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur	ars) 15,	30, 60, 120, First (X) Surcharge		and Winte , 480, 600 720, 96 1, 30, 10	, 0 0			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur PN Name Storm Perio	ns) 15, ars) (%) m Climate od Change	First (X) Surcharge	180, 240, 360 First (Y)	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur PN Name Storm Perio 20.000 1 15 Winter 3	ns) 15, (%) n Climate od Change	First (X) Surcharge .00/15 Summer	180, 240, 360 First (Y) Flood	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur PN Name Storm Perio 20.000 1 15 Winter 3 20.001 2 15 Winter 3	<pre>15, 15, 15, (%) 15, 15, 15, 15, 15, 15, 15, 15, 15, 15,</pre>	First (X) Surcharge .00/15 Summer 30/15 Summer	180, 240, 360 First (Y)	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur PN Name Storm Perio 20.000 1 15 Winter 3 20.001 2 15 Winter 3 20.002 3 15 Winter 3	<pre>15, 15, 15, (%) 15, 15, 16, 17, 17, 17, 17, 17, 17, 17, 17, 17, 17</pre>	First (X) Surcharge 00/15 Summer 30/15 Summer 30/15 Summer	180, 240, 360 First (Y) Flood 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur PN Name Storm Perio 20.000 1 15 Winter 3 20.001 2 15 Winter 3 20.002 3 15 Winter 3 20.003 4 15 Winter 3	<pre>n Climate d Change 0 +0% 1 0 +0% 10 +0%</pre>	First (X) Surcharge 00/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur PN Name Storm Perio 20.000 1 15 Winter 3 20.001 2 15 Winter 3 20.002 3 15 Winter 3 20.003 4 15 Winter 3 20.003 4 15 Winter 3 20.004 5 15 Winter 3 20.005 6 15 Winter 3	<pre>Ins) 15, ars) (%) n Climate d Change 0 +0% 1 0 +0% 10 +0%</pre>	First (X) Surcharge	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur PN Name Storm Perio 20.000 1 15 Winter 3 20.001 2 15 Winter 3 20.002 3 15 Winter 3 20.003 4 15 Winter 3 20.004 5 15 Winter 3 20.005 6 15 Winter 3 20.006 7 15 Winter 3	<pre>Ins) 15, ars) (%) n Climate d Change 0 +0% 1 0 +0% 0 +0% 0 +0% 0 +0% 0 +0% 0 +0% 0 +0% 0 +0% 0 +0% 1</pre>	First (X) Surcharge 00/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur PN Name Storm Perio 20.000 1 15 Winter 3 20.001 2 15 Winter 3 20.002 3 15 Winter 3 20.003 4 15 Winter 3 20.004 5 15 Winter 3 20.005 6 15 Winter 3 20.005 6 15 Winter 3 20.006 7 15 Winter 3 20.007 8 15 Winter 3	ins) 15, ars) (%) in Climate 0 od Change 0 io +0%	First (X) Surcharge 00/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 00/15 Summer 30/15 Summer	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur PN Name Storm Perio 20.000 1 15 Winter 3 20.001 2 15 Winter 3 20.002 3 15 Winter 3 20.003 4 15 Winter 3 20.004 5 15 Winter 3 20.005 6 15 Winter 3 20.005 6 15 Winter 3 20.006 7 15 Winter 3 20.007 8 15 Winter 3 21.000 S1 15 Winter 3	ins) 15, ars) (%) in Climate 0 od Change 0 i0 +0%	First (X) Surcharge 00/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (mi Return Period(s) (yea Climate Change US/MH Retur PN Name Storm Perio 20.000 1 15 Winter 3 20.001 2 15 Winter 3 20.002 3 15 Winter 3 20.003 4 15 Winter 3 20.004 5 15 Winter 3 20.005 6 15 Winter 3 20.005 6 15 Winter 3 20.006 7 15 Winter 3 20.007 8 15 Winter 3 20.007 8 15 Winter 3 21.000 S1 15 Winter 3 21.001 S2 15 Winter 3	Ins) 15, ars) (%) Insolution 15, ars) (%) Insolution 15, ars) (%) Insolution 15, ars) (%) Insolution 15, Insolution 10,	First (X) Surcharge	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
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Duration(s) (minute Return Period(s) (year of the second	Ins) 15, ars) (%) Insolution 15, ars) (%) Insolution 15, ars) (%) Insolution 15, ars) (%) Insolution 15, Insolution 10, <	First (X) Surcharge 00/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (minute) Return Period(s) (year of the state of the stat	Ins) 15, ars) (%) Insolution 15, ars) (%) Insolution 15, ars) (%) Insolution 15, ars) (%) Insolution 15, Insolution 10, <	First (X) Surcharge	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (minute) Return Period(s) (year of the state of the stat	$\begin{array}{c} \text{ns} & 15, \\ \text{ars} \\ (\$) \\ \end{array}$	First (X) Surcharge 00/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 30/15 Summer	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (minute Return Period(s) (year of the second	$\begin{array}{c} \text{ns} & 15, \\ \text{ns} & (\$) \\ \text{n Climate} \\ \text{od Change} \\ 0 & +0\$ \\ 0 & +0\$ \\ 0 & +0\$ \\ 0 & +0\$ \\ 0 & +0\$ \\ 0 & +0\$ \\ 0 & +0\$ \\ 0 & +0\$ \\ 10 & +0 \\ 10 & +0$ \\$	First (X) Surcharge 00/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 1/15 Summer 1/15 Summer 00/15 Summer	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (minute) Return Period(s) (year of the second secon	$\begin{array}{c} \text{ns} & 15, \\ \text{nss} & 15, \\ \text{nss} & (\$) \\ \end{array}$	First (X) Surcharge 00/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 1/15 Summer 1/15 Summer 1/15 Summer 30/15 Summer 30/15 Summer	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			
Duration(s) (minute) Return Period(s) (year of the second secon	Ins) 15, ars) (%) Ins) 15, ars) (%) Insolution 15, ars) (%) Insolution 15, ars) (%) Insolution 10, Ins	First (X) Surcharge 00/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 00/15 Summer 1/15 Summer 1/15 Summer 00/15 Summer	180, 240, 360 First (Y) Flood 100/15 Summer 100/15 Summer 100/15 Summer	and Winte , 480, 600 720, 96 1, 30, 10 0, 0, 4 First (Z)	, 0 0 0 Overflow			

Peter Brett Associates		Page 12
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)		Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
EN	Name	(111)	(111)	()	cap.	(1/3)	(1/5)	Status	Exceeded
20.000	1	22.497	-0.073	0.000	0.52		18.6	OK	
20.001	2	22.184	0.154	0.000	0.80		28.8	SURCHARGED	2
20.002	3	21.798	0.688	0.000	0.92		34.4	SURCHARGED	5
20.003	4	20.892	0.922	0.000	1.14		40.1	FLOOD RISK	6
20.004	5	20.005	0.715	0.000	1.32		48.7	SURCHARGED	3
20.005	6	18.234	-0.106	0.000	0.54		55.3	OK	
20.006	7	17.292	-0.098	0.000	0.60		63.4	OK	
20.007	8	16.480	0.450	0.000	0.79		67.5	SURCHARGED	
21.000	S1	17.278	-0.085	0.000	0.39		6.4	OK	
21.001	S2	17.134	-0.048	0.000	0.80		13.1	OK	
21.002	S3	16.521	-0.500	0.000	0.01		6.7	OK	
21.003	S4	16.521	-0.079	0.000	0.02		11.9	OK	
22.000	S5	16.521	0.254	0.000	0.01		3.3	SURCHARGED	
21.004	S6	16.521	0.771	0.000	0.20		3.7	SURCHARGED	
20.008	s7	16.248	0.587	0.000	0.77		65.8	SURCHARGED	
23.000	9	16.385	-0.045	0.000	0.81		13.1	FLOOD RISK	
20.009	10	13.422	0.130	0.000	1.39		90.9	SURCHARGED	
24.000	11	18.374	-0.076	0.000	0.49		25.7	OK	

Peter Brett Associates		Page 13
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

	US/MH	a t		Climate		: (X)		t (Y)	First (Z)	
PN	Name	Storm	Period	Change	Surch	arge	FLO	bod	Overflow	Act.
24.001	12	15 Winter	30	+0읭	100/15	Summer	100/15	Summer		
24.002	13	15 Winter	30	+0읭		Summer				
24.003	14	15 Winter	30	+0%	30/15	Summer	100/15	Summer		
20.010	15	15 Winter	30	+0%	100/15	Summer				
20.011	16	15 Winter	30	+0읭	30/15	Summer				
25.000	17	15 Winter	30	+0%	100/15	Summer				
25.001	18	15 Winter	30	+0%	100/15	Summer				
25.002	19	15 Winter	30		100/15					
25.003	20	15 Winter	30	+0읭	100/15	Summer				
26.000	21	15 Summer	30	+0읭	30/15	Summer	100/15	Summer		
25.004		15 Winter		+0%		Summer				
25.005		15 Winter		+0%	100/15					
25.006		15 Winter		+0읭		Summer				
20.012		15 Winter		+0%		Summer				
27.000		15 Winter		+0%			100/15	Summer		
27.001		15 Winter			100/15					
20.013		15 Winter		+0%		Summer				
28.000		15 Winter			100/15		100/15			
29.000		15 Winter		+0%			100/15			
30.000		15 Winter		+0%			100/15	Summer		
28.001		15 Winter		+0%		Summer				
20.014		15 Winter		+0%		Summer				
20.015		15 Winter 15 Winter		+0%		Summer Summer				
20.016 31.000		15 Winter 15 Winter		+0% +0%			100/15	Cummor		
32.000		15 Winter 15 Winter		+0% +0%			100/15			
31.001		15 Winter 15 Winter		+0%		Summer	100/15	Summer		
20.017		15 Winter		+0%		Summer				
33.000		15 Winter			100/15					
33.001		15 Winter		+0%		Summer				
33.002		15 Winter		+0%		Summer				
33.003		15 Winter		+0%		Summer				
20.018		15 Winter		+0%		Summer				
34.000		15 Winter			100/15					
34.001		15 Winter		+0%		Summer				
34.002		15 Winter		+0읭		Winter				
34.003		15 Summer			100/15					
35.000	49	15 Winter	30	+0%	30/15	Summer	100/15	Summer		
34.004	50	15 Winter	30	+0%	30/15	Summer				
34.005	51	15 Winter	30	+0%	100/15	Summer				
34.006	52	30 Winter	30	+0읭	30/15	Summer				
34.007	53	15 Winter	30	+0%	30/15	Summer				
36.000	56	15 Winter	30	+0%	30/15	Winter				
36.001	57	15 Winter	30	+0%	30/15	Summer	100/15	Summer		
34.008		15 Winter		+0%			100/15			
34.009		15 Winter		+0읭			100/15	Summer		
37.000		15 Winter		+0읭		Summer				
37.001	61	15 Winter	30	+0%	100/15	Summer				
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Peter Brett Associates		Page 14
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	1

	US/MH	Water Level	Surcharged Depth		Flow /	Overflow	Pipe Flow		Level
PN	Name	(m)	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded
24.001	12	17.367	-0.033	0.000	0.84		43.8	OK	2
24.002	13	16.893	0.343	0.000	0.74		39.3	SURCHARGED	
24.003	14	16.332	0.882	0.000	1.33		54.7	SURCHARGED	5
20.010	15	12.957	-0.193	0.000	0.47		169.9	OK	
20.011	16	11.758	0.933	0.000	1.14		162.1	SURCHARGED	
25.000	17	18.189	-0.061	0.000	0.66		24.6	OK	
25.001	18	16.305	-0.045	0.000	0.83		37.8	OK	
25.002	19	14.953	-0.047	0.000	0.81		37.7	OK	
25.003	20	13.823	-0.127	0.000	0.39		57.9	OK	
26.000	21	12.530	0.080	0.000	0.47		9.4	SURCHARGED	4
25.004	22	12.501	0.178	0.000	1.69		72.8	SURCHARGED	
25.005	23	12.130	-0.100	0.000	0.58		82.6	OK	
25.006	24	11.806	0.606	0.000	0.73		72.7	SURCHARGED	
20.012	25	11.588	0.894	0.000	1.67		231.4	SURCHARGED	
27.000	26	17.882	1.083	0.000	1.16		51.9	FLOOD RISK	6
27.001	27	13.753	-0.047	0.000	0.82		51.9	OK	
20.013	28	11.369	0.753	0.000	1.46		287.0	SURCHARGED	
28.000	29	12.685	-0.090	0.000	0.67		70.1	OK	
29.000	30	13.348	0.648	0.000	1.44		62.3	SURCHARGED	5
30.000	31	13.156	0.456	0.000	1.32		61.3	SURCHARGED	4
28.001	32	12.205	0.055	0.000	1.10		193.3	SURCHARGED	
20.014	33	11.102	0.607	0.000	1.82		444.1	SURCHARGED	
20.015	34	10.906	0.463	0.000	1.76		447.1	SURCHARGED	
20.016	35	10.691	0.316	0.000	1.80		459.8	SURCHARGED	
31.000	36	12.683	0.208	0.000	0.66		26.4	SURCHARGED	2
32.000	37	12.794	0.319	0.000	1.54		61.3	SURCHARGED	4
31.001	38	12.600	0.205	0.000	1.12		103.7	SURCHARGED	
20.017	39	10.458	0.152	0.000	1.65		547.0	SURCHARGED	
33.000	40	11.179	-0.096	0.000	0.62		44.7	OK	
33.001	41	10.891	0.116	0.000	0.90		43.0	SURCHARGED	
33.002	42	10.785	0.151	0.000	1.56		53.2	SURCHARGED	
33.003	43	10.617	0.053	0.000	1.07		63.4	SURCHARGED	
20.018	44	10.261	0.016	0.000	2.02		593.1	SURCHARGED	
34.000	45	12.849	-0.051	0.000	0.77		31.5	OK	
34.001	46	11.683	0.233	0.000	1.31		30.6	SURCHARGED	
34.002	47	11.168	0.018	0.000	0.99		29.5	SURCHARGED	
34.003		11.011	-0.099	0.000	0.58		39.5	OK	
35.000	49	12.102	0.303	0.000	1.08		43.0	SURCHARGED	4
34.004	50	10.680	0.080	0.000	1.46		88.8	SURCHARGED	
34.005	51	10.447	-0.118	0.000	0.67		95.0	OK	
34.006	52	10.352	0.353	0.000	0.68		76.2	SURCHARGED	
34.007	53	10.218	0.419	0.000	0.59		85.7	SURCHARGED	
36.000	56	10.099	0.125	0.000	0.28		21.4	SURCHARGED	
36.001	57	10.073	0.674	0.000	0.77		23.0	SURCHARGED	6
34.008	58	10.065	0.696	0.000	0.99		106.6	SURCHARGED	3
34.009	59	9.967	0.667	0.000	0.62		101.9	SURCHARGED	5
37.000	60	11.949	0.149	0.000	1.30		23.9	SURCHARGED	

Peter Brett Associates		Page 15
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	1

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Volume	•	Overflow (l/s)		Status	Level Exceeded
37.001	61	11.535	-0.065	0.000	0.83		40.3	OK	

30 Tower View LANDS AT BURFIELD VALLEY Kings Hill HAILSHAM West Malling ME19 4PR 6 HOUSE MODEL Date 10/08/2020 14:38 Dasigned by AF	
West Malling ME19 4PR 6 HOUSE MODEL Date 10/08/2020 14:38 Designed by AT File SINGLE OUTFALL - 6 HOME Checked by PH Micro Drainage Network 2018.1 30 year Return Period Summary of Critical Results by Maximum Level for Transfer.txt US/MH Return Climate First (X) First (Y) First (Z) PN Name Storm Period Change Surcharge Flood Overflow 37.002 62 15 Winter 30 +0% 100/15 Summer 100/15 Summer 38.000 64 15 Winter 30 +0% 100/15 Summer	(Rank 1)
West Malling ME19 4PR 6 HOUSE MODEL Date 10/08/2020 14:38 Designed by AT File SINGLE OUTFALL - 6 HOME Checked by PH Micro Drainage Network 2018.1 30 year Return Period Summary of Critical Results by Maximum Level for Transfer.txt US/MH Return Climate First (X) First (Y) First (Z) PN Name Storm Period Change Surcharge Flood Overflow 37.002 62 15 Winter 30 +0% 100/15 Summer 100/15 Summer 37.003 63 15 Winter 30 +0% 100/15 Summer 38.000 64 15 Winter 30 +0% 100/15 Summer	(Rank 1)
Date 10/08/2020 14:38 Designed by AT File SINGLE OUTFALL - 6 HOME Checked by PH Micro Drainage Network 2018.1 30 year Return Period Summary of Critical Results by Maximum Level for Transfer.txt US/MH Return Climate First (X) First (Y) First (Z) Mame Storm Period Change Summer 37.002 62 15 Winter 30 +0% 100/15 Summer 38.000 64 15	(Rank 1)
Single OUTFALL - 6 HOME Checked by PH Micro Drainage Network 2018.1 30 year Return Period Summary of Critical Results by Maximum Level for Transfer.txt US/MH Return Climate First (X) First (Y) First (Z) PN Name Storm Period Change Surcharge Flood Overflow 37.002 62 15 Winter 30 +0% 100/15 Summer 30 +0% 100/15 Summer 38.000 64 15 Winter 30 +0% 100/15 Summer	(Rank 1)
US/MH Return Climate First (X) First (Y) First (Z) 90 <t< td=""><td>(Rank 1)</td></t<>	(Rank 1)
30 year Return Period Summary of Critical Results by Maximum Level for Transfer.txt US/MH Return Climate First (X) First (Y) First (Z) PN Name Storm Period Change Surcharge Flood Overflow 37.002 62 15 Winter 30 +0% 100/15 Summer 37.003 63 15 Winter 30 +0% 100/15 Summer 38.000 64 15 Winter 30 +0% 100/15 Summer	
for Transfer.txtUS/MHReturn ClimateFirst (X)First (Y)First (Z)PNNameStormPeriodChangeSurchargeFloodOverflow37.0026215 Winter30+0% 100/15 Summeroverflow37.0036315 Winter30+0% 100/15 Summer38.0006415 Winter30+0% 100/15 Summersummer30+0% 100/15 Summer	
PN Name Storm Period Change Surcharge Flood Overflow 37.002 62 15 Winter 30 +0% 100/15 Summer 37.003 63 15 Winter 30 +0% 100/15 Summer 38.000 64 15 Winter 30 +0% 100/15 Summer	Orrow floo
PN Name Storm Period Change Surcharge Flood Overflow 37.002 62 15 Winter 30 +0% 100/15 Summer <t< th=""><th>OVELITON</th></t<>	OVELITON
37.003 63 15 Winter 30 +0% 100/15 Summer 38.000 64 15 Winter 30 +0% 100/15 Summer	Act.
37.0036315Winter30+0%100/15Summer38.0006415Winter30+0%100/15Summer	
38.000 64 15 Winter 30 +0% 100/15 Summer	
37.004 66 15 Winter 30 +0% 100/15 Summer	
37.004 66 15 Winter 30 +0% 100/15 Summer 39.000 67 15 Winter 30 +0% 100/15 Summer	
37.005 68 15 Winter 30 +0% 100/15 Summer	
34.010 69 15 Winter 30 +0% 30/15 Summer	
40.000 70 15 Winter 30 +0% 30/15 Winter	
34.011 71 15 Winter 30 +0% 30/15 Summer	
34.012 72 15 Winter 30 +0% 30/15 Summer	
34.013 73 15 Winter 30 +0% 30/15 Summer	
34.014 74 15 Winter 30 +0% 30/15 Summer	
20.019 75 15 Winter 30 +0% 30/15 Summer	
41.000 76 15 Winter 30 +0% 1/30 Winter 100/15 Summer	
42.000 77 15 Summer 30 +0% 100/15 Summer	
41.001 78 15 Winter 30 +0% 1/15 Summer	
20.020 79 15 Winter 30 +0% 30/15 Summer	
20.021 80 15 Winter 30 +0% 30/15 Summer	
20.022 81 15 Winter 30 +0% 1/15 Summ	er 66
43.000 89 15 Winter 30 +0% 30/15 Summer 100/15 Summer	
43.001 90 15 Winter 30 +0% 30/15 Summer	
43.002 91 15 Winter 30 +0% 30/15 Summer	
44.000 82 15 Winter 30 +0%	
44.001 83 15 Winter 30 +0%	
44.002 84 15 Summer 30 +0% 100/15 Summer	
44.003 85 15 Winter 30 +0% 100/15 Summer 44.004 86 15 Winter 30 +0% 30/15 Summer	
44.004 86 15 Winter 30 +0% 30/15 Summer 45.000 87 15 Winter 30 +0% 30/15 Summer	
43.000 87 15 Winter 30 +0% 30/15 Summer 44.005 88 15 Winter 30 +0% 100/15 Summer	
44.005 88 15 Winter 30 +0% 100/15 Summer 43.003 92 15 Winter 30 +0% 100/15 Summer	
43.003 92 15 Winter 30 +0% 100/15 Summer 43.004 93 15 Winter 30 +0% 100/15 Summer	
43.005 94 15 Winter 30 +0% 30/15 Summer	
43.006 95 15 Winter 30 +0%	
43.007 96 480 Winter 30 +0% 100/30 Summ	er 20
43.008 97 480 Winter 30 +0% 30/120 Winter	20
20.023 98 480 Winter 30 +0%	
20.024 99 480 Winter 30 +0%	
20.025 109 480 Winter 30 +0% 30/60 Summer	
Water Surcharged Flooded Pipe	T
•	Level xceeded
37.002 62 11.348 -0.121 0.000 0.43 40.0 0K 37.003 63 10.722 -0.078 0.000 0.75 40.4 0K	
37.003 63 10.722 -0.078 0.000 0.75 40.4 OK 38.000 64 11.340 -0.090 0.000 0.34 10.4 OK	
38.000 64 11.340 -0.090 0.000 0.34 10.4 OK	

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Peter Brett Associates	Page 17	
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	1

	US/MH	Water Level	Surcharged Depth		Flow /	Overflow	Pipe		Level
PN	Name	(m)	(m)	(m ³)	Cap.	(1/s)	(1/s)	Status	Exceeded
	name	(111)	()	(111)	cap.	(1/3/	(1/3)	blacus	Inceeded
38.001		10.995	-0.055	0.000	0.73		22.5	OK	
37.004		10.602	-0.033	0.000	1.00		70.7	OK	
39.000		10.359	-0.071	0.000	0.54		8.9	OK	
37.005	68	10.112	-0.158	0.000	0.45		79.3	OK	
34.010	69	9.905	0.551	0.000	0.97		166.2	SURCHARGED	
40.000	70	9.904	0.019	0.000	0.16		5.7	SURCHARGED	
34.011	71	9.893	0.559	0.000	1.00		174.3	SURCHARGED	
34.012	72	9.879	0.566	0.000	1.00		169.7	SURCHARGED	
34.013	73	9.865	0.572	0.000	0.78		164.7	SURCHARGED	
34.014	74	9.854	0.575	0.000	0.53		152.4	SURCHARGED	
20.019	75	9.823	0.599	0.000	2.78		730.6	SURCHARGED	
41.000	76	9.771	0.642	0.000	1.08		39.8	FLOOD RISK	6
42.000	77	10.100	-0.075	0.000	0.78		49.7	OK	
41.001	78	9.684	0.698	0.000	1.66		104.6	SURCHARGED	
20.020	79	9.602	0.403	0.000	3.14		784.8	SURCHARGED	
20.021	80	9.347	0.169	0.000	2.02		780.9	SURCHARGED	
20.022	81	8.883	-0.249	0.000	0.78	420.2	359.7	OK	
43.000	89	11.259	0.209	0.000	1.07		17.7	SURCHARGED	4
43.001	90	11.062	0.183	0.000	0.79		35.7	SURCHARGED	
43.002	91	10.957	0.218	0.000	1.42		53.3	SURCHARGED	
44.000	82	21.515	-0.115	0.000	0.12		7.1	OK	
44.001	83	19.301	-0.099	0.000	0.25		12.9	OK	
44.002	84	18.090	-0.061	0.000	0.66		28.4	OK	
44.003	85	14.546	-0.043	0.000	0.85		35.5	OK	
44.004	86	13.989	0.134	0.000	1.26		54.6	SURCHARGED	
45.000	87	14.000	0.097	0.000	1.15		19.5	SURCHARGED	
44.005	88	13.562	-0.071	0.000	0.79		92.9	OK	
43.003	92	10.566	-0.064	0.000	0.96		164.9	OK	
43.004	93	9.854	-0.051	0.000	0.93		163.7	OK	
43.005	94	9.301	0.046	0.000	0.86		162.5	SURCHARGED	
43.006	95	8.866	-1.195	0.000	0.46		160.3	OK	
43.007	96	8.736	-0.764	0.000	0.12	0.0	22.3	OK	
43.008	97	8.757	0.027	0.000	0.08			SURCHARGED	
20.023	98	8.708	-0.792	0.000	0.11		139.3	OK	
20.024	99	8.705	-0.795	0.000	0.03		51.6	OK	
20.025	109	8.697	0.242	0.000	0.14			SURCHARGED	
20.025	109	8.697	0.242	0.000	0.14		45.5	SURCHARGED	

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30 Tower View			LA	NDS AT BURFI	IELD VALLEY		-			
Kings Hill			НА	ILSHAM						
West Malling	ME19 4 PI	R		HOUSE MODEL			licco			
Date 10/08/20	[<u>Nicro</u>							
)rainage								
FILE SINGLE OUTFALL - 6 HOME CHECKED BY PH										
Micro Drainage Network 2018.1										
<u>100 year Ret</u>	urn Peri	od Sumr		Critical Re Transfer.tx	sults by Max t	imum Lev	<u>el (Rank</u>			
	roal Podua	tion For		ation Criteria	l Flow - % of 7	Potal Flow	0 000			
A	Hot S	tart (mi	ns)	0 MADD 1	Factor * 10m³/b					
	Hot Start	Level (ff (Glob	mm) al) 0.50	0 D0 Flow per Pe:		effiecient	0.800			
						_				
1	Number of	Online	Control	s 4 Number of	Storage Struct Time/Area Diag Real Time Cont	rams O				
		<u>S</u>	ynthetic	: Rainfall Deta	ils					
	Rainfa	ll Mode	1	FSR	Ratio R 0.35					
		-	-		(Summer) 0.75					
	MS	-60 (mm)	20.300 CV	(Winter) 0.84	0				
Mare	gin for Flo	od Risk	Warning	(mm)		300.0				
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	D	cofile(s)		Summer	and Winte:	r			
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Retur	n Period(s Climate Cl	-				1, 30, 10				
			,							
US/MH PN Name	Storm		Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.			
PN Name		Period	Change	Surcharge	• •	• •				
PN Name 20.000 1	15 Winter	Period	Change +40%	Surcharge	Flood	• •				
PN Name 20.000 1 20.001 2	15 Winter 15 Winter	Period 100 100	Change +40% +40%	Surcharge 100/15 Summer 30/15 Summer	Flood 100/15 Summer	• •				
PN Name 20.000 1	15 Winter	Period 100	Change +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer	Flood	• •				
PN Name 20.000 1 20.001 2 20.002 3	15 Winter 15 Winter 15 Winter	Period 100 100 100	Change +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer	Flood 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter	Period 100 100 100 100 100 100 100 100	Change +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6 20.006 7	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter	Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 100/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6 20.006 7 20.007 8	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter	Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 100/15 Summer 30/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6 20.006 7 20.007 8 21.000 S1	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter	Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 100/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6 20.006 7 20.007 8 21.000 S1 21.001 S2	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 120 Winter	Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6 20.006 7 20.007 8 21.000 \$1 21.001 \$2 21.002 \$3 21.003 \$4	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 120 Winter 120 Winter 120 Winter	Period 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 100/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6 20.006 7 20.007 8 21.000 \$1 21.001 \$2 21.002 \$3 21.003 \$4 22.000 \$5	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 120 Winter 120 Winter 120 Winter 120 Winter 120 Winter	Period 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 30/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6 20.006 7 20.007 8 21.000 \$1 21.001 \$2 21.002 \$3 21.003 \$4 22.000 \$5 21.004 \$6	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 120 Winter 120 Winter 120 Winter 120 Winter 120 Winter 120 Winter	Period 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 30/15 Summer 1/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6 20.007 8 21.000 S1 21.001 S2 21.002 S3 21.003 S4 22.000 S5 21.004 S6 20.008 S7	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 120 Winter 120 Winter 120 Winter 120 Winter 120 Winter 120 Winter 120 Winter	Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 30/15 Summer 1/15 Summer 1/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6 20.007 8 21.000 S1 21.001 S2 21.002 S3 21.003 S4 22.000 S5 21.004 S6 20.008 S7 23.000 9	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 120 Winter 120 Winter 120 Winter 120 Winter 120 Winter 120 Winter	Period 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 30/15 Summer 1/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				
PN Name 20.000 1 20.001 2 20.002 3 20.003 4 20.004 5 20.005 6 20.007 8 21.000 S1 21.001 S2 21.002 S3 21.003 S4 22.000 S5 21.004 S6 20.008 S7 23.000 9	15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 120 Winter 120 Winter 120 Winter 120 Winter 120 Winter 120 Winter 15 Winter 15 Winter	Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge 100/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 30/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 100/15 Summer 1/15 Summer 1/15 Summer 100/15 Summer	Flood 100/15 Summer 100/15 Summer 100/15 Summer	• •				

Peter Brett Associates						
30 Tower View	LANDS AT BURFIELD VALLEY					
Kings Hill	HAILSHAM					
West Malling ME19 4PR	6 HOUSE MODEL	Micro				
Date 10/08/2020 14:38	Designed by AT	Drainage				
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage				
Micro Drainage	Network 2018.1					

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)		Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
20.000	1	23.563	0.993	0.000	0.73		25.8	FLOOD RISK	
20.001		23.231	1.201	0.662	1.00		36.2	FLOOD	2
20.002		22.315	1.205	5.389	1.00		37.4	FLOOD	5
20.003		21.175	1.205	4.781	1.36		47.5	FLOOD	6
20.004	5	20.491	1.201	0.552	1.51		55.4	FLOOD	3
20.005	6	18.286	-0.054	0.000	0.69		71.6	OK	
20.006	7	17.878	0.488	0.000	0.76		80.5	SURCHARGED	
20.007	8	17.122	1.092	0.000	1.02		87.7	FLOOD RISK	
21.000	S1	18.035	0.672	0.000	0.22		3.7	SURCHARGED	
21.001	S2	18.032	0.850	0.000	0.47		7.7	SURCHARGED	
21.002	s3	18.025	1.004	0.000	0.01		7.0	SURCHARGED	
21.003	S4	18.025	1.425	0.000	0.01		9.4	SURCHARGED	
22.000	S5	18.025	1.758	0.000	0.01		3.8	FLOOD RISK	
21.004	S6	18.025	2.275	0.000	0.27		4.9	FLOOD RISK	
20.008	S7	16.747	1.086	0.000	1.00		85.7	FLOOD RISK	
23.000	9	16.560	0.130	0.000	1.39		22.6	FLOOD RISK	
20.009	10	14.418	1.126	0.000	1.89		123.5	SURCHARGED	
24.000	11	19.161	0.711	0.000	0.72		37.5	SURCHARGED	

Peter Brett Associates	Page 20	
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

DN	US/MH	C to a sum		Climate				: (Y)	First (Z)	
PN	Name	Storm	Period	Change	Surci	harge	F.TC	ood	Overflow	Act.
24.001	12	15 Winter	100	+40%	100/15	Summer	100/15	Summer		
24.002	13	15 Summer	100	+40%	30/15	Summer				
24.003	14	15 Winter	100	+40%	30/15	Summer	100/15	Summer		
20.010	15	15 Winter	100	+40%	100/15	Summer				
20.011	16	15 Winter	100	+40%	30/15	Summer				
25.000	17	15 Winter	100	+40%	100/15	Summer				
25.001	18	15 Winter	100	+40%	100/15	Summer				
25.002	19	15 Winter	100	+40%	100/15	Summer				
25.003	20	15 Winter	100	+40%	100/15	Summer				
26.000	21	15 Winter	100	+40%	30/15	Summer	100/15	Summer		
25.004	22	15 Winter	100	+40%	30/15	Summer				
25.005	23	15 Winter	100	+40%	100/15	Summer				
25.006	24	15 Winter	100	+40%	30/15	Summer				
20.012	25	15 Winter	100	+40%	30/15	Summer				
27.000	26	15 Winter	100	+40%	30/15	Summer	100/15	Summer		
27.001	27	30 Winter	100	+40%	100/15	Summer				
20.013	28	15 Winter	100	+40%	30/15	Summer				
28.000	29	15 Winter	100	+40%	100/15	Summer				
29.000	30	15 Winter	100	+40%	30/15	Summer	100/15	Summer		
30.000	31	15 Winter	100	+40%	30/15	Summer	100/15	Summer		
28.001	32	15 Winter	100	+40%	30/15	Summer				
20.014	33	15 Winter	100	+40%	30/15	Summer				
20.015	34	15 Winter	100	+40%	30/15	Summer				
20.016	35	15 Winter	100	+40%	30/15	Summer				
31.000	36	15 Winter	100	+40%	30/15	Summer	100/15	Summer		
32.000	37	15 Winter	100	+40%	30/15	Summer	100/15	Summer		
31.001	38	15 Summer	100	+40%	30/15	Summer				
20.017	39	15 Winter	100	+40%	30/15	Summer				
33.000	40	15 Winter	100	+40%	100/15	Summer				
33.001	41	15 Winter	100	+40%		Summer				
33.002	42	15 Winter	100	+40%	30/15	Summer				
33.003	43	15 Winter	100	+40%	30/15	Summer				
20.018	44	15 Winter	100	+40%	30/15	Summer				
34.000	45	15 Winter	100	+40%	100/15					
34.001		15 Winter	100	+40%		Summer				
34.002		30 Winter	100	+40%		Winter				
34.003		30 Winter	100	+40%	100/15	Summer				
35.000		15 Winter	100	+40%	30/15	Summer	100/15	Summer		
34.004		30 Winter	100	+40%		Summer				
34.005		30 Winter	100		100/15					
34.006		30 Winter	100	+40%		Summer				
34.007		30 Winter	100	+40%		Summer				
36.000		30 Winter	100	+40%		Winter				
36.001		30 Winter	100	+40%			100/15			
34.008		30 Winter	100	+40%			100/15			
34.009		30 Winter	100	+40%			100/15	Summer		
37.000		15 Winter	100	+40%	30/15					
37.001	61	15 Winter	100	+40%	100/15	Summer				
				©1982-	2018 I	Innovyz	ze			

Peter Brett Associates	Page 21	
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

	US/MH	Water Level	Surcharged Depth		Flow /	Overflow	Pipe Flow		Level
PN	Name	(m)	(m)	(m³)	Cap.	(1/s)	(l/s)	Status	Exceeded
24.001	12	18.601	1.201	1.109	1.01		52.8	FLOOD	2
24.002	13	17.744	1.194	0.000	0.99		52.5	FLOOD RISK	
24.003	14	16.656	1.206	6.340	1.44		59.3	FLOOD	5
20.010	15	13.930	0.780	0.000	0.59		213.4	SURCHARGED	
20.011	16	13.161	2.336	0.000	1.47		208.1	SURCHARGED	
25.000	17	18.791	0.541	0.000	0.95		35.6	SURCHARGED	
25.001	18	17.096	0.746	0.000	1.16		52.7	SURCHARGED	
25.002	19	15.316	0.316	0.000	1.13		52.3	SURCHARGED	
25.003	20	14.055	0.105	0.000	0.57		84.0	SURCHARGED	
26.000	21	13.470	1.020	5.543	2.13		42.6	FLOOD	4
25.004	22	13.599	1.276	0.000	2.22		95.4	FLOOD RISK	
25.005	23	13.405	1.175	0.000	0.70		100.4	SURCHARGED	
25.006	24	13.138	1.938	0.000	0.84		84.3	SURCHARGED	
20.012	25	12.886	2.192	0.000	2.09		289.3	SURCHARGED	
27.000	26	18.018	1.219	18.458	1.18		52.8	FLOOD	e
27.001	27	14.376	0.576	0.000	0.87		55.0	SURCHARGED	
20.013	28	12.563	1.947	0.000	1.77		349.2	SURCHARGED	
28.000	29	13.268	0.493	0.000	1.14		119.0	SURCHARGED	
29.000	30	13.911	1.211	11.296	1.78		76.8	FLOOD	5
30.000	31	13.908	1.208	7.712	1.72		79.8	FLOOD	4
28.001	32	12.626	0.476	0.000	1.55		272.1	SURCHARGED	
20.014	33	12.205	1.709	0.000	2.33		568.6	SURCHARGED	
20.015	34	11.885	1.442	0.000	2.27		577.7	SURCHARGED	
20.016	35	11.536	1.161	0.000	2.38		606.7	SURCHARGED	
31.000	36	13.600	1.125	0.125	1.33		53.2	FLOOD	2
32.000	37	13.609	1.134	8.604	2.16		86.3	FLOOD	4
31.001	38	13.460	1.065	0.000	1.51		140.2	FLOOD RISK	
20.017	39	11.137	0.832	0.000	2.30		761.2	SURCHARGED	
33.000	40	12.229	0.954	0.000	0.89		63.6	FLOOD RISK	
33.001	41	11.847	1.072	0.000	1.27		60.8	FLOOD RISK	
33.002	42	11.661	1.027	0.000	2.21		75.2	SURCHARGED	
33.003	43	11.378	0.814	0.000	1.52		89.9	SURCHARGED	
20.018	44	10.769	0.524	0.000	2.90		850.6	SURCHARGED	
34.000	45	13.917	1.017	0.000	1.06		43.5	FLOOD RISK	
34.001	46	12.500	1.050	0.000	1.67		38.9	FLOOD RISK	
34.002	47	11.729	0.579	0.000	1.16		34.6	SURCHARGED	
34.003	48	11.657	0.547	0.000	0.70		47.4	SURCHARGED	
35.000	49	13.006	1.207	5.117	1.34		53.0	FLOOD	4
34.004	50	11.434	0.834	0.000	1.58		96.1	SURCHARGED	
34.005	51	11.286	0.721	0.000	0.73		102.5	SURCHARGED	
34.006		10.983	0.984	0.000	0.92		102.5	FLOOD RISK	
34.007	53	10.815	1.016	0.000	0.71		102.5	FLOOD RISK	
36.000	56	10.695	0.721	0.000	0.37		28.2	SURCHARGED	
36.001		10.606	1.207	6.140	2.45		73.1	FLOOD	6
34.008		10.603	1.234	2.813	1.31		140.4	FLOOD	3
34.009	59	10.522	1.222	22.239	0.88		144.0	FLOOD	5
37.000		12.697	0.897	0.000	2.11			SURCHARGED	
				1982-20					

Peter Brett Associates	Page 22	
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	1

PN	US/MH Name	Level	Surcharged Depth (m)	Volume	Flow /	Overflow (l/s)		Status	Level Exceeded
37.001	61	11.912	0.312	0.000	1.36		66.1	SURCHARGED	
				1982-20					

Peter Brett Associates		Page 23
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Mirro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	1

PN	US/MH Name	Storm		Climate Change	Firs Surcl	t (X) harge	First Flo	c (Y) bod		t (Z) flow	Overflow Act.
37.002	62	15 Winter	100	+40%	100/15	Summer					
37.003	63	15 Winter	100		100/15						
38.000	64	15 Winter	100		100/15						
38.001	65	15 Winter	100		100/15						
37.004	66	15 Winter	100	+40%	100/15	Summer					
39.000	67	15 Winter	100	+40%	100/15	Summer					
37.005	68	15 Winter	100	+40%	100/15	Summer					
34.010	69	15 Winter	100	+40%	30/15	Summer					
40.000	70	15 Winter	100	+40%	30/15	Winter					
34.011	71	15 Winter	100	+40%	30/15	Summer					
34.012	72	15 Winter	100	+40%	30/15	Summer					
34.013	73	15 Winter	100	+40%	30/15	Summer					
34.014	74	15 Winter	100	+40%	30/15	Summer					
20.019	75	15 Winter	100	+40%	30/15	Summer					
41.000	76	30 Winter	100	+40%	1/30	Winter	100/15	Summer			
42.000	77	15 Winter	100	+40%	100/15	Summer					
41.001	78	15 Winter	100	+40%	1/15	Summer					
20.020	79	15 Winter	100	+40%	30/15	Summer					
20.021	80	15 Winter	100	+40%	30/15	Summer					
20.022	81	60 Winter	100	+40%					1/15	Summer	66
43.000	89	15 Winter	100	+40%	30/15	Summer	100/15	Summer			
43.001	90	15 Winter	100	+40%	30/15	Summer					
43.002	91	15 Winter	100	+40%	30/15	Summer					
44.000	82	15 Winter	100	+40%							
44.001	83	15 Winter	100	+40%							
44.002	84	15 Winter	100	+40%	100/15	Summer					
44.003	85	15 Winter	100	+40%	100/15	Summer					
44.004	86	15 Winter	100	+40%	30/15	Summer					
45.000	87	15 Winter	100	+40%	30/15	Summer					
44.005	88	15 Winter	100	+40%	100/15	Summer					
43.003	92	15 Winter	100	+40%	100/15	Summer					
43.004	93	15 Winter	100	+40%	100/15	Summer					
43.005	94	15 Winter	100	+40%	30/15	Summer					
43.006	95	360 Winter	100	+40%							
43.007	96	360 Winter	100	+40%					100/30	Summer	20
43.008	97	360 Winter	100	+40%	30/120	Winter					
20.023	98	360 Winter	100	+40%							
20.024	99	360 Winter	100	+40%							
20.025	109	360 Winter	100	+40%	30/60	Summer					

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
37.002	62	11.762	0.293	0.000	0.64		59.6	SURCHARGED	
37.003	63	11.554	0.754	0.000	1.00		54.4	SURCHARGED	
38.000	64	11.689	0.259	0.000	0.55		16.8	SURCHARGED	

Peter Brett Associates	Page 24	
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 10/08/2020 14:38	Designed by AT	Drainage
File SINGLE OUTFALL - 6 HOME	Checked by PH	Diamage
Micro Drainage	Network 2018.1	

		Water	Surcharged	Flooded			Pipe		
	US/MH	Level	Depth	Volume	Flow /	Overflow	Flow		Level
PN	Name	(m)	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded
38.001	65	11.642	0.592	0.000	1.01		31.4	SURCHARGED	
37.004	66	11.402	0.767	0.000	1.38		97.9	SURCHARGED	
39.000	67	10.896	0.466	0.000	0.95		15.5	SURCHARGED	
37.005	68	10.853	0.583	0.000	0.57		99.5	SURCHARGED	
34.010	69	10.537	1.183	0.000	1.09		186.9	SURCHARGED	
40.000	70	10.563	0.678	0.000	0.28		10.1	SURCHARGED	
34.011	71	10.531	1.197	0.000	1.18		205.6	SURCHARGED	
34.012	72	10.522	1.209	0.000	1.15		194.8	SURCHARGED	
34.013	73	10.514	1.221	0.000	0.86		182.0	SURCHARGED	
34.014	74	10.507	1.228	0.000	0.62		179.1	SURCHARGED	
20.019		10.475	1.251	0.000	3.83		1004.6	SURCHARGED	
41.000	76	10.060	0.931	29.105	1.86		68.1	FLOOD	6
42.000	77	10.711	0.536	0.000	1.22		77.8	FLOOD RISK	
41.001	78	10.163	1.178	0.000	2.22		140.0	SURCHARGED	
20.020	79	10.056	0.857	0.000	4.30		1077.6	SURCHARGED	
20.021	80	9.571	0.393	0.000	2.77		1072.2	SURCHARGED	
20.022	81	9.132	0.000	0.000	1.08	525.2	499.4	OK	
43.000	89	12.255	1.205	4.855	2.39		39.3	FLOOD	4
43.001	90	12.319	1.440	0.000	1.12		50.5	FLOOD RISK	
43.002	91	12.245	1.505	0.000	1.73		64.9	FLOOD RISK	
44.000	82	21.528	-0.102	0.000	0.22		13.0	OK	
44.001	83	19.321	-0.079	0.000	0.46		23.4	OK	
44.002	84	18.857	0.706	0.000	0.95		41.2	SURCHARGED	
44.003	85	15.709	1.120	0.000	1.20		50.2	FLOOD RISK	
44.004	86	14.764	0.909	0.000	1.72		74.9	FLOOD RISK	
45.000	87	14.858	0.955	0.000	1.71		28.8	FLOOD RISK	
44.005	88	14.116	0.482	0.000	1.09		129.2	SURCHARGED	
43.003	92	11.832	1.202	0.000	1.25		215.1	SURCHARGED	
43.004	93	10.697	0.792	0.000	1.21		213.3	SURCHARGED	
43.005	94	9.771	0.516	0.000	1.12		211.8	SURCHARGED	
43.006	95	9.092	-0.969	0.000	0.13		46.0	OK	
43.007	96	9.091	-0.409	0.000	0.13	48.5	24.1	OK	
43.008	97	9.129	0.399	0.000	0.09		22.9	SURCHARGED	
20.023	98	9.066	-0.434	0.000	0.25		303.0	OK	
20.024	99	9.062	-0.438	0.000	0.06		102.8	OK	
20.025	109	9.046	0.591	0.000	0.29		92.1	SURCHARGED	





Hydraulic Calculations – 6 Homes with Flow Control

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30 Tower View		es									Page	e 1
-				LANDS	AT B	URFI	ELD V	VALLE	Y			
lings Hill				HAILS	HAM							-
Nest Malling	ME19 4	PR		6 HOU	SE MO	DEL					Mic	
ate 11/08/202	20 11:1	2		Desig	ned b	у АТ	٦ -					
Tile Single O	utfall	- 6 hom	e	Check	ed by	PH					DIC	ninag
Aicro Drainage	e			Netwo	rk 20	19.1	-					
		Online	e Cont	rols	for T	rans	sfer.	txt				
<u>Hydro-Br</u>	<u>ake® Or</u>	otimum M	lanhole	e: S6	, DS/1	PN:	21.00)4, V	olume	(m ³): 9	<u>.4</u>
			Unit	Refere	nce MI	-SHE	-0087-	-5000-	2450-50	000		
			Design						2.4			
		De	esign F	'low (l 'lush-F				~	alculat	5.0		
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The hydrologic	Optimum a	as specif	ied. S	Should	anothe	r ty	pe of	contr	ol devi	.ce d	other	than a
Hydro-Brake® (at imamo k	Je uliiis	ea then	i these	: SLUIG	.ge r	oucing	g Calc	ulacioi	15 W.	LII DE	
Hydro-Brake® (Hydro-Brake Op invalidated	ptimum® 1											
Hydro-Brake Op) Flow	(1/s)	Depth	(m)	Flow	(l/s)	Depth	(m)	Flow	(1/s)
Hydro-Brake Op invalidated Depth (m) Flo 0.100	x (1/s) 2.7	Depth (m	0	3.6	3	.000	Flow	5.5	7.	000	Flow	8.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200	2.7 3.4	Depth (m 1.20 1.40	0	3.6 3.8	3	.000 .500	Flow	5.5 5.9	7. 7.	000	Flow	8.2 8.5
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300	2.7 3.4 3.6	Depth (m 1.20 1.40 1.60	0 0 0	3.6 3.8 4.1	3 3 4	.000 .500 .000	Flow	5.5 5.9 6.3	7. 7. 8.	000 500 000	Flow	8.2 8.5 8.7
Hydro-Brake Op invalidated Depth (m) Flc 0.100 0.200	2.7 3.4	Depth (m 1.20 1.40	0 0 0 0	3.6 3.8	3 3 4 4	.000 .500	Flow	5.5 5.9	7. 7. 8. 8.	000	Flow	8.2 8.5
Hydro-Brake Op invalidated Depth (m) Flc 0.100 0.200 0.300 0.400	2.7 3.4 3.6 3.7	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20	0 0 0 0 0	3.6 3.8 4.1 4.3	3 3 4 4 5	.000 .500 .000 .500	Flow	5.5 5.9 6.3 6.6	7. 7. 8. 8. 9.	000 500 000 500	Flow	8.2 8.5 8.7 9.0
Hydro-Brake Op invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800	2.7 3.4 3.6 3.7 3.6 3.5 3.0	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40	0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9	3 3 4 4 5 5 6	.000 .500 .500 .500 .500 .500	Flow	5.5 5.9 6.3 6.6 7.0 7.3 7.6	7. 7. 8. 8. 9. 9.	000 500 500 500	Flow	8.2 8.5 8.7 9.0 9.2
Hydro-Brake Op invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600	bw (1/s) 2.7 3.4 3.6 3.7 3.6 3.5	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20	0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7	3 3 4 4 5 5 6	.000 .500 .000 .500 .000 .500	Flow	5.5 5.9 6.3 6.6 7.0 7.3	7. 7. 8. 8. 9. 9.	000 500 500 500	Flow	8.2 8.5 8.7 9.0 9.2
Hydro-Brake Op invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	2.7 3.4 3.6 3.7 3.6 3.5 3.0 3.3	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40	0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1	3 3 4 4 5 5 6 6	.000 .500 .500 .500 .500 .500 .500		5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9	7. 7. 8. 9. 9.	000 500 500 500 500	Flow	8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 Manhole	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 Manhole	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 Manhole	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 Manhole	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 Manhole	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 Manhole	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 Manhole	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 Manhole	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 Manhole	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2
Hydro-Brake Or invalidated Depth (m) Flc 0.100 0.200 0.300 0.400 0.500 0.600 0.800 1.000	<pre>Dw (1/s)</pre>	Depth (m 1.20 1.40 1.60 1.80 2.00 2.20 2.40 2.60 Manhole	0 0 0 0 0 0 0 0	3.6 3.8 4.1 4.3 4.5 4.7 4.9 5.1 DS/PN	3 3 4 4 5 5 6 6 6	.000 .500 .500 .500 .500 .500 .500	, Vol	5.5 5.9 6.3 6.6 7.0 7.3 7.6 7.9 ume	7 - 7 - 8 - 8 - 9 - 9 - (m ³) :	000 500 500 500 500 500		8.2 8.5 8.7 9.0 9.2

Peter Brett Associates	Page 2	
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Mirro
Date 11/08/2020 11:12	Designed by AT	Drainage
File Single Outfall - 6 home	Checked by PH	Diamage
Micro Drainage	Network 2019.1	1

Storage Structures for Transfer.txt

Cellular Storage Manhole: S6, DS/PN: 21.004

Invert Level (m) 15.600 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.96 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m) Area (m²) Inf. Area (m²) Depth (m) Area (m²) Inf. Area (m²)

0.000	12.8	0.0	1.321	0.0	0.0
1.320	12.8	0.0			

Peter	Brett	Associat	es						Page	3
30 Tow					LANDS	ימוא שע	FIELD VAI	LLEY	- Laye	<u> </u>
Kings I					HAILSHA	-	- ALL VAL			
-		g ME194	DD		6 HOUSI		r			~
		9 ME19 4 2020 11:1				-			— Mic	
					Designe	-			Dra	inage
		Outfall	- 6 hoi		Checked)<
Micro	Draina	ige]	Networl	k 2019	• 1			
<u>1 yea</u>	<u>r Retu</u>	rn Perio	d Summa	-	<u>Critic</u> Trans		_	<u>Maximum L</u>	evel (Ra	<u>ank 1)</u>
		Hot Hot Sta Headloss C ewage per Number of Number	Start (rt Level oeff (Gl hectare Input I of Onlin	Tactor 1. (mins) (mm) (obal) 0. (l/s) 0. Hydrogram ne Contro	0 0 .500 Flc .000 phs 0 N ols 4 N	ddition MADD ww per P umber of umber of	al Flow - Factor * In: erson per f Storage f Time/Are	<pre>% of Total 10m³/ha St Let Coeffie Day (1/per Structures a Diagrams</pre>	orage 2.0 ccient 0.8 /day) 0.0 3 0	00 00
		Number o	of Offlin					e Controls	0	
		Rair	nfall Moo Regi	del	<u>ic Rain:</u> and and	FSR	Ratio Ratio Cv (Summer			
			M5-60 (r	-			Cv (Winter			
	14-	main for 1		ole Moner	ng (mm)				300.0	
	Ma	rgin for 1			-	2.5 Sec	cond Incre	ment (Exter		
				-	Status			,	ON	
					Status				ON	
				Inertia	Status				ON	
		Duratio	Profile n(s) (mi	. ,	15, 30,	60, 120		Summer and 0, 360, 480), 600,	
	Reti	ırn Period	(s) (vea	rs)					20, 960 30, 100	
			Change					-	, 0, 40	
	US/MH			Climate	First	• •	• •	First (Z)		Water Level
PN	Name	Storm	Period	Change	Surch	arge	Flood	Overflow	Act.	(m)
21.000	S1	15 Winter	1	+0%	100/15	Summer				17.253
21.001		15 Winter	1		100/15					17.087
21.002		15 Winter 15 Winter	1		100/15 100/15					16.442 16.041
22.003		30 Winter	1	+0 +0 8	30/15					15.921
21.004		30 Winter	1	+0%		Summer				15.921
20.008	S7	15 Winter	1	+0%	1/15	Summer				15.737
		Su	rcharged	l Flooded	i		Pipe			
		US/MH	Depth		•		ow Flow		Level	
	PN	Name	(m)	(m³)	Cap.	(1/s)) (l/s)	Status	Exceeded	
	21.000	S1	-0.110	0.000	0.16		2.6	OK		
	21.001		-0.095				4.7	OK		
	21.002		-0.579				4.8	OK		
	21.003		-0.559				9.0	OK		
	22.000	S5	-0.346	0.000	0.01		1.8	OK		

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Peter Brett Associates	Page 4	
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 11/08/2020 11:12	Designed by AT	Drainage
File Single Outfall - 6 home	Checked by PH	Diamage
Micro Drainage	Network 2019.1	

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
21.004 20.008	S6 S7	0.171 0.076	0.000 0.000	0.20 0.41			SURCHARGED SURCHARGED	

Peter Brett As	sociates						Page	5
30 Tower View			LANDS A	T BURFI	ELD VAI	LEY		
Kings Hill			HAILSHA	М				
West Malling	ME19 4PR		6 HOUSE	MODEL			— Mic	
Date 11/08/202	0 11:12		Designe	d by Al	٦ -			
File Single Ou	tfall - 6	home	Checked	by PH			Uld	inage
Micro Drainage			Network					
<u>30 year Return</u> Ard Manhole Head Foul Sewad	eal Reduction Hot Start Hot Start Led dloss Coeff ge per hecta number of Inp Number of Of Lumber of Of Rainfall	ummary of <u>for</u> Simu on Factor 1. evel (mm) (Global) 0. ure (1/s) 0. ut Hydrogray nline Contro fline Contro <u>Synthet</u>	Critica Transf ulation C .000 Ac 0 .500 Flow .000 phs 0 Num ols 4 Num ols 2 Num ols 2 Num ic Rainfa	al Resu er.txt Criteria dditional MADD 1 w per Pe: mber of mber of mber of all Deta FSR Wales Cv	lts by Factor * Inl rson per Storage Time/Are Real Tim ils Ratio 1	% of Total 10m³/ha St et Coeffie Day (1/per Structures a Diagrams e Controls R 0.356) 0.750	Flow 0.0 orage 2.0 cient 0.8 /day) 0.0 3 0	0 0 0 0 0 0
I Return	Prof Duration(s) Period(s) (Climate Chan	Analysis T DTS DVD Inertia ile(s) (mins) years)	imestep Status Status Status			ment (Exter Summer and D, 360, 480 72 1, 3	ON ON ON Winter	
US/MH PN Name S		ırn Climate .od Change			irst (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
	Winter		100/15 s					17.278
		30 +0%	100/15 5	Summer				
21 002 CO	Winter							17.134
	Winter Winter Winter	30 +0%	100/15 W 100/15 S	Vinter				17.134 16.521 16.521
21.003 S4 60	Winter	30 +0%	100/15 W	Vinter Summer				16.521
21.003S46022.000S56021.004S660	Winter Winter Winter Winter	30 +0% 30 +0% 30 +0% 30 +0%	100/15 W 100/15 S 30/15 S 1/15 S	Vinter Summer Summer Summer				16.521 16.521 16.521 16.521
21.003S46022.000S56021.004S660	Winter Winter Winter	30 +0% 30 +0% 30 +0%	100/15 W 100/15 S 30/15 S 1/15 S	Vinter Summer Summer Summer				16.521 16.521 16.521
21.003 S4 60 22.000 S5 60 21.004 S6 60 20.008 S7 15	Winter Winter Winter Winter	30 +0% 30 +0% 30 +0% 30 +0% 30 +0% Signal Flooded	100/15 W 100/15 S 30/15 S 1/15 S 1/15 S	Vinter Summer Summer Summer	(l/s)	Status	Level Exceeded	16.521 16.521 16.521 16.521
21.003 S4 60 22.000 S5 60 21.004 S6 60 20.008 S7 15 US PN N 21.000	Winter Winter Winter Winter S/MH Dept ame (m) S1 -0.	30 +0% 30 +0% 30 +0% 30 +0% 30 +0% Signed Flooded h Volume (m ³) 085 0.000	100/15 W 100/15 S 30/15 S 1/15 S 1/15 S Flow / Cap. 0 0.39	Vinter Summer Summer Summer Summer	w Flow (1/s) 6.4	OK		16.521 16.521 16.521 16.521
21.003 S4 60 22.000 S5 60 21.004 S6 60 20.008 S7 15 PN N 21.000 21.001	Winter Winter Winter Winter S/MH Dept ame (m) S1 -0. S2 -0.	30 +0% 30 +0% 30 +0% 30 +0% 30 +0% volume (m³) 085 0.000 048 0.000	100/15 W 100/15 S 30/15 S 1/15 S 1/15 S Flow / Cap. 0 0.39 0 0.80	Vinter Summer Summer Summer Summer	w Flow (1/s) 6.4 13.1	OK OK		16.521 16.521 16.521 16.521
21.003 S4 60 22.000 S5 60 21.004 S6 60 20.008 S7 15 US PN N 21.000	Winter Winter Winter Winter S/MH Deptlame (m) S1 -0. S2 -0. S3 -0.	30 +0% 30 +0% 30 +0% 30 +0% 30 +0% Signed Flooded h Volume (m ³) 085 0.000	100/15 % 100/15 s 30/15 s 1/15 s 1/15 s Flow / Cap. 0 0.39 0 0.80 0 0.01	Vinter Summer Summer Summer Summer	w Flow (1/s) 6.4	OK		16.521 16.521 16.521 16.521

Peter Brett Associates		Page 6
30 Tower View	LANDS AT BURFIELD VALLEY	
Kings Hill	HAILSHAM	
West Malling ME19 4PR	6 HOUSE MODEL	Micro
Date 11/08/2020 11:12	Designed by AT	Drainage
File Single Outfall - 6 home	Checked by PH	Diamage
Micro Drainage	Network 2019.1	

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
21.004 20.008	S6 S7	0.771 0.587	0.000 0.000	0.20 0.77			SURCHARGED SURCHARGED	

Peter Brett	Associ	ates						Page	7	
30 Tower Vi	Lew		I	LANDS A	AT BURF	IELD VA	LLEY			
Kings Hill	H	LANDS AT BURFIELD VALLEY HAILSHAM								
West Mallir	e									
Date 11/08/	2									
File Single Outfall - 6 home Checked by PH							Drai	nage		
Micro Drair		- 0 1101			<u> </u>					
	lage		1		1 2019.	1				
<u>100 year 1</u>	Return F	eriod Su	mmary c	f Crit	ical R	esults	<u>by Maximu</u>	m Level	(Rank	
_			_		sfer.t		-			
			C i mu	lotion	Conitornia					
	Areal R	eduction F			<u>Criteria</u> dditiona		% of Total	Flow 0.0	00	
	Н	ot Start (mins)	0			10m³/ha St			
		tart Level					let Coeffie			
		Coeff (Gl r hectare			w per Pe	erson per	Day (l/per	/day) 0.0	00	
FOUL	sewaye pe	1 nectare	(1/S) U.	000						
		-				-	Structures			
							ea Diagrams			
	Number	or Uttlir	le Contro)⊥S ∠ Ni	unper of	keal Tin	me Controls	U		
			Synthet:	ic Raint	fall Det	ails				
	Ra	infall Mod				Ratio				
		Regi M5-60 (m	5			v (Summe: v (Winte:				
		115 00 (11		2	.0.300 0	v (wince.	L) 0.040			
1	Margin for	r Flood Ris		-				300.0		
		Ana	-	imestep Status	2.5 Sec	ond Incre	ement (Exter			
				Status				ON ON		
			Inertia					ON		
		Profile	(s)				Summer and	Winter		
	Durat	ion(s) (min	ns)	15, 30,	60, 120	, 180, 24	40, 360, 480			
Dec	burn Domi	ad (a) (20, 960		
Kei		od(s) (yea: te Change						30, 100 , 0, 40		
			(-)				- ,	,		
									Water	
US/MH	I	Return	Climate	First	t (X)	First (Y) First (Z)	Overflow	Level	
PN Name	Storm	Period	Change	Surch	narge	Flood	Overflow	Act.	(m)	
21.000 S1	120 Wint	er 100	+40%	100/15	Summer				18.035	
	120 Wint 120 Wint			100/15					18.033	
21.002 S3	120 Wint	er 100	+40%	100/15	Winter				18.025	
	120 Wint			100/15					18.025	
	120 Wint 120 Wint		+40% +40%		Summer Summer				18.025	
20.004 ST			+40%		Summer				16.747	
		Cumohanna -				Dire				
	US/MH	Surcharged Depth			Overf1	Pipe ow Flow		Level		
	Name	(m)	(m ³)	Cap.	(1/s)		Status	Exceeded		
PN	-		• •	-						
		0.672	0.000				SURCHARGED SURCHARGED			
21.00			0 000				JONCHARGED			
)1 S2	0.850					SURCHARGED			
21.00)1 S2)2 S3	0.850	0.000	0.01		7.0				
21.00 21.00 21.00)1 S2)2 S3)3 S4	0.850 1.004	0.000 0.000 0.000	0.01 0.01 0.01		7.0 9.4 3.8	SURCHARGED			

Peter Brett Associates	Page 8	
30 Tower View	LANDS AT BURFIELD VALLEY	
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Micro Drainage	Network 2019.1	

PN	US/MH Name	Surcharged Depth (m)		Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
21.004 20.008	s6 <mark>s7</mark>	2.275 1.086	0.000	0.27 1.00			FLOOD RISK FLOOD RISK	