A46 Coventry Junctions (Walsgrave)
Scheme Number: TR010066

6.3 Environmental Statement Appendices
Appendix 13.6 Drainage Strategy Report

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

A46 Coventry Junctions (Walsgrave) Development Consent Order 202[x]

ENVIRONMENTAL STATEMENT APPENDICES
Appendix 13.6 Drainage Strategy Report

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1 Introduction

1.1.1. National Highways (the Applicant) has applied for a development consent order (DCO) for the A46 Coventry Junction (Walsgrave) (the Scheme). The Scheme will ease congestion along the A46 corridor, east of Coventry. The proposed works include an alteration to the existing A46 Walsgrave Junction and B4082, east of Walsgrave.

1.1.2. This report supports Environmental Statement (ES) Chapter 13 (Road Drainage and the Water Environment) (**TR010066/APP/6.1**). This report summarises the basis for the design of the drainage arrangement for the Scheme. This will be developed during detailed design.

1.2. Scheme location

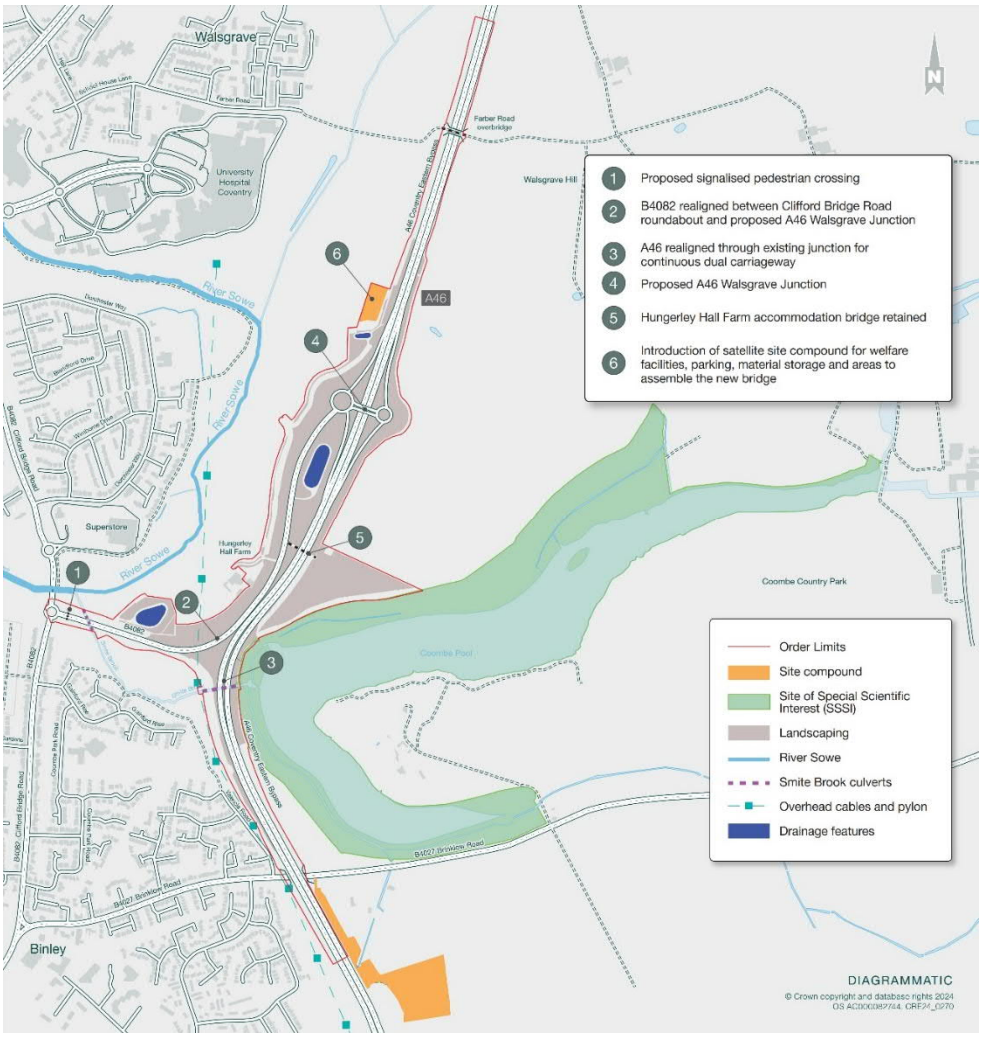
1.2.1. The Scheme is located in the West Midlands, approximately 5km to the east of Coventry city centre. ES Figure 2.1 (Location Plan) (**TR010066/APP/6.2**) shows the location of the Scheme. The Scheme involves improvements to the B4082 which runs eastwards from Clifford Bridge Road to the existing Walsgrave Junction and the A46 which runs north-south to the east of Coventry. Binley Junction, located on the A46, is approximately 1.7km to the south of the existing Walsgrave Junction and the M6 and M69 junctions are approximately 2.5km to the north of the existing Walsgrave Junction. ES Figure 2.2 (Order Limits) (**TR010066/APP/6.2**) shows the principal elements of the Scheme and the Order Limits. A Location Plan (**TR010066/APP/2.1**) is also provided with the application, which shows the location of the Scheme in its wider geographical context.

1.2.2. The Scheme is situated within the Coventry City Council and Rugby Borough Council administrative areas (ES Figure 1.1 (Regional Context) (**TR010066/APP/6.2**)). The boundary between these two administrative areas is along the western side of the A46. Rugby Borough Council's administrative area also forms part of Warwickshire County Council's administrative area, which shares the same border with Coventry City Council. The Leicestershire County Council boundary is approximately 12.5km north and east of the existing Walsgrave Junction.

1.3. Scheme overview

1.3.1. The current configuration consists of the existing A46 dual carriageway, the Walsgrave Junction and the B4082 link road; a two-lane single carriageway between the existing Walsgrave Junction and Clifford Bridge Road roundabout. The Order Limits of the Scheme is shown in Figure 1.1 below.

Figure 1.1: Scheme location plan



1.3.2. An explanation of the Scheme objectives and a detailed description of the Scheme proposals can be found in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**).

1.3.3. The Scheme consists of the following principal elements:

- Realignment of the existing A46 dual carriageway through the existing at grade roundabout (which will be removed), for approximately 880m to improve the road geometry and allow for a 50mph speed limit.
- Earthworks on the eastern side of the A46 mainline to facilitate the realignment through the existing at grade roundabout.
- A new grade separated junction over the A46 mainline, approximately 800m north of the existing Walsgrave Junction to connect the B4082 with the A46.
- A new overbridge structure across the existing A46, between the dumbbell roundabouts forming the grade separated junction.

- New merge and diverge slip roads at the grade separated junction for both northbound and southbound movements.
- Realignment of the B4082 to form a single carriageway link road, for approximately 900m, to connect the local road network to the new A46 grade separated junction with a proposed 40mph speed limit.
- Road assets and street furniture such as traffic signs and lines, variable message sign, street lighting columns, vehicle restraint systems, fences, retaining walls and kerbs.
- Drainage systems including a dry detention basin and two ponds that will be designed to be permanently wet.
- Proposed new maintenance accesses to the drainage features and variable message sign.
- Retention of the Hungerley Hall Farm accommodation overbridge (the existing bridge that provides farm vehicle access over the A46 mainline).
- Farm access track to the north of Hungerly Hall Farm to provide gated access to the B4082 link road.
- Improvements to facilities for walkers, cyclists and horse-riders (WCH) through provision of a signalised pedestrian crossing on the B4082; and providing enabling works, including the retention of Hungerley Hall Farm accommodation overbridge, for a potential future WCH route to be provided by others.
- Replacement and installation of new highway boundary fencing.
- Replacement vegetation planting to compensate for the vegetation that needs to be removed to facilitate the Scheme.

1.3.4. At the existing Walsgrave Junction, the A46 link runs adjacent to two watercourses, the River Sowe (located to the west) and Smite Brook and one water body, Coombe Pool (located to the east). The Smite Brook crosses the A46 alignment to the south of the existing Walsgrave Junction with urban settlements to the west. There is an existing farm access crossing over the A46 to the north of the existing Walsgrave Junction joining the Hungerley Hall Farm to farmland.

2. Existing drainage modelling

2.1. Available survey information

2.1.1. The existing drainage model is based on topographical survey, geophysical survey, and National Highways Drainage Data Management System (HADDMS). A CCTV survey and ditch profile survey have been undertaken. The existing drainage models would be updated on receipt of any further survey information, in advance of detailed design stage.

2.1.2. The following information is required for the modelling of existing drainage networks:

- diameter of the chamber
- depth of chamber
- cover level of chamber
- incoming and outgoing pipe diameter
- invert level of incoming and outgoing pipes
- type of incoming and outgoing pipes (e.g. carrier drain / filter drain / combined carrier filter drain)
- location (easting and northing) of the chamber

2.1.3. Since multiple sources of information are available, there is potential for inconsistency across sources. Order of preference in such cases would be based on the table below.

Table 2-1 : Survey information preference order

Cover level and location	Chamber diameter	Invert Levels	Pipe diameter	Pipe Location
a. Topographical survey b. Geophysical survey c. CCTV d. HADDMS e. Assumption	a. CCTV b. Topographical survey c. HADDMS d. Assumption	a. Topographical survey b. CCTV c. HADDMS d. Assumption	a. CCTV b. HADDMS c. Topographical survey d. Assumption	a. Topographical survey b. Geophysical c. CCTV d. HADDMS e. Assumption

2.1.4. The assumption of various design parameters for existing drainage modelling would be carried out in line with below mentioned guidelines. This would ensure consistency of assumptions across drainage networks.

Pipe diameter

2.1.5. The assumption for pipe diameter is carried out in the order mentioned below:

- If the first pipe in the drainage network does not have diameter information, start with 150mm diameter. However, if the first pipe in the network is a cross-carriageway pipe, start with 225mm pipe diameter.
- Pipes in the existing drainage network are assumed to increase in diameter.

2.1.6. Following is the list of typical pipe diameters allowed in the system unless mentioned otherwise in HADDMS/CCTV, Topographical surveys, etc.

Table 2-2 : Typical pipe diameters

Pipe diameter	Chamber diameter
uPVC pipes	150mm, 225mm, 300mm, 375mm, 400mm, 450mm, 500mm, 600mm
Concrete pipes	675mm, 750mm, 900mm, 1050mm, 1200mm

Invert levels

2.1.7. The assumption for pipe invert levels is carried out in the order mentioned below:

- Provide 1.2m cover depth for pipe with surface loading and 0.6m cover depth for pipe with field loading given its consistent with upstream and downstream invert levels and does not result in negative pipe gradient.
- Provide slope of the pipe to ensure self-cleansing velocity in line with Table 4.1.1N4b of Design Manual for Roads and Bridges (DMRB) CD 523 (Determination of pipe roughness and assessment of sediment deposition to aid pipeline design), given it is consistent with upstream and downstream invert levels and does not result in negative pipe gradient.
- Interpolate the invert levels between the available upstream and downstream invert levels.
- At the outfall, ensure the invert level is consistent with topographical information (such as ditch top level, ditch bottom level).

Chamber diameter

2.1.8. The assumption for chamber diameter has been carried out as mentioned below:

- Chambers to be assumed as circular in shape.
- Chamber diameter to be assumed based on Table 2-3..

Table 2-3 : Typical chamber diameters

Pipe diameter	Chamber diameter
Up to 450mm	1050mm
675mm	1800mm
900mm	2100mm

2.1.9. Type of pipe (carrier drain / filter drain / combined carrier filter drain) to be assumed based on engineering judgement if not confirmed by survey or HADDMS.

2.1.10. In locations without topographical survey information, cover level of chambers to be assumed based on LiDAR information.

2.2. Existing drainage modelling criteria

2.2.1. The existing drainage network has been modelled in Micro Drainage based on the following criteria:

Table 2-4 : Existing Micro Drainage modelling criteria

Modelling criteria	Value
Time of entry	5 mins
Rainfall model	FEH Rainfall
Version	1999
Catchment parameters	C (1km): -0.025 D1 (1km): 0.382 D2 (1km): 0.332 D3 (1km): 0.233 E (1km): 0.299 F (1km): 2.381
Volumetric run-off co-efficient (both summer and Winter)	0.9
Areal reduction factor	1
Manhole head loss co-efficient	0.5
MADD factor	2
Inlet co-efficient	0.8
Storm duration	15mins to 1440mins
Return period	1, 5, 100 years
Climate change allowance	0%

2.2.2. The pipe roughness for the existing pipes (carrier drains, filter drains and combined carrier filter drains) is based on Table 3.1.3N2b of DMRB CD 523. The nominal sediment size (d_{50}) has been taken as 0.9mm based on the rural surrounding of the scheme.

2.2.3. Percentage Impermeable (PIMP) values for the existing catchment areas are based on the table below.

Table 2-5 : PIMP index for various catchments

Region	PIMP
Paved area (carriageway, footway, central island overruns)	1.0
Verge	0.5
Embankment (fill)	0.2
Embankment (cut)	0.2
Fields	0.2

2.2.4. The outfalls are assumed to be free flowing without any flow control measures.

2.3. Existing outfall details

2.3.1. Based on information available on HADDMS, the following is the list of outfalls within the scheme extent.

Table 2-6 : Existing outfall details

Asset ID	Asset owner	Easting	Northing	Baseline category
SP3879_3320d	National Highways	438335	279206	Undetermined
SP3879_0537a	National Highways	438052	279378	C
SP3879_0338c	National Highways	438039	279379	C
SP3879_0439a	National Highways	438043	279398	C
SP3879_7690a	National Highways	438763	279908	C
SP3880_7316a	National Highways	438733	280168	C
SP3880_4708a	National Highways	438471	280082	C
SP3980_0666b	National Highways	439068	280661	C

2.3.2. The existing drainage networks have been modelled based on the available survey information and HADDMS data. The summary of the modelling results is given in Table 2-7. Catchment plans are provided in Appendix D.

Table 2-7 : Micro Drainage modelling results summary

Outfall ID	Catchment area		Outfall rate (lps)			Treatment train
	Total area (ha)	Impermeable area	1 in 1yr	1 in 5 year	1 in 100 year	
SP3879_0439a	1.242	0.425	30.6	43.1	83.1	Filter drain
SP3879_0338c	0.485	0.254	13.6	18.4	38.0	Filter drain
SP3879_3320d	2.058	1.146	105.5	147.7	225.0	Filter drain
SP3879_3321b (marked as outlet in HADDMS)	4.308	3.165	103.9	146.3	270.5	Filter drain
SP3880_4708a	27.950	11.942	173.7	244.7	444.2	Filter drain

3. Drainage modelling

3.1.1. Where possible, the drainage strategy would replicate the existing drainage arrangement and conditions. Surface water would be collected through a combination of gullies, surface water channels and filter drains. The run-off would then be conveyed to the outfalls via a combination of carrier drains, ditches a detention basin and ponds.

3.2. Outfalls

3.2.1. The option selection stage drainage strategy proposed to drain the northern catchments of the A46 directly into the River Sowe using two piped outfalls. Instead of multiple outfalls into the River Sowe, it is now proposed to use a single outfall from these catchments, into the adjacent ditch watercourses, that flow west into the River Sowe. This offers a more sustainable solution, that provides enhanced water treatment to flows entering the River Sowe. Flows would be restricted to QBAR rate (mean annual flood) of Greenfield runoff, with the intention to not exceed the capacity of the ditch channel (refer to section 3.8 for details of attenuation and flow control).

3.2.2. A visual site walkover survey was undertaken on 19 February 2024, to observe the existing ditches west of the A46 mainline. The walkover survey confirmed that there is a continuous flow path from the new outfall location, westward into the River Sowe via a ditch network. The ditch was observed to have a consistent channel profile, except for two culverted sections. However, water was not observed flowing through the culverts.

3.2.3. A topographical survey of the ditch confirms the observations made on site.

3.3. Climate change

3.3.1. A design life of 60 years is used for new drainage assets.

3.3.2. An increase in peak rainfall intensity of 20% would be applied as an allowance for climate change, with a sensitivity test undertaken with a 40% allowance.

3.4. Greenfield run-off calculation

3.4.1. Where a new highway is being constructed outside of existing areas of highway, the greenfield run-off rate for each catchment area has been applied and calculated based on design parameters in Table 3-1. The Interim Code of Practice (ICP) for Sustainable Drainage Systems (Defra) has been used in these calculations.

Table 3-1 : Parameters for Greenfield Run-off Calculations

Parameter	Value
Return period	Qbar
Method	ICP sustainable drainage systems (SuDS)
SAAR	700
SOIL	0.45
Region	Region 6

3.4.2. Based on the above parameters, the QBAR for 1 hectare of catchment area is 4.4 litres per second. Flows generated by new areas of highway would be restricted back to the QBAR rate.

3.5. Gully design

3.5.1. A kerb and gully system is proposed for the B4082, whereas a more rural approach, without a kerb, is proposed for the rest of the scheme. Gullies would be constructed in accordance to Drawing F13 of Manual of Contract Documents for Highways Works (MCHW).

3.5.2. Gullies would be designed in accordance with DMRB CD 526 Spacing of road gullies. The parameters for the gully design would be as shown in the table below.

Table 3-2 : Gully design parameters

Parameter	Value
Return period	5 years
Critical storm duration	5 mins
2minM5	4.0mm
Climate change	20%
Manning's co-efficient	0.017
Maintenance factor	0.7 for low points 1.0 for other locations

3.5.3. The allowable flow width for gully calculation on the scheme would be 1.0m.

3.5.4. The preferable gully grating type for the scheme would R (Table A.2 DMRB CD 526). However, it can be modified based on the specific instance.

3.5.5. Twin gullies would be provided at the low points of the highway's proposal.

3.5.6. Transport Research Laboratory (TRL) document LR602 Drainage of level or nearly level roads, should be used for the design of gully spacing in regions with longitudinal gradients flatter than 0.33 percent.

3.5.7. Combined kerb drainage should be provided at stretches where the calculated gully spacing is as low as 7.5m.

3.6. Surface water channel design

3.6.1. Triangular surface water channels are proposed in the central reserve of the mainline A46. The surface water channels would be designed in line with guidance provided in DMRB CD 521 Hydraulic design of road edge surface water channels and outlets.

3.6.2. The parameters for the design of surface water channels would be as shown in the table below.

Table 3-3 : Surface water channel design parameters

Parameter	Value
Return period	1 years for design 5 years for surcharge check
Critical storm duration	5 mins
2minM5	4.0mm
Climate change	20%
Manning's co-efficient	0.013 for surface water channel 0.017 for carriageway
Side slope	1 in 5 symmetrical
Flow depth	0.090m for design 0.110m for surcharge check
Antecedent wetness factor for cutting	0.26 (low permeability and high antecedent wetness)

3.7. Micro drainage modelling

3.7.1. The proposed drainage network has been modelled in Micro Drainage based on the following criteria.

Table 3-4 : Existing Micro Drainage modelling criteria

Modelling criteria	Value
Rainfall model	FEH Rainfall
Return period	1 year – for design 1, 5, 100 years – for simulations
Version	1999
Existing catchment parameters	C (1km): -0.025 D1 (1km): 0.382 D2 (1km): 0.332 D3 (1km): 0.233 E (1km): 0.299 F (1km): 2.381
Global time of entry	5mins
Max rainfall	300mm/hr
Max. time of concentration	30mins
Foul sewage per hectare	0 lps
Volumetric run-off co-efficient (both summer and Winter)	0.9
Level	Soffit connection – for increasing pipe diameters Invert connection – for connection with pipe with smaller diameter and ditch/pond connection
Areal reduction factor	1
Manhole head loss co-efficient	0.5
MADD factor	2
Inlet co-efficient	0.8
Storm duration	15mins to 1440mins
Return period	1, 5, 100 years
Climate change allowance	20%

3.7.2. Pipe roughness for the proposed carrier drains and proposed combined surface and sub-surface drains are 0.6 and 1.5 respectively. The proposed chamber diameters are shown in the table below.

Table 3-5 : Typical chamber diameters

Pipe diameter	Chamber diameter
Up to 450mm	1050mm
675mm	1800mm
900mm	2100mm

3.7.3. Catchpit chambers with diameters exceeding 1050mm would likely require a Departure from Standard to be sought from National Highways.

3.7.4. The PIMP factor for various catchment areas should be as stated in Table 2-5.

3.7.5. The minimum diameter used for a cross-carriageway pipes is 225mm.

3.7.6. The cover depth for proposed pipes is in accordance with DMRB CD 533 Determination of pipe and bedding combinations for drainage works.

3.7.7. Curved pipes shall not be proposed on the scheme.

3.7.8. The pipe system shall be designed to adhere to the following performance criteria:

- No surcharge in the drainage system for rainfall of return period 1 year with allowance for 20% climate change
- No flooding in the drainage system for rainfall of return period 5 year with allowance for 20% climate change
- All drainage systems shall be designed so that highway surface water flooding does not extend beyond highway boundary up to the 1 in 100-year return period rainfall event, including an allowance for 20% climate change. A sensitivity check would be applied using a climate change allowance of 40%.

3.8. Attenuation and flow control

3.8.1. The attenuation would be provided through the southern detention basin and the central pond. Outflow would be controlled through orifices or vortex flow controls, depending on the preference of the adopting authority.

3.8.2. Orifices of a diameter larger than 75mm would be proposed on the scheme to eliminate future blockage and maintenance issues. Vortex flow controls would be proposed if orifices are not sufficient for controlling outflow or where required by the adopting authority.

3.8.3. The southern detention basin and the central pond would be designed to allow for minimum 300mm freeboard in the event of rainfall of 100-year return period

with 20 percent climate change. A sensitivity test would be carried out for 40 percent climate change to ensure the southern detention basin and the central pond do not flood.

3.8.4. The southern detention basin and the central pond would have minimum 3.5m wide circulation track around it with 0.5m verge width on either side, for maintenance access. Access to the southern detention basin and the central pond would be designed to allow the manoeuvring of a 10m long FTA Design 12/18 Tonne Rigid Vehicle (2016), tracked using AutoDesk Vehicle Tracking software. The circulation track should be able to accommodate a tracked excavator.

3.9. Summary of Scheme drainage network modelling

3.9.1. The Scheme drainage networks have been modelled based on the parameters mentioned above. The summary of the modelling results is given in Table 3-6.

3.9.2. The modelling results demonstrate that the proposed flows will be controlled to mimic the existing scenarios. MicroDrainage calculations for all design storm events are contained within Appendix A, including the 100 year plus 40% allowance sensitivity analysis.

3.9.3. For the proposed catchment areas refer to the catchment plans in Appendix D.

Table 3-6 : Micro Drainage Modelling Results Summary

Outfall ID	Catchment area		Outfall rate (lps)			Treatment train	Remarks
	Total area (ha)	Imp. area (ha)	1 in 1yr + 20% CC	1 in 5 yr + 20% CC	1 in 100 yr + 20% CC		
SP3879_0439a (Proposed network outfalls to EX-MH02 of existing B4028 network) Network ‘B4082’	3.899	1.722	24.8	37.4	82.4	Filter drain and detention basin	Proposed (B4082) network restricted to greenfield rate (QBAR) calculated based on ICP SuDS method. Vortex control.
SP3879_0338c Network ‘B4082’	0.485	0.097	13.4	21.8	51.0	Filter drain	Contributing catchment area has reduced from existing (B4082). Existing outfall is suitable without attenuation.
SP3879_3320d Network ‘A46 – Part 1’	2.198	1.223	105.4	145.5	201.2	Filter drain	Existing outfall retained (A46); outflow controlled to existing rates using orifice controls within the network.

Outfall ID	Catchment area		Outfall rate (lps)			Treatment train	Remarks
	Total area (ha)	Imp. area (ha)	1 in 1yr + 20% CC	1 in 5 yr + 20% CC	1 in 100 yr + 20% CC		
SP3879_3321b (marked as outlet in HADDMS) Network 'A46 – Part 2A'	3.343	2.272	103.0	143.5	252.5	Filter drain	Existing outfall retained (A46); outflow controlled to existing rates using orifice controls within the network. Contributing impermeable is reduced from the existing scenario.
New outfall to existing ditch Network 'A46 - Part 2B'	12.15	5.874	24.0	38.1	91.1	Filter drain, pond and ditch	Outfalling at greenfield rate (Qbar) calculated based on ICP SuDS (A46). Flows from new highway areas controlled via a vortex control unit. Green areas to the east of the site, allowed to drain through the outfall.
New outfall to existing ditch Network 'A46 - Part 3'	18.575	1.466	200.2	291.6	572.8	Filter drain, pond, ditch	Existing outfall replaced with new outfall for network 3 for interception and treatment of existing catchment.

3.10. New outfall (A46 mainline)

3.10.1. The new outfall to the adjacent watercourse from modelled network 'A46 – Part 2B' has an outflow rate restricted to the equivalent greenfield rate of runoff (QBAR) for all storm events up to and including the 100 year + 20% climate change allowance event.

3.10.2. The head of the existing ditch watercourse would be removed as part of the proposed junction works. The proposed outfall ditches would form the new head of the ditch and require some localised reprofiling.

3.10.3. Although the outflow rate is not considered excessive, there is a potential risk of erosion to the ditch bed and embankment, over an extended period of time.

3.10.4. With reference to CIRIA guidance C786 Culvert, screen and outfall manual, Section 11.4.7, flow spreading or energy dissipation measures are not required, as the peak discharge velocity is unlikely to exceed 1.0m/s.

3.10.5. It is proposed that the outfall connection should be at an oblique angle, aligned with the flow of the receiving watercourse.

3.11. Water quality assessment

3.11.1. A Water Quality Assessment (ES Appendix 13.2 (**TR010066/APP/6.3**)) has been undertaken in line accordance with DMRB LA 113 Road drainage and the water environment, and the use of the Highways England Water Risk Assessment Tool (HEWRAT), a pollution risk screening tool to determine the routine runoff impacts of surface water discharges. The HEWRAT assessment originally identified the outfall SP3880_4708a (modelled as Network 'A46 - Part 3') as failing the assessment. In order to provide mitigation a small pond is included which provides interception and treatment with a retention time greater than 9min for the 1 year 24hr duration storm. This requires a new headwall outfall into the existing ditch, opposite the existing highway drainage outfall (which will be removed).

3.11.2. Oil interceptors are not proposed as part of pollution mitigation measures.

3.11.3. All drainage SuDS features should be maintained in accordance with CIRIA C753 The SuDs Manual.

Acronyms

Acronym	Meaning
CIRIA	Construction Industry Research and Information Association
DEFRA	Department of Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges
ES	Environmental Statement
FEH	Flood Estimation Handbook
HADDMS	Highways Agency Drainage Data Management System
HEWRAT	National Highways Water Risk Assessment Tool
ICP	Interim Code of Practice
LiDAR	Light Detection and Ranging - a method of measuring distances to the Earth using light in the form of a laser
MCHW	Manual of Contract Documents for Highways Works
PIMP	Percentage Impermeable
Qbar	Mean Annual Flood - is the value of the average annual flood event
TRL	Transport Research Laboratory

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Appendix A. Drainage calculations

Micro drainage calculations

Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
E1.000	58.578	1.090	53.7	0.106	5.00	0.0	4.800	o	150	Pipe/Conduit
E1.001	98.126	0.323	304.0	0.088	0.00	0.0	4.800	o	150	Pipe/Conduit
E1.002	55.828	0.184	304.0	0.046	0.00	0.0	4.800	o	150	Pipe/Conduit
E1.003	4.885	0.192	25.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
E2.000	55.384	0.305	181.6	0.076	5.00	0.0	4.800	o	150	Pipe/Conduit
E2.001	24.155	0.079	304.0	0.043	0.00	0.0	4.800	o	150	Pipe/Conduit
E3.000	41.145	1.211	34.0	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
E1.004	21.926	0.066	332.2	0.010	0.00	0.0	5.200	o	225	Pipe/Conduit
E4.000	42.687	0.140	304.0	0.033	5.00	0.0	4.800	o	150	Pipe/Conduit
E1.005	62.256	0.161	387.0	0.023	0.00	0.0	5.200	o	225	Pipe/Conduit
E5.000	49.098	0.740	66.3	0.053	5.00	0.0	4.800	o	150	Pipe/Conduit
E5.001	97.805	0.920	106.3	0.075	0.00	0.0	4.800	o	150	Pipe/Conduit
E5.002	100.163	0.330	303.5	0.073	0.00	0.0	4.800	o	150	Pipe/Conduit
E5.003	47.403	0.122	387.0	0.030	0.00	0.0	5.200	o	225	Pipe/Conduit
E5.004	4.962	0.298	16.7	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
E5.005	42.053	0.400	105.1	0.023	0.00	0.0	5.200	o	225	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
E1.000	71.565	0.106	0.0	0.96	17.0
E1.001	70.475	0.194	0.0	0.40	7.1
E1.002	70.152	0.241	0.0	0.40	7.1
E1.003	69.968	0.241	0.0	1.40	24.8
E2.000	70.160	0.076	0.0	0.52	9.3
E2.001	69.855	0.119	0.0	0.40	7.1
E3.000	70.987	0.000	0.0	1.21	21.4
E1.004	69.701	0.370	0.0	0.51	20.1
E4.000	69.850	0.033	0.0	0.40	7.1
E1.005	69.635	0.426	0.0	0.47	18.7
E5.000	72.510	0.053	0.0	0.87	15.3
E5.001	71.770	0.127	0.0	0.68	12.1
E5.002	70.850	0.200	0.0	0.40	7.2
E5.003	70.445	0.231	0.0	0.47	18.7
E5.004	70.323	0.231	0.0	2.27	90.2
E5.005	70.025	0.254	0.0	0.90	35.9

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
EMH07	72.915	1.350	Open Manhole	1050	E1.000	71.565	150				
EMH08	72.275	1.800	Open Manhole	1050	E1.001	70.475	150	E1.000	70.475	150	
EMH09	71.950	1.798	Open Manhole	1050	E1.002	70.152	150	E1.001	70.152	150	
EMH10	71.823	1.855	Open Manhole	1050	E1.003	69.968	150	E1.002	69.968	150	
EMH03	71.810	1.650	Open Manhole	1050	E2.000	70.160	150				
EMH04	71.205	1.350	Open Manhole	1050	E2.001	69.855	150	E2.000	69.855	150	
EMH01	72.337	1.350	Open Manhole	1050	E3.000	70.987	150				
EMH02	71.676	1.975	Open Manhole	1050	E1.004	69.701	225	E1.003	69.776	150	
								E2.001	69.776	150	
								E3.000	69.776	150	
EMH05	71.200	1.350	Open Manhole	1050	E4.000	69.850	150				
EMH06	71.278	1.643	Open Manhole	1050	E1.005	69.635	225	E1.004	69.635	225	
								E4.000	69.710	150	
EHW1	70.000	0.526	Open Manhole	0		OUTFALL		E1.005	69.474	225	
EMH11	73.860	1.350	Open Manhole	1050	E5.000	72.510	150				
EMH12	73.120	1.350	Open Manhole	1050	E5.001	71.770	150	E5.000	71.770	150	
EMH13	72.200	1.350	Open Manhole	1050	E5.002	70.850	150	E5.001	70.850	150	
EMH14	71.870	1.425	Open Manhole	1050	E5.003	70.445	225	E5.002	70.520	150	
EMH15	71.760	1.437	Open Manhole	1050	E5.004	70.323	225	E5.003	70.323	225	
EMH16	71.450	1.425	Open Manhole	1050	E5.005	70.025	225	E5.004	70.025	225	
EHW2	70.000	0.375	Open Manhole	0		OUTFALL		E5.005	69.625	225	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EMH07	438308.310	279315.900	438308.310	279315.900	Required	
EMH08	438250.736	279326.696	438250.736	279326.696	Required	
EMH09	438157.720	279357.950	438157.720	279357.950	Required	
EMH10	438104.866	279375.929	438104.866	279375.929	Required	
EMH03	438152.141	279442.366	438152.141	279442.366	Required	
EMH04	438112.166	279404.034	438112.166	279404.034	Required	
EMH01	438145.477	279368.346	438145.477	279368.346	Required	
EMH02	438106.207	279380.626	438106.207	279380.626	Required	
EMH05	438117.020	279417.200	438117.020	279417.200	Required	
EMH06	438085.650	279388.250	438085.650	279388.250	Required	
EHW1	438026.870	279408.760			No Entry	
EMH11	438349.530	279256.520	438349.530	279256.520	Required	
EMH12	438312.440	279288.690	438312.440	279288.690	Required	
EMH13	438221.220	279323.970	438221.220	279323.970	Required	
EMH14	438126.730	279357.200	438126.730	279357.200	Required	
EMH15	438081.740	279372.130	438081.740	279372.130	Required	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EMH16	438080.240	279367.400	438080.240	279367.400	Required	
EHW2	438039.850	279379.110			No Entry	

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Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	Classification	Paved	100	0.054	0.054	0.054
	Classification	Verge	50	0.016	0.008	0.061
	Classification	EW (Cut)	20	0.222	0.044	0.106
1.001	Classification	Paved	100	0.047	0.047	0.047
	Classification	Verge	50	0.022	0.011	0.058
	Classification	EW (Cut)	20	0.152	0.030	0.088
1.002	Classification	Paved	100	0.025	0.025	0.025
	Classification	Verge	50	0.042	0.021	0.046
1.003	-	-	100	0.000	0.000	0.000
2.000	Classification	Overland	20	0.380	0.076	0.076
2.001	Classification	Overland	20	0.215	0.043	0.043
3.000	-	-	100	0.000	0.000	0.000
1.004	Classification	Paved	100	0.010	0.010	0.010
4.000	Classification	Paved	100	0.033	0.033	0.033
1.005	Classification	Paved	100	0.023	0.023	0.023
5.000	Classification	Paved	100	0.038	0.038	0.038
	Classification	Verge	50	0.012	0.006	0.044
	Classification	EW (Cut)	20	0.041	0.008	0.053
5.001	Classification	Paved	100	0.047	0.047	0.047
	Classification	Verge	50	0.017	0.009	0.056
	Classification	EW (Cut)	20	0.093	0.019	0.075
5.002	Classification	Paved	100	0.044	0.044	0.044
	Classification	Verge	50	0.028	0.014	0.058
	Classification	EW (Cut)	20	0.078	0.016	0.073
5.003	Classification	Paved	100	0.022	0.022	0.022
	Classification	Verge	50	0.009	0.005	0.027
	Classification	EW (Cut)	20	0.017	0.003	0.030
5.004	-	-	100	0.000	0.000	0.000
5.005	Classification	Paved	100	0.016	0.016	0.016
	Classification	Verge	50	0.009	0.005	0.021
	Classification	EW (fill)	20	0.012	0.002	0.023
				Total	Total	Total
				1.726	0.680	0.680

Free Flowing Outfall Details for Existing

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
E1.005	EHW1	70.000	69.474	0.000	0	0

Free Flowing Outfall Details for Existing

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
E5.005	EHW2	70.000	69.625	0.000	0	0

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.900
Region England and Wales Ratio R 0.400 Cv (Winter) 0.900

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
E1.000	EMH07	15 Summer	1	+0%	1/15 Summer	5/15 Summer			71.979	0.264	0.000	0.72	
E1.001	EMH08	30 Summer	1	+0%	1/15 Summer	5/15 Summer			71.850	1.225	0.000	1.76	
E1.002	EMH09	30 Summer	1	+0%	1/15 Summer	100/15 Summer			70.889	0.587	0.000	2.00	
E1.003	EMH10	30 Summer	1	+0%	1/30 Summer				70.134	0.016	0.000	0.68	
E2.000	EMH03	15 Summer	1	+0%	1/15 Summer	100/15 Summer			70.479	0.169	0.000	1.01	
E2.001	EMH04	30 Summer	1	+0%	1/15 Summer	100/15 Summer			70.216	0.211	0.000	1.52	
E3.000	EMH01	15 Summer	1	+0%					70.987	-0.150	0.000	0.00	
E1.004	EMH02	30 Summer	1	+0%	1/15 Summer				70.060	0.134	0.000	1.15	
E4.000	EMH05	30 Summer	1	+0%	5/15 Summer				69.986	-0.014	0.000	0.61	
E1.005	EMH06	30 Summer	1	+0%	1/15 Summer				69.972	0.112	0.000	1.32	
E5.000	EMH11	15 Summer	1	+0%	5/15 Summer	100/15 Summer			72.588	-0.072	0.000	0.51	
E5.001	EMH12	15 Summer	1	+0%	1/15 Summer	5/15 Summer			72.303	0.383	0.000	0.86	
E5.002	EMH13	30 Summer	1	+0%	1/15 Summer	5/15 Summer			71.742	0.742	0.000	1.77	
E5.003	EMH14	30 Summer	1	+0%	100/15 Summer				70.592	-0.078	0.000	0.75	
E5.004	EMH15	30 Summer	1	+0%					70.387	-0.161	0.000	0.18	
E5.005	EMH16	30 Summer	1	+0%					70.128	-0.122	0.000	0.43	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
E1.000	EMH07		12.2	SURCHARGED	13
E1.001	EMH08		12.5	SURCHARGED	19
E1.002	EMH09		14.2	SURCHARGED	7
E1.003	EMH10		15.1	SURCHARGED	
E2.000	EMH03		9.2	SURCHARGED	7
E2.001	EMH04		10.6	SURCHARGED	7
E3.000	EMH01		0.0	OK	
E1.004	EMH02		22.2	SURCHARGED	
E4.000	EMH05		4.3	OK	
E1.005	EMH06		24.2	SURCHARGED	
E5.000	EMH11		7.8	OK	5
E5.001	EMH12		10.4	SURCHARGED	15
E5.002	EMH13		12.6	SURCHARGED	18
E5.003	EMH14		13.6	OK	
E5.004	EMH15		13.7	OK	
E5.005	EMH16		14.9	OK	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.900
Region England and Wales Ratio R 0.400 Cv (Winter) 0.900

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
E1.000	EMH07	15 Summer	5	+0%	1/15 Summer	5/15 Summer			72.915	1.200	0.203	0.75	
E1.001	EMH08	30 Summer	5	+0%	1/15 Summer	5/15 Summer			72.280	1.655	4.865	1.99	
E1.002	EMH09	30 Summer	5	+0%	1/15 Summer	100/15 Summer			71.537	1.235	0.000	2.32	
E1.003	EMH10	30 Summer	5	+0%	1/30 Summer				70.558	0.440	0.000	0.77	
E2.000	EMH03	15 Summer	5	+0%	1/15 Summer	100/15 Summer			71.175	0.865	0.000	1.33	
E2.001	EMH04	30 Summer	5	+0%	1/15 Summer	100/15 Summer			70.781	0.776	0.000	2.25	
E3.000	EMH01	15 Summer	5	+0%					70.987	-0.150	0.000	0.00	
E1.004	EMH02	30 Summer	5	+0%	1/15 Summer				70.454	0.528	0.000	1.61	
E4.000	EMH05	30 Summer	5	+0%	5/15 Summer				70.302	0.302	0.000	0.79	
E1.005	EMH06	30 Summer	5	+0%	1/15 Summer				70.282	0.422	0.000	1.89	
E5.000	EMH11	30 Summer	5	+0%	5/15 Summer	100/15 Summer			73.225	0.565	0.000	0.64	
E5.001	EMH12	30 Summer	5	+0%	1/15 Summer	5/15 Summer			73.120	1.200	0.460	0.99	
E5.002	EMH13	30 Summer	5	+0%	1/15 Summer	5/15 Summer			72.202	1.202	1.537	2.16	
E5.003	EMH14	30 Summer	5	+0%	100/15 Summer				70.626	-0.044	0.000	0.99	
E5.004	EMH15	30 Summer	5	+0%					70.398	-0.150	0.000	0.24	
E5.005	EMH16	30 Summer	5	+0%					70.152	-0.098	0.000	0.60	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
E1.000	EMH07		12.7	FLOOD	13
E1.001	EMH08		14.1	FLOOD	19
E1.002	EMH09		16.4	SURCHARGED	7
E1.003	EMH10		17.0	SURCHARGED	
E2.000	EMH03		12.2	SURCHARGED	7
E2.001	EMH04		15.7	SURCHARGED	7
E3.000	EMH01		0.0	OK	
E1.004	EMH02		31.0	SURCHARGED	
E4.000	EMH05		5.6	SURCHARGED	
E1.005	EMH06		34.6	SURCHARGED	
E5.000	EMH11		9.7	SURCHARGED	5
E5.001	EMH12		11.9	FLOOD	15
E5.002	EMH13		15.3	FLOOD	18
E5.003	EMH14		18.1	OK	
E5.004	EMH15		18.1	OK	
E5.005	EMH16		20.9	OK	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.900
Region England and Wales Ratio R 0.400 Cv (Winter) 0.900

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
E1.000	EMH07	30 Summer	100	+0%	1/15 Summer	5/15 Summer			72.925	1.210	10.042	0.76	
E1.001	EMH08	60 Winter	100	+0%	1/15 Summer	5/15 Summer			72.302	1.677	26.756	2.07	
E1.002	EMH09	30 Summer	100	+0%	1/15 Summer	100/15 Summer			71.953	1.651	2.723	2.57	
E1.003	EMH10	30 Summer	100	+0%	1/30 Summer				71.086	0.968	0.000	0.80	
E2.000	EMH03	30 Summer	100	+0%	1/15 Summer	100/15 Summer			71.814	1.504	4.380	1.41	
E2.001	EMH04	30 Summer	100	+0%	1/15 Summer	100/15 Summer			71.209	1.204	4.484	2.98	
E3.000	EMH01	30 Summer	100	+0%					70.987	-0.150	0.000	0.00	
E1.004	EMH02	30 Summer	100	+0%	1/15 Summer				70.987	1.061	0.000	1.88	
E4.000	EMH05	30 Summer	100	+0%	5/15 Summer				71.138	1.138	0.000	1.49	
E1.005	EMH06	30 Summer	100	+0%	1/15 Summer				70.816	0.956	0.000	2.56	
E5.000	EMH11	15 Summer	100	+0%	5/15 Summer	100/15 Summer			73.861	1.201	1.134	0.99	
E5.001	EMH12	30 Summer	100	+0%	1/15 Summer	5/15 Summer			73.133	1.213	12.895	1.00	
E5.002	EMH13	60 Summer	100	+0%	1/15 Summer	5/15 Summer			72.211	1.211	10.901	2.17	
E5.003	EMH14	30 Summer	100	+0%	100/15 Summer				70.789	0.119	0.000	1.40	
E5.004	EMH15	30 Summer	100	+0%					70.413	-0.135	0.000	0.34	
E5.005	EMH16	15 Summer	100	+0%					70.204	-0.046	0.000	0.94	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
E1.000	EMH07		12.9	FLOOD	13
E1.001	EMH08		14.7	FLOOD	19
E1.002	EMH09		18.2	FLOOD	7
E1.003	EMH10		17.6	SURCHARGED	
E2.000	EMH03		12.9	FLOOD	7
E2.001	EMH04		20.7	FLOOD	7
E3.000	EMH01		0.0	OK	
E1.004	EMH02		36.1	SURCHARGED	
E4.000	EMH05		10.5	FLOOD RISK	
E1.005	EMH06		46.9	SURCHARGED	
E5.000	EMH11		15.0	FLOOD	5
E5.001	EMH12		12.0	FLOOD	15
E5.002	EMH13		15.4	FLOOD	18
E5.003	EMH14		25.6	SURCHARGED	
E5.004	EMH15		25.6	OK	
E5.005	EMH16		32.7	OK	

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX-1.000	78.057	0.660	118.3	0.089	5.00	0.0	5.200	o	225	Pipe/Conduit
EX-1.001	80.063	1.290	62.1	0.099	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-1.002	79.169	1.950	40.6	0.100	0.00	0.0	0.600	o	225	Pipe/Conduit
EX-1.003	78.910	2.450	32.2	0.101	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-1.004	78.390	1.800	43.6	0.099	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-1.005	13.497	0.031	433.0	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-2.000	81.010	0.190	426.4	0.095	5.00	0.0	5.200	o	225	Pipe/Conduit
EX-2.001	79.849	1.230	64.9	0.095	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-2.002	79.785	2.390	33.4	0.095	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-2.003	80.267	2.100	38.2	0.096	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-2.004	79.483	2.150	37.0	0.102	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-1.006	13.120	0.144	91.1	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-3.000	80.243	0.280	286.6	0.017	5.00	0.0	5.200	o	225	Pipe/Conduit
EX-3.001	81.696	1.060	77.1	0.027	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-3.002	80.992	1.990	40.7	0.026	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-3.003	81.495	2.380	34.2	0.021	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-3.004	79.729	3.140	25.4	0.021	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-1.007	29.114	2.080	14.0	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-4.000	82.678	3.410	24.2	0.032	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-4.001	83.965	1.900	44.2	0.032	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-1.008	4.644	0.270	17.2	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit
EX-5.000	80.394	4.010	20.0	0.022	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-5.001	59.028	2.338	25.2	0.020	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-5.002	26.032	0.072	363.0	0.008	0.00	0.0	4.800	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX-1.000	80.710	0.089	0.0	0.85	33.8
EX-1.001	80.020	0.188	0.0	1.17	46.7
EX-1.002	78.700	0.288	0.0	2.06	81.9
EX-1.003	76.400	0.389	0.0	1.63	64.8
EX-1.004	73.890	0.487	0.0	1.40	55.7
EX-1.005	72.090	0.487	0.0	0.44	17.6
EX-2.000	81.420	0.095	0.0	0.45	17.8
EX-2.001	81.220	0.190	0.0	1.15	45.7
EX-2.002	79.900	0.285	0.0	1.60	63.7
EX-2.003	77.470	0.381	0.0	1.50	59.5
EX-2.004	75.270	0.483	0.0	1.52	60.5
EX-1.006	71.984	0.971	0.0	1.17	82.7
EX-3.000	81.300	0.017	0.0	0.55	21.7
EX-3.001	80.960	0.044	0.0	1.05	41.9
EX-3.002	79.900	0.070	0.0	1.45	57.7
EX-3.003	77.310	0.090	0.0	1.58	62.9
EX-3.004	74.830	0.111	0.0	1.84	73.0
EX-1.007	71.540	1.082	0.0	2.99	211.2
EX-4.000	75.070	0.032	0.0	1.44	25.4
EX-4.001	71.660	0.064	0.0	1.06	18.8
EX-1.008	69.450	1.146	0.0	3.12	344.6
EX-5.000	76.460	0.022	0.0	1.58	27.9
EX-5.001	72.450	0.043	0.0	1.41	24.9
EX-5.002	70.112	0.051	0.0	0.37	6.5

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
EX-MH17	82.550	1.840	Open Manhole	900 x 900	EX-1.000	80.710	225				
EX-MH18	81.920	1.900	Open Manhole	900 x 900	EX-1.001	80.020	225	EX-1.000	80.050	225	30
EX-MH19	80.670	1.970	Open Manhole	900 x 900	EX-1.002	78.700	225	EX-1.001	78.730	225	30
EX-MH20	78.880	2.480	Open Manhole	900 x 900	EX-1.003	76.400	225	EX-1.002	76.750	225	350
EX-MH21	76.410	2.520	Open Manhole	1050 x 1050	EX-1.004	73.890	225	EX-1.003	73.950	225	60
EX-MH22	74.660	2.570	Open Manhole	1050 x 1050	EX-1.005	72.090	225	EX-1.004	72.090	225	
EX-MH26	82.760	1.340	Open Manhole	1050 x 1050	EX-2.000	81.420	225				
EX-MH27	82.260	1.040	Open Manhole	1050 x 1050	EX-2.001	81.220	225	EX-2.000	81.230	225	10
EX-MH28	81.120	1.220	Open Manhole	1050 x 1050	EX-2.002	79.900	225	EX-2.001	79.990	225	90
EX-MH29	79.300	1.830	Open Manhole	1050 x 1050	EX-2.003	77.470	225	EX-2.002	77.510	225	40
EX-MH30	76.920	1.650	Open Manhole	1050 x 1050	EX-2.004	75.270	225	EX-2.003	75.370	225	100
EX-MH23	74.760	2.776	Open Manhole	1050 x 1050	EX-1.006	71.984	300	EX-1.005	72.059	225	
								EX-2.004	73.120	225	1061
EX-MH31	83.070	1.770	Open Manhole	900 x 900	EX-3.000	81.300	225				
EX-CP32	82.640	1.680	Open Manhole	900 x 900	EX-3.001	80.960	225	EX-3.000	81.020	225	60
EX-CP33	81.560	1.660	Open Manhole	900 x 900	EX-3.002	79.900	225	EX-3.001	79.900	225	
EX-CP34	79.780	2.470	Open Manhole	900 x 900	EX-3.003	77.310	225	EX-3.002	77.910	225	600
EX-CP35	77.310	2.480	Open Manhole	900 x 900	EX-3.004	74.830	225	EX-3.003	74.930	225	100
EX-MH24	74.530	2.990	Open Manhole	1050 x 1050	EX-1.007	71.540	300	EX-1.006	71.840	300	300
								EX-3.004	71.690	225	75
EX-CP36	76.930	1.860	Open Manhole	900	EX-4.000	75.070	150				
EX-CP37	73.010	1.350	Open Manhole	900	EX-4.001	71.660	150	EX-4.000	71.660	150	
EX-MH25	71.380	1.930	Open Manhole	1050	EX-1.008	69.450	375	EX-1.007	69.460	300	
								EX-4.001	69.760	150	85
EX-HW3	70.000	0.820	Open Manhole	0		OUTFALL		EX-1.008	69.180	375	
EX-CP38	77.810	1.350	Open Manhole	1050 x 1050	EX-5.000	76.460	150				
EX-CP39	73.800	1.350	Open Manhole	1050 x 1050	EX-5.001	72.450	150	EX-5.000	72.450	150	
EX-MH40	71.470	1.358	Open Manhole	1050	EX-5.002	70.112	150	EX-5.001	70.112	150	
EX-HW4	72.598	2.558	Open Manhole	0		OUTFALL		EX-5.002	70.040	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EX-MH17	438525.917	278842.481	438525.917	278842.481	Required	
EX-MH18	438489.277	278911.405	438489.277	278911.405	Required	
EX-MH19	438453.048	278982.802	438453.048	278982.802	Required	
EX-MH20	438424.237	279056.543	438424.237	279056.543	Required	
EX-MH21	438403.747	279132.746	438403.747	279132.746	Required	
EX-MH22	438391.761	279210.214	438391.761	279210.214	Required	
EX-MH26	438516.031	278835.707	438516.031	278835.707	Required	
EX-MH27	438477.511	278906.972	438477.511	278906.972	Required	
EX-MH28	438441.822	278978.402	438441.822	278978.402	Required	
EX-MH29	438413.340	279052.930	438413.340	279052.930	Required	
EX-MH30	438391.759	279130.242	438391.759	279130.242	Required	
EX-MH23	438378.363	279208.588	438378.363	279208.588	Required	
EX-MH31	438506.264	278830.390	438506.264	278830.390	Required	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EX-CP32	438468.511	278901.197	438468.511	278901.197	Required	
EX-CP33	438432.182	278974.371	438432.182	278974.371	Required	
EX-CP34	438402.040	279049.546	438402.040	279049.546	Required	
EX-CP35	438380.851	279128.238	438380.851	279128.238	Required	
EX-MH24	438365.416	279206.458	438365.416	279206.458	Required	
EX-CP36	438375.510	279040.510	438375.510	279040.510	Required	
EX-CP37	438351.950	279119.760	438351.950	279119.760	Required	
EX-MH25	438336.600	279202.310	438336.600	279202.310	Required	
EX-HW3	438335.240	279206.750			No Entry	
EX-CP38	438450.860	279060.390	438450.860	279060.390	Required	
EX-CP39	438429.564	279137.912	438429.564	279137.912	Required	
EX-MH40	438424.250	279196.700	438424.250	279196.700	Required	
EX-HW4	438424.560	279222.730			No Entry	

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Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	Classification	Paved	100	0.074	0.074	0.074
	Classification	Verge	50	0.010	0.005	0.079
	Classification	EW (Cut)	20	0.052	0.010	0.089
1.001	Classification	Paved	100	0.074	0.074	0.074
	Classification	Verge	50	0.024	0.012	0.086
	Classification	EW (Cut)	20	0.065	0.013	0.099
1.002	Classification	Paved	100	0.073	0.073	0.073
	Classification	Verge	50	0.023	0.012	0.085
	Classification	EW (Cut)	20	0.075	0.015	0.100
1.003	Classification	Paved	100	0.073	0.073	0.073
	Classification	Verge	50	0.028	0.014	0.088
	Classification	EW (Cut)	20	0.066	0.013	0.101
1.004	Classification	Paved	100	0.073	0.073	0.073
	Classification	Verge	50	0.019	0.010	0.083
	Classification	EW (Cut)	20	0.078	0.016	0.099
1.005	-	-	100	0.000	0.000	0.000
2.000	Classification	Paved	100	0.074	0.074	0.074
	Classification	Paved	100	0.021	0.021	0.095
2.001	Classification	Paved	100	0.075	0.075	0.075
	Classification	Paved	100	0.021	0.021	0.095
2.002	Classification	Paved	100	0.075	0.075	0.075
	Classification	Paved	100	0.021	0.021	0.095
2.003	Classification	Paved	100	0.075	0.075	0.075
	Classification	Paved	100	0.021	0.021	0.096
2.004	Classification	Paved	100	0.081	0.081	0.081
	Classification	Paved	100	0.022	0.022	0.102
1.006	-	-	100	0.000	0.000	0.000
3.000	Classification	Verge	50	0.010	0.005	0.005
	Classification	EW (Cut)	20	0.060	0.012	0.017
3.001	Classification	Verge	50	0.018	0.009	0.009
	Classification	EW (Cut)	20	0.090	0.018	0.027
3.002	Classification	Verge	50	0.020	0.010	0.010
	Classification	EW (Cut)	20	0.080	0.016	0.026
3.003	Classification	Verge	50	0.013	0.007	0.007
	Classification	EW (Cut)	20	0.070	0.014	0.021
3.004	Classification	Verge	50	0.013	0.007	0.007
	Classification	EW (Cut)	20	0.071	0.014	0.021
1.007	-	-	100	0.000	0.000	0.000
4.000	Classification	EW (fill)	20	0.142	0.028	0.028
	Classification	EW (fill)	20	0.019	0.004	0.032
4.001	Classification	EW (fill)	20	0.143	0.029	0.029
	Classification	EW (fill)	20	0.017	0.003	0.032
1.008	-	-	100	0.000	0.000	0.000
5.000	Classification	EW (fill)	20	0.097	0.019	0.019
	Classification	EW (fill)	20	0.014	0.003	0.022
5.001	Classification	EW (fill)	20	0.089	0.018	0.018
	Classification	EW (fill)	20	0.012	0.002	0.020
5.002	Classification	EW (fill)	20	0.036	0.007	0.007
	Classification	EW (fill)	20	0.006	0.001	0.008
				Total	Total	Total
				2.314	1.197	1.197

Free Flowing Outfall Details for Existing

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
EX-1.008	EX-HW3	70.000	69.180	0.000	0	0

Free Flowing Outfall Details for Existing

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
EX-5.002	EX-HW4	72.598	70.040	0.000	0	0

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.900
Region England and Wales Ratio R 0.400 Cv (Winter) 0.900

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
EX-1.000	EX-MH17	15 Summer	1	+0%	100/15 Summer				80.811	-0.124	0.000	0.37
EX-1.001	EX-MH18	15 Summer	1	+0%	100/15 Summer	100/15 Summer			80.137	-0.108	0.000	0.50
EX-1.002	EX-MH19	15 Summer	1	+0%	100/15 Summer				78.805	-0.120	0.000	0.43
EX-1.003	EX-MH20	15 Summer	1	+0%	5/15 Summer	100/15 Summer			76.543	-0.082	0.000	0.70
EX-1.004	EX-MH21	15 Summer	1	+0%	1/15 Summer	100/15 Summer			74.238	0.123	0.000	0.93
EX-1.005	EX-MH22	15 Summer	1	+0%	1/15 Summer				72.693	0.378	0.000	3.74
EX-2.000	EX-MH26	15 Summer	1	+0%	5/15 Summer	100/15 Summer			81.578	-0.067	0.000	0.73
EX-2.001	EX-MH27	15 Summer	1	+0%	100/15 Summer	100/15 Summer			81.336	-0.109	0.000	0.51
EX-2.002	EX-MH28	15 Summer	1	+0%	100/15 Summer	100/15 Summer			80.018	-0.107	0.000	0.52
EX-2.003	EX-MH29	15 Summer	1	+0%	5/15 Summer	100/15 Summer			77.614	-0.081	0.000	0.71
EX-2.004	EX-MH30	15 Summer	1	+0%	5/15 Summer	100/15 Summer			75.433	-0.062	0.000	0.86
EX-1.006	EX-MH23	15 Summer	1	+0%	1/15 Summer				72.393	0.109	0.000	1.36
EX-3.000	EX-MH31	15 Summer	1	+0%					81.352	-0.173	0.000	0.12
EX-3.001	EX-CP32	15 Summer	1	+0%					81.016	-0.169	0.000	0.13
EX-3.002	EX-CP33	15 Summer	1	+0%					79.958	-0.167	0.000	0.14
EX-3.003	EX-CP34	15 Summer	1	+0%					77.372	-0.163	0.000	0.17
EX-3.004	EX-CP35	15 Summer	1	+0%					74.892	-0.163	0.000	0.17
EX-1.007	EX-MH24	15 Summer	1	+0%					71.701	-0.139	0.000	0.56
EX-4.000	EX-CP36	15 Summer	1	+0%					75.115	-0.105	0.000	0.19
EX-4.001	EX-CP37	15 Summer	1	+0%	100/15 Summer				71.733	-0.077	0.000	0.47
EX-1.008	EX-MH25	15 Summer	1	+0%	100/15 Summer				69.658	-0.167	0.000	0.59
EX-5.000	EX-CP38	15 Summer	1	+0%					76.495	-0.115	0.000	0.12
EX-5.001	EX-CP39	15 Summer	1	+0%					72.500	-0.100	0.000	0.23
EX-5.002	EX-MH40	15 Summer	1	+0%	5/15 Summer				70.257	-0.005	0.000	1.00

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX-1.000	EX-MH17			12.3	OK	
EX-1.001	EX-MH18			23.2	OK	2
EX-1.002	EX-MH19			34.6	OK	
EX-1.003	EX-MH20			44.8	OK	6
EX-1.004	EX-MH21			51.0	SURCHARGED	7
EX-1.005	EX-MH22			50.9	SURCHARGED	
EX-2.000	EX-MH26			12.8	OK	3
EX-2.001	EX-MH27			22.8	OK	4
EX-2.002	EX-MH28			32.4	OK	5
EX-2.003	EX-MH29			41.6	OK	6
EX-2.004	EX-MH30			51.4	OK	6
EX-1.006	EX-MH23			101.0	SURCHARGED	
EX-3.000	EX-MH31			2.6	OK	
EX-3.001	EX-CP32			5.4	OK	
EX-3.002	EX-CP33			8.2	OK	
EX-3.003	EX-CP34			10.4	OK	
EX-3.004	EX-CP35			12.4	OK	
EX-1.007	EX-MH24			113.1	OK	
EX-4.000	EX-CP36			4.7	OK	
EX-4.001	EX-CP37			8.7	OK	
EX-1.008	EX-MH25			120.4	OK	
EX-5.000	EX-CP38			3.3	OK	
EX-5.001	EX-CP39			5.7	OK	
EX-5.002	EX-MH40			6.4	OK	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.900
Region England and Wales Ratio R 0.400 Cv (Winter) 0.900

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
EX-1.000	EX-MH17	15 Summer	5	+0%	100/15 Summer				80.848	-0.087	0.000	0.61
EX-1.001	EX-MH18	15 Summer	5	+0%	100/15 Summer	100/15 Summer			80.185	-0.060	0.000	0.84
EX-1.002	EX-MH19	15 Summer	5	+0%	100/15 Summer				78.844	-0.081	0.000	0.71
EX-1.003	EX-MH20	15 Summer	5	+0%	5/15 Summer	100/15 Summer			77.722	1.097	0.000	0.93
EX-1.004	EX-MH21	15 Summer	5	+0%	1/15 Summer	100/15 Summer			75.695	1.580	0.000	1.20
EX-1.005	EX-MH22	15 Summer	5	+0%	1/15 Summer				73.095	0.780	0.000	4.82
EX-2.000	EX-MH26	15 Summer	5	+0%	5/15 Summer	100/15 Summer			81.774	0.129	0.000	1.18
EX-2.001	EX-MH27	15 Summer	5	+0%	100/15 Summer	100/15 Summer			81.379	-0.066	0.000	0.81
EX-2.002	EX-MH28	15 Summer	5	+0%	100/15 Summer	100/15 Summer			80.060	-0.065	0.000	0.82
EX-2.003	EX-MH29	15 Summer	5	+0%	5/15 Summer	100/15 Summer			78.254	0.559	0.000	1.00
EX-2.004	EX-MH30	15 Summer	5	+0%	5/15 Summer	100/15 Summer			76.173	0.678	0.000	1.15
EX-1.006	EX-MH23	15 Summer	5	+0%	1/15 Summer				72.593	0.309	0.000	1.80
EX-3.000	EX-MH31	15 Summer	5	+0%					81.368	-0.157	0.000	0.20
EX-3.001	EX-CP32	15 Summer	5	+0%					81.034	-0.151	0.000	0.22
EX-3.002	EX-CP33	15 Summer	5	+0%					79.976	-0.149	0.000	0.24
EX-3.003	EX-CP34	15 Summer	5	+0%					77.392	-0.143	0.000	0.28
EX-3.004	EX-CP35	15 Summer	5	+0%					74.912	-0.143	0.000	0.29
EX-1.007	EX-MH24	15 Summer	5	+0%					71.734	-0.106	0.000	0.75
EX-4.000	EX-CP36	15 Summer	5	+0%					75.129	-0.091	0.000	0.31
EX-4.001	EX-CP37	15 Summer	5	+0%	100/15 Summer				71.761	-0.049	0.000	0.78
EX-1.008	EX-MH25	15 Summer	5	+0%	100/15 Summer				69.700	-0.125	0.000	0.78
EX-5.000	EX-CP38	15 Summer	5	+0%					76.506	-0.104	0.000	0.20
EX-5.001	EX-CP39	15 Summer	5	+0%					72.516	-0.084	0.000	0.39
EX-5.002	EX-MH40	15 Summer	5	+0%	5/15 Summer				70.394	0.132	0.000	1.68

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX-1.000	EX-MH17			20.5	OK	
EX-1.001	EX-MH18			38.7	OK	2
EX-1.002	EX-MH19			56.8	OK	
EX-1.003	EX-MH20			59.6	SURCHARGED	6
EX-1.004	EX-MH21			66.1	SURCHARGED	7
EX-1.005	EX-MH22			65.6	SURCHARGED	
EX-2.000	EX-MH26			20.6	SURCHARGED	3
EX-2.001	EX-MH27			36.6	OK	4
EX-2.002	EX-MH28			51.6	OK	5
EX-2.003	EX-MH29			58.5	SURCHARGED	6
EX-2.004	EX-MH30			68.5	SURCHARGED	6
EX-1.006	EX-MH23			133.7	SURCHARGED	
EX-3.000	EX-MH31			4.3	OK	
EX-3.001	EX-CP32			9.0	OK	
EX-3.002	EX-CP33			13.8	OK	
EX-3.003	EX-CP34			17.4	OK	
EX-3.004	EX-CP35			20.5	OK	
EX-1.007	EX-MH24			149.8	OK	
EX-4.000	EX-CP36			7.9	OK	
EX-4.001	EX-CP37			14.6	OK	
EX-1.008	EX-MH25			158.7	OK	
EX-5.000	EX-CP38			5.5	OK	
EX-5.001	EX-CP39			9.6	OK	
EX-5.002	EX-MH40			10.7	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.900
Region England and Wales Ratio R 0.400 Cv (Winter) 0.900

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
EX-1.000	EX-MH17	15 Summer	100	+0%	100/15 Summer				82.463	1.528	0.000	0.85
EX-1.001	EX-MH18	15 Summer	100	+0%	100/15 Summer	100/15 Summer			81.921	1.676	0.511	1.07
EX-1.002	EX-MH19	15 Summer	100	+0%	100/15 Summer				80.568	1.643	0.000	0.91
EX-1.003	EX-MH20	30 Summer	100	+0%	5/15 Summer	100/15 Summer			78.892	2.267	11.984	1.01
EX-1.004	EX-MH21	30 Winter	100	+0%	1/15 Summer	100/15 Summer			76.417	2.302	7.042	1.32
EX-1.005	EX-MH22	30 Summer	100	+0%	1/15 Summer				73.315	1.000	0.000	5.42
EX-2.000	EX-MH26	15 Summer	100	+0%	5/15 Summer	100/15 Summer			82.761	1.116	0.946	1.60
EX-2.001	EX-MH27	30 Summer	100	+0%	100/15 Summer	100/15 Summer			82.262	0.817	1.827	0.96
EX-2.002	EX-MH28	30 Summer	100	+0%	100/15 Summer	100/15 Summer			81.123	0.998	2.904	0.87
EX-2.003	EX-MH29	30 Summer	100	+0%	5/15 Summer	100/15 Summer			79.306	1.611	6.353	1.12
EX-2.004	EX-MH30	30 Summer	100	+0%	5/15 Summer	100/15 Summer			76.925	1.430	5.001	1.29
EX-1.006	EX-MH23	30 Summer	100	+0%	1/15 Summer				72.708	0.424	0.000	2.01
EX-3.000	EX-MH31	15 Summer	100	+0%					81.397	-0.128	0.000	0.34
EX-3.001	EX-CP32	15 Summer	100	+0%					81.075	-0.110	0.000	0.47
EX-3.002	EX-CP33	15 Summer	100	+0%					80.022	-0.103	0.000	0.55
EX-3.003	EX-CP34	15 Summer	100	+0%					77.445	-0.090	0.000	0.63
EX-3.004	EX-CP35	15 Summer	100	+0%					74.967	-0.088	0.000	0.64
EX-1.007	EX-MH24	15 Summer	100	+0%					71.773	-0.067	0.000	0.96
EX-4.000	EX-CP36	15 Summer	100	+0%					75.156	-0.064	0.000	0.60
EX-4.001	EX-CP37	15 Summer	100	+0%	100/15 Summer				72.875	1.065	0.000	1.23
EX-1.008	EX-MH25	15 Summer	100	+0%	100/15 Summer				69.838	0.013	0.000	1.06
EX-5.000	EX-CP38	15 Summer	100	+0%					76.526	-0.084	0.000	0.38
EX-5.001	EX-CP39	15 Summer	100	+0%					72.567	-0.033	0.000	0.83
EX-5.002	EX-MH40	15 Summer	100	+0%	5/15 Summer				71.041	0.779	0.000	3.39

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX-1.000	EX-MH17			28.2	FLOOD RISK	
EX-1.001	EX-MH18			49.1	FLOOD	2
EX-1.002	EX-MH19			72.3	FLOOD RISK	
EX-1.003	EX-MH20			64.3	FLOOD	6
EX-1.004	EX-MH21			72.8	FLOOD	7
EX-1.005	EX-MH22			73.9	SURCHARGED	
EX-2.000	EX-MH26			28.1	FLOOD	3
EX-2.001	EX-MH27			43.3	FLOOD	4
EX-2.002	EX-MH28			54.9	FLOOD	5
EX-2.003	EX-MH29			65.9	FLOOD	6
EX-2.004	EX-MH30			77.2	FLOOD	6
EX-1.006	EX-MH23			149.4	SURCHARGED	
EX-3.000	EX-MH31			7.3	OK	
EX-3.001	EX-CP32			19.3	OK	
EX-3.002	EX-CP33			31.5	OK	
EX-3.003	EX-CP34			38.9	OK	
EX-3.004	EX-CP35			46.3	OK	
EX-1.007	EX-MH24			191.5	OK	
EX-4.000	EX-CP36			15.1	OK	
EX-4.001	EX-CP37			23.0	FLOOD RISK	
EX-1.008	EX-MH25			214.8	SURCHARGED	
EX-5.000	EX-CP38			10.6	OK	
EX-5.001	EX-CP39			20.3	OK	
EX-5.002	EX-MH40			21.6	SURCHARGED	

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX-1.000	100.895	0.332	304.0	0.017	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-1.001	99.988	0.329	304.0	0.009	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-1.002	101.179	0.859	117.8	0.020	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-1.003	11.672	0.003	3890.5	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-2.000	102.373	0.479	213.7	0.158	5.00	0.0	5.200	o	225	Pipe/Conduit
EX-2.001	97.714	0.165	592.2	0.142	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-2.002	100.054	0.188	532.2	0.121	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-1.004	100.564	0.116	866.9	0.133	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-3.000	100.008	1.020	98.0	0.024	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-3.001	11.609	0.038	304.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-1.005	75.074	0.258	291.0	0.107	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-4.000	75.040	0.010	7504.0	0.021	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-4.001	11.511	0.337	34.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-5.000	58.436	0.213	274.3	0.090	5.00	0.0	5.200	o	225	Pipe/Conduit
EX-1.006	14.228	0.022	659.0	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit
EX-6.000	100.127	0.356	281.3	0.115	5.00	0.0	5.200	o	225	Pipe/Conduit
EX-6.001	99.211	0.284	349.3	0.113	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-6.002	101.289	0.184	550.0	0.116	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-6.003	98.780	0.300	329.3	0.114	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-6.004	73.741	0.241	306.0	0.090	0.00	0.0	5.700	o	375	Pipe/Conduit
EX-1.007	69.992	0.079	886.0	0.087	0.00	0.0	5.700	o	375	Pipe/Conduit
EX-7.000	15.018	0.160	93.9	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-7.001	16.949	5.501	3.1	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-1.008	53.526	0.107	500.0	0.069	0.00	0.0	5.700	o	375	Pipe/Conduit
EX-1.009	100.087	0.200	500.0	0.134	0.00	0.0	5.700	o	375	Pipe/Conduit
EX-1.010	77.702	0.155	500.0	0.102	0.00	0.0	5.800	o	400	Pipe/Conduit
EX-1.011	74.863	0.150	500.0	0.092	0.00	0.0	5.800	o	400	Pipe/Conduit
EX-8.000	70.653	0.360	196.3	0.023	5.00	0.0	4.800	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX-1.000	74.050	0.017	0.0	0.40	7.1
EX-1.001	73.718	0.026	0.0	0.40	7.1
EX-1.002	73.389	0.046	0.0	0.65	11.5
EX-1.003	72.560	0.046	0.0	0.11	2.0
EX-2.000	73.530	0.158	0.0	0.63	25.1
EX-2.001	73.051	0.301	0.0	0.46	32.4
EX-2.002	72.895	0.422	0.0	0.48	34.2
EX-1.004	72.507	0.600	0.0	0.38	26.7
EX-3.000	73.230	0.024	0.0	0.71	12.6
EX-3.001	72.170	0.024	0.0	0.40	7.1
EX-1.005	72.371	0.732	0.0	0.65	46.2
EX-4.000	72.300	0.021	0.0	0.08	1.4
EX-4.001	72.200	0.021	0.0	1.21	21.4
EX-5.000	72.326	0.090	0.0	0.56	22.2
EX-1.006	71.833	0.842	0.0	0.50	55.5
EX-6.000	73.286	0.115	0.0	0.55	21.9
EX-6.001	72.742	0.228	0.0	0.60	42.2
EX-6.002	72.438	0.344	0.0	0.48	33.6
EX-6.003	72.254	0.458	0.0	0.61	43.5
EX-6.004	71.954	0.548	0.0	0.74	81.6
EX-1.007	71.613	1.477	0.0	0.43	47.9
EX-7.000	77.380	0.000	0.0	0.73	12.9
EX-7.001	77.220	0.000	0.0	4.03	71.2
EX-1.008	71.494	1.546	0.0	0.58	63.8
EX-1.009	71.387	1.680	0.0	0.58	63.8
EX-1.010	71.187	1.782	0.0	0.60	75.6
EX-1.011	71.032	1.875	0.0	0.60	75.6
EX-8.000	73.100	0.023	0.0	0.50	8.9

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX-9.000	11.741	0.032	363.0	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-9.001	15.876	4.748	3.3	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-8.001	55.071	0.410	134.3	0.021	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-8.002	102.814	0.320	321.3	0.032	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-8.003	11.022	0.128	86.1	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX-10.000	11.029	0.108	102.1	0.017	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-10.001	54.136	0.136	398.1	0.086	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-10.002	100.210	0.530	189.1	0.160	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-8.004	86.623	0.055	1575.0	0.135	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-8.005	70.769	0.182	388.0	0.073	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-11.000	21.576	0.890	24.2	0.025	5.00	0.0	0.600	o	150	Pipe/Conduit
EX-8.006	19.737	0.433	45.6	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX-1.012	56.488	0.113	500.0	0.062	0.00	0.0	5.800	o	400	Pipe/Conduit
EX-12.000	113.506	2.650	42.8	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-12.001	91.888	2.627	35.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-13.000	35.265	0.097	363.0	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-12.002	7.465	1.034	7.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-14.000	34.469	0.546	63.1	0.060	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-1.013	20.871	0.042	500.0	0.000	0.00	0.0	5.800	o	400	Pipe/Conduit
EX-15.000	46.777	1.303	35.9	0.091	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-1.014	15.482	0.031	500.0	0.000	0.00	0.0	5.800	o	400	Pipe/Conduit
EX-16.000	15.451	0.914	16.9	0.033	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-17.000	52.668	1.334	39.5	0.096	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-1.015	28.575	0.057	500.0	0.000	0.00	0.0	5.800	o	400	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX-9.000	78.040	0.000	0.0	0.37	6.5
EX-9.001	78.008	0.000	0.0	3.87	68.4
EX-8.001	72.730	0.044	0.0	0.61	10.8
EX-8.002	72.240	0.076	0.0	0.52	20.5
EX-8.003	71.880	0.076	0.0	1.00	39.6
EX-10.000	72.776	0.017	0.0	0.70	12.3
EX-10.001	72.518	0.103	0.0	0.56	39.5
EX-10.002	72.282	0.263	0.0	0.81	57.4
EX-8.004	71.652	0.474	0.0	0.28	19.8
EX-8.005	71.597	0.547	0.0	0.57	40.0
EX-11.000	72.455	0.025	0.0	2.05	36.3
EX-8.006	71.415	0.572	0.0	1.66	117.0
EX-1.012	70.882	2.509	0.0	0.60	75.6
EX-12.000	77.330	0.000	0.0	1.08	19.1
EX-12.001	74.680	0.000	0.0	1.20	21.1
EX-13.000	72.150	0.000	0.0	0.37	6.5
EX-12.002	72.053	0.000	0.0	2.63	46.5
EX-14.000	71.565	0.060	0.0	0.89	15.7
EX-1.013	70.769	2.569	0.0	0.60	75.6
EX-15.000	72.280	0.091	0.0	1.18	20.8
EX-1.014	70.727	2.661	0.0	0.60	75.6
EX-16.000	71.860	0.033	0.0	1.72	30.4
EX-17.000	72.280	0.096	0.0	1.12	19.9
EX-1.015	70.696	2.790	0.0	0.60	75.6

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX-18.000	81.657	0.250	326.6	0.020	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-18.001	68.452	0.710	96.4	0.079	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-18.002	68.051	0.187	363.0	0.100	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-19.000	19.089	0.360	53.0	0.032	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-19.001	38.080	0.507	75.1	0.050	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-18.003	22.309	0.061	363.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-20.000	36.600	1.426	25.7	0.025	5.00	0.0	5.300	o	250	Pipe/Conduit
EX-18.004	21.249	0.573	37.1	0.000	0.00	0.0	5.300	o	250	Pipe/Conduit
EX-21.000	14.080	0.055	256.0	0.020	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-21.001	38.694	2.236	17.3	0.050	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-1.016	41.849	0.631	66.3	0.000	0.00	0.0	5.800	o	400	Pipe/Conduit
EX-1.017	3.806	0.008	500.0	0.000	0.00	0.0	5.800	o	400	Pipe/Conduit
EX-22.000	67.518	0.186	363.0	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX-22.001	63.745	1.232	51.7	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-22.002	90.475	1.400	64.6	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-22.003	96.328	4.350	22.1	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-22.004	43.854	0.738	59.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX-22.005	35.690	0.098	363.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX-18.000	72.890	0.020	0.0	0.39	6.9
EX-18.001	72.420	0.098	0.0	0.72	12.7
EX-18.002	71.710	0.198	0.0	0.37	6.5
EX-19.000	72.670	0.032	0.0	0.97	17.1
EX-19.001	72.030	0.082	0.0	0.82	14.4
EX-18.003	71.523	0.281	0.0	0.37	6.5
EX-20.000	72.788	0.025	0.0	1.96	96.1
EX-18.004	71.362	0.306	0.0	1.63	80.0
EX-21.000	73.180	0.020	0.0	0.44	7.8
EX-21.001	73.125	0.070	0.0	1.70	30.0
EX-1.016	70.639	3.165	0.0	1.65	207.9
EX-1.017	70.008	3.165	0.0	0.60	75.6
EX-22.000	78.008	0.000	0.0	0.37	6.5
EX-22.001	77.822	0.000	0.0	0.98	17.4
EX-22.002	76.590	0.000	0.0	0.88	15.5
EX-22.003	75.190	0.000	0.0	1.50	26.6
EX-22.004	70.840	0.000	0.0	0.92	16.2
EX-22.005	70.102	0.000	0.0	0.37	6.5

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
EX-CP97-DUMMY	75.690	1.640	Junction		EX-1.000	74.050	150				
EX-CP100	75.500	1.782	Open Manhole	1050	EX-1.001	73.718	150	EX-1.000	73.718	150	
EX-CP101	75.280	1.891	Open Manhole	1050	EX-1.002	73.389	150	EX-1.001	73.389	150	
EX-CP102	74.960	2.430	Open Manhole	1050	EX-1.003	72.560	150	EX-1.002	72.530	150	
EX-CP98-DUMMY	75.250	1.720	Junction		EX-2.000	73.530	225				
EX-CP112	75.050	1.999	Open Manhole	1050	EX-2.001	73.051	300	EX-2.000	73.051	225	
EX-CP113	74.900	2.014	Open Manhole	1050	EX-2.002	72.895	300	EX-2.001	72.886	300	
EX-CP114	74.720	2.213	Open Manhole	1050	EX-1.004	72.507	300	EX-1.003	72.557	150	
								EX-2.002	72.707	300	200
EX-CP102-DUMMY	74.960	1.730	Junction		EX-3.000	73.230	150				
EX-CP103	74.800	2.630	Open Manhole	1050	EX-3.001	72.170	150	EX-3.000	72.210	150	40
EX-CP115	74.570	2.438	Open Manhole	1050	EX-1.005	72.371	300	EX-1.004	72.391	300	20
								EX-3.001	72.132	150	
EX-CP103-DUMMY	74.800	2.500	Junction		EX-4.000	72.300	150				
EX-CP104	74.720	2.520	Open Manhole	1050	EX-4.001	72.200	150	EX-4.000	72.290	150	90
EX-CP117-DUMMY	74.330	2.004	Junction		EX-5.000	72.326	225				
EX-CP116	74.430	2.597	Open Manhole	1050	EX-1.006	71.833	375	EX-1.005	72.113	300	205
								EX-4.001	71.863	150	
								EX-5.000	72.113	225	130
EX-CP99-DUMMY	75.000	1.714	Junction		EX-6.000	73.286	225				
EX-CP124	74.850	2.108	Open Manhole	1050	EX-6.001	72.742	300	EX-6.000	72.930	225	113
EX-CP125	74.730	2.292	Open Manhole	1050	EX-6.002	72.438	300	EX-6.001	72.458	300	20
EX-CP126	74.500	2.246	Open Manhole	1050	EX-6.003	72.254	300	EX-6.002	72.254	300	
EX-CP127	74.340	2.386	Open Manhole	1050	EX-6.004	71.954	375	EX-6.003	71.954	300	
EX-CP128	74.250	2.637	Open Manhole	1050	EX-1.007	71.613	375	EX-1.006	71.811	375	198
								EX-6.004	71.713	375	100
EX-CP91	78.730	1.350	Open Manhole	1050	EX-7.000	77.380	150				
EX-CP137	78.570	1.350	Open Manhole	1050	EX-7.001	77.220	150	EX-7.000	77.220	150	
EX-CP129	73.941	2.447	Open Manhole	1050	EX-1.008	71.494	375	EX-1.007	71.534	375	40
								EX-7.001	71.719	150	
EX-CP130	73.690	2.303	Open Manhole	1050	EX-1.009	71.387	375	EX-1.008	71.387	375	
EX-CP131	73.500	2.313	Open Manhole	1050	EX-1.010	71.187	400	EX-1.009	71.187	375	
EX-CP131A	73.400	2.368	Open Manhole	1050	EX-1.011	71.032	400	EX-1.010	71.032	400	
EX-CP104-DUMMY	74.720	1.620	Junction		EX-8.000	73.100	150				
EX-CP84-DUMMY	79.390	1.350	Junction		EX-9.000	78.040	150				
EX-CP145	79.660	1.652	Open Manhole	1050	EX-9.001	78.008	150	EX-9.000	78.008	150	
EX-CP105	74.770	2.040	Open Manhole	1050	EX-8.001	72.730	150	EX-8.000	72.740	150	10
								EX-9.001	73.260	150	530
EX-CP106	74.920	2.680	Open Manhole	1050	EX-8.002	72.240	225	EX-8.001	72.320	150	5
EX-CP107	74.750	2.870	Open Manhole	1050	EX-8.003	71.880	225	EX-8.002	71.920	225	40
EX-CP117	74.330	1.554	Open Manhole	1050	EX-10.000	72.776	150				
EX-EXCP118	74.319	1.801	Open Manhole	1050	EX-10.001	72.518	300	EX-10.000	72.668	150	
EX-CP119	74.240	1.958	Open Manhole	1050	EX-10.002	72.282	300	EX-10.001	72.382	300	100
EX-CP120	74.059	2.407	Open Manhole	1050	EX-8.004	71.652	300	EX-8.003	71.752	225	25
								EX-10.002	71.752	300	100
EX-CP121	73.779	2.182	Open Manhole	1050	EX-8.005	71.597	300	EX-8.004	71.597	300	
EX-CP123	73.805	1.350	Open Manhole	1050	EX-11.000	72.455	150				
EX-CP122	73.733	2.318	Open Manhole	1050	EX-8.006	71.415	300	EX-8.005	71.415	300	
								EX-11.000	71.565	150	
EX-CP132	73.550	2.668	Open Manhole	1050	EX-1.012	70.882	400	EX-1.011	70.882	400	
								EX-8.006	70.982	300	
EX-CP138	78.680	1.350	Open Manhole	1050	EX-12.000	77.330	150				
EX-MH139	76.030	1.350	Open Manhole	1050	EX-12.001	74.680	150	EX-12.000	74.680	150	
EX-MH141	73.500	1.350	Open Manhole	1050	EX-13.000	72.150	150				
EX-MH140	74.170	2.117	Open Manhole	1050	EX-12.002	72.053	150	EX-12.001	72.053	150	
								EX-13.000	72.053	150	
EX-MH07	72.915	1.350	Open Manhole	1050	EX-14.000	71.565	150				
EX-MH133	73.230	2.461	Open Manhole	1050	EX-1.013	70.769	400	EX-1.012	70.769	400	
								EX-12.002	71.019	150	
								EX-14.000	71.019	150	
EX-MH142	73.630	1.350	Open Manhole	1050	EX-15.000	72.280	150				
EX-MH134	73.210	2.483	Open Manhole	1050	EX-1.014	70.727	400	EX-1.013	70.727	400	
								EX-15.000	70.977	150	
EX-MH134-DUMMY	73.210	1.350	Junction		EX-16.000	71.860	150				
EX-MH142-DUMMY	73.630	1.350	Junction		EX-17.000	72.280	150				
EX-MH135	73.440	2.744	Open Manhole	1050	EX-1.015	70.696	400	EX-1.014	70.696	400	
								EX-16.000	70.946	150	

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
								EX-17.000	70.946	150	

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
EX-CP107-DUMMY	74.750	1.860	Junction		EX-18.000	72.890	150				
EX-CP108	74.390	1.970	Open Manhole	1050	EX-18.001	72.420	150	EX-18.000	72.640	150	220
EX-CP109	73.520	1.810	Open Manhole	1050	EX-18.002	71.710	150	EX-18.001	71.710	150	
EX-CP42-DUMMY	74.660	1.990	Junction		EX-19.000	72.670	150				
EX-CP111	74.400	2.370	Open Manhole	1050 x 1050	EX-19.001	72.030	150	EX-19.000	72.310	150	280
EX-CP110	73.950	2.427	Open Manhole	1050	EX-18.003	71.523	150	EX-18.002	71.523	150	
								EX-19.001	71.523	150	
EX-MH143	74.510	1.722	Open Manhole	1050	EX-20.000	72.788	250				
EX-MH144	74.200	2.838	Open Manhole	1050	EX-18.004	71.362	250	EX-18.003	71.462	150	
								EX-20.000	71.362	250	
EX-MH24-DUMMY	74.530	1.350	Junction		EX-21.000	73.180	150				
EX-CP41	74.790	1.665	Open Manhole	900 x 900	EX-21.001	73.125	150	EX-21.000	73.125	150	
EX-CP11-DUMMY	73.860	3.221	Junction		EX-1.016	70.639	400	EX-1.015	70.639	400	
								EX-18.004	70.789	250	
								EX-21.001	70.889	150	
EX-MH136	71.230	1.222	Open Manhole	1050	EX-1.017	70.008	400	EX-1.016	70.008	400	
EX-	71.113	1.113	Open Manhole	0		OUTFALL		EX-1.017	70.000	400	
EX-CP145-DUMMY	79.660	1.652	Junction		EX-22.000	78.008	150				
EX-CP146	79.210	1.388	Open Manhole	1050	EX-22.001	77.822	150	EX-22.000	77.822	150	
EX-CP147	77.940	1.350	Open Manhole	1050	EX-22.002	76.590	150	EX-22.001	76.590	150	
EX-CP148	76.540	1.350	Open Manhole	1050	EX-22.003	75.190	150	EX-22.002	75.190	150	
EX-CP149	72.190	1.350	Open Manhole	1050	EX-22.004	70.840	150	EX-22.003	70.840	150	
EX-CP150	71.100	0.998	Open Manhole	1050	EX-22.005	70.102	150	EX-22.004	70.102	150	
EX-	71.600	1.596	Open Manhole	0		OUTFALL		EX-22.005	70.004	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EX-CP97-DUMMY	438818.007	280077.175			No Entry	
EX-CP100	438785.334	279981.717	438785.334	279981.717	Required	
EX-CP101	438747.568	279889.135	438747.568	279889.135	Required	
EX-CP102	438711.127	279794.746	438711.127	279794.746	Required	
EX-CP98-DUMMY	438804.108	280080.975			No Entry	
EX-CP112	438770.476	279984.284	438770.476	279984.284	Required	
EX-CP113	438736.620	279892.622	438736.620	279892.622	Required	
EX-CP114	438700.404	279799.353	438700.404	279799.353	Required	
EX-CP102-DUMMY	438711.083	279794.642			No Entry	
EX-CP103	438671.863	279702.645	438671.863	279702.645	Required	
EX-CP115	438661.030	279706.818	438661.030	279706.818	Required	
EX-CP103-DUMMY	438671.823	279702.559			No Entry	
EX-CP104	438640.191	279634.512	438640.191	279634.512	Required	
EX-CP117-DUMMY	438604.044	279586.085			No Entry	
EX-CP116	438629.468	279638.700	438629.468	279638.700	Required	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EX-CP99-DUMMY	438792.827	280084.547			No Entry	
EX-CP124	438759.925	279989.980	438759.925	279989.980	Required	
EX-CP125	438725.755	279896.839	438725.755	279896.839	Required	
EX-CP126	438688.250	279802.750	438688.250	279802.750	Required	
EX-CP127	438648.346	279712.388	438648.346	279712.388	Required	
EX-CP128	438617.039	279645.624	438617.039	279645.624	Required	
EX-CP91	438576.340	279602.840	438576.340	279602.840	Required	
EX-CP137	438569.270	279589.590	438569.270	279589.590	Required	
EX-CP129	438585.038	279583.375	438585.038	279583.375	Required	
EX-CP130	438559.526	279536.320	438559.526	279536.320	Required	
EX-CP131	438500.900	279455.200	438500.900	279455.200	Required	
EX-CP131A	438448.989	279397.383	438448.989	279397.383	Required	
EX-CP104-DUMMY	438640.167	279634.465			No Entry	
EX-CP84-DUMMY	438627.460	279574.180			No Entry	
EX-CP145	438622.410	279563.580	438622.410	279563.580	Required	
EX-CP105	438608.532	279571.290	438608.532	279571.290	Required	
EX-CP106	438581.886	279523.093	438581.886	279523.093	Required	
EX-CP107	438523.146	279438.711	438523.146	279438.711	Required	
EX-CP117	438603.632	279585.450	438603.632	279585.450	Required	
EX-EXCP118	438598.630	279575.621	438598.630	279575.621	Required	
EX-CP119	438571.948	279528.517	438571.948	279528.517	Required	
EX-CP120	438514.959	279446.090	438514.959	279446.090	Required	
EX-CP121	438456.502	279382.165	438456.502	279382.165	Required	
EX-CP123	438388.860	279319.510	438388.860	279319.510	Required	
EX-CP122	438403.127	279335.695	438403.127	279335.695	Required	
EX-CP132	438390.400	279350.780	438390.400	279350.780	Required	
EX-CP138	438487.220	279467.330	438487.220	279467.330	Required	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EX-MH139	438413.620	279380.920	438413.620	279380.920	Required	
EX-MH141	438304.290	279320.390	438304.290	279320.390	Required	
EX-MH140	438338.820	279327.550	438338.820	279327.550	Required	
EX-MH07	438308.310	279315.900	438308.310	279315.900	Required	
EX-MH133	438342.400	279321.000	438342.400	279321.000	Required	
EX-MH142	438378.717	279299.972	438378.717	279299.972	Required	
EX-MH134	438343.530	279300.160	438343.530	279300.160	Required	
EX-MH134-DUMMY	438343.334	279299.593			No Entry	
EX-MH142-DUMMY	438378.882	279299.395			No Entry	
EX-MH135	438345.300	279284.780	438345.300	279284.780	Required	
EX-CP107-DUMMY	438523.030	279438.579			No Entry	
EX-CP108	438469.013	279377.341	438469.013	279377.341	Required	
EX-CP109	438420.790	279328.759	438420.790	279328.759	Required	
EX-CP42-DUMMY	438391.761	279210.214			No Entry	
EX-CP111	438389.720	279229.193	438389.720	279229.193	Required	
EX-CP110	438391.740	279267.220	438391.740	279267.220	Required	
EX-MH143	438376.709	279225.204	438376.709	279225.204	Required	
EX-MH144	438370.250	279261.230	438370.250	279261.230	Required	
EX-MH24-DUMMY	438365.416	279206.458			No Entry	
EX-CP41	438363.380	279220.390	438363.380	279220.390	Required	
EX-CP11-DUMMY	438349.530	279256.520			No Entry	
EX-MH136	438333.530	279217.850	438333.530	279217.850	Required	
EX-	438334.180	279214.100			No Entry	
EX-CP145-DUMMY	438622.328	279563.437			No Entry	
EX-CP146	438588.890	279504.780	438588.890	279504.780	Required	
EX-CP147	438550.890	279453.600	438550.890	279453.600	Required	
EX-CP148	438490.104	279386.587	438490.104	279386.587	Required	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EX-CP149	438437.622	279305.811	438437.622	279305.811	Required	
EX-CP150	438426.579	279263.370	438426.579	279263.370	Required	
EX-	438424.050	279227.770			No Entry	



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Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	Classification	Paved	100	0.012	0.012	0.012
	Classification EW	(Cut)	20	0.027	0.005	0.017
1.001	Classification	Paved	100	0.003	0.003	0.003
	Classification	Verge	50	0.005	0.002	0.006
	Classification EW	(Cut)	20	0.016	0.003	0.009
1.002	Classification	Verge	50	0.017	0.008	0.008
	Classification EW	(Cut)	20	0.056	0.011	0.020
1.003	-	-	100	0.000	0.000	0.000
2.000	Classification	Paved	100	0.027	0.027	0.027
	Classification	Paved	100	0.131	0.131	0.158
2.001	Classification	Paved	100	0.027	0.027	0.027
	Classification	Paved	100	0.115	0.115	0.142
2.002	Classification	Paved	100	0.029	0.029	0.029
	Classification	Paved	100	0.092	0.092	0.121
1.004	Classification	Paved	100	0.040	0.040	0.040
	Classification	Paved	100	0.092	0.092	0.133
3.000	Classification	Verge	50	0.017	0.008	0.008
	Classification EW	(Cut)	20	0.080	0.016	0.024
3.001	-	-	100	0.000	0.000	0.000
1.005	Classification	Paved	100	0.038	0.038	0.038
	Classification	Paved	100	0.069	0.069	0.107
4.000	Classification	Verge	50	0.013	0.007	0.007
	Classification EW	(Cut)	20	0.070	0.014	0.021
4.001	-	-	100	0.000	0.000	0.000
5.000	Classification	Paved	100	0.035	0.035	0.035
	Classification	Paved	100	0.055	0.055	0.090
1.006	-	-	100	0.000	0.000	0.000
6.000	Classification EW	(Cut)	20	0.058	0.012	0.012
	Classification	Verge	50	0.019	0.010	0.021
	Classification	Paved	100	0.094	0.094	0.115
6.001	Classification EW	(Cut)	20	0.058	0.012	0.012
	Classification	Verge	50	0.019	0.010	0.021
	Classification	Paved	100	0.091	0.091	0.113
6.002	Classification EW	(Cut)	20	0.060	0.012	0.012
	Classification	Verge	50	0.021	0.011	0.023
	Classification	Paved	100	0.093	0.093	0.116
6.003	Classification EW	(Cut)	20	0.065	0.013	0.013
	Classification	Verge	50	0.020	0.010	0.023
	Classification	Paved	100	0.092	0.092	0.114
6.004	Classification EW	(Cut)	20	0.070	0.014	0.014
	Classification	Verge	50	0.015	0.007	0.021
	Classification	Paved	100	0.068	0.068	0.090
1.007	Classification EW	(Cut)	20	0.087	0.017	0.017
	Classification	Verge	50	0.013	0.007	0.024
	Classification	Paved	100	0.063	0.063	0.087
7.000	-	-	100	0.000	0.000	0.000
7.001	-	-	100	0.000	0.000	0.000
1.008	Classification EW	(Cut)	20	0.067	0.013	0.013
	Classification	Verge	50	0.012	0.006	0.020
	Classification	Paved	100	0.049	0.049	0.069
1.009	Classification EW	(Cut)	20	0.142	0.028	0.028
	Classification	Verge	50	0.024	0.012	0.040
	Classification	Paved	100	0.093	0.093	0.134
1.010	Classification EW	(Cut)	20	0.105	0.021	0.021
	Classification	Verge	50	0.016	0.008	0.029
	Classification	Paved	100	0.073	0.073	0.102
1.011	Classification EW	(Cut)	20	0.067	0.013	0.013
	Classification	Verge	50	0.019	0.009	0.023
	Classification	Paved	100	0.070	0.070	0.092
8.000	Classification	Verge	50	0.014	0.007	0.007
	Classification EW	(Cut)	20	0.082	0.016	0.023
9.000	-	-	100	0.000	0.000	0.000
9.001	-	-	100	0.000	0.000	0.000
8.001	Classification	Verge	50	0.011	0.006	0.006
	Classification EW	(Cut)	20	0.075	0.015	0.021
8.002	Classification	Verge	50	0.020	0.010	0.010
	Classification EW	(Cut)	20	0.111	0.022	0.032
8.003	-	-	100	0.000	0.000	0.000
10.000	Classification	Paved	100	0.007	0.007	0.007
	Classification	Paved	100	0.010	0.010	0.017
10.001	Classification	Paved	100	0.036	0.036	0.036
	Classification	Paved	100	0.050	0.050	0.086
10.002	Classification	Paved	100	0.066	0.066	0.066
	Classification	Paved	100	0.093	0.093	0.160
8.004	Classification	Paved	100	0.057	0.057	0.057
	Classification	Paved	100	0.078	0.078	0.135
8.005	Classification	Paved	100	0.031	0.031	0.031
	Classification	Paved	100	0.042	0.042	0.073
11.000	Classification	Verge	50	0.050	0.025	0.025
8.006	-	-	100	0.000	0.000	0.000
1.012	Classification	Paved	100	0.049	0.049	0.049
	Classification	Verge	50	0.019	0.009	0.058
	Classification EW	(Cut)	20	0.019	0.004	0.062
12.000	-	-	100	0.000	0.000	0.000
12.001	-	-	100	0.000	0.000	0.000
13.000	-	-	100	0.000	0.000	0.000
12.002	-	-	100	0.000	0.000	0.000
14.000	Classification EW	(Cut)	20	0.009	0.002	0.002

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Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
	Classification	Verge	50	0.012	0.006	0.008
	Classification	Paved	100	0.034	0.034	0.042
	Classification	Paved	100	0.018	0.018	0.060
1.013	-	-	100	0.000	0.000	0.000
15.000	Classification	Paved	100	0.066	0.066	0.066
	Classification	Verge	50	0.050	0.025	0.091
1.014	-	-	100	0.000	0.000	0.000
16.000	Classification	Paved	100	0.025	0.025	0.025
	Classification	Verge	50	0.017	0.009	0.033
17.000	Classification	Verge	50	0.057	0.028	0.028
	Classification	Paved	100	0.067	0.067	0.096
1.015	-	-	100	0.000	0.000	0.000
18.000	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.059	0.012	0.020
18.001	Classification	Paved	100	0.034	0.034	0.034
	Classification	Paved	100	0.030	0.030	0.064
	Classification	Verge	50	0.012	0.006	0.069
	Classification	EW (Cut)	20	0.046	0.009	0.079
18.002	Classification	Paved	100	0.065	0.065	0.065
	Classification	Verge	50	0.026	0.013	0.078
	Classification	EW (Cut)	20	0.109	0.022	0.100
19.000	Classification	EW (Cut)	20	0.024	0.005	0.005
	Classification	Verge	50	0.005	0.002	0.007
	Classification	Paved	100	0.016	0.016	0.023
	Classification	Paved	100	0.009	0.009	0.032
19.001	Classification	Paved	100	0.034	0.034	0.034
	Classification	Verge	50	0.012	0.006	0.040
	Classification	EW (Cut)	20	0.050	0.010	0.050
18.003	-	-	100	0.000	0.000	0.000
20.000	Classification	Verge	50	0.050	0.025	0.025
18.004	-	-	100	0.000	0.000	0.000
21.000	Classification	Paved	100	0.017	0.017	0.017
	Classification	Verge	50	0.002	0.001	0.018
	Classification	EW (Cut)	20	0.012	0.002	0.020
21.001	Classification	EW (Cut)	20	0.033	0.007	0.007
	Classification	Verge	50	0.008	0.004	0.010
	Classification	Paved	100	0.040	0.040	0.050
1.016	-	-	100	0.000	0.000	0.000
1.017	-	-	100	0.000	0.000	0.000
22.000	-	-	100	0.000	0.000	0.000
22.001	-	-	100	0.000	0.000	0.000
22.002	-	-	100	0.000	0.000	0.000
22.003	-	-	100	0.000	0.000	0.000
22.004	-	-	100	0.000	0.000	0.000
22.005	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				4.798	3.165	3.165

Free Flowing Outfall Details for Existing

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
EX-1.017	EX-	71.113	70.000	0.000	0	0

Free Flowing Outfall Details for Existing

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
EX-22.005	EX-	71.600	70.004	0.000	0	0

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.900
Region England and Wales Ratio R 0.400 Cv (Winter) 0.900

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)
EX-1.000	EX-CP97-DUMMY	15 Summer	1	+0%					74.114	-0.086	0.000
EX-1.001	EX-CP100	15 Summer	1	+0%	100/15 Summer				73.788	-0.080	0.000
EX-1.002	EX-CP101	30 Summer	1	+0%	5/30 Summer				73.455	-0.084	0.000
EX-1.003	EX-CP102	30 Summer	1	+0%	1/15 Summer				72.961	0.251	0.000
EX-2.000	EX-CP98-DUMMY	15 Summer	1	+0%					73.719	-0.036	0.000
EX-2.001	EX-CP112	15 Summer	1	+0%	5/15 Summer	100/15 Summer			73.342	-0.009	0.000
EX-2.002	EX-CP113	30 Summer	1	+0%	5/15 Summer	100/15 Summer			73.178	-0.017	0.000
EX-1.004	EX-CP114	30 Summer	1	+0%	1/15 Summer	100/15 Summer			72.944	0.137	0.000
EX-3.000	EX-CP102-DUMMY	15 Summer	1	+0%					73.286	-0.094	0.000
EX-3.001	EX-CP103	60 Summer	1	+0%	1/15 Summer				72.608	0.288	0.000
EX-1.005	EX-CP115	60 Summer	1	+0%	5/15 Summer	100/15 Summer			72.603	-0.068	0.000
EX-4.000	EX-CP103-DUMMY	15 Summer	1	+0%					72.403	-0.047	0.000
EX-4.001	EX-CP104	60 Summer	1	+0%	5/15 Summer				72.317	-0.033	0.000
EX-5.000	EX-CP117-DUMMY	15 Summer	1	+0%					72.456	-0.095	0.000
EX-1.006	EX-CP116	60 Summer	1	+0%	1/30 Summer				72.318	0.110	0.000
EX-6.000	EX-CP99-DUMMY	15 Summer	1	+0%					73.441	-0.070	0.000
EX-6.001	EX-CP124	15 Summer	1	+0%	5/15 Summer	100/15 Summer			72.934	-0.108	0.000
EX-6.002	EX-CP125	15 Summer	1	+0%	5/15 Summer	100/15 Summer			72.690	-0.048	0.000
EX-6.003	EX-CP126	30 Summer	1	+0%	5/15 Summer	100/15 Summer			72.473	-0.081	0.000
EX-6.004	EX-CP127	60 Summer	1	+0%	5/15 Summer	100/15 Summer			72.319	-0.010	0.000
EX-1.007	EX-CP128	60 Summer	1	+0%	1/15 Summer	100/15 Summer			72.291	0.303	0.000
EX-7.000	EX-CP91	15 Summer	1	+0%					77.380	-0.150	0.000
EX-7.001	EX-CP137	15 Summer	1	+0%					77.220	-0.150	0.000
EX-1.008	EX-CP129	60 Summer	1	+0%	1/15 Summer	100/15 Summer			72.141	0.272	0.000
EX-1.009	EX-CP130	60 Summer	1	+0%	1/15 Summer	100/15 Summer			72.017	0.255	0.000
EX-1.010	EX-CP131	60 Summer	1	+0%	1/30 Summer	100/30 Summer			71.780	0.193	0.000
EX-1.011	EX-CP131A	60 Summer	1	+0%	1/30 Summer	100/30 Summer			71.635	0.203	0.000
EX-8.000	EX-CP104-DUMMY	15 Summer	1	+0%					73.166	-0.084	0.000
EX-9.000	EX-CP84-DUMMY	15 Summer	1	+0%					78.040	-0.150	0.000
EX-9.001	EX-CP145	15 Summer	1	+0%					78.008	-0.150	0.000
EX-8.001	EX-CP105	15 Summer	1	+0%	100/15 Summer				72.809	-0.071	0.000
EX-8.002	EX-CP106	15 Summer	1	+0%	5/15 Summer				72.347	-0.118	0.000
EX-8.003	EX-CP107	30 Summer	1	+0%	1/15 Summer				72.137	0.032	0.000
EX-10.000	EX-CP117	15 Summer	1	+0%	100/15 Summer	100/15 Summer			72.824	-0.102	0.000
EX-10.001	EX-EXCP118	15 Summer	1	+0%	100/15 Summer	100/15 Summer			72.642	-0.176	0.000
EX-10.002	EX-CP119	15 Summer	1	+0%	5/15 Summer	100/15 Summer			72.448	-0.134	0.000
EX-8.004	EX-CP120	30 Summer	1	+0%	1/15 Summer	100/15 Summer			72.125	0.173	0.000
EX-8.005	EX-CP121	30 Summer	1	+0%	5/15 Summer	100/30 Summer			71.870	-0.027	0.000
EX-11.000	EX-CP123	15 Summer	1	+0%	100/15 Summer				72.489	-0.116	0.000
EX-8.006	EX-CP122	30 Winter	1	+0%	5/30 Summer				71.540	-0.175	0.000
EX-1.012	EX-CP132	60 Summer	1	+0%	1/15 Summer				71.489	0.207	0.000
EX-12.000	EX-CP138	15 Summer	1	+0%					77.330	-0.150	0.000
EX-12.001	EX-MH139	15 Summer	1	+0%					74.680	-0.150	0.000
EX-13.000	EX-MH141	15 Summer	1	+0%	100/15 Summer				72.150	-0.150	0.000
EX-12.002	EX-MH140	15 Summer	1	+0%	100/15 Summer				72.053	-0.150	0.000
EX-14.000	EX-MH07	15 Summer	1	+0%	100/15 Summer	100/60 Summer			71.649	-0.066	0.000
EX-1.013	EX-MH133	60 Summer	1	+0%	1/15 Summer				71.290	0.121	0.000
EX-15.000	EX-MH142	15 Summer	1	+0%	5/15 Summer	100/15 Summer			72.372	-0.058	0.000
EX-1.014	EX-MH134	60 Summer	1	+0%	1/15 Summer				71.205	0.078	0.000
EX-16.000	EX-MH134-DUMMY	15 Summer	1	+0%					71.901	-0.109	0.000
EX-17.000	EX-MH142-DUMMY	15 Summer	1	+0%					72.377	-0.053	0.000
EX-1.015	EX-MH135	60 Summer	1	+0%	1/30 Summer				71.136	0.040	0.000
EX-18.000	EX-CP107-DUMMY	15 Summer	1	+0%					72.960	-0.080	0.000
EX-18.001	EX-CP108	30 Summer	1	+0%	1/15 Summer	100/15 Summer			72.906	0.336	0.000
EX-18.002	EX-CP109	30 Summer	1	+0%	1/15 Summer	5/15 Summer			72.812	0.952	0.000
EX-19.000	EX-CP42-DUMMY	15 Summer	1	+0%					72.725	-0.095	0.000
EX-19.001	EX-CP111	30 Summer	1	+0%	1/15 Summer				72.246	0.066	0.000
EX-18.003	EX-CP110	30 Summer	1	+0%	1/15 Summer				72.139	0.466	0.000
EX-20.000	EX-MH143	15 Summer	1	+0%					72.820	-0.218	0.000
EX-18.004	EX-MH144	30 Summer	1	+0%	100/30 Summer				71.449	-0.163	0.000
EX-21.000	EX-MH24-DUMMY	15 Summer	1	+0%					73.246	-0.084	0.000
EX-21.001	EX-CP41	15 Summer	1	+0%	100/15 Summer				73.184	-0.091	0.000
EX-1.016	EX-CP11-DUMMY	60 Summer	1	+0%					70.850	-0.189	0.000
EX-1.017	EX-MH136	60 Summer	1	+0%	1/30 Summer				70.418	0.010	0.000

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX-1.000	EX-CP97-DUMMY	0.31			2.2	OK*	
EX-1.001	EX-CP100	0.39			2.8	OK	
EX-1.002	EX-CP101	0.37			4.3	OK	
EX-1.003	EX-CP102	0.99			3.9	SURCHARGED	
EX-2.000	EX-CP98-DUMMY	0.81			20.3	OK*	
EX-2.001	EX-CP112	0.95			30.3	OK	10
EX-2.002	EX-CP113	0.99			33.3	OK	11
EX-1.004	EX-CP114	1.50			39.5	SURCHARGED	11
EX-3.000	EX-CP102-DUMMY	0.25			3.2	OK*	
EX-3.001	EX-CP103	0.28			1.9	SURCHARGED	
EX-1.005	EX-CP115	0.95			43.0	OK	9
EX-4.000	EX-CP103-DUMMY	0.80			3.1	OK*	
EX-4.001	EX-CP104	0.10			2.1	OK	
EX-5.000	EX-CP117-DUMMY	0.61			13.6	OK*	
EX-1.006	EX-CP116	1.43			47.0	SURCHARGED	
EX-6.000	EX-CP99-DUMMY	0.80			17.4	OK*	
EX-6.001	EX-CP124	0.63			26.1	OK	9
EX-6.002	EX-CP125	0.95			31.5	OK	9
EX-6.003	EX-CP126	0.85			36.5	OK	11
EX-6.004	EX-CP127	0.43			33.8	OK	7
EX-1.007	EX-CP128	1.66			77.2	SURCHARGED	11
EX-7.000	EX-CP91	0.00			0.0	OK	
EX-7.001	EX-CP137	0.00			0.0	OK	
EX-1.008	EX-CP129	1.20			73.4	SURCHARGED	11
EX-1.009	EX-CP130	1.17			73.0	SURCHARGED	11
EX-1.010	EX-CP131	0.97			71.0	SURCHARGED	5
EX-1.011	EX-CP131A	0.99			72.7	SURCHARGED	5
EX-8.000	EX-CP104-DUMMY	0.36			3.2	OK*	
EX-9.000	EX-CP84-DUMMY	0.00			0.0	OK*	
EX-9.001	EX-CP145	0.00			0.0	OK	
EX-8.001	EX-CP105	0.51			5.4	OK	
EX-8.002	EX-CP106	0.40			8.1	OK	
EX-8.003	EX-CP107	0.28			10.3	SURCHARGED	
EX-10.000	EX-CP117	0.22			2.6	OK	5
EX-10.001	EX-EXCP118	0.34			13.0	OK	4
EX-10.002	EX-CP119	0.50			28.5	OK	7
EX-8.004	EX-CP120	1.61			39.5	SURCHARGED	7
EX-8.005	EX-CP121	1.00			39.1	OK	4
EX-11.000	EX-CP123	0.11			3.9	OK	
EX-8.006	EX-CP122	0.36			39.6	OK	
EX-1.012	EX-CP132	1.33			96.5	SURCHARGED	
EX-12.000	EX-CP138	0.00			0.0	OK	
EX-12.001	EX-MH139	0.00			0.0	OK	
EX-13.000	EX-MH141	0.00			0.0	OK	
EX-12.002	EX-MH140	0.00			0.0	OK	
EX-14.000	EX-MH07	0.60			9.3	OK	2
EX-1.013	EX-MH133	1.56			97.3	SURCHARGED	
EX-15.000	EX-MH142	0.68			14.1	OK	4
EX-1.014	EX-MH134	1.89			98.7	SURCHARGED	
EX-16.000	EX-MH134-DUMMY	0.17			5.1	OK*	
EX-17.000	EX-MH142-DUMMY	0.74			14.7	OK*	
EX-1.015	EX-MH135	1.43			100.5	SURCHARGED	
EX-18.000	EX-CP107-DUMMY	0.43			2.9	OK*	
EX-18.001	EX-CP108	0.65			8.2	SURCHARGED	7
EX-18.002	EX-CP109	1.86			12.0	SURCHARGED	16
EX-19.000	EX-CP42-DUMMY	0.29			4.9	OK*	
EX-19.001	EX-CP111	0.69			9.8	SURCHARGED	
EX-18.003	EX-CP110	2.95			18.7	SURCHARGED	
EX-20.000	EX-MH143	0.04			3.8	OK	
EX-18.004	EX-MH144	0.27			20.1	OK	
EX-21.000	EX-MH24-DUMMY	0.39			3.1	OK*	
EX-21.001	EX-CP41	0.32			9.5	OK	
EX-1.016	EX-CP11-DUMMY	0.54			113.3	OK*	
EX-1.017	EX-MH136	1.37			113.3	SURCHARGED	

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
EX-22.000	EX-CP145-DUMMY	15 Summer	1	+0%					78.008	-0.150	0.000	0.00
EX-22.001	EX-CP146	15 Summer	1	+0%					77.822	-0.150	0.000	0.00
EX-22.002	EX-CP147	15 Summer	1	+0%					76.590	-0.150	0.000	0.00
EX-22.003	EX-CP148	15 Summer	1	+0%					75.190	-0.150	0.000	0.00
EX-22.004	EX-CP149	15 Summer	1	+0%					70.840	-0.150	0.000	0.00
EX-22.005	EX-CP150	15 Summer	1	+0%					70.102	-0.150	0.000	0.00

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX-22.000	EX-CP145-DUMMY			0.0	OK*	
EX-22.001	EX-CP146			0.0	OK	
EX-22.002	EX-CP147			0.0	OK	
EX-22.003	EX-CP148			0.0	OK	
EX-22.004	EX-CP149			0.0	OK	
EX-22.005	EX-CP150			0.0	OK	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.900
Region England and Wales Ratio R 0.400 Cv (Winter) 0.900

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)
EX-1.000	EX-CP97-DUMMY	15 Summer	5	+0%					74.136	-0.064	0.000
EX-1.001	EX-CP100	15 Summer	5	+0%	100/15 Summer				73.815	-0.053	0.000
EX-1.002	EX-CP101	60 Summer	5	+0%	5/30 Summer				73.659	0.120	0.000
EX-1.003	EX-CP102	60 Summer	5	+0%	1/15 Summer				73.639	0.929	0.000
EX-2.000	EX-CP98-DUMMY	15 Summer	5	+0%					73.755	0.000	0.000
EX-2.001	EX-CP112	30 Summer	5	+0%	5/15 Summer	100/15 Summer			73.842	0.491	0.000
EX-2.002	EX-CP113	60 Summer	5	+0%	5/15 Summer	100/15 Summer			73.752	0.557	0.000
EX-1.004	EX-CP114	60 Summer	5	+0%	1/15 Summer	100/15 Summer			73.637	0.830	0.000
EX-3.000	EX-CP102-DUMMY	60 Summer	5	+0%					73.380	0.000	0.000
EX-3.001	EX-CP103	60 Summer	5	+0%	1/15 Summer				73.424	1.104	0.000
EX-1.005	EX-CP115	60 Summer	5	+0%	5/15 Summer	100/15 Summer			73.422	0.751	0.000
EX-4.000	EX-CP103-DUMMY	15 Summer	5	+0%					72.450	0.000	0.000
EX-4.001	EX-CP104	60 Summer	5	+0%	5/15 Summer				73.185	0.835	0.000
EX-5.000	EX-CP117-DUMMY	15 Summer	5	+0%					72.551	0.000	0.000
EX-1.006	EX-CP116	60 Summer	5	+0%	1/30 Summer				73.191	0.983	0.000
EX-6.000	EX-CP99-DUMMY	15 Summer	5	+0%					73.511	0.000	0.000
EX-6.001	EX-CP124	60 Summer	5	+0%	5/15 Summer	100/15 Summer			73.325	0.283	0.000
EX-6.002	EX-CP125	60 Summer	5	+0%	5/15 Summer	100/15 Summer			73.301	0.563	0.000
EX-6.003	EX-CP126	60 Summer	5	+0%	5/15 Summer	100/15 Summer			73.263	0.709	0.000
EX-6.004	EX-CP127	60 Summer	5	+0%	5/15 Summer	100/15 Summer			73.199	0.870	0.000
EX-1.007	EX-CP128	60 Summer	5	+0%	1/15 Summer	100/15 Summer			73.161	1.173	0.000
EX-7.000	EX-CP91	15 Summer	5	+0%					77.380	-0.150	0.000
EX-7.001	EX-CP137	15 Summer	5	+0%					77.220	-0.150	0.000
EX-1.008	EX-CP129	60 Summer	5	+0%	1/15 Summer	100/15 Summer			72.932	1.063	0.000
EX-1.009	EX-CP130	60 Summer	5	+0%	1/15 Summer	100/15 Summer			72.742	0.980	0.000
EX-1.010	EX-CP131	60 Summer	5	+0%	1/30 Summer	100/30 Summer			72.361	0.774	0.000
EX-1.011	EX-CP131A	60 Summer	5	+0%	1/30 Summer	100/30 Summer			72.143	0.711	0.000
EX-8.000	EX-CP104-DUMMY	15 Summer	5	+0%					73.191	-0.059	0.000
EX-9.000	EX-CP84-DUMMY	15 Summer	5	+0%					78.040	-0.150	0.000
EX-9.001	EX-CP145	15 Summer	5	+0%					78.008	-0.150	0.000
EX-8.001	EX-CP105	15 Summer	5	+0%	100/15 Summer				72.840	-0.040	0.000
EX-8.002	EX-CP106	30 Summer	5	+0%	5/15 Summer				72.567	0.102	0.000
EX-8.003	EX-CP107	30 Summer	5	+0%	1/15 Summer				72.519	0.414	0.000
EX-10.000	EX-CP117	15 Summer	5	+0%	100/15 Summer	100/15 Summer			72.839	-0.087	0.000
EX-10.001	EX-EXCP118	15 Summer	5	+0%	100/15 Summer	100/15 Summer			72.686	-0.132	0.000
EX-10.002	EX-CP119	30 Summer	5	+0%	5/15 Summer	100/15 Summer			72.609	0.027	0.000
EX-8.004	EX-CP120	30 Summer	5	+0%	1/15 Summer	100/15 Summer			72.501	0.549	0.000
EX-8.005	EX-CP121	60 Summer	5	+0%	5/15 Summer	100/30 Summer			72.229	0.332	0.000
EX-11.000	EX-CP123	15 Summer	5	+0%	100/15 Summer				72.499	-0.106	0.000
EX-8.006	EX-CP122	60 Summer	5	+0%	5/30 Summer				72.005	0.290	0.000
EX-1.012	EX-CP132	60 Summer	5	+0%	1/15 Summer				71.929	0.647	0.000
EX-12.000	EX-CP138	15 Summer	5	+0%					77.330	-0.150	0.000
EX-12.001	EX-MH139	15 Summer	5	+0%					74.680	-0.150	0.000
EX-13.000	EX-MH141	15 Summer	5	+0%	100/15 Summer				72.150	-0.150	0.000
EX-12.002	EX-MH140	15 Summer	5	+0%	100/15 Summer				72.053	-0.150	0.000
EX-14.000	EX-MH07	15 Summer	5	+0%	100/15 Summer	100/60 Summer			71.690	-0.025	0.000
EX-1.013	EX-MH133	60 Winter	5	+0%	1/15 Summer				71.555	0.386	0.000
EX-15.000	EX-MH142	15 Summer	5	+0%	5/15 Summer	100/15 Summer			72.532	0.102	0.000
EX-1.014	EX-MH134	60 Winter	5	+0%	1/15 Summer				71.395	0.268	0.000
EX-16.000	EX-MH134-DUMMY	15 Summer	5	+0%					71.914	-0.096	0.000
EX-17.000	EX-MH142-DUMMY	15 Summer	5	+0%					72.430	0.000	0.000
EX-1.015	EX-MH135	60 Winter	5	+0%	1/30 Summer				71.261	0.165	0.000
EX-18.000	EX-CP107-DUMMY	15 Summer	5	+0%					73.040	0.000	0.000
EX-18.001	EX-CP108	30 Summer	5	+0%	1/15 Summer	100/15 Summer			73.912	1.342	0.000
EX-18.002	EX-CP109	30 Summer	5	+0%	1/15 Summer	5/15 Summer			73.521	1.661	1.282
EX-19.000	EX-CP42-DUMMY	15 Summer	5	+0%					72.820	0.000	0.000
EX-19.001	EX-CP111	30 Summer	5	+0%	1/15 Summer				72.825	0.645	0.000
EX-18.003	EX-CP110	30 Summer	5	+0%	1/15 Summer				72.557	0.884	0.000
EX-20.000	EX-MH143	15 Summer	5	+0%					72.831	-0.207	0.000
EX-18.004	EX-MH144	15 Summer	5	+0%	100/30 Summer				71.468	-0.144	0.000
EX-21.000	EX-MH24-DUMMY	15 Summer	5	+0%					73.270	-0.060	0.000
EX-21.001	EX-CP41	15 Summer	5	+0%	100/15 Summer				73.204	-0.071	0.000
EX-1.016	EX-CP11-DUMMY	60 Winter	5	+0%					70.934	-0.105	0.000
EX-1.017	EX-MH136	60 Winter	5	+0%	1/30 Summer				70.523	0.115	0.000

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX-1.000	EX-CP97-DUMMY	0.52			3.7	OK*	
EX-1.001	EX-CP100	0.66			4.7	OK	
EX-1.002	EX-CP101	0.53			6.0	SURCHARGED	
EX-1.003	EX-CP102	1.56			6.1	SURCHARGED	
EX-2.000	EX-CP98-DUMMY	1.16			29.0	SURCHARGED*	
EX-2.001	EX-CP112	1.19			38.0	SURCHARGED	10
EX-2.002	EX-CP113	1.24			41.6	SURCHARGED	11
EX-1.004	EX-CP114	1.66			43.8	SURCHARGED	11
EX-3.000	EX-CP102-DUMMY	0.29			3.6	SURCHARGED*	
EX-3.001	EX-CP103	0.41			2.8	SURCHARGED	
EX-1.005	EX-CP115	0.99			44.8	SURCHARGED	9
EX-4.000	EX-CP103-DUMMY	1.26			5.0	SURCHARGED*	
EX-4.001	EX-CP104	0.27			5.5	SURCHARGED	
EX-5.000	EX-CP117-DUMMY	0.98			21.7	SURCHARGED*	
EX-1.006	EX-CP116	1.56			51.3	SURCHARGED	
EX-6.000	EX-CP99-DUMMY	1.13			24.8	SURCHARGED*	
EX-6.001	EX-CP124	0.78			32.3	SURCHARGED	9
EX-6.002	EX-CP125	1.06			35.0	SURCHARGED	9
EX-6.003	EX-CP126	0.83			35.7	SURCHARGED	11
EX-6.004	EX-CP127	0.44			34.8	SURCHARGED	7
EX-1.007	EX-CP128	1.71			79.6	SURCHARGED	11
EX-7.000	EX-CP91	0.00			0.0	OK	
EX-7.001	EX-CP137	0.00			0.0	OK	
EX-1.008	EX-CP129	1.33			81.5	SURCHARGED	11
EX-1.009	EX-CP130	1.36			85.0	SURCHARGED	11
EX-1.010	EX-CP131	1.19			87.6	SURCHARGED	5
EX-1.011	EX-CP131A	1.23			89.9	SURCHARGED	5
EX-8.000	EX-CP104-DUMMY	0.60			5.4	OK*	
EX-9.000	EX-CP84-DUMMY	0.00			0.0	OK*	
EX-9.001	EX-CP145	0.00			0.0	OK	
EX-8.001	EX-CP105	0.84			8.9	OK	
EX-8.002	EX-CP106	0.60			12.1	SURCHARGED	
EX-8.003	EX-CP107	0.33			11.9	SURCHARGED	
EX-10.000	EX-CP117	0.37			4.3	OK	5
EX-10.001	EX-EXCP118	0.56			21.4	OK	4
EX-10.002	EX-CP119	0.72			40.7	SURCHARGED	7
EX-8.004	EX-CP120	2.10			51.5	SURCHARGED	7
EX-8.005	EX-CP121	1.30			51.1	SURCHARGED	4
EX-11.000	EX-CP123	0.19			6.4	OK	
EX-8.006	EX-CP122	0.44			48.2	SURCHARGED	
EX-1.012	EX-CP132	1.82			132.6	SURCHARGED	
EX-12.000	EX-CP138	0.00			0.0	OK	
EX-12.001	EX-MH139	0.00			0.0	OK	
EX-13.000	EX-MH141	0.00			0.0	OK	
EX-12.002	EX-MH140	0.00			0.0	OK	
EX-14.000	EX-MH07	0.99			15.3	OK	2
EX-1.013	EX-MH133	2.13			133.4	SURCHARGED	
EX-15.000	EX-MH142	1.03			21.3	SURCHARGED	4
EX-1.014	EX-MH134	2.64			137.7	SURCHARGED	
EX-16.000	EX-MH134-DUMMY	0.28			8.5	OK*	
EX-17.000	EX-MH142-DUMMY	1.06			21.1	SURCHARGED*	
EX-1.015	EX-MH135	2.05			143.8	SURCHARGED	
EX-18.000	EX-CP107-DUMMY	0.58			4.0	SURCHARGED*	
EX-18.001	EX-CP108	0.69			8.7	SURCHARGED	7
EX-18.002	EX-CP109	2.49			16.1	FLOOD	16
EX-19.000	EX-CP42-DUMMY	0.48			8.2	SURCHARGED*	
EX-19.001	EX-CP111	0.79			11.2	SURCHARGED	
EX-18.003	EX-CP110	3.94			25.0	SURCHARGED	
EX-20.000	EX-MH143	0.07			6.3	OK	
EX-18.004	EX-MH144	0.37			27.8	OK	
EX-21.000	EX-MH24-DUMMY	0.66			5.1	OK*	
EX-21.001	EX-CP41	0.53			15.8	OK	
EX-1.016	EX-CP11-DUMMY	0.81			167.8	OK*	
EX-1.017	EX-MH136	2.03			167.4	SURCHARGED	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
EX-22.000	EX-CP145-DUMMY	15 Summer	5	+0%					78.008	-0.150	0.000	0.00
EX-22.001	EX-CP146	15 Summer	5	+0%					77.822	-0.150	0.000	0.00
EX-22.002	EX-CP147	15 Summer	5	+0%					76.590	-0.150	0.000	0.00
EX-22.003	EX-CP148	15 Summer	5	+0%					75.190	-0.150	0.000	0.00
EX-22.004	EX-CP149	15 Summer	5	+0%					70.840	-0.150	0.000	0.00
EX-22.005	EX-CP150	15 Summer	5	+0%					70.102	-0.150	0.000	0.00

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX-22.000	EX-CP145-DUMMY			0.0	OK*	
EX-22.001	EX-CP146			0.0	OK	
EX-22.002	EX-CP147			0.0	OK	
EX-22.003	EX-CP148			0.0	OK	
EX-22.004	EX-CP149			0.0	OK	
EX-22.005	EX-CP150			0.0	OK	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.900
Region England and Wales Ratio R 0.400 Cv (Winter) 0.900

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)
EX-1.000	EX-CP97-DUMMY	15 Summer	100	+0%					74.200	0.000	0.000
EX-1.001	EX-CP100	60 Winter	100	+0%	100/15 Summer				74.975	1.107	0.000
EX-1.002	EX-CP101	60 Winter	100	+0%	5/30 Summer				74.917	1.378	0.000
EX-1.003	EX-CP102	60 Winter	100	+0%	1/15 Summer				74.765	2.055	0.000
EX-2.000	EX-CP98-DUMMY	15 Summer	100	+0%					73.755	0.000	0.000
EX-2.001	EX-CP112	30 Summer	100	+0%	5/15 Summer	100/15 Summer			75.071	1.720	20.986
EX-2.002	EX-CP113	60 Summer	100	+0%	5/15 Summer	100/15 Summer			74.919	1.724	18.769
EX-1.004	EX-CP114	60 Winter	100	+0%	1/15 Summer	100/15 Summer			74.749	1.942	29.089
EX-3.000	EX-CP102-DUMMY	15 Summer	100	+0%					73.380	0.000	0.000
EX-3.001	EX-CP103	60 Summer	100	+0%	1/15 Summer				74.601	2.281	0.000
EX-1.005	EX-CP115	60 Summer	100	+0%	5/15 Summer	100/15 Summer			74.576	1.905	6.464
EX-4.000	EX-CP103-DUMMY	15 Summer	100	+0%					72.450	0.000	0.000
EX-4.001	EX-CP104	60 Summer	100	+0%	5/15 Summer				74.333	1.983	0.000
EX-5.000	EX-CP117-DUMMY	15 Summer	100	+0%					72.551	0.000	0.000
EX-1.006	EX-CP116	60 Summer	100	+0%	1/30 Summer				74.311	2.103	0.000
EX-6.000	EX-CP99-DUMMY	15 Summer	100	+0%					73.511	0.000	0.000
EX-6.001	EX-CP124	30 Summer	100	+0%	5/15 Summer	100/15 Summer			74.861	1.819	10.983
EX-6.002	EX-CP125	60 Summer	100	+0%	5/15 Summer	100/15 Summer			74.737	1.999	7.155
EX-6.003	EX-CP126	60 Summer	100	+0%	5/15 Summer	100/15 Summer			74.524	1.970	23.929
EX-6.004	EX-CP127	30 Summer	100	+0%	5/15 Summer	100/15 Summer			74.343	2.014	3.165
EX-1.007	EX-CP128	60 Winter	100	+0%	1/15 Summer	100/15 Summer			74.276	2.288	25.739
EX-7.000	EX-CP91	15 Summer	100	+0%					77.380	-0.150	0.000
EX-7.001	EX-CP137	15 Summer	100	+0%					77.220	-0.150	0.000
EX-1.008	EX-CP129	60 Winter	100	+0%	1/15 Summer	100/15 Summer			73.959	2.090	18.416
EX-1.009	EX-CP130	60 Winter	100	+0%	1/15 Summer	100/15 Summer			73.736	1.974	46.182
EX-1.010	EX-CP131	60 Summer	100	+0%	1/30 Summer	100/30 Summer			73.513	1.926	13.442
EX-1.011	EX-CP131A	60 Summer	100	+0%	1/30 Summer	100/30 Summer			73.405	1.973	4.993
EX-8.000	EX-CP104-DUMMY	15 Summer	100	+0%					73.250	0.000	0.000
EX-9.000	EX-CP84-DUMMY	15 Summer	100	+0%					78.040	-0.150	0.000
EX-9.001	EX-CP145	15 Summer	100	+0%					78.008	-0.150	0.000
EX-8.001	EX-CP105	30 Summer	100	+0%	100/15 Summer				74.419	1.539	0.000
EX-8.002	EX-CP106	30 Summer	100	+0%	5/15 Summer				74.214	1.749	0.000
EX-8.003	EX-CP107	60 Summer	100	+0%	1/15 Summer				74.090	1.985	0.000
EX-10.000	EX-CP117	30 Summer	100	+0%	100/15 Summer	100/15 Summer			74.331	1.405	0.823
EX-10.001	EX-EXCP118	30 Summer	100	+0%	100/15 Summer	100/15 Summer			74.320	1.502	0.721
EX-10.002	EX-CP119	30 Summer	100	+0%	5/15 Summer	100/15 Summer			74.250	1.668	10.149
EX-8.004	EX-CP120	60 Summer	100	+0%	1/15 Summer	100/15 Summer			74.071	2.119	11.805
EX-8.005	EX-CP121	60 Summer	100	+0%	5/15 Summer	100/30 Summer			73.781	1.884	2.279
EX-11.000	EX-CP123	60 Summer	100	+0%	100/15 Summer				73.459	0.854	0.000
EX-8.006	EX-CP122	60 Summer	100	+0%	5/30 Summer				73.428	1.713	0.000
EX-1.012	EX-CP132	60 Summer	100	+0%	1/15 Summer				73.277	1.995	0.000
EX-12.000	EX-CP138	15 Summer	100	+0%					77.330	-0.150	0.000
EX-12.001	EX-MH139	15 Summer	100	+0%					74.680	-0.150	0.000
EX-13.000	EX-MH141	60 Summer	100	+0%	100/15 Summer				72.747	0.447	0.000
EX-12.002	EX-MH140	60 Summer	100	+0%	100/15 Summer				72.762	0.559	0.000
EX-14.000	EX-MH07	60 Summer	100	+0%	100/15 Summer	100/60 Summer			72.916	1.201	0.871
EX-1.013	EX-MH133	60 Summer	100	+0%	1/15 Summer				72.784	1.615	0.000
EX-15.000	EX-MH142	15 Summer	100	+0%	5/15 Summer	100/15 Summer			73.631	1.201	1.342
EX-1.014	EX-MH134	60 Summer	100	+0%	1/15 Summer				72.531	1.404	0.000
EX-16.000	EX-MH134-DUMMY	30 Summer	100	+0%					72.010	0.000	0.000
EX-17.000	EX-MH142-DUMMY	15 Summer	100	+0%					72.430	0.000	0.000
EX-1.015	EX-MH135	60 Summer	100	+0%	1/30 Summer				72.278	1.182	0.000
EX-18.000	EX-CP107-DUMMY	15 Summer	100	+0%					73.040	0.000	0.000
EX-18.001	EX-CP108	30 Summer	100	+0%	1/15 Summer	100/15 Summer			74.396	1.826	5.856
EX-18.002	EX-CP109	60 Summer	100	+0%	1/15 Summer	5/15 Summer			73.541	1.681	21.159
EX-19.000	EX-CP42-DUMMY	15 Summer	100	+0%					72.820	0.000	0.000
EX-19.001	EX-CP111	30 Summer	100	+0%	1/15 Summer				74.283	2.103	0.000
EX-18.003	EX-CP110	30 Summer	100	+0%	1/15 Summer				73.130	1.457	0.000
EX-20.000	EX-MH143	15 Summer	100	+0%					72.848	-0.190	0.000
EX-18.004	EX-MH144	60 Summer	100	+0%	100/30 Summer				71.839	0.227	0.000
EX-21.000	EX-MH24-DUMMY	15 Summer	100	+0%					73.330	0.000	0.000
EX-21.001	EX-CP41	15 Summer	100	+0%	100/15 Summer				73.499	0.224	0.000
EX-1.016	EX-CP11-DUMMY	15 Summer	100	+0%					71.039	0.000	0.000
EX-1.017	EX-MH136	60 Summer	100	+0%	1/30 Summer				70.724	0.316	0.000

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX-1.000	EX-CP97-DUMMY	0.91			6.5	SURCHARGED*	
EX-1.001	EX-CP100	0.78			5.5	SURCHARGED	
EX-1.002	EX-CP101	0.72			8.2	SURCHARGED	
EX-1.003	EX-CP102	2.52			10.0	FLOOD RISK	
EX-2.000	EX-CP98-DUMMY	1.70			42.8	SURCHARGED*	
EX-2.001	EX-CP112	1.26			40.0	FLOOD	10
EX-2.002	EX-CP113	1.24			41.7	FLOOD	11
EX-1.004	EX-CP114	1.75			46.1	FLOOD	11
EX-3.000	EX-CP102-DUMMY	0.61			7.6	SURCHARGED*	
EX-3.001	EX-CP103	0.97			6.6	FLOOD RISK	
EX-1.005	EX-CP115	1.11			50.4	FLOOD	9
EX-4.000	EX-CP103-DUMMY	1.99			7.8	SURCHARGED*	
EX-4.001	EX-CP104	0.27			5.5	SURCHARGED	
EX-5.000	EX-CP117-DUMMY	1.52			33.6	SURCHARGED*	
EX-1.006	EX-CP116	2.23			73.4	FLOOD RISK	
EX-6.000	EX-CP99-DUMMY	1.44			31.4	SURCHARGED*	
EX-6.001	EX-CP124	0.86			35.6	FLOOD	9
EX-6.002	EX-CP125	1.10			36.4	FLOOD	9
EX-6.003	EX-CP126	0.84			35.9	FLOOD	11
EX-6.004	EX-CP127	0.64			50.9	FLOOD	7
EX-1.007	EX-CP128	2.02			93.9	FLOOD	11
EX-7.000	EX-CP91	0.00			0.0	OK	
EX-7.001	EX-CP137	0.00			0.0	OK	
EX-1.008	EX-CP129	1.89			116.0	FLOOD	11
EX-1.009	EX-CP130	2.03			126.7	FLOOD	11
EX-1.010	EX-CP131	1.72			126.0	FLOOD	5
EX-1.011	EX-CP131A	1.72			126.3	FLOOD	5
EX-8.000	EX-CP104-DUMMY	0.85			7.6	SURCHARGED*	
EX-9.000	EX-CP84-DUMMY	0.00			0.0	OK*	
EX-9.001	EX-CP145	0.00			0.0	OK	
EX-8.001	EX-CP105	0.88			9.4	SURCHARGED	
EX-8.002	EX-CP106	0.63			12.8	SURCHARGED	
EX-8.003	EX-CP107	0.30			10.9	SURCHARGED	
EX-10.000	EX-CP117	0.65			7.6	FLOOD	5
EX-10.001	EX-EXCP118	0.71			27.2	FLOOD	4
EX-10.002	EX-CP119	0.86			48.4	FLOOD	7
EX-8.004	EX-CP120	2.53			61.8	FLOOD	7
EX-8.005	EX-CP121	1.68			65.6	FLOOD	4
EX-11.000	EX-CP123	0.20			6.8	SURCHARGED	
EX-8.006	EX-CP122	0.62			67.8	SURCHARGED	
EX-1.012	EX-CP132	2.37			172.5	FLOOD RISK	
EX-12.000	EX-CP138	0.00			0.0	OK	
EX-12.001	EX-MH139	0.00			0.0	OK	
EX-13.000	EX-MH141	0.14			0.9	SURCHARGED	
EX-12.002	EX-MH140	0.06			2.5	SURCHARGED	
EX-14.000	EX-MH07	0.83			12.8	FLOOD	2
EX-1.013	EX-MH133	2.83			176.6	SURCHARGED	
EX-15.000	EX-MH142	1.32			27.2	FLOOD	4
EX-1.014	EX-MH134	3.65			190.4	SURCHARGED	
EX-16.000	EX-MH134-DUMMY	0.49			14.8	SURCHARGED*	
EX-17.000	EX-MH142-DUMMY	1.43			28.5	SURCHARGED*	
EX-1.015	EX-MH135	3.07			215.2	SURCHARGED	
EX-18.000	EX-CP107-DUMMY	0.82			5.7	SURCHARGED*	
EX-18.001	EX-CP108	1.10			13.8	FLOOD	7
EX-18.002	EX-CP109	2.76			17.9	FLOOD	16
EX-19.000	EX-CP42-DUMMY	0.59			10.1	SURCHARGED*	
EX-19.001	EX-CP111	1.49			21.2	FLOOD RISK	
EX-18.003	EX-CP110	4.95			31.5	SURCHARGED	
EX-20.000	EX-MH143	0.13			12.0	OK	
EX-18.004	EX-MH144	0.45			34.4	SURCHARGED	
EX-21.000	EX-MH24-DUMMY	1.38			10.7	SURCHARGED*	
EX-21.001	EX-CP41	1.05			31.0	SURCHARGED	
EX-1.016	EX-CP11-DUMMY	1.12			233.4	SURCHARGED*	
EX-1.017	EX-MH136	3.18			261.8	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
EX-22.000	EX-CP145-DUMMY	15 Summer	100	+0%					78.008	-0.150	0.000	0.00
EX-22.001	EX-CP146	15 Summer	100	+0%					77.822	-0.150	0.000	0.00
EX-22.002	EX-CP147	15 Summer	100	+0%					76.590	-0.150	0.000	0.00
EX-22.003	EX-CP148	15 Summer	100	+0%					75.190	-0.150	0.000	0.00
EX-22.004	EX-CP149	15 Summer	100	+0%					70.840	-0.150	0.000	0.00
EX-22.005	EX-CP150	15 Summer	100	+0%					70.102	-0.150	0.000	0.00

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX-22.000	EX-CP145-DUMMY			0.0	OK*	
EX-22.001	EX-CP146			0.0	OK	
EX-22.002	EX-CP147			0.0	OK	
EX-22.003	EX-CP148			0.0	OK	
EX-22.004	EX-CP149			0.0	OK	
EX-22.005	EX-CP150			0.0	OK	

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX2.000	54.459	0.205	265.7	0.063	5.00	0.0	5.200	o	225	Pipe/Conduit
EX3.000	53.186	0.285	186.6	0.064	5.00	0.0	5.200	o	225	Pipe/Conduit
EX4.000	55.069	0.610	90.3	0.017	5.00	0.0	4.800	o	150	Pipe/Conduit
EX4.001	11.244	0.014	803.2	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX3.001	11.729	0.240	48.9	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX2.001	102.125	0.366	279.0	0.120	0.00	0.0	5.700	o	375	Pipe/Conduit
EX2.002	51.792	0.120	431.6	0.059	0.00	0.0	5.700	o	375	Pipe/Conduit
EX5.000	86.642	0.502	172.6	0.122	5.00	0.0	5.200	o	225	Pipe/Conduit
EX5.001	52.147	0.170	306.7	0.062	0.00	0.0	5.500	o	300	Pipe/Conduit
EX6.000	101.519	0.550	184.6	0.022	5.00	0.0	5.200	o	225	Pipe/Conduit
EX6.001	52.494	0.160	328.1	0.011	0.00	0.0	5.200	o	225	Pipe/Conduit
EX6.002	11.571	0.122	94.8	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX5.002	11.816	0.050	236.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX2.003	99.866	0.240	416.1	0.115	0.00	0.0	5.700	o	375	Pipe/Conduit
EX2.004	101.023	0.240	420.9	0.120	0.00	0.0	5.700	o	375	Pipe/Conduit
EX7.000	99.872	0.480	208.1	0.118	5.00	0.0	5.200	o	225	Pipe/Conduit
EX7.001	100.687	0.475	212.0	0.119	0.00	0.0	5.200	o	225	Pipe/Conduit
EX8.000	100.518	0.300	335.1	0.026	5.00	0.0	4.800	o	150	Pipe/Conduit
EX8.001	100.750	0.690	146.0	0.027	0.00	0.0	4.800	o	150	Pipe/Conduit
EX9.000	98.661	0.250	394.6	0.019	5.00	0.0	4.800	o	150	Pipe/Conduit
EX8.002	10.811	0.022	500.0	0.000	0.00	0.0	5.700	o	300	Pipe/Conduit
EX7.002	13.766	0.040	344.1	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX2.005	101.000	0.190	531.6	0.150	0.00	0.0	5.900	o	450	Pipe/Conduit
EX2.006	99.708	0.210	474.8	0.141	0.00	0.0	5.900	o	450	Pipe/Conduit
EX10.000	99.517	0.480	207.3	0.117	5.00	0.0	5.200	o	225	Pipe/Conduit
EX10.001	97.924	0.540	181.3	0.115	0.00	0.0	5.200	o	225	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX2.000	74.391	0.063	0.0	0.57	22.5
EX3.000	74.711	0.064	0.0	0.68	26.9
EX4.000	75.080	0.017	0.0	0.74	13.1
EX4.001	74.440	0.017	0.0	0.33	12.9
EX3.001	74.426	0.081	0.0	1.32	52.6
EX2.001	74.186	0.264	0.0	0.77	85.4
EX2.002	73.820	0.323	0.0	0.62	68.7
EX5.000	74.549	0.122	0.0	0.70	28.0
EX5.001	74.020	0.183	0.0	0.64	45.0
EX6.000	74.730	0.022	0.0	0.68	27.0
EX6.001	74.190	0.032	0.0	0.51	20.3
EX6.002	73.960	0.032	0.0	1.15	81.1
EX5.002	73.850	0.215	0.0	0.73	51.3
EX2.003	73.700	0.654	0.0	0.63	69.9
EX2.004	73.460	0.774	0.0	0.63	69.5
EX7.000	74.370	0.118	0.0	0.64	25.5
EX7.001	73.890	0.237	0.0	0.63	25.2
EX8.000	74.320	0.026	0.0	0.39	6.8
EX8.001	74.030	0.054	0.0	0.58	10.3
EX9.000	73.420	0.019	0.0	0.35	6.3
EX8.002	73.190	0.072	0.0	0.50	35.0
EX7.002	73.340	0.309	0.0	0.60	42.5
EX2.005	73.150	1.234	0.0	0.63	100.2
EX2.006	72.960	1.375	0.0	0.67	106.1
EX10.000	74.030	0.117	0.0	0.64	25.5
EX10.001	73.550	0.232	0.0	0.69	27.3

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX11.000	95.783	1.000	95.8	0.013	5.00	0.0	4.800	o	150	Pipe/Conduit
EX11.001	11.706	0.125	93.6	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX10.002	12.629	0.030	421.0	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX2.007	17.851	0.090	198.3	0.000	0.00	0.0	5.900	o	450	Pipe/Conduit
EX12.000	13.626	0.027	500.0	0.023	5.00	0.0	5.900	o	150	Pipe/Conduit
EX12.001	12.563	0.025	500.0	0.000	0.00	0.0	5.900	o	150	Pipe/Conduit
EX12.002	75.053	1.540	48.7	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX13.000	14.511	0.029	500.0	0.021	5.00	0.0	4.800	o	150	Pipe/Conduit
EX13.001	17.735	0.035	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.003	76.397	0.550	138.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX14.000	15.715	0.031	500.0	0.016	5.00	0.0	4.800	o	150	Pipe/Conduit
EX14.001	17.402	0.035	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.004	97.695	1.150	85.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX15.000	17.191	0.034	500.0	0.009	5.00	0.0	4.800	o	150	Pipe/Conduit
EX15.001	15.901	0.032	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.005	54.754	0.250	219.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX16.000	15.546	0.031	500.0	0.016	5.00	0.0	4.800	o	150	Pipe/Conduit
EX16.001	16.605	0.033	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.006	67.101	0.250	268.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX17.000	13.507	0.027	500.0	0.025	5.00	0.0	4.800	o	150	Pipe/Conduit
EX17.001	14.470	0.029	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.007	80.902	0.600	134.8	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX18.000	16.294	0.033	500.0	0.030	5.00	0.0	4.800	o	150	Pipe/Conduit
EX18.001	19.027	0.038	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.008	82.367	0.240	343.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX11.000	74.100	0.013	0.0	0.72	12.8
EX11.001	73.080	0.013	0.0	0.96	38.0
EX10.002	73.010	0.245	0.0	0.45	17.9
EX2.007	72.750	1.620	0.0	1.03	164.2
EX12.000	78.390	0.023	0.0	0.30	5.3
EX12.001	78.363	0.023	0.0	0.30	5.3
EX12.002	77.240	0.023	0.0	1.01	17.9
EX13.000	76.740	0.021	0.0	0.31	5.6
EX13.001	76.711	0.021	0.0	0.31	5.6
EX12.003	75.700	0.044	0.0	0.60	10.6
EX14.000	76.520	0.016	0.0	0.31	5.6
EX14.001	76.489	0.016	0.0	0.31	5.6
EX12.004	75.150	0.060	0.0	0.77	13.5
EX15.000	77.240	0.009	0.0	0.31	5.6
EX15.001	77.206	0.009	0.0	0.31	5.6
EX12.005	74.000	0.069	0.0	0.48	8.4
EX16.000	77.100	0.016	0.0	0.31	5.6
EX16.001	77.069	0.016	0.0	0.31	5.6
EX12.006	73.750	0.085	0.0	0.43	7.6
EX17.000	75.970	0.025	0.0	0.31	5.6
EX17.001	75.943	0.025	0.0	0.31	5.6
EX12.007	73.500	0.109	0.0	0.61	10.7
EX18.000	75.130	0.030	0.0	0.31	5.6
EX18.001	75.097	0.030	0.0	0.31	5.6
EX12.008	72.900	0.139	0.0	0.38	6.7

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX19.000	13.943	0.028	500.0	0.002	5.00	0.0	4.800	o	150	Pipe/Conduit
EX19.001	13.259	0.027	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX2.008	4.397	0.160	27.5	0.000	0.00	0.0	5.900	o	450	Pipe/Conduit
EX20.000	9.336	0.019	491.4	0.002	5.00	0.0	5.900	o	150	Pipe/Conduit
EX20.001	9.543	0.019	502.3	0.000	0.00	0.0	5.900	o	150	Pipe/Conduit
EX20.002	13.548	2.190	6.2	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX21.000	9.839	0.020	492.0	0.002	5.00	0.0	4.800	o	150	Pipe/Conduit
EX21.001	10.140	0.020	507.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX20.003	13.068	0.850	15.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX22.000	11.547	0.023	500.0	1.694	5.00	0.0	4.800	o	150	Pipe/Conduit
EX22.001	12.833	0.026	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX20.004	111.472	0.220	506.7	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX23.000	12.443	0.025	500.0	0.803	5.00	0.0	4.800	o	150	Pipe/Conduit
EX23.001	12.143	0.024	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX20.005	100.088	0.330	303.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX24.000	17.290	0.035	494.0	0.225	5.00	0.0	5.500	o	150	Pipe/Conduit
EX24.001	18.023	0.036	500.6	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.006	73.601	0.300	245.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX25.000	17.413	0.035	500.0	0.325	5.00	0.0	5.500	o	150	Pipe/Conduit
EX25.001	19.137	0.038	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.007	75.913	1.660	45.7	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX26.000	19.079	0.038	500.0	2.061	5.00	0.0	5.500	o	150	Pipe/Conduit
EX26.001	20.028	0.040	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.008	105.357	0.280	376.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX27.000	18.687	0.037	500.0	0.187	5.00	0.0	5.500	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX19.000	74.500	0.002	0.0	0.31	5.6
EX19.001	74.472	0.002	0.0	0.31	5.6
EX2.008	72.660	1.760	0.0	2.78	441.6
EX20.000	82.020	0.002	0.0	0.30	5.4
EX20.001	82.001	0.002	0.0	0.30	5.3
EX20.002	80.870	0.002	0.0	2.84	50.3
EX21.000	79.830	0.002	0.0	0.32	5.6
EX21.001	79.810	0.002	0.0	0.31	5.5
EX20.003	78.680	0.004	0.0	1.80	31.9
EX22.000	78.980	1.694	0.0	0.31	5.6
EX22.001	78.957	1.694	0.0	0.31	5.6
EX20.004	77.830	1.698	0.0	0.31	5.5
EX23.000	78.260	0.803	0.0	0.31	5.6
EX23.001	78.235	0.803	0.0	0.31	5.6
EX20.005	77.460	2.500	0.0	0.64	45.3
EX24.000	79.540	0.225	0.0	0.31	5.4
EX24.001	79.505	0.225	0.0	0.31	5.4
EX20.006	77.130	2.725	0.0	0.71	50.4
EX25.000	78.700	0.325	0.0	0.31	5.4
EX25.001	78.665	0.325	0.0	0.31	5.4
EX20.007	76.830	3.050	0.0	1.65	116.8
EX26.000	77.140	2.061	0.0	0.31	5.4
EX26.001	77.102	2.061	0.0	0.31	5.4
EX20.008	75.170	5.111	0.0	0.58	40.7
EX27.000	76.020	0.187	0.0	0.31	5.4

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX27.001	18.053	0.036	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.009	47.973	1.460	32.9	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX28.000	15.131	0.030	500.0	0.007	5.00	0.0	5.500	o	150	Pipe/Conduit
EX28.001	18.508	0.037	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX28.002	60.939	1.360	44.8	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX29.000	18.334	0.037	500.0	1.062	5.00	0.0	4.800	o	150	Pipe/Conduit
EX29.001	23.635	0.047	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.003	107.394	0.640	167.8	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX30.000	22.651	0.045	503.4	0.502	5.00	0.0	4.800	o	150	Pipe/Conduit
EX30.001	20.040	0.040	501.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.004	101.028	0.420	240.5	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX31.000	24.402	0.049	500.0	0.922	5.00	0.0	4.800	o	150	Pipe/Conduit
EX31.001	21.188	0.042	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.005	89.259	1.090	81.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX32.000	22.233	0.044	500.0	0.992	5.00	0.0	4.800	o	150	Pipe/Conduit
EX32.001	22.224	0.044	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.006	98.720	0.165	598.3	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit
EX33.000	22.141	0.044	500.0	0.481	5.00	0.0	5.700	o	150	Pipe/Conduit
EX33.001	21.253	0.043	500.0	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX28.007	84.296	0.540	156.1	0.000	5.00	0.0	5.700	o	375	Pipe/Conduit
EX34.000	15.593	0.031	500.0	0.460	5.00	0.0	5.700	o	150	Pipe/Conduit
EX34.001	16.046	0.032	500.0	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX28.008	99.710	0.320	311.6	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit
EX35.000	10.079	0.620	16.3	0.000	5.00	0.0	5.200	o	225	Pipe/Conduit
EX20.010	49.080	0.550	89.2	0.000	0.00	0.0	6.200	o	600	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX27.001	75.983	0.187	0.0	0.31	5.4
EX20.009	74.810	5.299	0.0	1.95	137.8
EX28.000	79.190	0.007	0.0	0.31	5.4
EX28.001	79.160	0.007	0.0	0.31	5.4
EX28.002	78.040	0.007	0.0	1.06	18.7
EX29.000	77.830	1.062	0.0	0.31	5.6
EX29.001	77.793	1.062	0.0	0.31	5.6
EX28.003	76.680	1.069	0.0	0.54	9.6
EX30.000	77.190	0.502	0.0	0.31	5.5
EX30.001	77.145	0.502	0.0	0.31	5.6
EX28.004	76.040	1.571	0.0	0.45	8.0
EX31.000	76.770	0.922	0.0	0.31	5.6
EX31.001	76.721	0.922	0.0	0.31	5.6
EX28.005	75.620	2.494	0.0	0.78	13.8
EX32.000	75.680	0.992	0.0	0.31	5.6
EX32.001	75.636	0.992	0.0	0.31	5.6
EX28.006	74.305	3.486	0.0	0.53	58.3
EX33.000	75.520	0.481	0.0	0.30	5.4
EX33.001	75.476	0.481	0.0	0.30	5.4
EX28.007	74.140	3.967	0.0	1.03	114.3
EX34.000	76.240	0.460	0.0	0.30	5.4
EX34.001	76.209	0.460	0.0	0.30	5.4
EX28.008	73.600	4.426	0.0	0.73	80.8
EX35.000	76.500	0.000	0.0	2.30	91.3
EX20.010	73.050	9.725	0.0	1.85	524.2

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX36.000	22.151	0.044	500.0	0.022	5.00	0.0	6.200	o	150	Pipe/Conduit
EX36.001	25.843	0.052	500.0	0.000	0.00	0.0	6.200	o	150	Pipe/Conduit
EX36.002	110.266	1.290	85.5	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX37.000	26.732	0.053	500.0	0.019	5.00	0.0	4.800	o	150	Pipe/Conduit
EX37.001	24.455	0.049	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX36.003	110.157	1.200	91.8	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX38.000	20.448	0.041	500.0	0.034	5.00	0.0	5.700	o	150	Pipe/Conduit
EX38.001	19.603	0.039	500.0	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX36.004	108.405	1.110	97.7	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX39.000	23.335	0.047	500.0	0.028	5.00	0.0	4.800	o	150	Pipe/Conduit
EX39.001	20.876	0.042	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX36.005	96.444	0.360	267.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX40.000	28.101	0.056	500.0	0.038	5.00	0.0	4.800	o	150	Pipe/Conduit
EX40.001	22.326	0.045	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX36.006	101.394	0.345	293.9	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX41.000	99.229	0.460	215.7	0.115	5.00	0.0	5.200	o	225	Pipe/Conduit
EX42.000	102.458	0.480	213.5	0.154	5.00	0.0	5.700	o	225	Pipe/Conduit
EX43.000	104.112	0.665	156.6	0.012	5.00	0.0	4.800	o	150	Pipe/Conduit
EX43.001	14.409	0.030	480.3	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX42.001	11.833	0.230	51.4	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX41.001	17.555	0.040	438.9	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX44.000	14.693	0.029	500.0	0.036	5.00	0.0	5.500	o	150	Pipe/Conduit
EX44.001	15.673	0.031	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX36.007	91.560	0.320	286.1	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX36.000	78.530	0.022	0.0	0.30	5.3
EX36.001	78.486	0.022	0.0	0.30	5.3
EX36.002	77.380	0.022	0.0	0.76	13.5
EX37.000	77.240	0.019	0.0	0.31	5.6
EX37.001	77.187	0.019	0.0	0.31	5.6
EX36.003	76.090	0.040	0.0	0.71	12.6
EX38.000	76.040	0.034	0.0	0.30	5.4
EX38.001	75.999	0.034	0.0	0.30	5.4
EX36.004	74.890	0.074	0.0	0.71	12.6
EX39.000	74.930	0.028	0.0	0.31	5.6
EX39.001	74.883	0.028	0.0	0.31	5.6
EX36.005	73.780	0.102	0.0	0.43	7.6
EX40.000	74.570	0.038	0.0	0.31	5.6
EX40.001	74.514	0.038	0.0	0.31	5.6
EX36.006	73.345	0.140	0.0	0.54	21.4
EX41.000	73.450	0.115	0.0	0.63	25.0
EX42.000	73.700	0.154	0.0	0.62	24.7
EX43.000	73.990	0.012	0.0	0.56	10.0
EX43.001	73.250	0.012	0.0	0.42	16.7
EX42.001	73.220	0.166	0.0	1.29	51.3
EX41.001	72.990	0.281	0.0	0.53	37.6
EX44.000	74.880	0.036	0.0	0.31	5.4
EX44.001	74.851	0.036	0.0	0.31	5.4
EX36.007	72.920	0.456	0.0	0.66	46.6

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX2.009	71.577	0.340	210.5	0.000	0.00	0.0	6.200	o	600	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX2.009	72.500	11.942	0.0	1.21	341.2

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
EXCP42	76.250	1.859	Open Manhole	1050	EX2.000	74.391	225				
EXCP58	76.400	1.689	Open Manhole	1050	EX3.000	74.711	225				
EXCP67	76.700	1.620	Open Manhole	1050	EX4.000	75.080	150				
EXCP68	76.620	2.180	Open Manhole	1050	EX4.001	74.440	225	EX4.000	74.470	150	
EXCP59	76.320	1.894	Open Manhole	1050	EX3.001	74.426	225	EX3.000	74.426	225	
								EX4.001	74.426	225	
EXCP43	76.200	2.014	Open Manhole	1050	EX2.001	74.186	375	EX2.000	74.186	225	
								EX3.001	74.186	225	
EXCP44	75.980	2.160	Open Manhole	1050	EX2.002	73.820	375	EX2.001	73.820	375	
EXCP60	76.320	1.771	Open Manhole	1050	EX5.000	74.549	225				
EXCP61	76.150	2.130	Open Manhole	1050	EX5.001	74.020	300	EX5.000	74.047	225	
EXCP68 - DUMMY	76.620	1.890	Junction		EX6.000	74.730	225				
EXCP69	76.470	2.290	Open Manhole	1050	EX6.001	74.190	225	EX6.000	74.180	225	
EXCP70	76.360	2.400	Open Manhole	1050	EX6.002	73.960	300	EX6.001	74.030	225	
EXCP62	76.080	2.242	Open Manhole	1050	EX5.002	73.850	300	EX5.001	73.850	300	
								EX6.002	73.838	300	
EXCP45	75.830	2.130	Open Manhole	1050	EX2.003	73.700	375	EX2.002	73.700	375	
								EX5.002	73.800	300	25
EXMH46	75.770	2.310	Open Manhole	1050	EX2.004	73.460	375	EX2.003	73.460	375	
EXCP62-DUMMY	76.080	1.710	Junction		EX7.000	74.370	225				
EXCP63	75.910	2.020	Open Manhole	1050	EX7.001	73.890	225	EX7.000	73.890	225	
EXCP70 - DUMMY	76.360	2.040	Junction		EX8.000	74.320	150				
EXCP71	76.130	2.110	Open Manhole	1050	EX8.001	74.030	150	EX8.000	74.020	150	
EXCP73-DUMMY	75.770	2.350	Junction		EX9.000	73.420	150				
EXCP72	75.960	2.790	Open Manhole	1050	EX8.002	73.190	300	EX8.001	73.340	150	
								EX9.000	73.170	150	
EXCP64	75.760	2.592	Open Manhole	1050	EX7.002	73.340	300	EX7.001	73.415	225	
								EX8.002	73.168	300	
EXCP47	75.780	2.630	Open Manhole	1050	EX2.005	73.150	450	EX2.004	73.220	375	
								EX7.002	73.300	300	
EXCP48	75.450	2.490	Open Manhole	1050	EX2.006	72.960	450	EX2.005	72.960	450	
EXCP64-DUMMY	75.760	1.730	Junction		EX10.000	74.030	225				
EXCP65	75.580	2.030	Open Manhole	1050	EX10.001	73.550	225	EX10.000	73.550	225	
EXCP73-DUMMY	75.770	1.670	Junction		EX11.000	74.100	150				
EXCP74	76.020	2.940	Open Manhole	1050	EX11.001	73.080	225	EX11.000	73.100	150	
EXCP66	75.420	2.465	Open Manhole	1050	EX10.002	73.010	225	EX10.001	73.010	225	
								EX11.001	72.955	225	
EXCP49	75.290	2.540	Open Manhole	1050	EX2.007	72.750	450	EX2.006	72.750	450	
								EX10.002	72.980	225	5
EXDUMMY 31	78.590	0.200	Junction		EX12.000	78.390	150				
EXDUMMY 32	78.590	0.227	Junction		EX12.001	78.363	150	EX12.000	78.363	150	
EXCP51	78.590	1.350	Open Manhole	1050	EX12.002	77.240	150	EX12.001	78.338	150	1098
EXDUMMY 33	76.940	0.200	Junction		EX13.000	76.740	150				
EXDUMMY 34	76.940	0.229	Junction		EX13.001	76.711	150	EX13.000	76.711	150	
EXCP52	76.940	1.240	Open Manhole	1050	EX12.003	75.700	150	EX12.002	75.700	150	
								EX13.001	76.676	150	976
EXDUMMY 35	76.720	0.200	Junction		EX14.000	76.520	150				
EXDUMMY 36	76.720	0.231	Junction		EX14.001	76.489	150	EX14.000	76.489	150	
EXCP53	76.720	1.570	Open Manhole	1050	EX12.004	75.150	150	EX12.003	75.150	150	
								EX14.001	76.454	150	1304
EXDUMMY 37	77.440	0.200	Junction		EX15.000	77.240	150				
EXDUMMY 38	77.440	0.234	Junction		EX15.001	77.206	150	EX15.000	77.206	150	
EXCP54	77.440	3.440	Open Manhole	1050	EX12.005	74.000	150	EX12.004	74.000	150	
								EX15.001	77.174	150	3174
EXDUMMY 39	77.300	0.200	Junction		EX16.000	77.100	150				
EXDUMMY 40	77.300	0.231	Junction		EX16.001	77.069	150	EX16.000	77.069	150	
EXCP55	77.300	3.550	Open Manhole	1050	EX12.006	73.750	150	EX12.005	73.750	150	
								EX16.001	77.036	150	3286
EXDUMMY 41	76.170	0.200	Junction		EX17.000	75.970	150				
EXDUMMY 42	76.170	0.227	Junction		EX17.001	75.943	150	EX17.000	75.943	150	
EXCP56	76.170	2.670	Open Manhole	1050	EX12.007	73.500	150	EX12.006	73.500	150	
								EX17.001	75.914	150	2414
EXDUMMY 43	75.330	0.200	Junction		EX18.000	75.130	150				
EXDUMMY 44	75.330	0.233	Junction		EX18.001	75.097	150	EX18.000	75.097	150	
EXCP57	75.330	2.430	Open Manhole	1050	EX12.008	72.900	150	EX12.007	72.900	150	
								EX18.001	75.059	150	2159
EXDUMMY 45	74.700	0.200	Junction		EX19.000	74.500	150				

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
EXDUMMY 46	74.700	0.228	Junction		EX19.001	74.472	150	EX19.000	74.472	150	
EXCP50	74.700	2.040	Open Manhole	1050	EX2.008	72.660	450	EX2.007	72.660	450	
								EX12.008	72.660	150	
								EX19.001	74.445	150	1485
EXDUMMY 1	82.220	0.200	Junction		EX20.000	82.020	150				
EXDUMMY 2	82.220	0.219	Junction		EX20.001	82.001	150	EX20.000	82.001	150	
EXCP75	82.220	1.350	Open Manhole	1050	EX20.002	80.870	150	EX20.001	81.982	150	1112
EXDUMMY 3	80.030	0.200	Junction		EX21.000	79.830	150				
EXDUMMY 4	80.030	0.220	Junction		EX21.001	79.810	150	EX21.000	79.810	150	
EXCP76	80.030	1.350	Open Manhole	1050	EX20.003	78.680	150	EX20.002	78.680	150	
								EX21.001	79.790	150	1110
EXDUMMY 5	79.180	0.200	Junction		EX22.000	78.980	150				
EXDUMMY 6	79.180	0.223	Junction		EX22.001	78.957	150	EX22.000	78.957	150	
EXCP77	79.180	1.350	Open Manhole	1050	EX20.004	77.830	150	EX20.003	77.830	150	
								EX22.001	78.931	150	1101
EXDUMMY 7	78.460	0.200	Junction		EX23.000	78.260	150				
EXDUMMY 8	78.460	0.225	Junction		EX23.001	78.235	150	EX23.000	78.235	150	
EXCP78	78.460	1.000	Open Manhole	1050	EX20.005	77.460	300	EX20.004	77.610	150	
								EX23.001	78.211	150	601
EXDUMMY 9	79.740	0.200	Junction		EX24.000	79.540	150				
EXDUMMY 10	79.740	0.235	Junction		EX24.001	79.505	150	EX24.000	79.505	150	
EXCP79	79.740	2.610	Open Manhole	1050	EX20.006	77.130	300	EX20.005	77.130	300	
								EX24.001	79.469	150	2189
EXDUMMY 11	78.900	0.200	Junction		EX25.000	78.700	150				
EXDUMMY 12	78.900	0.235	Junction		EX25.001	78.665	150	EX25.000	78.665	150	
EXCP80	78.900	2.070	Open Manhole	1050	EX20.007	76.830	300	EX20.006	76.830	300	
								EX25.001	78.627	150	1647
EXDUMMY 13	77.340	0.200	Junction		EX26.000	77.140	150				
EXDUMMY 14	77.340	0.238	Junction		EX26.001	77.102	150	EX26.000	77.102	150	
EXCP81	77.340	2.170	Open Manhole	1050	EX20.008	75.170	300	EX20.007	75.170	300	
								EX26.001	77.062	150	1742
EXDUMMY 15	76.220	0.200	Junction		EX27.000	76.020	150				
EXDUMMY 16	76.220	0.237	Junction		EX27.001	75.983	150	EX27.000	75.983	150	
EXCP82	76.220	1.410	Open Manhole	1050	EX20.009	74.810	300	EX20.008	74.890	300	80
								EX27.001	75.947	150	987
EXDUMMY 17	79.390	0.200	Junction		EX28.000	79.190	150				
EXDUMMY 18	79.390	0.230	Junction		EX28.001	79.160	150	EX28.000	79.160	150	
EXCP84	79.390	1.350	Open Manhole	1050	EX28.002	78.040	150	EX28.001	79.123	150	1083
EXDUMMY 19	78.030	0.200	Junction		EX29.000	77.830	150				
EXDUMMY 20	78.030	0.237	Junction		EX29.001	77.793	150	EX29.000	77.793	150	
EXCP85	78.030	1.350	Open Manhole	1050	EX28.003	76.680	150	EX28.002	76.680	150	
								EX29.001	77.746	150	1066
EXDUMMY 21	77.390	0.200	Junction		EX30.000	77.190	150				
EXDUMMY 22	77.390	0.245	Junction		EX30.001	77.145	150	EX30.000	77.145	150	
EXCP86	77.390	1.350	Open Manhole	1050	EX28.004	76.040	150	EX28.003	76.040	150	
								EX30.001	77.105	150	1065
EXDUMMY 23	76.970	0.200	Junction		EX31.000	76.770	150				
EXDUMMY 24	76.970	0.249	Junction		EX31.001	76.721	150	EX31.000	76.721	150	
EXCP87	76.970	1.350	Open Manhole	1050	EX28.005	75.620	150	EX28.004	75.620	150	
								EX31.001	76.679	150	1059
EXDUMMY 25	75.880	0.200	Junction		EX32.000	75.680	150				
EXDUMMY 26	75.880	0.244	Junction		EX32.001	75.636	150	EX32.000	75.636	150	
EXCP88	75.880	1.575	Open Manhole	1050	EX28.006	74.305	375	EX28.005	74.530	150	
								EX32.001	75.592	150	1062
EXDUMMY 27	75.720	0.200	Junction		EX33.000	75.520	150				
EXDUMMY 28	75.720	0.244	Junction		EX33.001	75.476	150	EX33.000	75.476	150	
EXCP89	75.720	1.580	Open Manhole	1050	EX28.007	74.140	375	EX28.006	74.140	375	
								EX33.001	75.433	150	1068
EXDUMMY 29	76.440	0.200	Junction		EX34.000	76.240	150				
EXDUMMY 30	76.440	0.231	Junction		EX34.001	76.209	150	EX34.000	76.209	150	
EXCP90	76.440	2.840	Open Manhole	1050	EX28.008	73.600	375	EX28.007	73.600	375	
								EX34.001	76.177	150	2352
EXHW10	76.940	0.440	Junction		EX35.000	76.500	225				
EXCP83	76.480	3.430	Open Manhole	1800	EX20.010	73.050	600	EX20.009	73.350	300	
								EX28.008	73.280	375	5
								EX35.000	75.880	225	2455
EXDUMMY 47	78.730	0.200	Junction		EX36.000	78.530	150				

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
EXDUMMY 48	78.730	0.244	Junction		EX36.001	78.486	150	EX36.000	78.486	150	
EXCP91	78.730	1.350	Open Manhole	1050	EX36.002	77.380	150	EX36.001	78.434	150	1054
EXDUMMY 49	77.440	0.200	Junction		EX37.000	77.240	150				
EXDUMMY 50	77.440	0.253	Junction		EX37.001	77.187	150	EX37.000	77.187	150	
EXCP92	77.440	1.350	Open Manhole	1050	EX36.003	76.090	150	EX36.002	76.090	150	
								EX37.001	77.138	150	1048
EXDUMMY 51	76.240	0.200	Junction		EX38.000	76.040	150				
EXDUMMY 52	76.240	0.241	Junction		EX38.001	75.999	150	EX38.000	75.999	150	
EXCP93	76.240	1.350	Open Manhole	1050	EX36.004	74.890	150	EX36.003	74.890	150	
								EX38.001	75.960	150	1070
EXDUMMY 53	75.130	0.200	Junction		EX39.000	74.930	150				
EXDUMMY 54	75.130	0.247	Junction		EX39.001	74.883	150	EX39.000	74.883	150	
EXCP94	75.130	1.350	Open Manhole	1050	EX36.005	73.780	150	EX36.004	73.780	150	
								EX39.001	74.841	150	1061
EXDUMMY 55	74.770	0.200	Junction		EX40.000	74.570	150				
EXDUMMY 56	74.770	0.256	Junction		EX40.001	74.514	150	EX40.000	74.514	150	
EXCP95	74.770	1.425	Open Manhole	1050	EX36.006	73.345	225	EX36.005	73.420	150	
								EX40.001	74.469	150	1049
EXCP49-DUMMY	75.290	1.840	Junction		EX41.000	73.450	225				
EXCP66-DUMMY	75.420	1.720	Junction		EX42.000	73.700	225				
EXCP74-DUMMY	76.020	2.030	Junction		EX43.000	73.990	150				
EXCP97	75.690	2.440	Open Manhole	1050	EX43.001	73.250	225	EX43.000	73.325	150	
EXCP98	75.250	2.030	Open Manhole	1050	EX42.001	73.220	225	EX42.000	73.220	225	
								EX43.001	73.220	225	
EXCP99	75.000	2.010	Open Manhole	1050	EX41.001	72.990	300	EX41.000	72.990	225	
								EX42.001	72.990	225	
EXDUMMY 57	75.080	0.200	Junction		EX44.000	74.880	150				
EXDUMMY 58	75.080	0.229	Junction		EX44.001	74.851	150	EX44.000	74.851	150	
EXCP96	75.080	2.160	Open Manhole	1050	EX36.007	72.920	300	EX36.006	73.000	225	5
								EX41.001	72.950	300	30
								EX44.001	74.820	150	1750
EXCP51	74.800	2.300	Open Manhole	1050	EX2.009	72.500	600	EX2.008	72.500	450	
								EX20.010	72.500	600	
								EX36.007	72.600	300	
EX	73.000	0.840	Open Manhole	0		OUTFALL		EX2.009	72.160	600	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP42	439007.784	280760.452	439007.784	280760.452	Required	
EXCP58	439019.522	280757.055	439019.522	280757.055	Required	
EXCP67	439029.912	280754.057	439029.912	280754.057	Required	
EXCP68	439013.787	280701.402	439013.787	280701.402	Required	
EXCP59	439003.660	280706.289	439003.660	280706.289	Required	
EXCP43	438992.105	280708.299	438992.105	280708.299	Required	
EXCP44	438961.838	280610.762	438961.838	280610.762	Required	
EXCP60	438998.898	280690.307	438998.898	280690.307	Required	
EXCP61	438973.333	280607.523	438973.333	280607.523	Required	
EXCP68 - DUMMY	439013.749	280701.278			No Entry	
EXCP69	438984.158	280604.168	438984.158	280604.168	Required	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP70	438968.694	280554.003	438968.694	280554.003	Required	
EXCP62	438957.750	280557.758	438957.750	280557.758	Required	
EXCP45	438946.477	280561.301	438946.477	280561.301	Required	
EXMH46	438916.754	280465.960	438916.754	280465.960	Required	
EXCP62-DUMMY	438957.700	280557.601			No Entry	
EXCP63	438927.696	280462.342	438927.696	280462.342	Required	
EXCP70 - DUMMY	438968.662	280553.902			No Entry	
EXCP71	438938.359	280458.060	438938.359	280458.060	Required	
EXCP73-DUMMY	438877.392	280268.198			No Entry	
EXCP72	438907.383	280362.190	438907.383	280362.190	Required	
EXCP64	438897.394	280366.323	438897.394	280366.323	Required	
EXCP47	438884.221	280370.319	438884.221	280370.319	Required	
EXCP48	438851.170	280274.880	438851.170	280274.880	Required	
EXCP64-DUMMY	438897.357	280366.211			No Entry	
EXCP65	438866.619	280271.560	438866.619	280271.560	Required	
EXCP73-DUMMY	438877.392	280268.198			No Entry	
EXCP74	438847.962	280177.048	438847.962	280177.048	Required	
EXCP66	438836.338	280178.436	438836.338	280178.436	Required	
EXCP49	438823.723	280179.025	438823.723	280179.025	Required	
EXDUMMY 31	438947.269	280700.613			No Entry	
EXDUMMY 32	438959.766	280695.182			No Entry	
EXCP51	438970.202	280688.189	438970.202	280688.189	Required	
EXDUMMY 33	438919.518	280630.359			No Entry	
EXDUMMY 34	438932.918	280624.791			No Entry	
EXCP52	438948.510	280616.340	438948.510	280616.340	Required	
EXDUMMY 35	438897.289	280557.679			No Entry	
EXDUMMY 36	438912.023	280552.213			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP53	438926.837	280543.082	438926.837	280543.082	Required	
EXDUMMY 37	438870.405	280461.070			No Entry	
EXDUMMY 38	438886.482	280454.983			No Entry	
EXCP54	438901.142	280448.826	438901.142	280448.826	Required	
EXDUMMY 39	438852.687	280412.472			No Entry	
EXDUMMY 40	438867.154	280406.780			No Entry	
EXCP55	438881.154	280397.851	438881.154	280397.851	Required	
EXDUMMY 41	438831.778	280346.513			No Entry	
EXDUMMY 42	438844.456	280341.854			No Entry	
EXCP56	438857.276	280335.143	438857.276	280335.143	Required	
EXDUMMY 43	438799.388	280275.275			No Entry	
EXDUMMY 44	438814.466	280269.099			No Entry	
EXCP57	438830.471	280258.810	438830.471	280258.810	Required	
EXDUMMY 45	438780.124	280188.813			No Entry	
EXDUMMY 46	438793.474	280184.791			No Entry	
EXCP50	438805.910	280180.190	438805.910	280180.190	Required	
EXDUMMY 1	439047.837	280684.503			No Entry	
EXDUMMY 2	439038.503	280684.723			No Entry	
EXCP75	439029.020	280683.660	439029.020	280683.660	Required	
EXDUMMY 3	439039.273	280673.895			No Entry	
EXDUMMY 4	439029.446	280674.375			No Entry	
EXCP76	439019.307	280674.214	439019.307	280674.214	Required	
EXDUMMY 5	439039.373	280661.658			No Entry	
EXDUMMY 6	439027.829	280661.918			No Entry	
EXCP77	439014.996	280661.878	439014.996	280661.878	Required	
EXDUMMY 7	439003.280	280557.914			No Entry	
EXDUMMY 8	438990.838	280558.031			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP78	438978.799	280556.447	438978.799	280556.447	Required	
EXDUMMY 9	438988.074	280461.393			No Entry	
EXDUMMY 10	438970.788	280461.748			No Entry	
EXCP79	438952.873	280459.775	438952.873	280459.775	Required	
EXDUMMY 11	438964.474	280390.379			No Entry	
EXDUMMY 12	438947.098	280391.524			No Entry	
EXCP80	438927.988	280390.508	438927.988	280390.508	Required	
EXDUMMY 13	438941.126	280320.472			No Entry	
EXDUMMY 14	438922.048	280320.665			No Entry	
EXCP81	438902.077	280319.154	438902.077	280319.154	Required	
EXDUMMY 15	438902.290	280222.123			No Entry	
EXDUMMY 16	438883.607	280221.734			No Entry	
EXCP82	438865.610	280220.310	438865.610	280220.310	Required	
EXDUMMY 17	438649.469	279549.828			No Entry	
EXDUMMY 18	438636.909	279558.266			No Entry	
EXCP84	438627.460	279574.180	438627.460	279574.180	Required	
EXDUMMY 19	438686.356	279606.636			No Entry	
EXDUMMY 20	438669.677	279614.250			No Entry	
EXCP85	438652.013	279629.954	438652.013	279629.954	Required	
EXDUMMY 21	438730.954	279707.809			No Entry	
EXDUMMY 22	438709.965	279716.325			No Entry	
EXCP86	438694.210	279728.710	438694.210	279728.710	Required	
EXDUMMY 23	438771.842	279804.899			No Entry	
EXDUMMY 24	438748.108	279810.568			No Entry	
EXCP87	438730.850	279822.860	438730.850	279822.860	Required	
EXDUMMY 25	438797.997	279888.262			No Entry	
EXDUMMY 26	438776.503	279893.949			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP88	438758.950	279907.580	438758.950	279907.580	Required	
EXDUMMY 27	438833.051	279981.152			No Entry	
EXDUMMY 28	438811.713	279987.065			No Entry	
EXCP89	438794.584	279999.645	438794.584	279999.645	Required	
EXDUMMY 29	438851.045	280064.925			No Entry	
EXDUMMY 30	438836.089	280069.337			No Entry	
EXCP90	438823.223	280078.926	438823.223	280078.926	Required	
EXHW10	438864.127	280174.287			No Entry	
EXCP83	438854.062	280173.747	438854.062	280173.747	Required	
EXDUMMY 47	438528.682	279607.402			No Entry	
EXDUMMY 48	438550.509	279603.629			No Entry	
EXCP91	438576.340	279602.840	438576.340	279602.840	Required	
EXDUMMY 49	438578.562	279703.556			No Entry	
EXDUMMY 50	438604.995	279699.572			No Entry	
EXCP92	438629.451	279699.472	438629.451	279699.472	Required	
EXDUMMY 51	438632.159	279800.235			No Entry	
EXDUMMY 52	438652.607	279800.132			No Entry	
EXCP93	438672.190	279801.000	438672.190	279801.000	Required	
EXDUMMY 53	438667.585	279900.910			No Entry	
EXDUMMY 54	438690.911	279900.248			No Entry	
EXCP94	438711.718	279901.941	438711.718	279901.941	Required	
EXDUMMY 55	438692.585	279991.208			No Entry	
EXDUMMY 56	438720.675	279992.003			No Entry	
EXCP95	438742.969	279993.182	438742.969	279993.182	Required	
EXCP49-DUMMY	438823.669	280178.861			No Entry	
EXCP66-DUMMY	438836.291	280178.247			No Entry	
EXCP74-DUMMY	438847.917	280176.899			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP97	438818.007	280077.175	438818.007	280077.175	Required	
EXCP98	438804.108	280080.975	438804.108	280080.975	Required	
EXCP99	438792.827	280084.547	438792.827	280084.547	Required	
EXDUMMY 57	438745.516	280089.511			No Entry	
EXDUMMY 58	438760.198	280088.937			No Entry	
EXCP96	438775.870	280089.090	438775.870	280089.090	Required	
EXCP51	438805.029	280175.882	438805.029	280175.882	Required	
EX	438733.820	280168.630			No Entry	

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Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
2.000	Classification	EW (Cut)	20	0.043	0.009	0.009
	Classification	Verge	50	0.010	0.005	0.014
	Classification	Paved	100	0.049	0.049	0.063
3.000	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.050	0.050	0.064
4.000	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.068	0.014	0.017
4.001	-	-	100	0.000	0.000	0.000
3.001	-	-	100	0.000	0.000	0.000
2.001	Classification	Paved	100	0.093	0.093	0.093
	Classification	Verge	50	0.028	0.014	0.107
	Classification	EW (Cut)	20	0.065	0.013	0.120
2.002	Classification	EW (Cut)	20	0.034	0.007	0.007
	Classification	Verge	50	0.009	0.005	0.011
	Classification	Paved	100	0.047	0.047	0.059
5.000	Classification	Paved	100	0.027	0.027	0.027
	Classification	Paved	100	0.095	0.095	0.122
5.001	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.048	0.048	0.062
6.000	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.067	0.013	0.022
6.001	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.033	0.007	0.011
6.002	-	-	100	0.000	0.000	0.000
5.002	-	-	100	0.000	0.000	0.000
2.003	Classification	EW (Cut)	20	0.066	0.013	0.013
	Classification	Verge	50	0.020	0.010	0.023
	Classification	Paved	100	0.092	0.092	0.115
2.004	Classification	EW (Cut)	20	0.060	0.012	0.012
	Classification	Verge	50	0.022	0.011	0.023
	Classification	Paved	100	0.097	0.097	0.120
7.000	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.092	0.092	0.118
7.001	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.093	0.093	0.119
8.000	Classification	Verge	50	0.015	0.008	0.008
	Classification	EW (Cut)	20	0.093	0.019	0.026
8.001	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.098	0.020	0.027
9.000	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.053	0.011	0.019
8.002	-	-	100	0.000	0.000	0.000
7.002	-	-	100	0.000	0.000	0.000
2.005	Classification	EW (Cut)	20	0.047	0.009	0.009
	Classification	Verge	50	0.025	0.012	0.022
	Classification	Paved	100	0.128	0.128	0.150
2.006	Classification	EW (Cut)	20	0.055	0.011	0.011
	Classification	Verge	50	0.019	0.010	0.021
	Classification	Paved	100	0.120	0.120	0.141
10.000	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.092	0.092	0.117
10.001	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.090	0.090	0.115
11.000	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.023	0.005	0.013
11.001	-	-	100	0.000	0.000	0.000
10.002	-	-	100	0.000	0.000	0.000
2.007	-	-	100	0.000	0.000	0.000
12.000	Classification	Overland	40	0.058	0.023	0.023
12.001	-	-	100	0.000	0.000	0.000
12.002	-	-	100	0.000	0.000	0.000
13.000	Classification	Overland	40	0.052	0.021	0.021
13.001	-	-	100	0.000	0.000	0.000
12.003	-	-	100	0.000	0.000	0.000
14.000	Classification	Overland	40	0.039	0.016	0.016
14.001	-	-	100	0.000	0.000	0.000
12.004	-	-	100	0.000	0.000	0.000
15.000	Classification	Overland	40	0.023	0.009	0.009
15.001	-	-	100	0.000	0.000	0.000
12.005	-	-	100	0.000	0.000	0.000
16.000	Classification	Overland	40	0.040	0.016	0.016
16.001	-	-	100	0.000	0.000	0.000
12.006	-	-	100	0.000	0.000	0.000
17.000	Classification	Overland	40	0.061	0.025	0.025
17.001	-	-	100	0.000	0.000	0.000
12.007	-	-	100	0.000	0.000	0.000
18.000	Classification	Overland	40	0.074	0.030	0.030
18.001	-	-	100	0.000	0.000	0.000
12.008	-	-	100	0.000	0.000	0.000
19.000	Classification	Overland	40	0.004	0.002	0.002
19.001	-	-	100	0.000	0.000	0.000
2.008	-	-	100	0.000	0.000	0.000
20.000	Classification	Overland	40	0.004	0.002	0.002
20.001	-	-	100	0.000	0.000	0.000
20.002	-	-	100	0.000	0.000	0.000
21.000	Classification	Overland	40	0.005	0.002	0.002
21.001	-	-	100	0.000	0.000	0.000
20.003	-	-	100	0.000	0.000	0.000

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Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
22.000	Classification	Overland	40	4.235	1.694	1.694
22.001	-	-	100	0.000	0.000	0.000
20.004	-	-	100	0.000	0.000	0.000
23.000	Classification	Overland	40	2.007	0.803	0.803
23.001	-	-	100	0.000	0.000	0.000
20.005	-	-	100	0.000	0.000	0.000
24.000	Classification	Overland	40	0.563	0.225	0.225
24.001	-	-	100	0.000	0.000	0.000
20.006	-	-	100	0.000	0.000	0.000
25.000	Classification	Overland	40	0.812	0.325	0.325
25.001	-	-	100	0.000	0.000	0.000
20.007	-	-	100	0.000	0.000	0.000
26.000	Classification	Overland	40	5.153	2.061	2.061
26.001	-	-	100	0.000	0.000	0.000
20.008	-	-	100	0.000	0.000	0.000
27.000	Classification	Overland	40	0.468	0.187	0.187
27.001	-	-	100	0.000	0.000	0.000
20.009	-	-	100	0.000	0.000	0.000
28.000	Classification	Overland	40	0.018	0.007	0.007
28.001	-	-	100	0.000	0.000	0.000
28.002	-	-	100	0.000	0.000	0.000
29.000	Classification	Overland	40	2.656	1.062	1.062
29.001	-	-	100	0.000	0.000	0.000
28.003	-	-	100	0.000	0.000	0.000
30.000	Classification	Overland	40	1.255	0.502	0.502
30.001	-	-	100	0.000	0.000	0.000
28.004	-	-	100	0.000	0.000	0.000
31.000	Classification	Overland	40	2.306	0.922	0.922
31.001	-	-	100	0.000	0.000	0.000
28.005	-	-	100	0.000	0.000	0.000
32.000	Classification	Overland	40	2.479	0.992	0.992
32.001	-	-	100	0.000	0.000	0.000
28.006	-	-	100	0.000	0.000	0.000
33.000	Classification	Overland	40	1.203	0.481	0.481
33.001	-	-	100	0.000	0.000	0.000
28.007	-	-	100	0.000	0.000	0.000
34.000	Classification	Overland	40	1.150	0.460	0.460
34.001	-	-	100	0.000	0.000	0.000
28.008	-	-	100	0.000	0.000	0.000
35.000	-	-	100	0.000	0.000	0.000
20.010	-	-	100	0.000	0.000	0.000
36.000	Classification	Overland	40	0.054	0.022	0.022
36.001	-	-	100	0.000	0.000	0.000
36.002	-	-	100	0.000	0.000	0.000
37.000	Classification	Overland	40	0.047	0.019	0.019
37.001	-	-	100	0.000	0.000	0.000
36.003	-	-	100	0.000	0.000	0.000
38.000	Classification	Overland	40	0.085	0.034	0.034
38.001	-	-	100	0.000	0.000	0.000
36.004	-	-	100	0.000	0.000	0.000
39.000	Classification	Overland	40	0.069	0.028	0.028
39.001	-	-	100	0.000	0.000	0.000
36.005	-	-	100	0.000	0.000	0.000
40.000	Classification	Overland	40	0.096	0.038	0.038
40.001	-	-	100	0.000	0.000	0.000
36.006	-	-	100	0.000	0.000	0.000
41.000	Classification	EW (Cut)	20	0.073	0.015	0.015
	Classification	Verge	50	0.014	0.007	0.022
	Classification	Paved	100	0.093	0.093	0.115
42.000	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.127	0.127	0.154
43.000	Classification	Verge	50	0.009	0.005	0.005
	Classification	EW (Cut)	20	0.039	0.008	0.012
43.001	-	-	100	0.000	0.000	0.000
42.001	-	-	100	0.000	0.000	0.000
41.001	-	-	100	0.000	0.000	0.000
44.000	Classification	Overland	40	0.089	0.036	0.036
44.001	-	-	100	0.000	0.000	0.000
36.007	-	-	100	0.000	0.000	0.000
2.009	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				27.864	11.942	11.942

Free Flowing Outfall Details for Existing

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
EX2.009	EX	73.000	72.160	0.000	0	0

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Online Controls for Existing

Depth/Flow Relationship Manhole: EXDUMMY 32, DS/PN: EX12.001, Volume (m³): 0.2

Invert Level (m) 78.363

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: EXDUMMY 34, DS/PN: EX13.001, Volume (m³): 0.3

Invert Level (m) 76.711

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: EXDUMMY 36, DS/PN: EX14.001, Volume (m³): 0.3

Invert Level (m) 76.489

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: EXDUMMY 38, DS/PN: EX15.001, Volume (m³): 0.3

Invert Level (m) 77.206

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: EXDUMMY 40, DS/PN: EX16.001, Volume (m³): 0.3

Invert Level (m) 77.069

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: EXDUMMY 42, DS/PN: EX17.001, Volume (m³): 0.2

Invert Level (m) 75.943

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: EXDUMMY 44, DS/PN: EX18.001, Volume (m³): 0.3

Invert Level (m) 75.097

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

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Depth/Flow Relationship Manhole: EXDUMMY 46, DS/PN: EX19.001, Volume (m³): 0.2

Invert Level (m) 74.472

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: EXDUMMY 2, DS/PN: EX20.001, Volume (m³): 0.2

Invert Level (m) 82.001

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: EXDUMMY 4, DS/PN: EX21.001, Volume (m³): 0.2

Invert Level (m) 79.810

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: EXDUMMY 6, DS/PN: EX22.001, Volume (m³): 0.2

Invert Level (m) 78.957

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	15.4000	0.600	15.4000	1.100	15.4000	1.600	15.4000	2.100	15.4000	2.600	15.4000
0.200	15.4000	0.700	15.4000	1.200	15.4000	1.700	15.4000	2.200	15.4000	2.700	15.4000
0.300	15.4000	0.800	15.4000	1.300	15.4000	1.800	15.4000	2.300	15.4000	2.800	15.4000
0.400	15.4000	0.900	15.4000	1.400	15.4000	1.900	15.4000	2.400	15.4000	2.900	15.4000
0.500	15.4000	1.000	15.4000	1.500	15.4000	2.000	15.4000	2.500	15.4000	3.000	15.4000

Depth/Flow Relationship Manhole: EXDUMMY 8, DS/PN: EX23.001, Volume (m³): 0.2

Invert Level (m) 78.235

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	7.3000	0.600	7.3000	1.100	7.3000	1.600	7.3000	2.100	7.3000	2.600	7.3000
0.200	7.3000	0.700	7.3000	1.200	7.3000	1.700	7.3000	2.200	7.3000	2.700	7.3000
0.300	7.3000	0.800	7.3000	1.300	7.3000	1.800	7.3000	2.300	7.3000	2.800	7.3000
0.400	7.3000	0.900	7.3000	1.400	7.3000	1.900	7.3000	2.400	7.3000	2.900	7.3000
0.500	7.3000	1.000	7.3000	1.500	7.3000	2.000	7.3000	2.500	7.3000	3.000	7.3000

Depth/Flow Relationship Manhole: EXDUMMY 10, DS/PN: EX24.001, Volume (m³): 0.3

Invert Level (m) 79.505

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.1000	0.600	2.1000	1.100	2.1000	1.600	2.1000	2.100	2.1000	2.600	2.1000
0.200	2.1000	0.700	2.1000	1.200	2.1000	1.700	2.1000	2.200	2.1000	2.700	2.1000
0.300	2.1000	0.800	2.1000	1.300	2.1000	1.800	2.1000	2.300	2.1000	2.800	2.1000
0.400	2.1000	0.900	2.1000	1.400	2.1000	1.900	2.1000	2.400	2.1000	2.900	2.1000
0.500	2.1000	1.000	2.1000	1.500	2.1000	2.000	2.1000	2.500	2.1000	3.000	2.1000

Depth/Flow Relationship Manhole: EXDUMMY 12, DS/PN: EX25.001, Volume (m³): 0.3

Invert Level (m) 78.665

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.0000	0.600	3.0000	1.100	3.0000	1.600	3.0000	2.100	3.0000	2.600	3.0000
0.200	3.0000	0.700	3.0000	1.200	3.0000	1.700	3.0000	2.200	3.0000	2.700	3.0000
0.300	3.0000	0.800	3.0000	1.300	3.0000	1.800	3.0000	2.300	3.0000	2.800	3.0000
0.400	3.0000	0.900	3.0000	1.400	3.0000	1.900	3.0000	2.400	3.0000	2.900	3.0000
0.500	3.0000	1.000	3.0000	1.500	3.0000	2.000	3.0000	2.500	3.0000	3.000	3.0000

Depth/Flow Relationship Manhole: EXDUMMY 14, DS/PN: EX26.001, Volume (m³): 0.3

Invert Level (m) 77.102

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Depth/Flow Relationship Manhole: EXDUMMY 14, DS/PN: EX26.001, Volume (m³): 0.3

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	18.8000	0.600	18.8000	1.100	18.8000	1.600	18.8000	2.100	18.8000	2.600	18.8000
0.200	18.8000	0.700	18.8000	1.200	18.8000	1.700	18.8000	2.200	18.8000	2.700	18.8000
0.300	18.8000	0.800	18.8000	1.300	18.8000	1.800	18.8000	2.300	18.8000	2.800	18.8000
0.400	18.8000	0.900	18.8000	1.400	18.8000	1.900	18.8000	2.400	18.8000	2.900	18.8000
0.500	18.8000	1.000	18.8000	1.500	18.8000	2.000	18.8000	2.500	18.8000	3.000	18.8000

Depth/Flow Relationship Manhole: EXDUMMY 16, DS/PN: EX27.001, Volume (m³): 0.3

Invert Level (m) 75.983

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.7000	0.600	1.7000	1.100	1.7000	1.600	1.7000	2.100	1.7000	2.600	1.7000
0.200	1.7000	0.700	1.7000	1.200	1.7000	1.700	1.7000	2.200	1.7000	2.700	1.7000
0.300	1.7000	0.800	1.7000	1.300	1.7000	1.800	1.7000	2.300	1.7000	2.800	1.7000
0.400	1.7000	0.900	1.7000	1.400	1.7000	1.900	1.7000	2.400	1.7000	2.900	1.7000
0.500	1.7000	1.000	1.7000	1.500	1.7000	2.000	1.7000	2.500	1.7000	3.000	1.7000

Depth/Flow Relationship Manhole: EXDUMMY 18, DS/PN: EX28.001, Volume (m³): 0.3

Invert Level (m) 79.160

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: EXDUMMY 20, DS/PN: EX29.001, Volume (m³): 0.3

Invert Level (m) 77.793

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	9.7000	0.600	9.7000	1.100	9.7000	1.600	9.7000	2.100	9.7000	2.600	9.7000
0.200	9.7000	0.700	9.7000	1.200	9.7000	1.700	9.7000	2.200	9.7000	2.700	9.7000
0.300	9.7000	0.800	9.7000	1.300	9.7000	1.800	9.7000	2.300	9.7000	2.800	9.7000
0.400	9.7000	0.900	9.7000	1.400	9.7000	1.900	9.7000	2.400	9.7000	2.900	9.7000
0.500	9.7000	1.000	9.7000	1.500	9.7000	2.000	9.7000	2.500	9.7000	3.000	9.7000

Depth/Flow Relationship Manhole: EXDUMMY 22, DS/PN: EX30.001, Volume (m³): 0.4

Invert Level (m) 77.145

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.6000	0.600	4.6000	1.100	4.6000	1.600	4.6000	2.100	4.6000	2.600	4.6000
0.200	4.6000	0.700	4.6000	1.200	4.6000	1.700	4.6000	2.200	4.6000	2.700	4.6000
0.300	4.6000	0.800	4.6000	1.300	4.6000	1.800	4.6000	2.300	4.6000	2.800	4.6000
0.400	4.6000	0.900	4.6000	1.400	4.6000	1.900	4.6000	2.400	4.6000	2.900	4.6000
0.500	4.6000	1.000	4.6000	1.500	4.6000	2.000	4.6000	2.500	4.6000	3.000	4.6000

Depth/Flow Relationship Manhole: EXDUMMY 24, DS/PN: EX31.001, Volume (m³): 0.4

Invert Level (m) 76.721

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	8.4000	0.600	8.4000	1.100	8.4000	1.600	8.4000	2.100	8.4000	2.600	8.4000
0.200	8.4000	0.700	8.4000	1.200	8.4000	1.700	8.4000	2.200	8.4000	2.700	8.4000
0.300	8.4000	0.800	8.4000	1.300	8.4000	1.800	8.4000	2.300	8.4000	2.800	8.4000
0.400	8.4000	0.900	8.4000	1.400	8.4000	1.900	8.4000	2.400	8.4000	2.900	8.4000
0.500	8.4000	1.000	8.4000	1.500	8.4000	2.000	8.4000	2.500	8.4000	3.000	8.4000

Depth/Flow Relationship Manhole: EXDUMMY 26, DS/PN: EX32.001, Volume (m³): 0.4

Invert Level (m) 75.636

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	9.0000	0.600	9.0000	1.100	9.0000	1.600	9.0000	2.100	9.0000	2.600	9.0000
0.200	9.0000	0.700	9.0000	1.200	9.0000	1.700	9.0000	2.200	9.0000	2.700	9.0000
0.300	9.0000	0.800	9.0000	1.300	9.0000	1.800	9.0000	2.300	9.0000	2.800	9.0000
0.400	9.0000	0.900	9.0000	1.400	9.0000	1.900	9.0000	2.400	9.0000	2.900	9.0000
0.500	9.0000	1.000	9.0000	1.500	9.0000	2.000	9.0000	2.500	9.0000	3.000	9.0000

Depth/Flow Relationship Manhole: EXDUMMY 28, DS/PN: EX33.001, Volume (m³): 0.4

Invert Level (m) 75.476

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.4000	0.300	4.4000	0.500	4.4000	0.700	4.4000	0.900	4.4000	1.100	4.4000
0.200	4.4000	0.400	4.4000	0.600	4.4000	0.800	4.4000	1.000	4.4000	1.200	4.4000

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Depth/Flow Relationship Manhole: EXDUMMY 28, DS/PN: EX33.001, Volume (m³): 0.4

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
1.300	4.4000	1.600	4.4000	1.900	4.4000	2.200	4.4000	2.500	4.4000	2.800	4.4000
1.400	4.4000	1.700	4.4000	2.000	4.4000	2.300	4.4000	2.600	4.4000	2.900	4.4000
1.500	4.4000	1.800	4.4000	2.100	4.4000	2.400	4.4000	2.700	4.4000	3.000	4.4000

Depth/Flow Relationship Manhole: EXDUMMY 30, DS/PN: EX34.001, Volume (m³): 0.3

Invert Level (m) 76.209

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.2000	0.600	4.2000	1.100	4.2000	1.600	4.2000	2.100	4.2000	2.600	4.2000
0.200	4.2000	0.700	4.2000	1.200	4.2000	1.700	4.2000	2.200	4.2000	2.700	4.2000
0.300	4.2000	0.800	4.2000	1.300	4.2000	1.800	4.2000	2.300	4.2000	2.800	4.2000
0.400	4.2000	0.900	4.2000	1.400	4.2000	1.900	4.2000	2.400	4.2000	2.900	4.2000
0.500	4.2000	1.000	4.2000	1.500	4.2000	2.000	4.2000	2.500	4.2000	3.000	4.2000

Depth/Flow Relationship Manhole: EXDUMMY 48, DS/PN: EX36.001, Volume (m³): 0.4

Invert Level (m) 78.486

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: EXDUMMY 50, DS/PN: EX37.001, Volume (m³): 0.5

Invert Level (m) 77.187

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: EXDUMMY 52, DS/PN: EX38.001, Volume (m³): 0.4

Invert Level (m) 75.999

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: EXDUMMY 54, DS/PN: EX39.001, Volume (m³): 0.4

Invert Level (m) 74.883

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: EXDUMMY 56, DS/PN: EX40.001, Volume (m³): 0.5

Invert Level (m) 74.514

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: EXDUMMY 58, DS/PN: EX44.001, Volume (m³): 0.3

Invert Level (m) 74.851

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.500	0.3000	0.900	0.3000	1.300	0.3000	1.700	0.3000	2.100	0.3000
0.200	0.3000	0.600	0.3000	1.000	0.3000	1.400	0.3000	1.800	0.3000	2.200	0.3000
0.300	0.3000	0.700	0.3000	1.100	0.3000	1.500	0.3000	1.900	0.3000	2.300	0.3000
0.400	0.3000	0.800	0.3000	1.200	0.3000	1.600	0.3000	2.000	0.3000	2.400	0.3000

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Depth/Flow Relationship Manhole: EXDUMMY 58, DS/PN: EX44.001, Volume (m³): 0.3

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
2.500	0.3000	2.600	0.3000	2.700	0.3000	2.800	0.3000	2.900	0.3000	3.000	0.3000

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 29 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH D3 (1km) 0.233
FEH Rainfall Version 1999 E (1km) 0.299
Site Location GB 438400 279200 SP 38400 79200 F (1km) 2.381
C (1km) -0.025 Cv (Summer) 0.900
D1 (1km) 0.382 Cv (Winter) 0.900
D2 (1km) 0.332

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1
Climate Change (%) 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
EX2.000	EXCP42	15 Summer	1	+0%					74.486	-0.130	0.000	0.35
EX3.000	EXCP58	15 Summer	1	+0%					74.798	-0.138	0.000	0.30
EX4.000	EXCP67	15 Summer	1	+0%					75.122	-0.108	0.000	0.17
EX4.001	EXCP68	15 Summer	1	+0%					74.519	-0.146	0.000	0.21
EX3.001	EXCP59	15 Summer	1	+0%					74.495	-0.156	0.000	0.21
EX2.001	EXCP43	15 Summer	1	+0%					74.341	-0.220	0.000	0.30
EX2.002	EXCP44	15 Summer	1	+0%					74.013	-0.182	0.000	0.42
EX5.000	EXCP60	15 Summer	1	+0%					74.672	-0.102	0.000	0.50
EX5.001	EXCP61	15 Summer	1	+0%					74.162	-0.158	0.000	0.43
EX6.000	EXCP68 - DUMMY	15 Summer	1	+0%					74.779	-0.176	0.000	0.09
EX6.001	EXCP69	15 Summer	1	+0%					74.252	-0.163	0.000	0.17
EX6.002	EXCP70	15 Summer	1	+0%					74.012	-0.248	0.000	0.05
EX5.002	EXCP62	15 Summer	1	+0%					73.996	-0.154	0.000	0.48
EX2.003	EXCP45	15 Summer	1	+0%					73.954	-0.121	0.000	0.73
EX2.004	EXMH46	30 Summer	1	+0%					73.712	-0.123	0.000	0.76
EX7.000	EXCP62-DUMMY	15 Summer	1	+0%					74.497	-0.098	0.000	0.51
EX7.001	EXCP63	15 Summer	1	+0%					74.068	-0.047	0.000	0.90
EX8.000	EXCP70 - DUMMY	15 Summer	1	+0%					74.396	-0.074	0.000	0.42
EX8.001	EXCP71	15 Summer	1	+0%					74.109	-0.071	0.000	0.48
EX9.000	EXCP73-DUMMY	30 Summer	1	+0%					73.559	-0.011	0.000	0.25
EX8.002	EXCP72	15 Summer	1	+0%	1/15 Summer				73.545	0.055	0.000	0.25
EX7.002	EXCP64	15 Summer	1	+0%					73.539	-0.101	0.000	0.77
EX2.005	EXCP47	30 Summer	1	+0%					73.453	-0.147	0.000	0.76
EX2.006	EXCP48	30 Summer	1	+0%					73.248	-0.162	0.000	0.72
EX10.000	EXCP64-DUMMY	15 Summer	1	+0%					74.157	-0.098	0.000	0.51
EX10.001	EXCP65	15 Summer	1	+0%					73.716	-0.059	0.000	0.78
EX11.000	EXCP73-DUMMY	15 Summer	1	+0%					74.136	-0.114	0.000	0.12
EX11.001	EXCP74	15 Summer	1	+0%					73.249	-0.056	0.000	0.04
EX10.002	EXCP66	15 Summer	1	+0%	1/15 Summer				73.247	0.012	0.000	1.57
EX2.007	EXCP49	60 Summer	1	+0%					73.003	-0.197	0.000	0.60
EX12.000	EXDUMMY 31	15 Summer	1	+0%					78.540	0.000	0.000	0.31
EX12.001	EXDUMMY 32	15 Summer	1	+0%					78.513	0.000	0.000	0.04
EX12.002	EXCP51	120 Winter	1	+0%					77.248	-0.142	0.000	0.01
EX13.000	EXDUMMY 33	15 Summer	1	+0%					76.890	0.000	0.000	0.28
EX13.001	EXDUMMY 34	15 Summer	1	+0%					76.861	0.000	0.000	0.04
EX12.003	EXCP52	600 Summer	1	+0%					75.719	-0.131	0.000	0.04
EX14.000	EXDUMMY 35	1440 Summer	1	+0%					76.670	0.000	0.000	0.03
EX14.001	EXDUMMY 36	15 Summer	1	+0%					76.639	0.000	0.000	0.02
EX12.004	EXCP53	960 Summer	1	+0%					75.169	-0.131	0.000	0.04
EX15.000	EXDUMMY 37	240 Summer	1	+0%					77.388	-0.002	0.000	0.04
EX15.001	EXDUMMY 38	600 Summer	1	+0%					77.356	0.000	0.000	0.02
EX12.005	EXCP54	180 Summer	1	+0%					74.026	-0.124	0.000	0.07
EX16.000	EXDUMMY 39	1440 Summer	1	+0%					77.250	0.000	0.000	0.03
EX16.001	EXDUMMY 40	15 Summer	1	+0%					77.219	0.000	0.000	0.02
EX12.006	EXCP55	240 Winter	1	+0%					73.781	-0.119	0.000	0.09
EX17.000	EXDUMMY 41	15 Summer	1	+0%					76.120	0.000	0.000	0.31
EX17.001	EXDUMMY 42	15 Summer	1	+0%					76.093	0.000	0.000	0.04
EX12.007	EXCP56	240 Winter	1	+0%					73.529	-0.121	0.000	0.08
EX18.000	EXDUMMY 43	15 Summer	1	+0%					75.280	0.000	0.000	0.37
EX18.001	EXDUMMY 44	15 Summer	1	+0%					75.247	0.000	0.000	0.05
EX12.008	EXCP57	240 Summer	1	+0%					72.943	-0.107	0.000	0.18
EX19.000	EXDUMMY 45	1440 Winter	1	+0%					74.640	-0.010	0.000	0.00
EX19.001	EXDUMMY 46	1440 Summer	1	+0%					74.622	0.000	0.000	0.00
EX2.008	EXCP50	60 Summer	1	+0%					72.854	-0.256	0.000	0.39
EX20.000	EXDUMMY 1	1440 Summer	1	+0%					82.170	0.000	0.000	0.00
EX20.001	EXDUMMY 2	1440 Summer	1	+0%					82.151	0.000	0.000	0.00
EX20.002	EXCP75	15 Summer	1	+0%					80.870	-0.150	0.000	0.00
EX21.000	EXDUMMY 3	1440 Summer	1	+0%					79.980	0.000	0.000	0.00
EX21.001	EXDUMMY 4	1440 Summer	1	+0%					79.960	0.000	0.000	0.00
EX20.003	EXCP76	480 Summer	1	+0%	1/15 Summer				79.189	0.359	0.000	0.01

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX2.000	EXCP42			7.7	OK	
EX3.000	EXCP58			7.9	OK	
EX4.000	EXCP67			2.1	OK	
EX4.001	EXCP68			2.1	OK	
EX3.001	EXCP59			10.0	OK	
EX2.001	EXCP43			25.3	OK	
EX2.002	EXCP44			27.7	OK	
EX5.000	EXCP60			13.9	OK	
EX5.001	EXCP61			18.9	OK	
EX6.000	EXCP68 - DUMMY			2.4	OK*	
EX6.001	EXCP69			3.4	OK	
EX6.002	EXCP70			3.3	OK	
EX5.002	EXCP62			21.7	OK	
EX2.003	EXCP45			50.0	OK	
EX2.004	EXMH46			51.5	OK	
EX7.000	EXCP62-DUMMY			13.1	OK*	
EX7.001	EXCP63			22.4	OK	
EX8.000	EXCP70 - DUMMY			2.9	OK*	
EX8.001	EXCP71			5.0	OK	
EX9.000	EXCP73-DUMMY			1.6	OK*	
EX8.002	EXCP72			6.0	SURCHARGED	
EX7.002	EXCP64			27.6	OK	
EX2.005	EXCP47			74.4	OK	
EX2.006	EXCP48			74.4	OK	
EX10.000	EXCP64-DUMMY			13.0	OK*	
EX10.001	EXCP65			21.2	OK	
EX11.000	EXCP73-DUMMY			1.5	OK*	
EX11.001	EXCP74			1.3	OK	
EX10.002	EXCP66			21.9	SURCHARGED	
EX2.007	EXCP49			86.6	OK	
EX12.000	EXDUMMY 31			1.6	FLOOD RISK*	
EX12.001	EXDUMMY 32			0.2	FLOOD RISK*	
EX12.002	EXCP51			0.2	OK	
EX13.000	EXDUMMY 33			1.5	FLOOD RISK*	
EX13.001	EXDUMMY 34			0.2	FLOOD RISK*	
EX12.003	EXCP52			0.4	OK	
EX14.000	EXDUMMY 35			0.1	FLOOD RISK*	
EX14.001	EXDUMMY 36			0.1	FLOOD RISK*	
EX12.004	EXCP53			0.5	OK	
EX15.000	EXDUMMY 37			0.2	FLOOD RISK*	
EX15.001	EXDUMMY 38			0.1	FLOOD RISK*	
EX12.005	EXCP54			0.6	OK	
EX16.000	EXDUMMY 39			0.2	FLOOD RISK*	
EX16.001	EXDUMMY 40			0.1	FLOOD RISK*	
EX12.006	EXCP55			0.7	OK	
EX17.000	EXDUMMY 41			1.6	FLOOD RISK*	
EX17.001	EXDUMMY 42			0.2	FLOOD RISK*	
EX12.007	EXCP56			0.9	OK	
EX18.000	EXDUMMY 43			2.0	FLOOD RISK*	
EX18.001	EXDUMMY 44			0.3	FLOOD RISK*	
EX12.008	EXCP57			1.2	OK	
EX19.000	EXDUMMY 45			0.0	FLOOD RISK*	
EX19.001	EXDUMMY 46			0.0	FLOOD RISK*	
EX2.008	EXCP50			87.9	OK	
EX20.000	EXDUMMY 1			0.0	FLOOD RISK*	
EX20.001	EXDUMMY 2			0.0	FLOOD RISK*	
EX20.002	EXCP75			0.0	OK	
EX21.000	EXDUMMY 3			0.0	FLOOD RISK*	
EX21.001	EXDUMMY 4			0.0	FLOOD RISK*	
EX20.003	EXCP76			0.2	SURCHARGED	

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
EX22.000	EXDUMMY 5	15 Summer	1	+0%					79.130	0.000	0.000	3.11
EX22.001	EXDUMMY 6	15 Summer	1	+0%					79.107	0.000	0.000	2.95
EX20.004	EXCP77	480 Summer	1	+0%	1/15 Summer	1/60 Summer			79.189	1.209	8.588	2.55
EX23.000	EXDUMMY 7	15 Summer	1	+0%					78.410	0.000	0.000	1.96
EX23.001	EXDUMMY 8	15 Summer	1	+0%					78.385	0.000	0.000	1.48
EX20.005	EXCP78	480 Summer	1	+0%					77.606	-0.154	0.000	0.48
EX24.000	EXDUMMY 9	15 Summer	1	+0%					79.690	0.000	0.000	0.94
EX24.001	EXDUMMY 10	15 Summer	1	+0%					79.655	0.000	0.000	0.39
EX20.006	EXCP79	480 Summer	1	+0%					77.275	-0.155	0.000	0.48
EX25.000	EXDUMMY 11	15 Summer	1	+0%					78.850	0.000	0.000	1.16
EX25.001	EXDUMMY 12	15 Summer	1	+0%					78.815	0.000	0.000	0.55
EX20.007	EXCP80	480 Summer	1	+0%					76.927	-0.203	0.000	0.23
EX26.000	EXDUMMY 13	15 Summer	1	+0%					77.290	0.000	0.000	2.36
EX26.001	EXDUMMY 14	15 Summer	1	+0%					77.252	0.000	0.000	2.36
EX20.008	EXCP81	480 Summer	1	+0%	1/60 Summer				75.512	0.042	0.000	1.10
EX27.000	EXDUMMY 15	15 Summer	1	+0%					76.170	0.000	0.000	0.91
EX27.001	EXDUMMY 16	15 Summer	1	+0%					76.133	0.000	0.000	0.31
EX20.009	EXCP82	480 Summer	1	+0%					74.931	-0.179	0.000	0.34
EX28.000	EXDUMMY 17	180 Summer	1	+0%					79.302	-0.038	0.000	0.05
EX28.001	EXDUMMY 18	180 Summer	1	+0%					79.302	-0.008	0.000	0.02
EX28.002	EXCP84	240 Summer	1	+0%					78.047	-0.143	0.000	0.01
EX29.000	EXDUMMY 19	15 Summer	1	+0%					77.980	0.000	0.000	2.05
EX29.001	EXDUMMY 20	15 Summer	1	+0%					77.943	0.000	0.000	1.74
EX28.003	EXCP85	480 Summer	1	+0%	1/15 Summer	1/120 Summer			78.032	1.202	1.979	0.99
EX30.000	EXDUMMY 21	15 Summer	1	+0%					77.340	0.000	0.000	1.50
EX30.001	EXDUMMY 22	15 Summer	1	+0%					77.295	0.000	0.000	0.83
EX28.004	EXCP86	720 Summer	1	+0%	1/15 Summer	1/15 Summer			77.434	1.244	44.256	1.76
EX31.000	EXDUMMY 23	15 Summer	1	+0%					76.920	0.000	0.000	1.97
EX31.001	EXDUMMY 24	15 Summer	1	+0%					76.871	0.000	0.000	1.51
EX28.005	EXCP87	600 Summer	1	+0%	1/15 Summer				76.723	0.953	0.000	1.37
EX32.000	EXDUMMY 25	15 Summer	1	+0%					75.830	0.000	0.000	2.03
EX32.001	EXDUMMY 26	15 Summer	1	+0%					75.786	0.000	0.000	1.62
EX28.006	EXCP88	600 Summer	1	+0%					74.489	-0.191	0.000	0.49
EX33.000	EXDUMMY 27	15 Summer	1	+0%					75.670	0.000	0.000	1.50
EX33.001	EXDUMMY 28	15 Summer	1	+0%					75.626	0.000	0.000	0.82
EX28.007	EXCP89	600 Summer	1	+0%					74.277	-0.238	0.000	0.29
EX34.000	EXDUMMY 29	15 Summer	1	+0%					76.390	0.000	0.000	1.43
EX34.001	EXDUMMY 30	15 Summer	1	+0%					76.359	0.000	0.000	0.78
EX28.008	EXCP90	600 Summer	1	+0%					73.778	-0.197	0.000	0.46
EX35.000	EXHW10	15 Summer	1	+0%					76.500	-0.225	0.000	0.00
EX20.010	EXCP83	480 Summer	1	+0%					73.214	-0.436	0.000	0.17
EX36.000	EXDUMMY 47	960 Summer	1	+0%					78.680	0.000	0.000	0.05
EX36.001	EXDUMMY 48	15 Summer	1	+0%					78.636	0.000	0.000	0.04
EX36.002	EXCP91	360 Winter	1	+0%					77.391	-0.139	0.000	0.01
EX37.000	EXDUMMY 49	600 Summer	1	+0%					77.390	0.000	0.000	0.06
EX37.001	EXDUMMY 50	15 Summer	1	+0%					77.337	0.000	0.000	0.04
EX36.003	EXCP92	240 Summer	1	+0%					76.107	-0.133	0.000	0.03
EX38.000	EXDUMMY 51	15 Summer	1	+0%					76.190	0.000	0.000	0.45
EX38.001	EXDUMMY 52	15 Summer	1	+0%					76.149	0.000	0.000	0.06
EX36.004	EXCP93	120 Winter	1	+0%					74.913	-0.127	0.000	0.06
EX39.000	EXDUMMY 53	15 Summer	1	+0%					75.080	0.000	0.000	0.45
EX39.001	EXDUMMY 54	15 Summer	1	+0%					75.033	0.000	0.000	0.05
EX36.005	EXCP94	60 Winter	1	+0%					73.816	-0.114	0.000	0.13
EX40.000	EXDUMMY 55	15 Summer	1	+0%					74.720	0.000	0.000	0.60
EX40.001	EXDUMMY 56	15 Summer	1	+0%					74.664	0.000	0.000	0.05
EX36.006	EXCP95	480 Winter	1	+0%					73.381	-0.189	0.000	0.06
EX41.000	EXCP49-DUMMY	15 Summer	1	+0%					73.577	-0.098	0.000	0.51
EX42.000	EXCP66-DUMMY	15 Summer	1	+0%					73.856	-0.069	0.000	0.68
EX43.000	EXCP74-DUMMY	15 Summer	1	+0%					74.030	-0.110	0.000	0.16
EX43.001	EXCP97	15 Summer	1	+0%					73.328	-0.147	0.000	0.13
EX42.001	EXCP98	15 Summer	1	+0%					73.317	-0.128	0.000	0.38
EX41.001	EXCP99	15 Summer	1	+0%					73.222	-0.068	0.000	0.94
EX44.000	EXDUMMY 57	15 Summer	1	+0%					75.030	0.000	0.000	0.39
EX44.001	EXDUMMY 58	15 Summer	1	+0%					75.001	0.000	0.000	0.06
EX36.007	EXCP96	15 Summer	1	+0%					73.096	-0.124	0.000	0.59
EX2.009	EXCP51	60 Summer	1	+0%					72.813	-0.287	0.000	0.54

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX22.000	EXDUMMY 5			15.0	FLOOD RISK*	
EX22.001	EXDUMMY 6			15.0	FLOOD RISK*	
EX20.004	EXCP77			14.0	FLOOD	16
EX23.000	EXDUMMY 7			9.8	FLOOD RISK*	
EX23.001	EXDUMMY 8			7.3	FLOOD RISK*	
EX20.005	EXCP78			21.3	OK	
EX24.000	EXDUMMY 9			5.1	FLOOD RISK*	
EX24.001	EXDUMMY 10			2.1	FLOOD RISK*	
EX20.006	EXCP79			23.4	OK	
EX25.000	EXDUMMY 11			6.3	FLOOD RISK*	
EX25.001	EXDUMMY 12			3.0	FLOOD RISK*	
EX20.007	EXCP80			26.4	OK	
EX26.000	EXDUMMY 13			12.8	FLOOD RISK*	
EX26.001	EXDUMMY 14			12.7	FLOOD RISK*	

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX20.008	EXCP81			43.9	SURCHARGED	
EX27.000	EXDUMMY 15			4.9	FLOOD RISK*	
EX27.001	EXDUMMY 16			1.7	FLOOD RISK*	
EX20.009	EXCP82			45.6	OK	
EX28.000	EXDUMMY 17			0.2	FLOOD RISK*	
EX28.001	EXDUMMY 18			0.1	FLOOD RISK*	
EX28.002	EXCP84			0.1	OK	
EX29.000	EXDUMMY 19			11.4	FLOOD RISK*	
EX29.001	EXDUMMY 20			9.7	FLOOD RISK*	
EX28.003	EXCP85			9.5	FLOOD	13
EX30.000	EXDUMMY 21			8.3	FLOOD RISK*	
EX30.001	EXDUMMY 22			4.6	FLOOD RISK*	
EX28.004	EXCP86			14.0	FLOOD	24
EX31.000	EXDUMMY 23			11.0	FLOOD RISK*	
EX31.001	EXDUMMY 24			8.4	FLOOD RISK*	
EX28.005	EXCP87			18.8	FLOOD RISK	
EX32.000	EXDUMMY 25			11.3	FLOOD RISK*	
EX32.001	EXDUMMY 26			9.0	FLOOD RISK*	
EX28.006	EXCP88			27.8	OK	
EX33.000	EXDUMMY 27			8.1	FLOOD RISK*	
EX33.001	EXDUMMY 28			4.4	FLOOD RISK*	
EX28.007	EXCP89			32.2	OK	
EX34.000	EXDUMMY 29			7.6	FLOOD RISK*	
EX34.001	EXDUMMY 30			4.2	FLOOD RISK*	
EX28.008	EXCP90			36.4	OK	
EX35.000	EXHW10			0.0	OK*	
EX20.010	EXCP83			81.9	OK	
EX36.000	EXDUMMY 47			0.3	FLOOD RISK*	
EX36.001	EXDUMMY 48			0.2	FLOOD RISK*	
EX36.002	EXCP91			0.2	OK	
EX37.000	EXDUMMY 49			0.3	FLOOD RISK*	
EX37.001	EXDUMMY 50			0.2	FLOOD RISK*	
EX36.003	EXCP92			0.4	OK	
EX38.000	EXDUMMY 51			2.4	FLOOD RISK*	
EX38.001	EXDUMMY 52			0.3	FLOOD RISK*	
EX36.004	EXCP93			0.7	OK	
EX39.000	EXDUMMY 53			2.5	FLOOD RISK*	
EX39.001	EXDUMMY 54			0.3	FLOOD RISK*	
EX36.005	EXCP94			1.0	OK	
EX40.000	EXDUMMY 55			3.3	FLOOD RISK*	
EX40.001	EXDUMMY 56			0.3	FLOOD RISK*	
EX36.006	EXCP95			1.3	OK	
EX41.000	EXCP49-DUMMY			12.7	OK*	
EX42.000	EXCP66-DUMMY			16.9	OK*	
EX43.000	EXCP74-DUMMY			1.6	OK*	
EX43.001	EXCP97			1.6	OK	
EX42.001	EXCP98			18.1	OK	
EX41.001	EXCP99			29.2	OK	
EX44.000	EXDUMMY 57			2.0	FLOOD RISK*	
EX44.001	EXDUMMY 58			0.3	FLOOD RISK*	
EX36.007	EXCP96			26.9	OK	
EX2.009	EXCP51			173.7	OK	

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX2.000	54.459	0.205	265.7	0.063	5.00	0.0	5.200	o	225	Pipe/Conduit
EX3.000	53.186	0.285	186.6	0.064	5.00	0.0	5.200	o	225	Pipe/Conduit
EX4.000	55.069	0.610	90.3	0.017	5.00	0.0	4.800	o	150	Pipe/Conduit
EX4.001	11.244	0.014	803.2	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX3.001	11.729	0.240	48.9	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX2.001	102.125	0.366	279.0	0.120	0.00	0.0	5.700	o	375	Pipe/Conduit
EX2.002	51.792	0.120	431.6	0.059	0.00	0.0	5.700	o	375	Pipe/Conduit
EX5.000	86.642	0.502	172.6	0.122	5.00	0.0	5.200	o	225	Pipe/Conduit
EX5.001	52.147	0.170	306.7	0.062	0.00	0.0	5.500	o	300	Pipe/Conduit
EX6.000	101.519	0.550	184.6	0.022	5.00	0.0	5.200	o	225	Pipe/Conduit
EX6.001	52.494	0.160	328.1	0.011	0.00	0.0	5.200	o	225	Pipe/Conduit
EX6.002	11.571	0.122	94.8	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX5.002	11.816	0.050	236.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX2.003	99.866	0.240	416.1	0.115	0.00	0.0	5.700	o	375	Pipe/Conduit
EX2.004	101.023	0.240	420.9	0.120	0.00	0.0	5.700	o	375	Pipe/Conduit
EX7.000	99.872	0.480	208.1	0.118	5.00	0.0	5.200	o	225	Pipe/Conduit
EX7.001	100.687	0.475	212.0	0.119	0.00	0.0	5.200	o	225	Pipe/Conduit
EX8.000	100.518	0.300	335.1	0.026	5.00	0.0	4.800	o	150	Pipe/Conduit
EX8.001	100.750	0.690	146.0	0.027	0.00	0.0	4.800	o	150	Pipe/Conduit
EX9.000	98.661	0.250	394.6	0.019	5.00	0.0	4.800	o	150	Pipe/Conduit
EX8.002	10.811	0.022	500.0	0.000	0.00	0.0	5.700	o	300	Pipe/Conduit
EX7.002	13.766	0.040	344.1	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX2.005	101.000	0.190	531.6	0.150	0.00	0.0	5.900	o	450	Pipe/Conduit
EX2.006	99.708	0.210	474.8	0.141	0.00	0.0	5.900	o	450	Pipe/Conduit
EX10.000	99.517	0.480	207.3	0.117	5.00	0.0	5.200	o	225	Pipe/Conduit
EX10.001	97.924	0.540	181.3	0.115	0.00	0.0	5.200	o	225	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX2.000	74.391	0.063	0.0	0.57	22.5
EX3.000	74.711	0.064	0.0	0.68	26.9
EX4.000	75.080	0.017	0.0	0.74	13.1
EX4.001	74.440	0.017	0.0	0.33	12.9
EX3.001	74.426	0.081	0.0	1.32	52.6
EX2.001	74.186	0.264	0.0	0.77	85.4
EX2.002	73.820	0.323	0.0	0.62	68.7
EX5.000	74.549	0.122	0.0	0.70	28.0
EX5.001	74.020	0.183	0.0	0.64	45.0
EX6.000	74.730	0.022	0.0	0.68	27.0
EX6.001	74.190	0.032	0.0	0.51	20.3
EX6.002	73.960	0.032	0.0	1.15	81.1
EX5.002	73.850	0.215	0.0	0.73	51.3
EX2.003	73.700	0.654	0.0	0.63	69.9
EX2.004	73.460	0.774	0.0	0.63	69.5
EX7.000	74.370	0.118	0.0	0.64	25.5
EX7.001	73.890	0.237	0.0	0.63	25.2
EX8.000	74.320	0.026	0.0	0.39	6.8
EX8.001	74.030	0.054	0.0	0.58	10.3
EX9.000	73.420	0.019	0.0	0.35	6.3
EX8.002	73.190	0.072	0.0	0.50	35.0
EX7.002	73.340	0.309	0.0	0.60	42.5
EX2.005	73.150	1.234	0.0	0.63	100.2
EX2.006	72.960	1.375	0.0	0.67	106.1
EX10.000	74.030	0.117	0.0	0.64	25.5
EX10.001	73.550	0.232	0.0	0.69	27.3

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX11.000	95.783	1.000	95.8	0.013	5.00	0.0	4.800	o	150	Pipe/Conduit
EX11.001	11.706	0.125	93.6	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX10.002	12.629	0.030	421.0	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX2.007	17.851	0.090	198.3	0.000	0.00	0.0	5.900	o	450	Pipe/Conduit
EX12.000	13.626	0.027	500.0	0.023	5.00	0.0	5.900	o	150	Pipe/Conduit
EX12.001	12.563	0.025	500.0	0.000	0.00	0.0	5.900	o	150	Pipe/Conduit
EX12.002	75.053	1.540	48.7	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX13.000	14.511	0.029	500.0	0.021	5.00	0.0	4.800	o	150	Pipe/Conduit
EX13.001	17.735	0.035	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.003	76.397	0.550	138.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX14.000	15.715	0.031	500.0	0.016	5.00	0.0	4.800	o	150	Pipe/Conduit
EX14.001	17.402	0.035	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.004	97.695	1.150	85.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX15.000	17.191	0.034	500.0	0.009	5.00	0.0	4.800	o	150	Pipe/Conduit
EX15.001	15.901	0.032	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.005	54.754	0.250	219.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX16.000	15.546	0.031	500.0	0.016	5.00	0.0	4.800	o	150	Pipe/Conduit
EX16.001	16.605	0.033	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.006	67.101	0.250	268.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX17.000	13.507	0.027	500.0	0.025	5.00	0.0	4.800	o	150	Pipe/Conduit
EX17.001	14.470	0.029	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.007	80.902	0.600	134.8	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX18.000	16.294	0.033	500.0	0.030	5.00	0.0	4.800	o	150	Pipe/Conduit
EX18.001	19.027	0.038	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.008	82.367	0.240	343.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX11.000	74.100	0.013	0.0	0.72	12.8
EX11.001	73.080	0.013	0.0	0.96	38.0
EX10.002	73.010	0.245	0.0	0.45	17.9
EX2.007	72.750	1.620	0.0	1.03	164.2
EX12.000	78.390	0.023	0.0	0.30	5.3
EX12.001	78.363	0.023	0.0	0.30	5.3
EX12.002	77.240	0.023	0.0	1.01	17.9
EX13.000	76.740	0.021	0.0	0.31	5.6
EX13.001	76.711	0.021	0.0	0.31	5.6
EX12.003	75.700	0.044	0.0	0.60	10.6
EX14.000	76.520	0.016	0.0	0.31	5.6
EX14.001	76.489	0.016	0.0	0.31	5.6
EX12.004	75.150	0.060	0.0	0.77	13.5
EX15.000	77.240	0.009	0.0	0.31	5.6
EX15.001	77.206	0.009	0.0	0.31	5.6
EX12.005	74.000	0.069	0.0	0.48	8.4
EX16.000	77.100	0.016	0.0	0.31	5.6
EX16.001	77.069	0.016	0.0	0.31	5.6
EX12.006	73.750	0.085	0.0	0.43	7.6
EX17.000	75.970	0.025	0.0	0.31	5.6
EX17.001	75.943	0.025	0.0	0.31	5.6
EX12.007	73.500	0.109	0.0	0.61	10.7
EX18.000	75.130	0.030	0.0	0.31	5.6
EX18.001	75.097	0.030	0.0	0.31	5.6
EX12.008	72.900	0.139	0.0	0.38	6.7

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX19.000	13.943	0.028	500.0	0.002	5.00	0.0	4.800	o	150	Pipe/Conduit
EX19.001	13.259	0.027	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX2.008	4.397	0.160	27.5	0.000	0.00	0.0	5.900	o	450	Pipe/Conduit
EX20.000	9.336	0.019	491.4	0.002	5.00	0.0	5.900	o	150	Pipe/Conduit
EX20.001	9.543	0.019	502.3	0.000	0.00	0.0	5.900	o	150	Pipe/Conduit
EX20.002	13.548	2.190	6.2	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX21.000	9.839	0.020	492.0	0.002	5.00	0.0	4.800	o	150	Pipe/Conduit
EX21.001	10.140	0.020	507.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX20.003	13.068	0.850	15.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX22.000	11.547	0.023	500.0	1.694	5.00	0.0	4.800	o	150	Pipe/Conduit
EX22.001	12.833	0.026	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX20.004	111.472	0.220	506.7	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX23.000	12.443	0.025	500.0	0.803	5.00	0.0	4.800	o	150	Pipe/Conduit
EX23.001	12.143	0.024	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX20.005	100.088	0.330	303.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX24.000	17.290	0.035	494.0	0.225	5.00	0.0	5.500	o	150	Pipe/Conduit
EX24.001	18.023	0.036	500.6	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.006	73.601	0.300	245.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX25.000	17.413	0.035	500.0	0.325	5.00	0.0	5.500	o	150	Pipe/Conduit
EX25.001	19.137	0.038	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.007	75.913	1.660	45.7	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX26.000	19.079	0.038	500.0	2.061	5.00	0.0	5.500	o	150	Pipe/Conduit
EX26.001	20.028	0.040	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.008	105.357	0.280	376.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX27.000	18.687	0.037	500.0	0.187	5.00	0.0	5.500	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX19.000	74.500	0.002	0.0	0.31	5.6
EX19.001	74.472	0.002	0.0	0.31	5.6
EX2.008	72.660	1.760	0.0	2.78	441.6
EX20.000	82.020	0.002	0.0	0.30	5.4
EX20.001	82.001	0.002	0.0	0.30	5.3
EX20.002	80.870	0.002	0.0	2.84	50.3
EX21.000	79.830	0.002	0.0	0.32	5.6
EX21.001	79.810	0.002	0.0	0.31	5.5
EX20.003	78.680	0.004	0.0	1.80	31.9
EX22.000	78.980	1.694	0.0	0.31	5.6
EX22.001	78.957	1.694	0.0	0.31	5.6
EX20.004	77.830	1.698	0.0	0.31	5.5
EX23.000	78.260	0.803	0.0	0.31	5.6
EX23.001	78.235	0.803	0.0	0.31	5.6
EX20.005	77.460	2.500	0.0	0.64	45.3
EX24.000	79.540	0.225	0.0	0.31	5.4
EX24.001	79.505	0.225	0.0	0.31	5.4
EX20.006	77.130	2.725	0.0	0.71	50.4
EX25.000	78.700	0.325	0.0	0.31	5.4
EX25.001	78.665	0.325	0.0	0.31	5.4
EX20.007	76.830	3.050	0.0	1.65	116.8
EX26.000	77.140	2.061	0.0	0.31	5.4
EX26.001	77.102	2.061	0.0	0.31	5.4
EX20.008	75.170	5.111	0.0	0.58	40.7
EX27.000	76.020	0.187	0.0	0.31	5.4

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX27.001	18.053	0.036	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.009	47.973	1.460	32.9	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX28.000	15.131	0.030	500.0	0.007	5.00	0.0	5.500	o	150	Pipe/Conduit
EX28.001	18.508	0.037	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX28.002	60.939	1.360	44.8	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX29.000	18.334	0.037	500.0	1.062	5.00	0.0	4.800	o	150	Pipe/Conduit
EX29.001	23.635	0.047	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.003	107.394	0.640	167.8	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX30.000	22.651	0.045	503.4	0.502	5.00	0.0	4.800	o	150	Pipe/Conduit
EX30.001	20.040	0.040	501.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.004	101.028	0.420	240.5	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX31.000	24.402	0.049	500.0	0.922	5.00	0.0	4.800	o	150	Pipe/Conduit
EX31.001	21.188	0.042	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.005	89.259	1.090	81.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX32.000	22.233	0.044	500.0	0.992	5.00	0.0	4.800	o	150	Pipe/Conduit
EX32.001	22.224	0.044	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.006	98.720	0.165	598.3	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit
EX33.000	22.141	0.044	500.0	0.481	5.00	0.0	5.700	o	150	Pipe/Conduit
EX33.001	21.253	0.043	500.0	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX28.007	84.296	0.540	156.1	0.000	5.00	0.0	5.700	o	375	Pipe/Conduit
EX34.000	15.593	0.031	500.0	0.460	5.00	0.0	5.700	o	150	Pipe/Conduit
EX34.001	16.046	0.032	500.0	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX28.008	99.710	0.320	311.6	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit
EX35.000	10.079	0.620	16.3	0.000	5.00	0.0	5.200	o	225	Pipe/Conduit
EX20.010	49.080	0.550	89.2	0.000	0.00	0.0	6.200	o	600	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX27.001	75.983	0.187	0.0	0.31	5.4
EX20.009	74.810	5.299	0.0	1.95	137.8
EX28.000	79.190	0.007	0.0	0.31	5.4
EX28.001	79.160	0.007	0.0	0.31	5.4
EX28.002	78.040	0.007	0.0	1.06	18.7
EX29.000	77.830	1.062	0.0	0.31	5.6
EX29.001	77.793	1.062	0.0	0.31	5.6
EX28.003	76.680	1.069	0.0	0.54	9.6
EX30.000	77.190	0.502	0.0	0.31	5.5
EX30.001	77.145	0.502	0.0	0.31	5.6
EX28.004	76.040	1.571	0.0	0.45	8.0
EX31.000	76.770	0.922	0.0	0.31	5.6
EX31.001	76.721	0.922	0.0	0.31	5.6
EX28.005	75.620	2.494	0.0	0.78	13.8
EX32.000	75.680	0.992	0.0	0.31	5.6
EX32.001	75.636	0.992	0.0	0.31	5.6
EX28.006	74.305	3.486	0.0	0.53	58.3
EX33.000	75.520	0.481	0.0	0.30	5.4
EX33.001	75.476	0.481	0.0	0.30	5.4
EX28.007	74.140	3.967	0.0	1.03	114.3
EX34.000	76.240	0.460	0.0	0.30	5.4
EX34.001	76.209	0.460	0.0	0.30	5.4
EX28.008	73.600	4.426	0.0	0.73	80.8
EX35.000	76.500	0.000	0.0	2.30	91.3
EX20.010	73.050	9.725	0.0	1.85	524.2

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX36.000	22.151	0.044	500.0	0.022	5.00	0.0	6.200	o	150	Pipe/Conduit
EX36.001	25.843	0.052	500.0	0.000	0.00	0.0	6.200	o	150	Pipe/Conduit
EX36.002	110.266	1.290	85.5	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX37.000	26.732	0.053	500.0	0.019	5.00	0.0	4.800	o	150	Pipe/Conduit
EX37.001	24.455	0.049	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX36.003	110.157	1.200	91.8	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX38.000	20.448	0.041	500.0	0.034	5.00	0.0	5.700	o	150	Pipe/Conduit
EX38.001	19.603	0.039	500.0	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX36.004	108.405	1.110	97.7	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX39.000	23.335	0.047	500.0	0.028	5.00	0.0	4.800	o	150	Pipe/Conduit
EX39.001	20.876	0.042	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX36.005	96.444	0.360	267.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX40.000	28.101	0.056	500.0	0.038	5.00	0.0	4.800	o	150	Pipe/Conduit
EX40.001	22.326	0.045	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX36.006	101.394	0.345	293.9	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX41.000	99.229	0.460	215.7	0.115	5.00	0.0	5.200	o	225	Pipe/Conduit
EX42.000	102.458	0.480	213.5	0.154	5.00	0.0	5.700	o	225	Pipe/Conduit
EX43.000	104.112	0.665	156.6	0.012	5.00	0.0	4.800	o	150	Pipe/Conduit
EX43.001	14.409	0.030	480.3	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX42.001	11.833	0.230	51.4	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX41.001	17.555	0.040	438.9	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX44.000	14.693	0.029	500.0	0.036	5.00	0.0	5.500	o	150	Pipe/Conduit
EX44.001	15.673	0.031	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX36.007	91.560	0.320	286.1	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX36.000	78.530	0.022	0.0	0.30	5.3
EX36.001	78.486	0.022	0.0	0.30	5.3
EX36.002	77.380	0.022	0.0	0.76	13.5
EX37.000	77.240	0.019	0.0	0.31	5.6
EX37.001	77.187	0.019	0.0	0.31	5.6
EX36.003	76.090	0.040	0.0	0.71	12.6
EX38.000	76.040	0.034	0.0	0.30	5.4
EX38.001	75.999	0.034	0.0	0.30	5.4
EX36.004	74.890	0.074	0.0	0.71	12.6
EX39.000	74.930	0.028	0.0	0.31	5.6
EX39.001	74.883	0.028	0.0	0.31	5.6
EX36.005	73.780	0.102	0.0	0.43	7.6
EX40.000	74.570	0.038	0.0	0.31	5.6
EX40.001	74.514	0.038	0.0	0.31	5.6
EX36.006	73.345	0.140	0.0	0.54	21.4
EX41.000	73.450	0.115	0.0	0.63	25.0
EX42.000	73.700	0.154	0.0	0.62	24.7
EX43.000	73.990	0.012	0.0	0.56	10.0
EX43.001	73.250	0.012	0.0	0.42	16.7
EX42.001	73.220	0.166	0.0	1.29	51.3
EX41.001	72.990	0.281	0.0	0.53	37.6
EX44.000	74.880	0.036	0.0	0.31	5.4
EX44.001	74.851	0.036	0.0	0.31	5.4
EX36.007	72.920	0.456	0.0	0.66	46.6

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX2.009	71.577	0.340	210.5	0.000	0.00	0.0	6.200	o	600	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX2.009	72.500	11.942	0.0	1.21	341.2

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
EXCP42	76.250	1.859	Open Manhole	1050	EX2.000	74.391	225				
EXCP58	76.400	1.689	Open Manhole	1050	EX3.000	74.711	225				
EXCP67	76.700	1.620	Open Manhole	1050	EX4.000	75.080	150				
EXCP68	76.620	2.180	Open Manhole	1050	EX4.001	74.440	225	EX4.000	74.470	150	
EXCP59	76.320	1.894	Open Manhole	1050	EX3.001	74.426	225	EX3.000	74.426	225	
								EX4.001	74.426	225	
EXCP43	76.200	2.014	Open Manhole	1050	EX2.001	74.186	375	EX2.000	74.186	225	
								EX3.001	74.186	225	
EXCP44	75.980	2.160	Open Manhole	1050	EX2.002	73.820	375	EX2.001	73.820	375	
EXCP60	76.320	1.771	Open Manhole	1050	EX5.000	74.549	225				
EXCP61	76.150	2.130	Open Manhole	1050	EX5.001	74.020	300	EX5.000	74.047	225	
EXCP68 - DUMMY	76.620	1.890	Junction		EX6.000	74.730	225				
EXCP69	76.470	2.290	Open Manhole	1050	EX6.001	74.190	225	EX6.000	74.180	225	
EXCP70	76.360	2.400	Open Manhole	1050	EX6.002	73.960	300	EX6.001	74.030	225	
EXCP62	76.080	2.242	Open Manhole	1050	EX5.002	73.850	300	EX5.001	73.850	300	
								EX6.002	73.838	300	
EXCP45	75.830	2.130	Open Manhole	1050	EX2.003	73.700	375	EX2.002	73.700	375	
								EX5.002	73.800	300	25
EXMH46	75.770	2.310	Open Manhole	1050	EX2.004	73.460	375	EX2.003	73.460	375	
EXCP62-DUMMY	76.080	1.710	Junction		EX7.000	74.370	225				
EXCP63	75.910	2.020	Open Manhole	1050	EX7.001	73.890	225	EX7.000	73.890	225	
EXCP70 - DUMMY	76.360	2.040	Junction		EX8.000	74.320	150				
EXCP71	76.130	2.110	Open Manhole	1050	EX8.001	74.030	150	EX8.000	74.020	150	
EXCP73-DUMMY	75.770	2.350	Junction		EX9.000	73.420	150				
EXCP72	75.960	2.790	Open Manhole	1050	EX8.002	73.190	300	EX8.001	73.340	150	
								EX9.000	73.170	150	
EXCP64	75.760	2.592	Open Manhole	1050	EX7.002	73.340	300	EX7.001	73.415	225	
								EX8.002	73.168	300	
EXCP47	75.780	2.630	Open Manhole	1050	EX2.005	73.150	450	EX2.004	73.220	375	
								EX7.002	73.300	300	
EXCP48	75.450	2.490	Open Manhole	1050	EX2.006	72.960	450	EX2.005	72.960	450	
EXCP64-DUMMY	75.760	1.730	Junction		EX10.000	74.030	225				
EXCP65	75.580	2.030	Open Manhole	1050	EX10.001	73.550	225	EX10.000	73.550	225	
EXCP73-DUMMY	75.770	1.670	Junction		EX11.000	74.100	150				
EXCP74	76.020	2.940	Open Manhole	1050	EX11.001	73.080	225	EX11.000	73.100	150	
EXCP66	75.420	2.465	Open Manhole	1050	EX10.002	73.010	225	EX10.001	73.010	225	
								EX11.001	72.955	225	
EXCP49	75.290	2.540	Open Manhole	1050	EX2.007	72.750	450	EX2.006	72.750	450	
								EX10.002	72.980	225	5
EXDUMMY 31	78.590	0.200	Junction		EX12.000	78.390	150				
EXDUMMY 32	78.590	0.227	Junction		EX12.001	78.363	150	EX12.000	78.363	150	
EXCP51	78.590	1.350	Open Manhole	1050	EX12.002	77.240	150	EX12.001	78.338	150	1098
EXDUMMY 33	76.940	0.200	Junction		EX13.000	76.740	150				
EXDUMMY 34	76.940	0.229	Junction		EX13.001	76.711	150	EX13.000	76.711	150	
EXCP52	76.940	1.240	Open Manhole	1050	EX12.003	75.700	150	EX12.002	75.700	150	
								EX13.001	76.676	150	976
EXDUMMY 35	76.720	0.200	Junction		EX14.000	76.520	150				
EXDUMMY 36	76.720	0.231	Junction		EX14.001	76.489	150	EX14.000	76.489	150	
EXCP53	76.720	1.570	Open Manhole	1050	EX12.004	75.150	150	EX12.003	75.150	150	
								EX14.001	76.454	150	1304
EXDUMMY 37	77.440	0.200	Junction		EX15.000	77.240	150				
EXDUMMY 38	77.440	0.234	Junction		EX15.001	77.206	150	EX15.000	77.206	150	
EXCP54	77.440	3.440	Open Manhole	1050	EX12.005	74.000	150	EX12.004	74.000	150	
								EX15.001	77.174	150	3174
EXDUMMY 39	77.300	0.200	Junction		EX16.000	77.100	150				
EXDUMMY 40	77.300	0.231	Junction		EX16.001	77.069	150	EX16.000	77.069	150	
EXCP55	77.300	3.550	Open Manhole	1050	EX12.006	73.750	150	EX12.005	73.750	150	
								EX16.001	77.036	150	3286
EXDUMMY 41	76.170	0.200	Junction		EX17.000	75.970	150				
EXDUMMY 42	76.170	0.227	Junction		EX17.001	75.943	150	EX17.000	75.943	150	
EXCP56	76.170	2.670	Open Manhole	1050	EX12.007	73.500	150	EX12.006	73.500	150	
								EX17.001	75.914	150	2414
EXDUMMY 43	75.330	0.200	Junction		EX18.000	75.130	150				
EXDUMMY 44	75.330	0.233	Junction		EX18.001	75.097	150	EX18.000	75.097	150	
EXCP57	75.330	2.430	Open Manhole	1050	EX12.008	72.900	150	EX12.007	72.900	150	
								EX18.001	75.059	150	2159
EXDUMMY 45	74.700	0.200	Junction		EX19.000	74.500	150				

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
EXDUMMY 46	74.700	0.228	Junction		EX19.001	74.472	150	EX19.000	74.472	150	
EXCP50	74.700	2.040	Open Manhole	1050	EX2.008	72.660	450	EX2.007	72.660	450	
								EX12.008	72.660	150	
								EX19.001	74.445	150	1485
EXDUMMY 1	82.220	0.200	Junction		EX20.000	82.020	150				
EXDUMMY 2	82.220	0.219	Junction		EX20.001	82.001	150	EX20.000	82.001	150	
EXCP75	82.220	1.350	Open Manhole	1050	EX20.002	80.870	150	EX20.001	81.982	150	1112
EXDUMMY 3	80.030	0.200	Junction		EX21.000	79.830	150				
EXDUMMY 4	80.030	0.220	Junction		EX21.001	79.810	150	EX21.000	79.810	150	
EXCP76	80.030	1.350	Open Manhole	1050	EX20.003	78.680	150	EX20.002	78.680	150	
								EX21.001	79.790	150	1110
EXDUMMY 5	79.180	0.200	Junction		EX22.000	78.980	150				
EXDUMMY 6	79.180	0.223	Junction		EX22.001	78.957	150	EX22.000	78.957	150	
EXCP77	79.180	1.350	Open Manhole	1050	EX20.004	77.830	150	EX20.003	77.830	150	
								EX22.001	78.931	150	1101
EXDUMMY 7	78.460	0.200	Junction		EX23.000	78.260	150				
EXDUMMY 8	78.460	0.225	Junction		EX23.001	78.235	150	EX23.000	78.235	150	
EXCP78	78.460	1.000	Open Manhole	1050	EX20.005	77.460	300	EX20.004	77.610	150	
								EX23.001	78.211	150	601
EXDUMMY 9	79.740	0.200	Junction		EX24.000	79.540	150				
EXDUMMY 10	79.740	0.235	Junction		EX24.001	79.505	150	EX24.000	79.505	150	
EXCP79	79.740	2.610	Open Manhole	1050	EX20.006	77.130	300	EX20.005	77.130	300	
								EX24.001	79.469	150	2189
EXDUMMY 11	78.900	0.200	Junction		EX25.000	78.700	150				
EXDUMMY 12	78.900	0.235	Junction		EX25.001	78.665	150	EX25.000	78.665	150	
EXCP80	78.900	2.070	Open Manhole	1050	EX20.007	76.830	300	EX20.006	76.830	300	
								EX25.001	78.627	150	1647
EXDUMMY 13	77.340	0.200	Junction		EX26.000	77.140	150				
EXDUMMY 14	77.340	0.238	Junction		EX26.001	77.102	150	EX26.000	77.102	150	
EXCP81	77.340	2.170	Open Manhole	1050	EX20.008	75.170	300	EX20.007	75.170	300	
								EX26.001	77.062	150	1742
EXDUMMY 15	76.220	0.200	Junction		EX27.000	76.020	150				
EXDUMMY 16	76.220	0.237	Junction		EX27.001	75.983	150	EX27.000	75.983	150	
EXCP82	76.220	1.410	Open Manhole	1050	EX20.009	74.810	300	EX20.008	74.890	300	80
								EX27.001	75.947	150	987
EXDUMMY 17	79.390	0.200	Junction		EX28.000	79.190	150				
EXDUMMY 18	79.390	0.230	Junction		EX28.001	79.160	150	EX28.000	79.160	150	
EXCP84	79.390	1.350	Open Manhole	1050	EX28.002	78.040	150	EX28.001	79.123	150	1083
EXDUMMY 19	78.030	0.200	Junction		EX29.000	77.830	150				
EXDUMMY 20	78.030	0.237	Junction		EX29.001	77.793	150	EX29.000	77.793	150	
EXCP85	78.030	1.350	Open Manhole	1050	EX28.003	76.680	150	EX28.002	76.680	150	
								EX29.001	77.746	150	1066
EXDUMMY 21	77.390	0.200	Junction		EX30.000	77.190	150				
EXDUMMY 22	77.390	0.245	Junction		EX30.001	77.145	150	EX30.000	77.145	150	
EXCP86	77.390	1.350	Open Manhole	1050	EX28.004	76.040	150	EX28.003	76.040	150	
								EX30.001	77.105	150	1065
EXDUMMY 23	76.970	0.200	Junction		EX31.000	76.770	150				
EXDUMMY 24	76.970	0.249	Junction		EX31.001	76.721	150	EX31.000	76.721	150	
EXCP87	76.970	1.350	Open Manhole	1050	EX28.005	75.620	150	EX28.004	75.620	150	
								EX31.001	76.679	150	1059
EXDUMMY 25	75.880	0.200	Junction		EX32.000	75.680	150				
EXDUMMY 26	75.880	0.244	Junction		EX32.001	75.636	150	EX32.000	75.636	150	
EXCP88	75.880	1.575	Open Manhole	1050	EX28.006	74.305	375	EX28.005	74.530	150	
								EX32.001	75.592	150	1062
EXDUMMY 27	75.720	0.200	Junction		EX33.000	75.520	150				
EXDUMMY 28	75.720	0.244	Junction		EX33.001	75.476	150	EX33.000	75.476	150	
EXCP89	75.720	1.580	Open Manhole	1050	EX28.007	74.140	375	EX28.006	74.140	375	
								EX33.001	75.433	150	1068
EXDUMMY 29	76.440	0.200	Junction		EX34.000	76.240	150				
EXDUMMY 30	76.440	0.231	Junction		EX34.001	76.209	150	EX34.000	76.209	150	
EXCP90	76.440	2.840	Open Manhole	1050	EX28.008	73.600	375	EX28.007	73.600	375	
								EX34.001	76.177	150	2352
EXHW10	76.940	0.440	Junction		EX35.000	76.500	225				
EXCP83	76.480	3.430	Open Manhole	1800	EX20.010	73.050	600	EX20.009	73.350	300	
								EX28.008	73.280	375	5
								EX35.000	75.880	225	2455
EXDUMMY 47	78.730	0.200	Junction		EX36.000	78.530	150				

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
EXDUMMY 48	78.730	0.244	Junction		EX36.001	78.486	150	EX36.000	78.486	150	
EXCP91	78.730	1.350	Open Manhole	1050	EX36.002	77.380	150	EX36.001	78.434	150	1054
EXDUMMY 49	77.440	0.200	Junction		EX37.000	77.240	150				
EXDUMMY 50	77.440	0.253	Junction		EX37.001	77.187	150	EX37.000	77.187	150	
EXCP92	77.440	1.350	Open Manhole	1050	EX36.003	76.090	150	EX36.002	76.090	150	
								EX37.001	77.138	150	1048
EXDUMMY 51	76.240	0.200	Junction		EX38.000	76.040	150				
EXDUMMY 52	76.240	0.241	Junction		EX38.001	75.999	150	EX38.000	75.999	150	
EXCP93	76.240	1.350	Open Manhole	1050	EX36.004	74.890	150	EX36.003	74.890	150	
								EX38.001	75.960	150	1070
EXDUMMY 53	75.130	0.200	Junction		EX39.000	74.930	150				
EXDUMMY 54	75.130	0.247	Junction		EX39.001	74.883	150	EX39.000	74.883	150	
EXCP94	75.130	1.350	Open Manhole	1050	EX36.005	73.780	150	EX36.004	73.780	150	
								EX39.001	74.841	150	1061
EXDUMMY 55	74.770	0.200	Junction		EX40.000	74.570	150				
EXDUMMY 56	74.770	0.256	Junction		EX40.001	74.514	150	EX40.000	74.514	150	
EXCP95	74.770	1.425	Open Manhole	1050	EX36.006	73.345	225	EX36.005	73.420	150	
								EX40.001	74.469	150	1049
EXCP49-DUMMY	75.290	1.840	Junction		EX41.000	73.450	225				
EXCP66-DUMMY	75.420	1.720	Junction		EX42.000	73.700	225				
EXCP74-DUMMY	76.020	2.030	Junction		EX43.000	73.990	150				
EXCP97	75.690	2.440	Open Manhole	1050	EX43.001	73.250	225	EX43.000	73.325	150	
EXCP98	75.250	2.030	Open Manhole	1050	EX42.001	73.220	225	EX42.000	73.220	225	
								EX43.001	73.220	225	
EXCP99	75.000	2.010	Open Manhole	1050	EX41.001	72.990	300	EX41.000	72.990	225	
								EX42.001	72.990	225	
EXDUMMY 57	75.080	0.200	Junction		EX44.000	74.880	150				
EXDUMMY 58	75.080	0.229	Junction		EX44.001	74.851	150	EX44.000	74.851	150	
EXCP96	75.080	2.160	Open Manhole	1050	EX36.007	72.920	300	EX36.006	73.000	225	5
								EX41.001	72.950	300	30
								EX44.001	74.820	150	1750
EXCP51	74.800	2.300	Open Manhole	1050	EX2.009	72.500	600	EX2.008	72.500	450	
								EX20.010	72.500	600	
								EX36.007	72.600	300	
EX	73.000	0.840	Open Manhole	0		OUTFALL		EX2.009	72.160	600	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP42	439007.784	280760.452	439007.784	280760.452	Required	
EXCP58	439019.522	280757.055	439019.522	280757.055	Required	
EXCP67	439029.912	280754.057	439029.912	280754.057	Required	
EXCP68	439013.787	280701.402	439013.787	280701.402	Required	
EXCP59	439003.660	280706.289	439003.660	280706.289	Required	
EXCP43	438992.105	280708.299	438992.105	280708.299	Required	
EXCP44	438961.838	280610.762	438961.838	280610.762	Required	
EXCP60	438998.898	280690.307	438998.898	280690.307	Required	
EXCP61	438973.333	280607.523	438973.333	280607.523	Required	
EXCP68 - DUMMY	439013.749	280701.278			No Entry	
EXCP69	438984.158	280604.168	438984.158	280604.168	Required	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP70	438968.694	280554.003	438968.694	280554.003	Required	
EXCP62	438957.750	280557.758	438957.750	280557.758	Required	
EXCP45	438946.477	280561.301	438946.477	280561.301	Required	
EXMH46	438916.754	280465.960	438916.754	280465.960	Required	
EXCP62-DUMMY	438957.700	280557.601			No Entry	
EXCP63	438927.696	280462.342	438927.696	280462.342	Required	
EXCP70 - DUMMY	438968.662	280553.902			No Entry	
EXCP71	438938.359	280458.060	438938.359	280458.060	Required	
EXCP73-DUMMY	438877.392	280268.198			No Entry	
EXCP72	438907.383	280362.190	438907.383	280362.190	Required	
EXCP64	438897.394	280366.323	438897.394	280366.323	Required	
EXCP47	438884.221	280370.319	438884.221	280370.319	Required	
EXCP48	438851.170	280274.880	438851.170	280274.880	Required	
EXCP64-DUMMY	438897.357	280366.211			No Entry	
EXCP65	438866.619	280271.560	438866.619	280271.560	Required	
EXCP73-DUMMY	438877.392	280268.198			No Entry	
EXCP74	438847.962	280177.048	438847.962	280177.048	Required	
EXCP66	438836.338	280178.436	438836.338	280178.436	Required	
EXCP49	438823.723	280179.025	438823.723	280179.025	Required	
EXDUMMY 31	438947.269	280700.613			No Entry	
EXDUMMY 32	438959.766	280695.182			No Entry	
EXCP51	438970.202	280688.189	438970.202	280688.189	Required	
EXDUMMY 33	438919.518	280630.359			No Entry	
EXDUMMY 34	438932.918	280624.791			No Entry	
EXCP52	438948.510	280616.340	438948.510	280616.340	Required	
EXDUMMY 35	438897.289	280557.679			No Entry	
EXDUMMY 36	438912.023	280552.213			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP53	438926.837	280543.082	438926.837	280543.082	Required	
EXDUMMY 37	438870.405	280461.070			No Entry	
EXDUMMY 38	438886.482	280454.983			No Entry	
EXCP54	438901.142	280448.826	438901.142	280448.826	Required	
EXDUMMY 39	438852.687	280412.472			No Entry	
EXDUMMY 40	438867.154	280406.780			No Entry	
EXCP55	438881.154	280397.851	438881.154	280397.851	Required	
EXDUMMY 41	438831.778	280346.513			No Entry	
EXDUMMY 42	438844.456	280341.854			No Entry	
EXCP56	438857.276	280335.143	438857.276	280335.143	Required	
EXDUMMY 43	438799.388	280275.275			No Entry	
EXDUMMY 44	438814.466	280269.099			No Entry	
EXCP57	438830.471	280258.810	438830.471	280258.810	Required	
EXDUMMY 45	438780.124	280188.813			No Entry	
EXDUMMY 46	438793.474	280184.791			No Entry	
EXCP50	438805.910	280180.190	438805.910	280180.190	Required	
EXDUMMY 1	439047.837	280684.503			No Entry	
EXDUMMY 2	439038.503	280684.723			No Entry	
EXCP75	439029.020	280683.660	439029.020	280683.660	Required	
EXDUMMY 3	439039.273	280673.895			No Entry	
EXDUMMY 4	439029.446	280674.375			No Entry	
EXCP76	439019.307	280674.214	439019.307	280674.214	Required	
EXDUMMY 5	439039.373	280661.658			No Entry	
EXDUMMY 6	439027.829	280661.918			No Entry	
EXCP77	439014.996	280661.878	439014.996	280661.878	Required	
EXDUMMY 7	439003.280	280557.914			No Entry	
EXDUMMY 8	438990.838	280558.031			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP78	438978.799	280556.447	438978.799	280556.447	Required	
EXDUMMY 9	438988.074	280461.393			No Entry	
EXDUMMY 10	438970.788	280461.748			No Entry	
EXCP79	438952.873	280459.775	438952.873	280459.775	Required	
EXDUMMY 11	438964.474	280390.379			No Entry	
EXDUMMY 12	438947.098	280391.524			No Entry	
EXCP80	438927.988	280390.508	438927.988	280390.508	Required	
EXDUMMY 13	438941.126	280320.472			No Entry	
EXDUMMY 14	438922.048	280320.665			No Entry	
EXCP81	438902.077	280319.154	438902.077	280319.154	Required	
EXDUMMY 15	438902.290	280222.123			No Entry	
EXDUMMY 16	438883.607	280221.734			No Entry	
EXCP82	438865.610	280220.310	438865.610	280220.310	Required	
EXDUMMY 17	438649.469	279549.828			No Entry	
EXDUMMY 18	438636.909	279558.266			No Entry	
EXCP84	438627.460	279574.180	438627.460	279574.180	Required	
EXDUMMY 19	438686.356	279606.636			No Entry	
EXDUMMY 20	438669.677	279614.250			No Entry	
EXCP85	438652.013	279629.954	438652.013	279629.954	Required	
EXDUMMY 21	438730.954	279707.809			No Entry	
EXDUMMY 22	438709.965	279716.325			No Entry	
EXCP86	438694.210	279728.710	438694.210	279728.710	Required	
EXDUMMY 23	438771.842	279804.899			No Entry	
EXDUMMY 24	438748.108	279810.568			No Entry	
EXCP87	438730.850	279822.860	438730.850	279822.860	Required	
EXDUMMY 25	438797.997	279888.262			No Entry	
EXDUMMY 26	438776.503	279893.949			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP88	438758.950	279907.580	438758.950	279907.580	Required	
EXDUMMY 27	438833.051	279981.152			No Entry	
EXDUMMY 28	438811.713	279987.065			No Entry	
EXCP89	438794.584	279999.645	438794.584	279999.645	Required	
EXDUMMY 29	438851.045	280064.925			No Entry	
EXDUMMY 30	438836.089	280069.337			No Entry	
EXCP90	438823.223	280078.926	438823.223	280078.926	Required	
EXHW10	438864.127	280174.287			No Entry	
EXCP83	438854.062	280173.747	438854.062	280173.747	Required	
EXDUMMY 47	438528.682	279607.402			No Entry	
EXDUMMY 48	438550.509	279603.629			No Entry	
EXCP91	438576.340	279602.840	438576.340	279602.840	Required	
EXDUMMY 49	438578.562	279703.556			No Entry	
EXDUMMY 50	438604.995	279699.572			No Entry	
EXCP92	438629.451	279699.472	438629.451	279699.472	Required	
EXDUMMY 51	438632.159	279800.235			No Entry	
EXDUMMY 52	438652.607	279800.132			No Entry	
EXCP93	438672.190	279801.000	438672.190	279801.000	Required	
EXDUMMY 53	438667.585	279900.910			No Entry	
EXDUMMY 54	438690.911	279900.248			No Entry	
EXCP94	438711.718	279901.941	438711.718	279901.941	Required	
EXDUMMY 55	438692.585	279991.208			No Entry	
EXDUMMY 56	438720.675	279992.003			No Entry	
EXCP95	438742.969	279993.182	438742.969	279993.182	Required	
EXCP49-DUMMY	438823.669	280178.861			No Entry	
EXCP66-DUMMY	438836.291	280178.247			No Entry	
EXCP74-DUMMY	438847.917	280176.899			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP97	438818.007	280077.175	438818.007	280077.175	Required	
EXCP98	438804.108	280080.975	438804.108	280080.975	Required	
EXCP99	438792.827	280084.547	438792.827	280084.547	Required	
EXDUMMY 57	438745.516	280089.511			No Entry	
EXDUMMY 58	438760.198	280088.937			No Entry	
EXCP96	438775.870	280089.090	438775.870	280089.090	Required	
EXCP51	438805.029	280175.882	438805.029	280175.882	Required	
EX	438733.820	280168.630			No Entry	

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Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
2.000	Classification	EW (Cut)	20	0.043	0.009	0.009
	Classification	Verge	50	0.010	0.005	0.014
	Classification	Paved	100	0.049	0.049	0.063
3.000	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.050	0.050	0.064
4.000	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.068	0.014	0.017
4.001	-	-	100	0.000	0.000	0.000
3.001	-	-	100	0.000	0.000	0.000
2.001	Classification	Paved	100	0.093	0.093	0.093
	Classification	Verge	50	0.028	0.014	0.107
	Classification	EW (Cut)	20	0.065	0.013	0.120
2.002	Classification	EW (Cut)	20	0.034	0.007	0.007
	Classification	Verge	50	0.009	0.005	0.011
	Classification	Paved	100	0.047	0.047	0.059
5.000	Classification	Paved	100	0.027	0.027	0.027
	Classification	Paved	100	0.095	0.095	0.122
5.001	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.048	0.048	0.062
6.000	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.067	0.013	0.022
6.001	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.033	0.007	0.011
6.002	-	-	100	0.000	0.000	0.000
5.002	-	-	100	0.000	0.000	0.000
2.003	Classification	EW (Cut)	20	0.066	0.013	0.013
	Classification	Verge	50	0.020	0.010	0.023
	Classification	Paved	100	0.092	0.092	0.115
2.004	Classification	EW (Cut)	20	0.060	0.012	0.012
	Classification	Verge	50	0.022	0.011	0.023
	Classification	Paved	100	0.097	0.097	0.120
7.000	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.092	0.092	0.118
7.001	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.093	0.093	0.119
8.000	Classification	Verge	50	0.015	0.008	0.008
	Classification	EW (Cut)	20	0.093	0.019	0.026
8.001	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.098	0.020	0.027
9.000	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.053	0.011	0.019
8.002	-	-	100	0.000	0.000	0.000
7.002	-	-	100	0.000	0.000	0.000
2.005	Classification	EW (Cut)	20	0.047	0.009	0.009
	Classification	Verge	50	0.025	0.012	0.022
	Classification	Paved	100	0.128	0.128	0.150
2.006	Classification	EW (Cut)	20	0.055	0.011	0.011
	Classification	Verge	50	0.019	0.010	0.021
	Classification	Paved	100	0.120	0.120	0.141
10.000	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.092	0.092	0.117
10.001	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.090	0.090	0.115
11.000	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.023	0.005	0.013
11.001	-	-	100	0.000	0.000	0.000
10.002	-	-	100	0.000	0.000	0.000
2.007	-	-	100	0.000	0.000	0.000
12.000	Classification	Overland	40	0.058	0.023	0.023
12.001	-	-	100	0.000	0.000	0.000
12.002	-	-	100	0.000	0.000	0.000
13.000	Classification	Overland	40	0.052	0.021	0.021
13.001	-	-	100	0.000	0.000	0.000
12.003	-	-	100	0.000	0.000	0.000
14.000	Classification	Overland	40	0.039	0.016	0.016
14.001	-	-	100	0.000	0.000	0.000
12.004	-	-	100	0.000	0.000	0.000
15.000	Classification	Overland	40	0.023	0.009	0.009
15.001	-	-	100	0.000	0.000	0.000
12.005	-	-	100	0.000	0.000	0.000
16.000	Classification	Overland	40	0.040	0.016	0.016
16.001	-	-	100	0.000	0.000	0.000
12.006	-	-	100	0.000	0.000	0.000
17.000	Classification	Overland	40	0.061	0.025	0.025
17.001	-	-	100	0.000	0.000	0.000
12.007	-	-	100	0.000	0.000	0.000
18.000	Classification	Overland	40	0.074	0.030	0.030
18.001	-	-	100	0.000	0.000	0.000
12.008	-	-	100	0.000	0.000	0.000
19.000	Classification	Overland	40	0.004	0.002	0.002
19.001	-	-	100	0.000	0.000	0.000
2.008	-	-	100	0.000	0.000	0.000
20.000	Classification	Overland	40	0.004	0.002	0.002
20.001	-	-	100	0.000	0.000	0.000
20.002	-	-	100	0.000	0.000	0.000
21.000	Classification	Overland	40	0.005	0.002	0.002
21.001	-	-	100	0.000	0.000	0.000
20.003	-	-	100	0.000	0.000	0.000

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Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
22.000	Classification	Overland	40	4.235	1.694	1.694
22.001	-	-	100	0.000	0.000	0.000
20.004	-	-	100	0.000	0.000	0.000
23.000	Classification	Overland	40	2.007	0.803	0.803
23.001	-	-	100	0.000	0.000	0.000
20.005	-	-	100	0.000	0.000	0.000
24.000	Classification	Overland	40	0.563	0.225	0.225
24.001	-	-	100	0.000	0.000	0.000
20.006	-	-	100	0.000	0.000	0.000
25.000	Classification	Overland	40	0.812	0.325	0.325
25.001	-	-	100	0.000	0.000	0.000
20.007	-	-	100	0.000	0.000	0.000
26.000	Classification	Overland	40	5.153	2.061	2.061
26.001	-	-	100	0.000	0.000	0.000
20.008	-	-	100	0.000	0.000	0.000
27.000	Classification	Overland	40	0.468	0.187	0.187
27.001	-	-	100	0.000	0.000	0.000
20.009	-	-	100	0.000	0.000	0.000
28.000	Classification	Overland	40	0.018	0.007	0.007
28.001	-	-	100	0.000	0.000	0.000
28.002	-	-	100	0.000	0.000	0.000
29.000	Classification	Overland	40	2.656	1.062	1.062
29.001	-	-	100	0.000	0.000	0.000
28.003	-	-	100	0.000	0.000	0.000
30.000	Classification	Overland	40	1.255	0.502	0.502
30.001	-	-	100	0.000	0.000	0.000
28.004	-	-	100	0.000	0.000	0.000
31.000	Classification	Overland	40	2.306	0.922	0.922
31.001	-	-	100	0.000	0.000	0.000
28.005	-	-	100	0.000	0.000	0.000
32.000	Classification	Overland	40	2.479	0.992	0.992
32.001	-	-	100	0.000	0.000	0.000
28.006	-	-	100	0.000	0.000	0.000
33.000	Classification	Overland	40	1.203	0.481	0.481
33.001	-	-	100	0.000	0.000	0.000
28.007	-	-	100	0.000	0.000	0.000
34.000	Classification	Overland	40	1.150	0.460	0.460
34.001	-	-	100	0.000	0.000	0.000
28.008	-	-	100	0.000	0.000	0.000
35.000	-	-	100	0.000	0.000	0.000
20.010	-	-	100	0.000	0.000	0.000
36.000	Classification	Overland	40	0.054	0.022	0.022
36.001	-	-	100	0.000	0.000	0.000
36.002	-	-	100	0.000	0.000	0.000
37.000	Classification	Overland	40	0.047	0.019	0.019
37.001	-	-	100	0.000	0.000	0.000
36.003	-	-	100	0.000	0.000	0.000
38.000	Classification	Overland	40	0.085	0.034	0.034
38.001	-	-	100	0.000	0.000	0.000
36.004	-	-	100	0.000	0.000	0.000
39.000	Classification	Overland	40	0.069	0.028	0.028
39.001	-	-	100	0.000	0.000	0.000
36.005	-	-	100	0.000	0.000	0.000
40.000	Classification	Overland	40	0.096	0.038	0.038
40.001	-	-	100	0.000	0.000	0.000
36.006	-	-	100	0.000	0.000	0.000
41.000	Classification	EW (Cut)	20	0.073	0.015	0.015
	Classification	Verge	50	0.014	0.007	0.022
	Classification	Paved	100	0.093	0.093	0.115
42.000	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.127	0.127	0.154
43.000	Classification	Verge	50	0.009	0.005	0.005
	Classification	EW (Cut)	20	0.039	0.008	0.012
43.001	-	-	100	0.000	0.000	0.000
42.001	-	-	100	0.000	0.000	0.000
41.001	-	-	100	0.000	0.000	0.000
44.000	Classification	Overland	40	0.089	0.036	0.036
44.001	-	-	100	0.000	0.000	0.000
36.007	-	-	100	0.000	0.000	0.000
2.009	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				27.864	11.942	11.942

Free Flowing Outfall Details for Existing

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
EX2.009	EX	73.000	72.160	0.000	0	0

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Online Controls for Existing

Depth/Flow Relationship Manhole: EXDUMMY 32, DS/PN: EX12.001, Volume (m³): 0.2

Invert Level (m) 78.363

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: EXDUMMY 34, DS/PN: EX13.001, Volume (m³): 0.3

Invert Level (m) 76.711

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: EXDUMMY 36, DS/PN: EX14.001, Volume (m³): 0.3

Invert Level (m) 76.489

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: EXDUMMY 38, DS/PN: EX15.001, Volume (m³): 0.3

Invert Level (m) 77.206

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: EXDUMMY 40, DS/PN: EX16.001, Volume (m³): 0.3

Invert Level (m) 77.069

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: EXDUMMY 42, DS/PN: EX17.001, Volume (m³): 0.2

Invert Level (m) 75.943

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: EXDUMMY 44, DS/PN: EX18.001, Volume (m³): 0.3

Invert Level (m) 75.097

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.4000	0.600	0.4000	1.100	0.4000	1.600	0.4000	2.100	0.4000	2.600	0.4000
0.200	0.4000	0.700	0.4000	1.200	0.4000	1.700	0.4000	2.200	0.4000	2.700	0.4000
0.300	0.4000	0.800	0.4000	1.300	0.4000	1.800	0.4000	2.300	0.4000	2.800	0.4000
0.400	0.4000	0.900	0.4000	1.400	0.4000	1.900	0.4000	2.400	0.4000	2.900	0.4000
0.500	0.4000	1.000	0.4000	1.500	0.4000	2.000	0.4000	2.500	0.4000	3.000	0.4000

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Depth/Flow Relationship Manhole: EXDUMMY 46, DS/PN: EX19.001, Volume (m³): 0.2

Invert Level (m) 74.472

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: EXDUMMY 2, DS/PN: EX20.001, Volume (m³): 0.2

Invert Level (m) 82.001

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: EXDUMMY 4, DS/PN: EX21.001, Volume (m³): 0.2

Invert Level (m) 79.810

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: EXDUMMY 6, DS/PN: EX22.001, Volume (m³): 0.2

Invert Level (m) 78.957

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	22.9000	0.600	22.9000	1.100	22.9000	1.600	22.9000	2.100	22.9000	2.600	22.9000
0.200	22.9000	0.700	22.9000	1.200	22.9000	1.700	22.9000	2.200	22.9000	2.700	22.9000
0.300	22.9000	0.800	22.9000	1.300	22.9000	1.800	22.9000	2.300	22.9000	2.800	22.9000
0.400	22.9000	0.900	22.9000	1.400	22.9000	1.900	22.9000	2.400	22.9000	2.900	22.9000
0.500	22.9000	1.000	22.9000	1.500	22.9000	2.000	22.9000	2.500	22.9000	3.000	22.9000

Depth/Flow Relationship Manhole: EXDUMMY 8, DS/PN: EX23.001, Volume (m³): 0.2

Invert Level (m) 78.235

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	10.8000	0.600	10.8000	1.100	10.8000	1.600	10.8000	2.100	10.8000	2.600	10.8000
0.200	10.8000	0.700	10.8000	1.200	10.8000	1.700	10.8000	2.200	10.8000	2.700	10.8000
0.300	10.8000	0.800	10.8000	1.300	10.8000	1.800	10.8000	2.300	10.8000	2.800	10.8000
0.400	10.8000	0.900	10.8000	1.400	10.8000	1.900	10.8000	2.400	10.8000	2.900	10.8000
0.500	10.8000	1.000	10.8000	1.500	10.8000	2.000	10.8000	2.500	10.8000	3.000	10.8000

Depth/Flow Relationship Manhole: EXDUMMY 10, DS/PN: EX24.001, Volume (m³): 0.3

Invert Level (m) 79.505

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.0000	0.600	3.0000	1.100	3.0000	1.600	3.0000	2.100	3.0000	2.600	3.0000
0.200	3.0000	0.700	3.0000	1.200	3.0000	1.700	3.0000	2.200	3.0000	2.700	3.0000
0.300	3.0000	0.800	3.0000	1.300	3.0000	1.800	3.0000	2.300	3.0000	2.800	3.0000
0.400	3.0000	0.900	3.0000	1.400	3.0000	1.900	3.0000	2.400	3.0000	2.900	3.0000
0.500	3.0000	1.000	3.0000	1.500	3.0000	2.000	3.0000	2.500	3.0000	3.000	3.0000

Depth/Flow Relationship Manhole: EXDUMMY 12, DS/PN: EX25.001, Volume (m³): 0.3

Invert Level (m) 78.665

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.4000	0.600	4.4000	1.100	4.4000	1.600	4.4000	2.100	4.4000	2.600	4.4000
0.200	4.4000	0.700	4.4000	1.200	4.4000	1.700	4.4000	2.200	4.4000	2.700	4.4000
0.300	4.4000	0.800	4.4000	1.300	4.4000	1.800	4.4000	2.300	4.4000	2.800	4.4000
0.400	4.4000	0.900	4.4000	1.400	4.4000	1.900	4.4000	2.400	4.4000	2.900	4.4000
0.500	4.4000	1.000	4.4000	1.500	4.4000	2.000	4.4000	2.500	4.4000	3.000	4.4000

Depth/Flow Relationship Manhole: EXDUMMY 14, DS/PN: EX26.001, Volume (m³): 0.3

Invert Level (m) 77.102

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Depth/Flow Relationship Manhole: EXDUMMY 14, DS/PN: EX26.001, Volume (m³): 0.3

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	27.8000	0.600	27.8000	1.100	27.8000	1.600	27.8000	2.100	27.8000	2.600	27.8000
0.200	27.8000	0.700	27.8000	1.200	27.8000	1.700	27.8000	2.200	27.8000	2.700	27.8000
0.300	27.8000	0.800	27.8000	1.300	27.8000	1.800	27.8000	2.300	27.8000	2.800	27.8000
0.400	27.8000	0.900	27.8000	1.400	27.8000	1.900	27.8000	2.400	27.8000	2.900	27.8000
0.500	27.8000	1.000	27.8000	1.500	27.8000	2.000	27.8000	2.500	27.8000	3.000	27.8000

Depth/Flow Relationship Manhole: EXDUMMY 16, DS/PN: EX27.001, Volume (m³): 0.3

Invert Level (m) 75.983

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.5000	0.600	2.5000	1.100	2.5000	1.600	2.5000	2.100	2.5000	2.600	2.5000
0.200	2.5000	0.700	2.5000	1.200	2.5000	1.700	2.5000	2.200	2.5000	2.700	2.5000
0.300	2.5000	0.800	2.5000	1.300	2.5000	1.800	2.5000	2.300	2.5000	2.800	2.5000
0.400	2.5000	0.900	2.5000	1.400	2.5000	1.900	2.5000	2.400	2.5000	2.900	2.5000
0.500	2.5000	1.000	2.5000	1.500	2.5000	2.000	2.5000	2.500	2.5000	3.000	2.5000

Depth/Flow Relationship Manhole: EXDUMMY 18, DS/PN: EX28.001, Volume (m³): 0.3

Invert Level (m) 79.160

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: EXDUMMY 20, DS/PN: EX29.001, Volume (m³): 0.3

Invert Level (m) 77.793

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	14.4000	0.600	14.4000	1.100	14.4000	1.600	14.4000	2.100	14.4000	2.600	14.4000
0.200	14.4000	0.700	14.4000	1.200	14.4000	1.700	14.4000	2.200	14.4000	2.700	14.4000
0.300	14.4000	0.800	14.4000	1.300	14.4000	1.800	14.4000	2.300	14.4000	2.800	14.4000
0.400	14.4000	0.900	14.4000	1.400	14.4000	1.900	14.4000	2.400	14.4000	2.900	14.4000
0.500	14.4000	1.000	14.4000	1.500	14.4000	2.000	14.4000	2.500	14.4000	3.000	14.4000

Depth/Flow Relationship Manhole: EXDUMMY 22, DS/PN: EX30.001, Volume (m³): 0.4

Invert Level (m) 77.145

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.8000	0.600	6.8000	1.100	6.8000	1.600	6.8000	2.100	6.8000	2.600	6.8000
0.200	6.8000	0.700	6.8000	1.200	6.8000	1.700	6.8000	2.200	6.8000	2.700	6.8000
0.300	6.8000	0.800	6.8000	1.300	6.8000	1.800	6.8000	2.300	6.8000	2.800	6.8000
0.400	6.8000	0.900	6.8000	1.400	6.8000	1.900	6.8000	2.400	6.8000	2.900	6.8000
0.500	6.8000	1.000	6.8000	1.500	6.8000	2.000	6.8000	2.500	6.8000	3.000	6.8000

Depth/Flow Relationship Manhole: EXDUMMY 24, DS/PN: EX31.001, Volume (m³): 0.4

Invert Level (m) 76.721

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	12.5000	0.600	12.5000	1.100	12.5000	1.600	12.5000	2.100	12.5000	2.600	12.5000
0.200	12.5000	0.700	12.5000	1.200	12.5000	1.700	12.5000	2.200	12.5000	2.700	12.5000
0.300	12.5000	0.800	12.5000	1.300	12.5000	1.800	12.5000	2.300	12.5000	2.800	12.5000
0.400	12.5000	0.900	12.5000	1.400	12.5000	1.900	12.5000	2.400	12.5000	2.900	12.5000
0.500	12.5000	1.000	12.5000	1.500	12.5000	2.000	12.5000	2.500	12.5000	3.000	12.5000

Depth/Flow Relationship Manhole: EXDUMMY 26, DS/PN: EX32.001, Volume (m³): 0.4

Invert Level (m) 75.636

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	13.4000	0.600	13.4000	1.100	13.4000	1.600	13.4000	2.100	13.4000	2.600	13.4000
0.200	13.4000	0.700	13.4000	1.200	13.4000	1.700	13.4000	2.200	13.4000	2.700	13.4000
0.300	13.4000	0.800	13.4000	1.300	13.4000	1.800	13.4000	2.300	13.4000	2.800	13.4000
0.400	13.4000	0.900	13.4000	1.400	13.4000	1.900	13.4000	2.400	13.4000	2.900	13.4000
0.500	13.4000	1.000	13.4000	1.500	13.4000	2.000	13.4000	2.500	13.4000	3.000	13.4000

Depth/Flow Relationship Manhole: EXDUMMY 28, DS/PN: EX33.001, Volume (m³): 0.4

Invert Level (m) 75.476

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.5000	0.300	6.5000	0.500	6.5000	0.700	6.5000	0.900	6.5000	1.100	6.5000
0.200	6.5000	0.400	6.5000	0.600	6.5000	0.800	6.5000	1.000	6.5000	1.200	6.5000

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Depth/Flow Relationship Manhole: EXDUMMY 28, DS/PN: EX33.001, Volume (m³): 0.4

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
1.300	6.5000	1.600	6.5000	1.900	6.5000	2.200	6.5000	2.500	6.5000	2.800	6.5000
1.400	6.5000	1.700	6.5000	2.000	6.5000	2.300	6.5000	2.600	6.5000	2.900	6.5000
1.500	6.5000	1.800	6.5000	2.100	6.5000	2.400	6.5000	2.700	6.5000	3.000	6.5000

Depth/Flow Relationship Manhole: EXDUMMY 30, DS/PN: EX34.001, Volume (m³): 0.3

Invert Level (m) 76.209

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.2000	0.600	6.2000	1.100	6.2000	1.600	6.2000	2.100	6.2000	2.600	6.2000
0.200	6.2000	0.700	6.2000	1.200	6.2000	1.700	6.2000	2.200	6.2000	2.700	6.2000
0.300	6.2000	0.800	6.2000	1.300	6.2000	1.800	6.2000	2.300	6.2000	2.800	6.2000
0.400	6.2000	0.900	6.2000	1.400	6.2000	1.900	6.2000	2.400	6.2000	2.900	6.2000
0.500	6.2000	1.000	6.2000	1.500	6.2000	2.000	6.2000	2.500	6.2000	3.000	6.2000

Depth/Flow Relationship Manhole: EXDUMMY 48, DS/PN: EX36.001, Volume (m³): 0.4

Invert Level (m) 78.486

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: EXDUMMY 50, DS/PN: EX37.001, Volume (m³): 0.5

Invert Level (m) 77.187

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.2000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.2000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.2000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.2000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: EXDUMMY 52, DS/PN: EX38.001, Volume (m³): 0.4

Invert Level (m) 75.999

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.5000	0.600	0.5000	1.100	0.5000	1.600	0.5000	2.100	0.5000	2.600	0.5000
0.200	0.5000	0.700	0.5000	1.200	0.5000	1.700	0.5000	2.200	0.5000	2.700	0.5000
0.300	0.5000	0.800	0.5000	1.300	0.5000	1.800	0.5000	2.300	0.5000	2.800	0.5000
0.400	0.5000	0.900	0.5000	1.400	0.5000	1.900	0.5000	2.400	0.5000	2.900	0.5000
0.500	0.5000	1.000	0.5000	1.500	0.5000	2.000	0.5000	2.500	0.5000	3.000	0.5000

Depth/Flow Relationship Manhole: EXDUMMY 54, DS/PN: EX39.001, Volume (m³): 0.4

Invert Level (m) 74.883

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.4000	0.600	0.4000	1.100	0.4000	1.600	0.4000	2.100	0.4000	2.600	0.4000
0.200	0.4000	0.700	0.4000	1.200	0.4000	1.700	0.4000	2.200	0.4000	2.700	0.4000
0.300	0.4000	0.800	0.4000	1.300	0.4000	1.800	0.4000	2.300	0.4000	2.800	0.4000
0.400	0.4000	0.900	0.4000	1.400	0.4000	1.900	0.4000	2.400	0.4000	2.900	0.4000
0.500	0.4000	1.000	0.4000	1.500	0.4000	2.000	0.4000	2.500	0.4000	3.000	0.4000

Depth/Flow Relationship Manhole: EXDUMMY 56, DS/PN: EX40.001, Volume (m³): 0.5

Invert Level (m) 74.514

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.5000	0.600	0.5000	1.100	0.5000	1.600	0.5000	2.100	0.5000	2.600	0.5000
0.200	0.5000	0.700	0.5000	1.200	0.5000	1.700	0.5000	2.200	0.5000	2.700	0.5000
0.300	0.5000	0.800	0.5000	1.300	0.5000	1.800	0.5000	2.300	0.5000	2.800	0.5000
0.400	0.5000	0.900	0.5000	1.400	0.5000	1.900	0.5000	2.400	0.5000	2.900	0.5000
0.500	0.5000	1.000	0.5000	1.500	0.5000	2.000	0.5000	2.500	0.5000	3.000	0.5000

Depth/Flow Relationship Manhole: EXDUMMY 58, DS/PN: EX44.001, Volume (m³): 0.3

Invert Level (m) 74.851

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.5000	0.500	0.5000	0.900	0.5000	1.300	0.5000	1.700	0.5000	2.100	0.5000
0.200	0.5000	0.600	0.5000	1.000	0.5000	1.400	0.5000	1.800	0.5000	2.200	0.5000
0.300	0.5000	0.700	0.5000	1.100	0.5000	1.500	0.5000	1.900	0.5000	2.300	0.5000
0.400	0.5000	0.800	0.5000	1.200	0.5000	1.600	0.5000	2.000	0.5000	2.400	0.5000

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Depth/Flow Relationship Manhole: EXDUMMY 58, DS/PN: EX44.001, Volume (m³): 0.3

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
2.500	0.5000	2.600	0.5000	2.700	0.5000	2.800	0.5000	2.900	0.5000	3.000	0.5000

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	29	Number of Storage Structures	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.233
FEH Rainfall Version	1999	E (1km)	0.299
Site Location	GB 438400 279200 SP 38400 79200	F (1km)	2.381
C (1km)	-0.025	Cv (Summer)	0.900
D1 (1km)	0.382	Cv (Winter)	0.900
D2 (1km)	0.332		

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	5
Climate Change (%)	0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
EX2.000	EXCP42	15 Summer	5	+0%					74.520	-0.096	0.000	0.58
EX3.000	EXCP58	15 Summer	5	+0%					74.827	-0.109	0.000	0.49
EX4.000	EXCP67	15 Summer	5	+0%					75.135	-0.095	0.000	0.27
EX4.001	EXCP68	15 Summer	5	+0%					74.542	-0.123	0.000	0.34
EX3.001	EXCP59	15 Summer	5	+0%					74.517	-0.134	0.000	0.34
EX2.001	EXCP43	15 Summer	5	+0%					74.394	-0.167	0.000	0.50
EX2.002	EXCP44	15 Summer	5	+0%					74.136	-0.059	0.000	0.59
EX5.000	EXCP60	15 Summer	5	+0%					74.724	-0.050	0.000	0.83
EX5.001	EXCP61	15 Summer	5	+0%					74.216	-0.104	0.000	0.71
EX6.000	EXCP68 - DUMMY	15 Summer	5	+0%					74.793	-0.162	0.000	0.15
EX6.001	EXCP69	15 Summer	5	+0%					74.272	-0.143	0.000	0.28
EX6.002	EXCP70	15 Summer	5	+0%					74.118	-0.142	0.000	0.07
EX5.002	EXCP62	15 Summer	5	+0%					74.115	-0.035	0.000	0.66
EX2.003	EXCP45	15 Summer	5	+0%	5/15 Summer				74.090	0.015	0.000	1.02
EX2.004	EXMH46	30 Summer	5	+0%	5/30 Summer				73.844	0.009	0.000	1.00
EX7.000	EXCP62-DUMMY	15 Summer	5	+0%					74.595	0.000	0.000	0.80
EX7.001	EXCP63	15 Summer	5	+0%	5/15 Summer				74.353	0.238	0.000	1.19
EX8.000	EXCP70 - DUMMY	15 Summer	5	+0%					74.425	-0.045	0.000	0.70
EX8.001	EXCP71	15 Summer	5	+0%					74.139	-0.041	0.000	0.79
EX9.000	EXCP73-DUMMY	15 Summer	5	+0%					73.570	0.000	0.000	0.44
EX8.002	EXCP72	30 Summer	5	+0%	5/15 Summer				73.641	0.151	0.000	0.40
EX7.002	EXCP64	30 Summer	5	+0%					73.637	-0.003	0.000	1.00
EX2.005	EXCP47	30 Summer	5	+0%	5/30 Summer				73.600	0.000	0.000	1.02
EX2.006	EXCP48	60 Winter	5	+0%					73.322	-0.088	0.000	0.99
EX10.000	EXCP64-DUMMY	15 Summer	5	+0%					74.255	0.000	0.000	0.81
EX10.001	EXCP65	15 Summer	5	+0%	5/15 Summer				73.970	0.195	0.000	1.08
EX11.000	EXCP73-DUMMY	15 Summer	5	+0%					74.147	-0.103	0.000	0.19
EX11.001	EXCP74	15 Summer	5	+0%					73.296	-0.009	0.000	0.05
EX10.002	EXCP66	15 Summer	5	+0%	5/15 Summer				73.294	0.059	0.000	2.16
EX2.007	EXCP49	60 Summer	5	+0%					73.070	-0.130	0.000	0.85
EX12.000	EXDUMMY 31	15 Summer	5	+0%					78.540	0.000	0.000	0.38
EX12.001	EXDUMMY 32	15 Summer	5	+0%					78.513	0.000	0.000	0.06
EX12.002	EXCP51	720 Summer	5	+0%					77.252	-0.138	0.000	0.02
EX13.000	EXDUMMY 33	15 Summer	5	+0%					76.890	0.000	0.000	0.36
EX13.001	EXDUMMY 34	15 Summer	5	+0%					76.861	0.000	0.000	0.05
EX12.003	EXCP52	480 Summer	5	+0%					75.723	-0.127	0.000	0.06
EX14.000	EXDUMMY 35	15 Summer	5	+0%					76.670	0.000	0.000	0.33
EX14.001	EXDUMMY 36	15 Summer	5	+0%					76.639	0.000	0.000	0.04
EX12.004	EXCP53	600 Winter	5	+0%					75.174	-0.126	0.000	0.06
EX15.000	EXDUMMY 37	15 Summer	5	+0%					77.390	0.000	0.000	0.25
EX15.001	EXDUMMY 38	15 Summer	5	+0%					77.356	0.000	0.000	0.02
EX12.005	EXCP54	720 Summer	5	+0%					74.033	-0.117	0.000	0.11
EX16.000	EXDUMMY 39	15 Summer	5	+0%					77.250	0.000	0.000	0.33
EX16.001	EXDUMMY 40	15 Summer	5	+0%					77.219	0.000	0.000	0.04
EX12.006	EXCP55	480 Winter	5	+0%					73.788	-0.112	0.000	0.15
EX17.000	EXDUMMY 41	15 Summer	5	+0%					76.120	0.000	0.000	0.37
EX17.001	EXDUMMY 42	15 Summer	5	+0%					76.093	0.000	0.000	0.06
EX12.007	EXCP56	360 Winter	5	+0%					73.536	-0.114	0.000	0.13
EX18.000	EXDUMMY 43	15 Summer	5	+0%					75.280	0.000	0.000	0.43
EX18.001	EXDUMMY 44	15 Summer	5	+0%					75.247	0.000	0.000	0.07
EX12.008	EXCP57	60 Summer	5	+0%					72.963	-0.087	0.000	0.27
EX19.000	EXDUMMY 45	1440 Summer	5	+0%					74.650	0.000	0.000	0.00
EX19.001	EXDUMMY 46	1440 Summer	5	+0%					74.622	0.000	0.000	0.00
EX2.008	EXCP50	60 Summer	5	+0%					72.921	-0.189	0.000	0.55
EX20.000	EXDUMMY 1	1440 Summer	5	+0%					82.170	0.000	0.000	0.00
EX20.001	EXDUMMY 2	1440 Summer	5	+0%					82.151	0.000	0.000	0.00
EX20.002	EXCP75	15 Summer	5	+0%					80.870	-0.150	0.000	0.00
EX21.000	EXDUMMY 3	1440 Summer	5	+0%					79.980	0.000	0.000	0.00
EX21.001	EXDUMMY 4	1440 Summer	5	+0%					79.960	0.000	0.000	0.00
EX20.003	EXCP76	480 Summer	5	+0%	5/15 Summer				79.256	0.426	0.000	0.02

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX2.000	EXCP42			12.7	OK	
EX3.000	EXCP58			13.0	OK	
EX4.000	EXCP67			3.5	OK	
EX4.001	EXCP68			3.5	OK	
EX3.001	EXCP59			16.5	OK	
EX2.001	EXCP43			42.0	OK	
EX2.002	EXCP44			39.0	OK	
EX5.000	EXCP60			22.9	OK	
EX5.001	EXCP61			31.2	OK	
EX6.000	EXCP68 - DUMMY			3.9	OK*	
EX6.001	EXCP69			5.5	OK	
EX6.002	EXCP70			5.1	OK	
EX5.002	EXCP62			30.2	OK	
EX2.003	EXCP45			69.6	SURCHARGED	
EX2.004	EXMH46			68.1	SURCHARGED	
EX7.000	EXCP62-DUMMY			20.5	SURCHARGED*	
EX7.001	EXCP63			29.7	SURCHARGED	
EX8.000	EXCP70 - DUMMY			4.7	OK*	
EX8.001	EXCP71			8.1	OK	
EX9.000	EXCP73-DUMMY			2.7	SURCHARGED*	
EX8.002	EXCP72			9.6	SURCHARGED	
EX7.002	EXCP64			35.8	OK	
EX2.005	EXCP47			99.5	SURCHARGED	
EX2.006	EXCP48			102.8	OK	
EX10.000	EXCP64-DUMMY			20.7	SURCHARGED*	
EX10.001	EXCP65			29.2	SURCHARGED	
EX11.000	EXCP73-DUMMY			2.4	OK*	
EX11.001	EXCP74			1.8	OK	
EX10.002	EXCP66			30.2	SURCHARGED	
EX2.007	EXCP49			122.0	OK	
EX12.000	EXDUMMY 31			1.9	FLOOD RISK*	
EX12.001	EXDUMMY 32			0.3	FLOOD RISK*	
EX12.002	EXCP51			0.3	OK	
EX13.000	EXDUMMY 33			1.9	FLOOD RISK*	
EX13.001	EXDUMMY 34			0.3	FLOOD RISK*	
EX12.003	EXCP52			0.6	OK	
EX14.000	EXDUMMY 35			1.9	FLOOD RISK*	
EX14.001	EXDUMMY 36			0.2	FLOOD RISK*	
EX12.004	EXCP53			0.8	OK	
EX15.000	EXDUMMY 37			1.4	FLOOD RISK*	
EX15.001	EXDUMMY 38			0.1	FLOOD RISK*	
EX12.005	EXCP54			0.9	OK	
EX16.000	EXDUMMY 39			1.9	FLOOD RISK*	
EX16.001	EXDUMMY 40			0.2	FLOOD RISK*	
EX12.006	EXCP55			1.1	OK	
EX17.000	EXDUMMY 41			1.9	FLOOD RISK*	
EX17.001	EXDUMMY 42			0.3	FLOOD RISK*	
EX12.007	EXCP56			1.4	OK	
EX18.000	EXDUMMY 43			2.4	FLOOD RISK*	
EX18.001	EXDUMMY 44			0.4	FLOOD RISK*	
EX12.008	EXCP57			1.8	OK	
EX19.000	EXDUMMY 45			0.0	FLOOD RISK*	
EX19.001	EXDUMMY 46			0.0	FLOOD RISK*	
EX2.008	EXCP50			124.0	OK	
EX20.000	EXDUMMY 1			0.0	FLOOD RISK*	
EX20.001	EXDUMMY 2			0.0	FLOOD RISK*	
EX20.002	EXCP75			0.0	OK	
EX21.000	EXDUMMY 3			0.0	FLOOD RISK*	
EX21.001	EXDUMMY 4			0.0	FLOOD RISK*	
EX20.003	EXCP76			0.6	SURCHARGED	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
EX22.000	EXDUMMY 5	15 Summer	5	+0%					79.130	0.000	0.000	3.98
EX22.001	EXDUMMY 6	15 Summer	5	+0%					79.107	0.000	0.000	3.62
EX20.004	EXCP77	480 Summer	5	+0%	5/15 Summer	5/15 Summer			79.257	1.277	76.534	2.61
EX23.000	EXDUMMY 7	15 Summer	5	+0%					78.410	0.000	0.000	2.65
EX23.001	EXDUMMY 8	15 Summer	5	+0%					78.385	0.000	0.000	2.18
EX20.005	EXCP78	480 Summer	5	+0%					77.621	-0.139	0.000	0.56
EX24.000	EXDUMMY 9	15 Summer	5	+0%					79.690	0.000	0.000	1.21
EX24.001	EXDUMMY 10	15 Summer	5	+0%					79.655	0.000	0.000	0.55
EX20.006	EXCP79	480 Summer	5	+0%					77.293	-0.137	0.000	0.57
EX25.000	EXDUMMY 11	15 Summer	5	+0%					78.850	0.000	0.000	1.59
EX25.001	EXDUMMY 12	15 Summer	5	+0%					78.815	0.000	0.000	0.81
EX20.007	EXCP80	480 Summer	5	+0%					76.939	-0.191	0.000	0.28
EX26.000	EXDUMMY 13	15 Summer	5	+0%					77.290	0.000	0.000	3.04
EX26.001	EXDUMMY 14	15 Summer	5	+0%					77.252	0.000	0.000	3.04
EX20.008	EXCP81	480 Summer	5	+0%	5/15 Summer				75.690	0.220	0.000	1.36
EX27.000	EXDUMMY 15	15 Summer	5	+0%					76.170	0.000	0.000	1.15
EX27.001	EXDUMMY 16	15 Summer	5	+0%					76.133	0.000	0.000	0.46
EX20.009	EXCP82	480 Summer	5	+0%					74.946	-0.164	0.000	0.43
EX28.000	EXDUMMY 17	600 Summer	5	+0%					79.340	0.000	0.000	0.03
EX28.001	EXDUMMY 18	15 Summer	5	+0%					79.310	0.000	0.000	0.02
EX28.002	EXCP84	480 Summer	5	+0%					78.085	-0.105	0.000	0.01
EX29.000	EXDUMMY 19	15 Summer	5	+0%					77.980	0.000	0.000	2.67
EX29.001	EXDUMMY 20	15 Summer	5	+0%					77.943	0.000	0.000	2.59
EX28.003	EXCP85	480 Summer	5	+0%	5/15 Summer	5/15 Summer			78.084	1.254	53.894	0.99
EX30.000	EXDUMMY 21	15 Summer	5	+0%					77.340	0.000	0.000	2.00
EX30.001	EXDUMMY 22	15 Summer	5	+0%					77.295	0.000	0.000	1.22
EX28.004	EXCP86	720 Summer	5	+0%	5/15 Summer	5/15 Summer			77.508	1.318	117.845	1.86
EX31.000	EXDUMMY 23	15 Summer	5	+0%					76.920	0.000	0.000	2.50
EX31.001	EXDUMMY 24	15 Summer	5	+0%					76.871	0.000	0.000	2.25
EX28.005	EXCP87	360 Summer	5	+0%	5/15 Summer	5/15 Summer			76.978	1.208	8.356	1.45
EX32.000	EXDUMMY 25	15 Summer	5	+0%					75.830	0.000	0.000	2.51
EX32.001	EXDUMMY 26	15 Summer	5	+0%					75.786	0.000	0.000	2.41
EX28.006	EXCP88	360 Summer	5	+0%					74.511	-0.169	0.000	0.58
EX33.000	EXDUMMY 27	15 Summer	5	+0%					75.670	0.000	0.000	2.00
EX33.001	EXDUMMY 28	15 Summer	5	+0%					75.626	0.000	0.000	1.21
EX28.007	EXCP89	360 Summer	5	+0%					74.294	-0.221	0.000	0.36
EX34.000	EXDUMMY 29	15 Summer	5	+0%					76.390	0.000	0.000	1.82
EX34.001	EXDUMMY 30	15 Summer	5	+0%					76.359	0.000	0.000	1.15
EX28.008	EXCP90	360 Summer	5	+0%					73.805	-0.170	0.000	0.58
EX35.000	EXHW10	15 Summer	5	+0%					76.500	-0.225	0.000	0.00
EX20.010	EXCP83	480 Summer	5	+0%					73.236	-0.414	0.000	0.21
EX36.000	EXDUMMY 47	15 Summer	5	+0%					78.680	0.000	0.000	0.54
EX36.001	EXDUMMY 48	15 Summer	5	+0%					78.636	0.000	0.000	0.06
EX36.002	EXCP91	240 Winter	5	+0%					77.395	-0.135	0.000	0.02
EX37.000	EXDUMMY 49	15 Summer	5	+0%					77.390	0.000	0.000	0.49
EX37.001	EXDUMMY 50	15 Summer	5	+0%					77.337	0.000	0.000	0.04
EX36.003	EXCP92	120 Summer	5	+0%					76.109	-0.131	0.000	0.04
EX38.000	EXDUMMY 51	15 Summer	5	+0%					76.190	0.000	0.000	0.59
EX38.001	EXDUMMY 52	15 Summer	5	+0%					76.149	0.000	0.000	0.09
EX36.004	EXCP93	120 Winter	5	+0%					74.918	-0.122	0.000	0.08
EX39.000	EXDUMMY 53	15 Summer	5	+0%					75.080	0.000	0.000	0.60
EX39.001	EXDUMMY 54	15 Summer	5	+0%					75.033	0.000	0.000	0.07
EX36.005	EXCP94	960 Summer	5	+0%					73.823	-0.107	0.000	0.18
EX40.000	EXDUMMY 55	15 Summer	5	+0%					74.720	0.000	0.000	0.76
EX40.001	EXDUMMY 56	15 Summer	5	+0%					74.664	0.000	0.000	0.09
EX36.006	EXCP95	600 Winter	5	+0%					73.390	-0.180	0.000	0.09
EX41.000	EXCP49-DUMMY	15 Summer	5	+0%					73.672	-0.003	0.000	0.82
EX42.000	EXCP66-DUMMY	15 Summer	5	+0%					73.925	0.000	0.000	1.08
EX43.000	EXCP74-DUMMY	15 Summer	5	+0%					74.043	-0.097	0.000	0.25
EX43.001	EXCP97	15 Summer	5	+0%					73.386	-0.089	0.000	0.19
EX42.001	EXCP98	15 Summer	5	+0%					73.382	-0.063	0.000	0.58
EX41.001	EXCP99	15 Summer	5	+0%	5/15 Summer				73.305	0.015	0.000	1.46
EX44.000	EXDUMMY 57	15 Summer	5	+0%					75.030	0.000	0.000	0.48
EX44.001	EXDUMMY 58	15 Summer	5	+0%					75.001	0.000	0.000	0.09
EX36.007	EXCP96	15 Summer	5	+0%					73.160	-0.060	0.000	0.91
EX2.009	EXCP51	60 Summer	5	+0%					72.893	-0.207	0.000	0.76

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX22.000	EXDUMMY 5			19.2	FLOOD RISK*	
EX22.001	EXDUMMY 6			18.4	FLOOD RISK*	
EX20.004	EXCP77			14.4	FLOOD	24
EX23.000	EXDUMMY 7			13.3	FLOOD RISK*	
EX23.001	EXDUMMY 8			10.8	FLOOD RISK*	
EX20.005	EXCP78			25.2	OK	
EX24.000	EXDUMMY 9			6.6	FLOOD RISK*	
EX24.001	EXDUMMY 10			3.0	FLOOD RISK*	
EX20.006	EXCP79			28.2	OK	
EX25.000	EXDUMMY 11			8.6	FLOOD RISK*	
EX25.001	EXDUMMY 12			4.4	FLOOD RISK*	
EX20.007	EXCP80			32.6	OK	
EX26.000	EXDUMMY 13			16.5	FLOOD RISK*	
EX26.001	EXDUMMY 14			16.4	FLOOD RISK*	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX20.008	EXCP81			54.3	SURCHARGED	
EX27.000	EXDUMMY 15			6.2	FLOOD RISK*	
EX27.001	EXDUMMY 16			2.5	FLOOD RISK*	
EX20.009	EXCP82			56.8	OK	
EX28.000	EXDUMMY 17			0.2	FLOOD RISK*	
EX28.001	EXDUMMY 18			0.1	FLOOD RISK*	
EX28.002	EXCP84			0.1	OK	
EX29.000	EXDUMMY 19			14.9	FLOOD RISK*	
EX29.001	EXDUMMY 20			14.4	FLOOD RISK*	
EX28.003	EXCP85			9.5	FLOOD	24
EX30.000	EXDUMMY 21			11.1	FLOOD RISK*	
EX30.001	EXDUMMY 22			6.8	FLOOD RISK*	
EX28.004	EXCP86			14.8	FLOOD	24
EX31.000	EXDUMMY 23			13.9	FLOOD RISK*	
EX31.001	EXDUMMY 24			12.5	FLOOD RISK*	
EX28.005	EXCP87			19.9	FLOOD	21
EX32.000	EXDUMMY 25			14.0	FLOOD RISK*	
EX32.001	EXDUMMY 26			13.4	FLOOD RISK*	
EX28.006	EXCP88			33.3	OK	
EX33.000	EXDUMMY 27			10.8	FLOOD RISK*	
EX33.001	EXDUMMY 28			6.5	FLOOD RISK*	
EX28.007	EXCP89			39.8	OK	
EX34.000	EXDUMMY 29			9.7	FLOOD RISK*	
EX34.001	EXDUMMY 30			6.2	FLOOD RISK*	
EX28.008	EXCP90			46.0	OK	
EX35.000	EXHW10			0.0	OK*	
EX20.010	EXCP83			102.8	OK	
EX36.000	EXDUMMY 47			2.8	FLOOD RISK*	
EX36.001	EXDUMMY 48			0.3	FLOOD RISK*	
EX36.002	EXCP91			0.3	OK	
EX37.000	EXDUMMY 49			2.7	FLOOD RISK*	
EX37.001	EXDUMMY 50			0.2	FLOOD RISK*	
EX36.003	EXCP92			0.5	OK	
EX38.000	EXDUMMY 51			3.2	FLOOD RISK*	
EX38.001	EXDUMMY 52			0.5	FLOOD RISK*	
EX36.004	EXCP93			1.0	OK	
EX39.000	EXDUMMY 53			3.3	FLOOD RISK*	
EX39.001	EXDUMMY 54			0.4	FLOOD RISK*	
EX36.005	EXCP94			1.4	OK	
EX40.000	EXDUMMY 55			4.2	FLOOD RISK*	
EX40.001	EXDUMMY 56			0.5	FLOOD RISK*	
EX36.006	EXCP95			1.9	OK	
EX41.000	EXCP49-DUMMY			20.6	OK*	
EX42.000	EXCP66-DUMMY			26.7	SURCHARGED*	
EX43.000	EXCP74-DUMMY			2.5	OK*	
EX43.001	EXCP97			2.3	OK	
EX42.001	EXCP98			27.5	OK	
EX41.001	EXCP99			45.4	SURCHARGED	
EX44.000	EXDUMMY 57			2.5	FLOOD RISK*	
EX44.001	EXDUMMY 58			0.5	FLOOD RISK*	
EX36.007	EXCP96			41.6	OK	
EX2.009	EXCP51			244.7	OK	

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX2.000	54.459	0.205	265.7	0.063	5.00	0.0	5.200	o	225	Pipe/Conduit
EX3.000	53.186	0.285	186.6	0.064	5.00	0.0	5.200	o	225	Pipe/Conduit
EX4.000	55.069	0.610	90.3	0.017	5.00	0.0	4.800	o	150	Pipe/Conduit
EX4.001	11.244	0.014	803.2	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX3.001	11.729	0.240	48.9	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX2.001	102.125	0.366	279.0	0.120	0.00	0.0	5.700	o	375	Pipe/Conduit
EX2.002	51.792	0.120	431.6	0.059	0.00	0.0	5.700	o	375	Pipe/Conduit
EX5.000	86.642	0.502	172.6	0.122	5.00	0.0	5.200	o	225	Pipe/Conduit
EX5.001	52.147	0.170	306.7	0.062	0.00	0.0	5.500	o	300	Pipe/Conduit
EX6.000	101.519	0.550	184.6	0.022	5.00	0.0	5.200	o	225	Pipe/Conduit
EX6.001	52.494	0.160	328.1	0.011	0.00	0.0	5.200	o	225	Pipe/Conduit
EX6.002	11.571	0.122	94.8	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX5.002	11.816	0.050	236.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX2.003	99.866	0.240	416.1	0.115	0.00	0.0	5.700	o	375	Pipe/Conduit
EX2.004	101.023	0.240	420.9	0.120	0.00	0.0	5.700	o	375	Pipe/Conduit
EX7.000	99.872	0.480	208.1	0.118	5.00	0.0	5.200	o	225	Pipe/Conduit
EX7.001	100.687	0.475	212.0	0.119	0.00	0.0	5.200	o	225	Pipe/Conduit
EX8.000	100.518	0.300	335.1	0.026	5.00	0.0	4.800	o	150	Pipe/Conduit
EX8.001	100.750	0.690	146.0	0.027	0.00	0.0	4.800	o	150	Pipe/Conduit
EX9.000	98.661	0.250	394.6	0.019	5.00	0.0	4.800	o	150	Pipe/Conduit
EX8.002	10.811	0.022	500.0	0.000	0.00	0.0	5.700	o	300	Pipe/Conduit
EX7.002	13.766	0.040	344.1	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX2.005	101.000	0.190	531.6	0.150	0.00	0.0	5.900	o	450	Pipe/Conduit
EX2.006	99.708	0.210	474.8	0.141	0.00	0.0	5.900	o	450	Pipe/Conduit
EX10.000	99.517	0.480	207.3	0.117	5.00	0.0	5.200	o	225	Pipe/Conduit
EX10.001	97.924	0.540	181.3	0.115	0.00	0.0	5.200	o	225	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX2.000	74.391	0.063	0.0	0.57	22.5
EX3.000	74.711	0.064	0.0	0.68	26.9
EX4.000	75.080	0.017	0.0	0.74	13.1
EX4.001	74.440	0.017	0.0	0.33	12.9
EX3.001	74.426	0.081	0.0	1.32	52.6
EX2.001	74.186	0.264	0.0	0.77	85.4
EX2.002	73.820	0.323	0.0	0.62	68.7
EX5.000	74.549	0.122	0.0	0.70	28.0
EX5.001	74.020	0.183	0.0	0.64	45.0
EX6.000	74.730	0.022	0.0	0.68	27.0
EX6.001	74.190	0.032	0.0	0.51	20.3
EX6.002	73.960	0.032	0.0	1.15	81.1
EX5.002	73.850	0.215	0.0	0.73	51.3
EX2.003	73.700	0.654	0.0	0.63	69.9
EX2.004	73.460	0.774	0.0	0.63	69.5
EX7.000	74.370	0.118	0.0	0.64	25.5
EX7.001	73.890	0.237	0.0	0.63	25.2
EX8.000	74.320	0.026	0.0	0.39	6.8
EX8.001	74.030	0.054	0.0	0.58	10.3
EX9.000	73.420	0.019	0.0	0.35	6.3
EX8.002	73.190	0.072	0.0	0.50	35.0
EX7.002	73.340	0.309	0.0	0.60	42.5
EX2.005	73.150	1.234	0.0	0.63	100.2
EX2.006	72.960	1.375	0.0	0.67	106.1
EX10.000	74.030	0.117	0.0	0.64	25.5
EX10.001	73.550	0.232	0.0	0.69	27.3

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX11.000	95.783	1.000	95.8	0.013	5.00	0.0	4.800	o	150	Pipe/Conduit
EX11.001	11.706	0.125	93.6	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX10.002	12.629	0.030	421.0	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX2.007	17.851	0.090	198.3	0.000	0.00	0.0	5.900	o	450	Pipe/Conduit
EX12.000	13.626	0.027	500.0	0.023	5.00	0.0	5.900	o	150	Pipe/Conduit
EX12.001	12.563	0.025	500.0	0.000	0.00	0.0	5.900	o	150	Pipe/Conduit
EX12.002	75.053	1.540	48.7	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX13.000	14.511	0.029	500.0	0.021	5.00	0.0	4.800	o	150	Pipe/Conduit
EX13.001	17.735	0.035	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.003	76.397	0.550	138.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX14.000	15.715	0.031	500.0	0.016	5.00	0.0	4.800	o	150	Pipe/Conduit
EX14.001	17.402	0.035	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.004	97.695	1.150	85.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX15.000	17.191	0.034	500.0	0.009	5.00	0.0	4.800	o	150	Pipe/Conduit
EX15.001	15.901	0.032	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.005	54.754	0.250	219.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX16.000	15.546	0.031	500.0	0.016	5.00	0.0	4.800	o	150	Pipe/Conduit
EX16.001	16.605	0.033	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.006	67.101	0.250	268.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX17.000	13.507	0.027	500.0	0.025	5.00	0.0	4.800	o	150	Pipe/Conduit
EX17.001	14.470	0.029	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.007	80.902	0.600	134.8	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX18.000	16.294	0.033	500.0	0.030	5.00	0.0	4.800	o	150	Pipe/Conduit
EX18.001	19.027	0.038	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX12.008	82.367	0.240	343.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX11.000	74.100	0.013	0.0	0.72	12.8
EX11.001	73.080	0.013	0.0	0.96	38.0
EX10.002	73.010	0.245	0.0	0.45	17.9
EX2.007	72.750	1.620	0.0	1.03	164.2
EX12.000	78.390	0.023	0.0	0.30	5.3
EX12.001	78.363	0.023	0.0	0.30	5.3
EX12.002	77.240	0.023	0.0	1.01	17.9
EX13.000	76.740	0.021	0.0	0.31	5.6
EX13.001	76.711	0.021	0.0	0.31	5.6
EX12.003	75.700	0.044	0.0	0.60	10.6
EX14.000	76.520	0.016	0.0	0.31	5.6
EX14.001	76.489	0.016	0.0	0.31	5.6
EX12.004	75.150	0.060	0.0	0.77	13.5
EX15.000	77.240	0.009	0.0	0.31	5.6
EX15.001	77.206	0.009	0.0	0.31	5.6
EX12.005	74.000	0.069	0.0	0.48	8.4
EX16.000	77.100	0.016	0.0	0.31	5.6
EX16.001	77.069	0.016	0.0	0.31	5.6
EX12.006	73.750	0.085	0.0	0.43	7.6
EX17.000	75.970	0.025	0.0	0.31	5.6
EX17.001	75.943	0.025	0.0	0.31	5.6
EX12.007	73.500	0.109	0.0	0.61	10.7
EX18.000	75.130	0.030	0.0	0.31	5.6
EX18.001	75.097	0.030	0.0	0.31	5.6
EX12.008	72.900	0.139	0.0	0.38	6.7

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX19.000	13.943	0.028	500.0	0.002	5.00	0.0	4.800	o	150	Pipe/Conduit
EX19.001	13.259	0.027	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX2.008	4.397	0.160	27.5	0.000	0.00	0.0	5.900	o	450	Pipe/Conduit
EX20.000	9.336	0.019	491.4	0.002	5.00	0.0	5.900	o	150	Pipe/Conduit
EX20.001	9.543	0.019	502.3	0.000	0.00	0.0	5.900	o	150	Pipe/Conduit
EX20.002	13.548	2.190	6.2	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX21.000	9.839	0.020	492.0	0.002	5.00	0.0	4.800	o	150	Pipe/Conduit
EX21.001	10.140	0.020	507.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX20.003	13.068	0.850	15.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX22.000	11.547	0.023	500.0	1.694	5.00	0.0	4.800	o	150	Pipe/Conduit
EX22.001	12.833	0.026	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX20.004	111.472	0.220	506.7	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX23.000	12.443	0.025	500.0	0.803	5.00	0.0	4.800	o	150	Pipe/Conduit
EX23.001	12.143	0.024	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX20.005	100.088	0.330	303.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX24.000	17.290	0.035	494.0	0.225	5.00	0.0	5.500	o	150	Pipe/Conduit
EX24.001	18.023	0.036	500.6	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.006	73.601	0.300	245.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX25.000	17.413	0.035	500.0	0.325	5.00	0.0	5.500	o	150	Pipe/Conduit
EX25.001	19.137	0.038	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.007	75.913	1.660	45.7	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX26.000	19.079	0.038	500.0	2.061	5.00	0.0	5.500	o	150	Pipe/Conduit
EX26.001	20.028	0.040	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.008	105.357	0.280	376.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX27.000	18.687	0.037	500.0	0.187	5.00	0.0	5.500	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX19.000	74.500	0.002	0.0	0.31	5.6
EX19.001	74.472	0.002	0.0	0.31	5.6
EX2.008	72.660	1.760	0.0	2.78	441.6
EX20.000	82.020	0.002	0.0	0.30	5.4
EX20.001	82.001	0.002	0.0	0.30	5.3
EX20.002	80.870	0.002	0.0	2.84	50.3
EX21.000	79.830	0.002	0.0	0.32	5.6
EX21.001	79.810	0.002	0.0	0.31	5.5
EX20.003	78.680	0.004	0.0	1.80	31.9
EX22.000	78.980	1.694	0.0	0.31	5.6
EX22.001	78.957	1.694	0.0	0.31	5.6
EX20.004	77.830	1.698	0.0	0.31	5.5
EX23.000	78.260	0.803	0.0	0.31	5.6
EX23.001	78.235	0.803	0.0	0.31	5.6
EX20.005	77.460	2.500	0.0	0.64	45.3
EX24.000	79.540	0.225	0.0	0.31	5.4
EX24.001	79.505	0.225	0.0	0.31	5.4
EX20.006	77.130	2.725	0.0	0.71	50.4
EX25.000	78.700	0.325	0.0	0.31	5.4
EX25.001	78.665	0.325	0.0	0.31	5.4
EX20.007	76.830	3.050	0.0	1.65	116.8
EX26.000	77.140	2.061	0.0	0.31	5.4
EX26.001	77.102	2.061	0.0	0.31	5.4
EX20.008	75.170	5.111	0.0	0.58	40.7
EX27.000	76.020	0.187	0.0	0.31	5.4

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX27.001	18.053	0.036	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX20.009	47.973	1.460	32.9	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX28.000	15.131	0.030	500.0	0.007	5.00	0.0	5.500	o	150	Pipe/Conduit
EX28.001	18.508	0.037	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX28.002	60.939	1.360	44.8	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX29.000	18.334	0.037	500.0	1.062	5.00	0.0	4.800	o	150	Pipe/Conduit
EX29.001	23.635	0.047	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.003	107.394	0.640	167.8	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX30.000	22.651	0.045	503.4	0.502	5.00	0.0	4.800	o	150	Pipe/Conduit
EX30.001	20.040	0.040	501.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.004	101.028	0.420	240.5	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX31.000	24.402	0.049	500.0	0.922	5.00	0.0	4.800	o	150	Pipe/Conduit
EX31.001	21.188	0.042	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.005	89.259	1.090	81.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX32.000	22.233	0.044	500.0	0.992	5.00	0.0	4.800	o	150	Pipe/Conduit
EX32.001	22.224	0.044	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX28.006	98.720	0.165	598.3	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit
EX33.000	22.141	0.044	500.0	0.481	5.00	0.0	5.700	o	150	Pipe/Conduit
EX33.001	21.253	0.043	500.0	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX28.007	84.296	0.540	156.1	0.000	5.00	0.0	5.700	o	375	Pipe/Conduit
EX34.000	15.593	0.031	500.0	0.460	5.00	0.0	5.700	o	150	Pipe/Conduit
EX34.001	16.046	0.032	500.0	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX28.008	99.710	0.320	311.6	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit
EX35.000	10.079	0.620	16.3	0.000	5.00	0.0	5.200	o	225	Pipe/Conduit
EX20.010	49.080	0.550	89.2	0.000	0.00	0.0	6.200	o	600	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX27.001	75.983	0.187	0.0	0.31	5.4
EX20.009	74.810	5.299	0.0	1.95	137.8
EX28.000	79.190	0.007	0.0	0.31	5.4
EX28.001	79.160	0.007	0.0	0.31	5.4
EX28.002	78.040	0.007	0.0	1.06	18.7
EX29.000	77.830	1.062	0.0	0.31	5.6
EX29.001	77.793	1.062	0.0	0.31	5.6
EX28.003	76.680	1.069	0.0	0.54	9.6
EX30.000	77.190	0.502	0.0	0.31	5.5
EX30.001	77.145	0.502	0.0	0.31	5.6
EX28.004	76.040	1.571	0.0	0.45	8.0
EX31.000	76.770	0.922	0.0	0.31	5.6
EX31.001	76.721	0.922	0.0	0.31	5.6
EX28.005	75.620	2.494	0.0	0.78	13.8
EX32.000	75.680	0.992	0.0	0.31	5.6
EX32.001	75.636	0.992	0.0	0.31	5.6
EX28.006	74.305	3.486	0.0	0.53	58.3
EX33.000	75.520	0.481	0.0	0.30	5.4
EX33.001	75.476	0.481	0.0	0.30	5.4
EX28.007	74.140	3.967	0.0	1.03	114.3
EX34.000	76.240	0.460	0.0	0.30	5.4
EX34.001	76.209	0.460	0.0	0.30	5.4
EX28.008	73.600	4.426	0.0	0.73	80.8
EX35.000	76.500	0.000	0.0	2.30	91.3
EX20.010	73.050	9.725	0.0	1.85	524.2

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX36.000	22.151	0.044	500.0	0.022	5.00	0.0	6.200	o	150	Pipe/Conduit
EX36.001	25.843	0.052	500.0	0.000	0.00	0.0	6.200	o	150	Pipe/Conduit
EX36.002	110.266	1.290	85.5	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit
EX37.000	26.732	0.053	500.0	0.019	5.00	0.0	4.800	o	150	Pipe/Conduit
EX37.001	24.455	0.049	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX36.003	110.157	1.200	91.8	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX38.000	20.448	0.041	500.0	0.034	5.00	0.0	5.700	o	150	Pipe/Conduit
EX38.001	19.603	0.039	500.0	0.000	0.00	0.0	5.700	o	150	Pipe/Conduit
EX36.004	108.405	1.110	97.7	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX39.000	23.335	0.047	500.0	0.028	5.00	0.0	4.800	o	150	Pipe/Conduit
EX39.001	20.876	0.042	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX36.005	96.444	0.360	267.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX40.000	28.101	0.056	500.0	0.038	5.00	0.0	4.800	o	150	Pipe/Conduit
EX40.001	22.326	0.045	500.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit
EX36.006	101.394	0.345	293.9	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX41.000	99.229	0.460	215.7	0.115	5.00	0.0	5.200	o	225	Pipe/Conduit
EX42.000	102.458	0.480	213.5	0.154	5.00	0.0	5.700	o	225	Pipe/Conduit
EX43.000	104.112	0.665	156.6	0.012	5.00	0.0	4.800	o	150	Pipe/Conduit
EX43.001	14.409	0.030	480.3	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX42.001	11.833	0.230	51.4	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit
EX41.001	17.555	0.040	438.9	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit
EX44.000	14.693	0.029	500.0	0.036	5.00	0.0	5.500	o	150	Pipe/Conduit
EX44.001	15.673	0.031	500.0	0.000	0.00	0.0	5.500	o	150	Pipe/Conduit
EX36.007	91.560	0.320	286.1	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX36.000	78.530	0.022	0.0	0.30	5.3
EX36.001	78.486	0.022	0.0	0.30	5.3
EX36.002	77.380	0.022	0.0	0.76	13.5
EX37.000	77.240	0.019	0.0	0.31	5.6
EX37.001	77.187	0.019	0.0	0.31	5.6
EX36.003	76.090	0.040	0.0	0.71	12.6
EX38.000	76.040	0.034	0.0	0.30	5.4
EX38.001	75.999	0.034	0.0	0.30	5.4
EX36.004	74.890	0.074	0.0	0.71	12.6
EX39.000	74.930	0.028	0.0	0.31	5.6
EX39.001	74.883	0.028	0.0	0.31	5.6
EX36.005	73.780	0.102	0.0	0.43	7.6
EX40.000	74.570	0.038	0.0	0.31	5.6
EX40.001	74.514	0.038	0.0	0.31	5.6
EX36.006	73.345	0.140	0.0	0.54	21.4
EX41.000	73.450	0.115	0.0	0.63	25.0
EX42.000	73.700	0.154	0.0	0.62	24.7
EX43.000	73.990	0.012	0.0	0.56	10.0
EX43.001	73.250	0.012	0.0	0.42	16.7
EX42.001	73.220	0.166	0.0	1.29	51.3
EX41.001	72.990	0.281	0.0	0.53	37.6
EX44.000	74.880	0.036	0.0	0.31	5.4
EX44.001	74.851	0.036	0.0	0.31	5.4
EX36.007	72.920	0.456	0.0	0.66	46.6

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Existing Network Details for Existing

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
EX2.009	71.577	0.340	210.5	0.000	0.00	0.0	6.200	o	600	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
EX2.009	72.500	11.942	0.0	1.21	341.2

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
EXCP42	76.250	1.859	Open Manhole	1050	EX2.000	74.391	225				
EXCP58	76.400	1.689	Open Manhole	1050	EX3.000	74.711	225				
EXCP67	76.700	1.620	Open Manhole	1050	EX4.000	75.080	150				
EXCP68	76.620	2.180	Open Manhole	1050	EX4.001	74.440	225	EX4.000	74.470	150	
EXCP59	76.320	1.894	Open Manhole	1050	EX3.001	74.426	225	EX3.000	74.426	225	
								EX4.001	74.426	225	
EXCP43	76.200	2.014	Open Manhole	1050	EX2.001	74.186	375	EX2.000	74.186	225	
								EX3.001	74.186	225	
EXCP44	75.980	2.160	Open Manhole	1050	EX2.002	73.820	375	EX2.001	73.820	375	
EXCP60	76.320	1.771	Open Manhole	1050	EX5.000	74.549	225				
EXCP61	76.150	2.130	Open Manhole	1050	EX5.001	74.020	300	EX5.000	74.047	225	
EXCP68 - DUMMY	76.620	1.890	Junction		EX6.000	74.730	225				
EXCP69	76.470	2.290	Open Manhole	1050	EX6.001	74.190	225	EX6.000	74.180	225	
EXCP70	76.360	2.400	Open Manhole	1050	EX6.002	73.960	300	EX6.001	74.030	225	
EXCP62	76.080	2.242	Open Manhole	1050	EX5.002	73.850	300	EX5.001	73.850	300	
								EX6.002	73.838	300	
EXCP45	75.830	2.130	Open Manhole	1050	EX2.003	73.700	375	EX2.002	73.700	375	
								EX5.002	73.800	300	25
EXMH46	75.770	2.310	Open Manhole	1050	EX2.004	73.460	375	EX2.003	73.460	375	
EXCP62-DUMMY	76.080	1.710	Junction		EX7.000	74.370	225				
EXCP63	75.910	2.020	Open Manhole	1050	EX7.001	73.890	225	EX7.000	73.890	225	
EXCP70 - DUMMY	76.360	2.040	Junction		EX8.000	74.320	150				
EXCP71	76.130	2.110	Open Manhole	1050	EX8.001	74.030	150	EX8.000	74.020	150	
EXCP73-DUMMY	75.770	2.350	Junction		EX9.000	73.420	150				
EXCP72	75.960	2.790	Open Manhole	1050	EX8.002	73.190	300	EX8.001	73.340	150	
								EX9.000	73.170	150	
EXCP64	75.760	2.592	Open Manhole	1050	EX7.002	73.340	300	EX7.001	73.415	225	
								EX8.002	73.168	300	
EXCP47	75.780	2.630	Open Manhole	1050	EX2.005	73.150	450	EX2.004	73.220	375	
								EX7.002	73.300	300	
EXCP48	75.450	2.490	Open Manhole	1050	EX2.006	72.960	450	EX2.005	72.960	450	
EXCP64-DUMMY	75.760	1.730	Junction		EX10.000	74.030	225				
EXCP65	75.580	2.030	Open Manhole	1050	EX10.001	73.550	225	EX10.000	73.550	225	
EXCP73-DUMMY	75.770	1.670	Junction		EX11.000	74.100	150				
EXCP74	76.020	2.940	Open Manhole	1050	EX11.001	73.080	225	EX11.000	73.100	150	
EXCP66	75.420	2.465	Open Manhole	1050	EX10.002	73.010	225	EX10.001	73.010	225	
								EX11.001	72.955	225	
EXCP49	75.290	2.540	Open Manhole	1050	EX2.007	72.750	450	EX2.006	72.750	450	
								EX10.002	72.980	225	5
EXDUMMY 31	78.590	0.200	Junction		EX12.000	78.390	150				
EXDUMMY 32	78.590	0.227	Junction		EX12.001	78.363	150	EX12.000	78.363	150	
EXCP51	78.590	1.350	Open Manhole	1050	EX12.002	77.240	150	EX12.001	78.338	150	1098
EXDUMMY 33	76.940	0.200	Junction		EX13.000	76.740	150				
EXDUMMY 34	76.940	0.229	Junction		EX13.001	76.711	150	EX13.000	76.711	150	
EXCP52	76.940	1.240	Open Manhole	1050	EX12.003	75.700	150	EX12.002	75.700	150	
								EX13.001	76.676	150	976
EXDUMMY 35	76.720	0.200	Junction		EX14.000	76.520	150				
EXDUMMY 36	76.720	0.231	Junction		EX14.001	76.489	150	EX14.000	76.489	150	
EXCP53	76.720	1.570	Open Manhole	1050	EX12.004	75.150	150	EX12.003	75.150	150	
								EX14.001	76.454	150	1304
EXDUMMY 37	77.440	0.200	Junction		EX15.000	77.240	150				
EXDUMMY 38	77.440	0.234	Junction		EX15.001	77.206	150	EX15.000	77.206	150	
EXCP54	77.440	3.440	Open Manhole	1050	EX12.005	74.000	150	EX12.004	74.000	150	
								EX15.001	77.174	150	3174
EXDUMMY 39	77.300	0.200	Junction		EX16.000	77.100	150				
EXDUMMY 40	77.300	0.231	Junction		EX16.001	77.069	150	EX16.000	77.069	150	
EXCP55	77.300	3.550	Open Manhole	1050	EX12.006	73.750	150	EX12.005	73.750	150	
								EX16.001	77.036	150	3286
EXDUMMY 41	76.170	0.200	Junction		EX17.000	75.970	150				
EXDUMMY 42	76.170	0.227	Junction		EX17.001	75.943	150	EX17.000	75.943	150	
EXCP56	76.170	2.670	Open Manhole	1050	EX12.007	73.500	150	EX12.006	73.500	150	
								EX17.001	75.914	150	2414
EXDUMMY 43	75.330	0.200	Junction		EX18.000	75.130	150				
EXDUMMY 44	75.330	0.233	Junction		EX18.001	75.097	150	EX18.000	75.097	150	
EXCP57	75.330	2.430	Open Manhole	1050	EX12.008	72.900	150	EX12.007	72.900	150	
								EX18.001	75.059	150	2159
EXDUMMY 45	74.700	0.200	Junction		EX19.000	74.500	150				

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
EXDUMMY 46	74.700	0.228	Junction		EX19.001	74.472	150	EX19.000	74.472	150	
EXCP50	74.700	2.040	Open Manhole	1050	EX2.008	72.660	450	EX2.007	72.660	450	
								EX12.008	72.660	150	
								EX19.001	74.445	150	1485
EXDUMMY 1	82.220	0.200	Junction		EX20.000	82.020	150				
EXDUMMY 2	82.220	0.219	Junction		EX20.001	82.001	150	EX20.000	82.001	150	
EXCP75	82.220	1.350	Open Manhole	1050	EX20.002	80.870	150	EX20.001	81.982	150	1112
EXDUMMY 3	80.030	0.200	Junction		EX21.000	79.830	150				
EXDUMMY 4	80.030	0.220	Junction		EX21.001	79.810	150	EX21.000	79.810	150	
EXCP76	80.030	1.350	Open Manhole	1050	EX20.003	78.680	150	EX20.002	78.680	150	
								EX21.001	79.790	150	1110
EXDUMMY 5	79.180	0.200	Junction		EX22.000	78.980	150				
EXDUMMY 6	79.180	0.223	Junction		EX22.001	78.957	150	EX22.000	78.957	150	
EXCP77	79.180	1.350	Open Manhole	1050	EX20.004	77.830	150	EX20.003	77.830	150	
								EX22.001	78.931	150	1101
EXDUMMY 7	78.460	0.200	Junction		EX23.000	78.260	150				
EXDUMMY 8	78.460	0.225	Junction		EX23.001	78.235	150	EX23.000	78.235	150	
EXCP78	78.460	1.000	Open Manhole	1050	EX20.005	77.460	300	EX20.004	77.610	150	
								EX23.001	78.211	150	601
EXDUMMY 9	79.740	0.200	Junction		EX24.000	79.540	150				
EXDUMMY 10	79.740	0.235	Junction		EX24.001	79.505	150	EX24.000	79.505	150	
EXCP79	79.740	2.610	Open Manhole	1050	EX20.006	77.130	300	EX20.005	77.130	300	
								EX24.001	79.469	150	2189
EXDUMMY 11	78.900	0.200	Junction		EX25.000	78.700	150				
EXDUMMY 12	78.900	0.235	Junction		EX25.001	78.665	150	EX25.000	78.665	150	
EXCP80	78.900	2.070	Open Manhole	1050	EX20.007	76.830	300	EX20.006	76.830	300	
								EX25.001	78.627	150	1647
EXDUMMY 13	77.340	0.200	Junction		EX26.000	77.140	150				
EXDUMMY 14	77.340	0.238	Junction		EX26.001	77.102	150	EX26.000	77.102	150	
EXCP81	77.340	2.170	Open Manhole	1050	EX20.008	75.170	300	EX20.007	75.170	300	
								EX26.001	77.062	150	1742
EXDUMMY 15	76.220	0.200	Junction		EX27.000	76.020	150				
EXDUMMY 16	76.220	0.237	Junction		EX27.001	75.983	150	EX27.000	75.983	150	
EXCP82	76.220	1.410	Open Manhole	1050	EX20.009	74.810	300	EX20.008	74.890	300	80
								EX27.001	75.947	150	987
EXDUMMY 17	79.390	0.200	Junction		EX28.000	79.190	150				
EXDUMMY 18	79.390	0.230	Junction		EX28.001	79.160	150	EX28.000	79.160	150	
EXCP84	79.390	1.350	Open Manhole	1050	EX28.002	78.040	150	EX28.001	79.123	150	1083
EXDUMMY 19	78.030	0.200	Junction		EX29.000	77.830	150				
EXDUMMY 20	78.030	0.237	Junction		EX29.001	77.793	150	EX29.000	77.793	150	
EXCP85	78.030	1.350	Open Manhole	1050	EX28.003	76.680	150	EX28.002	76.680	150	
								EX29.001	77.746	150	1066
EXDUMMY 21	77.390	0.200	Junction		EX30.000	77.190	150				
EXDUMMY 22	77.390	0.245	Junction		EX30.001	77.145	150	EX30.000	77.145	150	
EXCP86	77.390	1.350	Open Manhole	1050	EX28.004	76.040	150	EX28.003	76.040	150	
								EX30.001	77.105	150	1065
EXDUMMY 23	76.970	0.200	Junction		EX31.000	76.770	150				
EXDUMMY 24	76.970	0.249	Junction		EX31.001	76.721	150	EX31.000	76.721	150	
EXCP87	76.970	1.350	Open Manhole	1050	EX28.005	75.620	150	EX28.004	75.620	150	
								EX31.001	76.679	150	1059
EXDUMMY 25	75.880	0.200	Junction		EX32.000	75.680	150				
EXDUMMY 26	75.880	0.244	Junction		EX32.001	75.636	150	EX32.000	75.636	150	
EXCP88	75.880	1.575	Open Manhole	1050	EX28.006	74.305	375	EX28.005	74.530	150	
								EX32.001	75.592	150	1062
EXDUMMY 27	75.720	0.200	Junction		EX33.000	75.520	150				
EXDUMMY 28	75.720	0.244	Junction		EX33.001	75.476	150	EX33.000	75.476	150	
EXCP89	75.720	1.580	Open Manhole	1050	EX28.007	74.140	375	EX28.006	74.140	375	
								EX33.001	75.433	150	1068
EXDUMMY 29	76.440	0.200	Junction		EX34.000	76.240	150				
EXDUMMY 30	76.440	0.231	Junction		EX34.001	76.209	150	EX34.000	76.209	150	
EXCP90	76.440	2.840	Open Manhole	1050	EX28.008	73.600	375	EX28.007	73.600	375	
								EX34.001	76.177	150	2352
EXHW10	76.940	0.440	Junction		EX35.000	76.500	225				
EXCP83	76.480	3.430	Open Manhole	1800	EX20.010	73.050	600	EX20.009	73.350	300	
								EX28.008	73.280	375	5
								EX35.000	75.880	225	2455
EXDUMMY 47	78.730	0.200	Junction		EX36.000	78.530	150				

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Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
EXDUMMY 48	78.730	0.244	Junction		EX36.001	78.486	150	EX36.000	78.486	150	
EXCP91	78.730	1.350	Open Manhole	1050	EX36.002	77.380	150	EX36.001	78.434	150	1054
EXDUMMY 49	77.440	0.200	Junction		EX37.000	77.240	150				
EXDUMMY 50	77.440	0.253	Junction		EX37.001	77.187	150	EX37.000	77.187	150	
EXCP92	77.440	1.350	Open Manhole	1050	EX36.003	76.090	150	EX36.002	76.090	150	
								EX37.001	77.138	150	1048
EXDUMMY 51	76.240	0.200	Junction		EX38.000	76.040	150				
EXDUMMY 52	76.240	0.241	Junction		EX38.001	75.999	150	EX38.000	75.999	150	
EXCP93	76.240	1.350	Open Manhole	1050	EX36.004	74.890	150	EX36.003	74.890	150	
								EX38.001	75.960	150	1070
EXDUMMY 53	75.130	0.200	Junction		EX39.000	74.930	150				
EXDUMMY 54	75.130	0.247	Junction		EX39.001	74.883	150	EX39.000	74.883	150	
EXCP94	75.130	1.350	Open Manhole	1050	EX36.005	73.780	150	EX36.004	73.780	150	
								EX39.001	74.841	150	1061
EXDUMMY 55	74.770	0.200	Junction		EX40.000	74.570	150				
EXDUMMY 56	74.770	0.256	Junction		EX40.001	74.514	150	EX40.000	74.514	150	
EXCP95	74.770	1.425	Open Manhole	1050	EX36.006	73.345	225	EX36.005	73.420	150	
								EX40.001	74.469	150	1049
EXCP49-DUMMY	75.290	1.840	Junction		EX41.000	73.450	225				
EXCP66-DUMMY	75.420	1.720	Junction		EX42.000	73.700	225				
EXCP74-DUMMY	76.020	2.030	Junction		EX43.000	73.990	150				
EXCP97	75.690	2.440	Open Manhole	1050	EX43.001	73.250	225	EX43.000	73.325	150	
EXCP98	75.250	2.030	Open Manhole	1050	EX42.001	73.220	225	EX42.000	73.220	225	
								EX43.001	73.220	225	
EXCP99	75.000	2.010	Open Manhole	1050	EX41.001	72.990	300	EX41.000	72.990	225	
								EX42.001	72.990	225	
EXDUMMY 57	75.080	0.200	Junction		EX44.000	74.880	150				
EXDUMMY 58	75.080	0.229	Junction		EX44.001	74.851	150	EX44.000	74.851	150	
EXCP96	75.080	2.160	Open Manhole	1050	EX36.007	72.920	300	EX36.006	73.000	225	5
								EX41.001	72.950	300	30
								EX44.001	74.820	150	1750
EXCP51	74.800	2.300	Open Manhole	1050	EX2.009	72.500	600	EX2.008	72.500	450	
								EX20.010	72.500	600	
								EX36.007	72.600	300	
EX	73.000	0.840	Open Manhole	0		OUTFALL		EX2.009	72.160	600	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP42	439007.784	280760.452	439007.784	280760.452	Required	
EXCP58	439019.522	280757.055	439019.522	280757.055	Required	
EXCP67	439029.912	280754.057	439029.912	280754.057	Required	
EXCP68	439013.787	280701.402	439013.787	280701.402	Required	
EXCP59	439003.660	280706.289	439003.660	280706.289	Required	
EXCP43	438992.105	280708.299	438992.105	280708.299	Required	
EXCP44	438961.838	280610.762	438961.838	280610.762	Required	
EXCP60	438998.898	280690.307	438998.898	280690.307	Required	
EXCP61	438973.333	280607.523	438973.333	280607.523	Required	
EXCP68 - DUMMY	439013.749	280701.278			No Entry	
EXCP69	438984.158	280604.168	438984.158	280604.168	Required	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP70	438968.694	280554.003	438968.694	280554.003	Required	
EXCP62	438957.750	280557.758	438957.750	280557.758	Required	
EXCP45	438946.477	280561.301	438946.477	280561.301	Required	
EXMH46	438916.754	280465.960	438916.754	280465.960	Required	
EXCP62-DUMMY	438957.700	280557.601			No Entry	
EXCP63	438927.696	280462.342	438927.696	280462.342	Required	
EXCP70 - DUMMY	438968.662	280553.902			No Entry	
EXCP71	438938.359	280458.060	438938.359	280458.060	Required	
EXCP73-DUMMY	438877.392	280268.198			No Entry	
EXCP72	438907.383	280362.190	438907.383	280362.190	Required	
EXCP64	438897.394	280366.323	438897.394	280366.323	Required	
EXCP47	438884.221	280370.319	438884.221	280370.319	Required	
EXCP48	438851.170	280274.880	438851.170	280274.880	Required	
EXCP64-DUMMY	438897.357	280366.211			No Entry	
EXCP65	438866.619	280271.560	438866.619	280271.560	Required	
EXCP73-DUMMY	438877.392	280268.198			No Entry	
EXCP74	438847.962	280177.048	438847.962	280177.048	Required	
EXCP66	438836.338	280178.436	438836.338	280178.436	Required	
EXCP49	438823.723	280179.025	438823.723	280179.025	Required	
EXDUMMY 31	438947.269	280700.613			No Entry	
EXDUMMY 32	438959.766	280695.182			No Entry	
EXCP51	438970.202	280688.189	438970.202	280688.189	Required	
EXDUMMY 33	438919.518	280630.359			No Entry	
EXDUMMY 34	438932.918	280624.791			No Entry	
EXCP52	438948.510	280616.340	438948.510	280616.340	Required	
EXDUMMY 35	438897.289	280557.679			No Entry	
EXDUMMY 36	438912.023	280552.213			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP53	438926.837	280543.082	438926.837	280543.082	Required	
EXDUMMY 37	438870.405	280461.070			No Entry	
EXDUMMY 38	438886.482	280454.983			No Entry	
EXCP54	438901.142	280448.826	438901.142	280448.826	Required	
EXDUMMY 39	438852.687	280412.472			No Entry	
EXDUMMY 40	438867.154	280406.780			No Entry	
EXCP55	438881.154	280397.851	438881.154	280397.851	Required	
EXDUMMY 41	438831.778	280346.513			No Entry	
EXDUMMY 42	438844.456	280341.854			No Entry	
EXCP56	438857.276	280335.143	438857.276	280335.143	Required	
EXDUMMY 43	438799.388	280275.275			No Entry	
EXDUMMY 44	438814.466	280269.099			No Entry	
EXCP57	438830.471	280258.810	438830.471	280258.810	Required	
EXDUMMY 45	438780.124	280188.813			No Entry	
EXDUMMY 46	438793.474	280184.791			No Entry	
EXCP50	438805.910	280180.190	438805.910	280180.190	Required	
EXDUMMY 1	439047.837	280684.503			No Entry	
EXDUMMY 2	439038.503	280684.723			No Entry	
EXCP75	439029.020	280683.660	439029.020	280683.660	Required	
EXDUMMY 3	439039.273	280673.895			No Entry	
EXDUMMY 4	439029.446	280674.375			No Entry	
EXCP76	439019.307	280674.214	439019.307	280674.214	Required	
EXDUMMY 5	439039.373	280661.658			No Entry	
EXDUMMY 6	439027.829	280661.918			No Entry	
EXCP77	439014.996	280661.878	439014.996	280661.878	Required	
EXDUMMY 7	439003.280	280557.914			No Entry	
EXDUMMY 8	438990.838	280558.031			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP78	438978.799	280556.447	438978.799	280556.447	Required	
EXDUMMY 9	438988.074	280461.393			No Entry	
EXDUMMY 10	438970.788	280461.748			No Entry	
EXCP79	438952.873	280459.775	438952.873	280459.775	Required	
EXDUMMY 11	438964.474	280390.379			No Entry	
EXDUMMY 12	438947.098	280391.524			No Entry	
EXCP80	438927.988	280390.508	438927.988	280390.508	Required	
EXDUMMY 13	438941.126	280320.472			No Entry	
EXDUMMY 14	438922.048	280320.665			No Entry	
EXCP81	438902.077	280319.154	438902.077	280319.154	Required	
EXDUMMY 15	438902.290	280222.123			No Entry	
EXDUMMY 16	438883.607	280221.734			No Entry	
EXCP82	438865.610	280220.310	438865.610	280220.310	Required	
EXDUMMY 17	438649.469	279549.828			No Entry	
EXDUMMY 18	438636.909	279558.266			No Entry	
EXCP84	438627.460	279574.180	438627.460	279574.180	Required	
EXDUMMY 19	438686.356	279606.636			No Entry	
EXDUMMY 20	438669.677	279614.250			No Entry	
EXCP85	438652.013	279629.954	438652.013	279629.954	Required	
EXDUMMY 21	438730.954	279707.809			No Entry	
EXDUMMY 22	438709.965	279716.325			No Entry	
EXCP86	438694.210	279728.710	438694.210	279728.710	Required	
EXDUMMY 23	438771.842	279804.899			No Entry	
EXDUMMY 24	438748.108	279810.568			No Entry	
EXCP87	438730.850	279822.860	438730.850	279822.860	Required	
EXDUMMY 25	438797.997	279888.262			No Entry	
EXDUMMY 26	438776.503	279893.949			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP88	438758.950	279907.580	438758.950	279907.580	Required	
EXDUMMY 27	438833.051	279981.152			No Entry	
EXDUMMY 28	438811.713	279987.065			No Entry	
EXCP89	438794.584	279999.645	438794.584	279999.645	Required	
EXDUMMY 29	438851.045	280064.925			No Entry	
EXDUMMY 30	438836.089	280069.337			No Entry	
EXCP90	438823.223	280078.926	438823.223	280078.926	Required	
EXHW10	438864.127	280174.287			No Entry	
EXCP83	438854.062	280173.747	438854.062	280173.747	Required	
EXDUMMY 47	438528.682	279607.402			No Entry	
EXDUMMY 48	438550.509	279603.629			No Entry	
EXCP91	438576.340	279602.840	438576.340	279602.840	Required	
EXDUMMY 49	438578.562	279703.556			No Entry	
EXDUMMY 50	438604.995	279699.572			No Entry	
EXCP92	438629.451	279699.472	438629.451	279699.472	Required	
EXDUMMY 51	438632.159	279800.235			No Entry	
EXDUMMY 52	438652.607	279800.132			No Entry	
EXCP93	438672.190	279801.000	438672.190	279801.000	Required	
EXDUMMY 53	438667.585	279900.910			No Entry	
EXDUMMY 54	438690.911	279900.248			No Entry	
EXCP94	438711.718	279901.941	438711.718	279901.941	Required	
EXDUMMY 55	438692.585	279991.208			No Entry	
EXDUMMY 56	438720.675	279992.003			No Entry	
EXCP95	438742.969	279993.182	438742.969	279993.182	Required	
EXCP49-DUMMY	438823.669	280178.861			No Entry	
EXCP66-DUMMY	438836.291	280178.247			No Entry	
EXCP74-DUMMY	438847.917	280176.899			No Entry	

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Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EXCP97	438818.007	280077.175	438818.007	280077.175	Required	
EXCP98	438804.108	280080.975	438804.108	280080.975	Required	
EXCP99	438792.827	280084.547	438792.827	280084.547	Required	
EXDUMMY 57	438745.516	280089.511			No Entry	
EXDUMMY 58	438760.198	280088.937			No Entry	
EXCP96	438775.870	280089.090	438775.870	280089.090	Required	
EXCP51	438805.029	280175.882	438805.029	280175.882	Required	
EX	438733.820	280168.630			No Entry	

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Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
2.000	Classification	EW (Cut)	20	0.043	0.009	0.009
	Classification	Verge	50	0.010	0.005	0.014
	Classification	Paved	100	0.049	0.049	0.063
3.000	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.050	0.050	0.064
4.000	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.068	0.014	0.017
4.001	-	-	100	0.000	0.000	0.000
3.001	-	-	100	0.000	0.000	0.000
2.001	Classification	Paved	100	0.093	0.093	0.093
	Classification	Verge	50	0.028	0.014	0.107
	Classification	EW (Cut)	20	0.065	0.013	0.120
2.002	Classification	EW (Cut)	20	0.034	0.007	0.007
	Classification	Verge	50	0.009	0.005	0.011
	Classification	Paved	100	0.047	0.047	0.059
5.000	Classification	Paved	100	0.027	0.027	0.027
	Classification	Paved	100	0.095	0.095	0.122
5.001	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.048	0.048	0.062
6.000	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.067	0.013	0.022
6.001	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.033	0.007	0.011
6.002	-	-	100	0.000	0.000	0.000
5.002	-	-	100	0.000	0.000	0.000
2.003	Classification	EW (Cut)	20	0.066	0.013	0.013
	Classification	Verge	50	0.020	0.010	0.023
	Classification	Paved	100	0.092	0.092	0.115
2.004	Classification	EW (Cut)	20	0.060	0.012	0.012
	Classification	Verge	50	0.022	0.011	0.023
	Classification	Paved	100	0.097	0.097	0.120
7.000	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.092	0.092	0.118
7.001	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.093	0.093	0.119
8.000	Classification	Verge	50	0.015	0.008	0.008
	Classification	EW (Cut)	20	0.093	0.019	0.026
8.001	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.098	0.020	0.027
9.000	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.053	0.011	0.019
8.002	-	-	100	0.000	0.000	0.000
7.002	-	-	100	0.000	0.000	0.000
2.005	Classification	EW (Cut)	20	0.047	0.009	0.009
	Classification	Verge	50	0.025	0.012	0.022
	Classification	Paved	100	0.128	0.128	0.150
2.006	Classification	EW (Cut)	20	0.055	0.011	0.011
	Classification	Verge	50	0.019	0.010	0.021
	Classification	Paved	100	0.120	0.120	0.141
10.000	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.092	0.092	0.117
10.001	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.090	0.090	0.115
11.000	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.023	0.005	0.013
11.001	-	-	100	0.000	0.000	0.000
10.002	-	-	100	0.000	0.000	0.000
2.007	-	-	100	0.000	0.000	0.000
12.000	Classification	Overland	40	0.058	0.023	0.023
12.001	-	-	100	0.000	0.000	0.000
12.002	-	-	100	0.000	0.000	0.000
13.000	Classification	Overland	40	0.052	0.021	0.021
13.001	-	-	100	0.000	0.000	0.000
12.003	-	-	100	0.000	0.000	0.000
14.000	Classification	Overland	40	0.039	0.016	0.016
14.001	-	-	100	0.000	0.000	0.000
12.004	-	-	100	0.000	0.000	0.000
15.000	Classification	Overland	40	0.023	0.009	0.009
15.001	-	-	100	0.000	0.000	0.000
12.005	-	-	100	0.000	0.000	0.000
16.000	Classification	Overland	40	0.040	0.016	0.016
16.001	-	-	100	0.000	0.000	0.000
12.006	-	-	100	0.000	0.000	0.000
17.000	Classification	Overland	40	0.061	0.025	0.025
17.001	-	-	100	0.000	0.000	0.000
12.007	-	-	100	0.000	0.000	0.000
18.000	Classification	Overland	40	0.074	0.030	0.030
18.001	-	-	100	0.000	0.000	0.000
12.008	-	-	100	0.000	0.000	0.000
19.000	Classification	Overland	40	0.004	0.002	0.002
19.001	-	-	100	0.000	0.000	0.000
2.008	-	-	100	0.000	0.000	0.000
20.000	Classification	Overland	40	0.004	0.002	0.002
20.001	-	-	100	0.000	0.000	0.000
20.002	-	-	100	0.000	0.000	0.000
21.000	Classification	Overland	40	0.005	0.002	0.002
21.001	-	-	100	0.000	0.000	0.000
20.003	-	-	100	0.000	0.000	0.000

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Area Summary for Existing

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
22.000	Classification	Overland	40	4.235	1.694	1.694
22.001	-	-	100	0.000	0.000	0.000
20.004	-	-	100	0.000	0.000	0.000
23.000	Classification	Overland	40	2.007	0.803	0.803
23.001	-	-	100	0.000	0.000	0.000
20.005	-	-	100	0.000	0.000	0.000
24.000	Classification	Overland	40	0.563	0.225	0.225
24.001	-	-	100	0.000	0.000	0.000
20.006	-	-	100	0.000	0.000	0.000
25.000	Classification	Overland	40	0.812	0.325	0.325
25.001	-	-	100	0.000	0.000	0.000
20.007	-	-	100	0.000	0.000	0.000
26.000	Classification	Overland	40	5.153	2.061	2.061
26.001	-	-	100	0.000	0.000	0.000
20.008	-	-	100	0.000	0.000	0.000
27.000	Classification	Overland	40	0.468	0.187	0.187
27.001	-	-	100	0.000	0.000	0.000
20.009	-	-	100	0.000	0.000	0.000
28.000	Classification	Overland	40	0.018	0.007	0.007
28.001	-	-	100	0.000	0.000	0.000
28.002	-	-	100	0.000	0.000	0.000
29.000	Classification	Overland	40	2.656	1.062	1.062
29.001	-	-	100	0.000	0.000	0.000
28.003	-	-	100	0.000	0.000	0.000
30.000	Classification	Overland	40	1.255	0.502	0.502
30.001	-	-	100	0.000	0.000	0.000
28.004	-	-	100	0.000	0.000	0.000
31.000	Classification	Overland	40	2.306	0.922	0.922
31.001	-	-	100	0.000	0.000	0.000
28.005	-	-	100	0.000	0.000	0.000
32.000	Classification	Overland	40	2.479	0.992	0.992
32.001	-	-	100	0.000	0.000	0.000
28.006	-	-	100	0.000	0.000	0.000
33.000	Classification	Overland	40	1.203	0.481	0.481
33.001	-	-	100	0.000	0.000	0.000
28.007	-	-	100	0.000	0.000	0.000
34.000	Classification	Overland	40	1.150	0.460	0.460
34.001	-	-	100	0.000	0.000	0.000
28.008	-	-	100	0.000	0.000	0.000
35.000	-	-	100	0.000	0.000	0.000
20.010	-	-	100	0.000	0.000	0.000
36.000	Classification	Overland	40	0.054	0.022	0.022
36.001	-	-	100	0.000	0.000	0.000
36.002	-	-	100	0.000	0.000	0.000
37.000	Classification	Overland	40	0.047	0.019	0.019
37.001	-	-	100	0.000	0.000	0.000
36.003	-	-	100	0.000	0.000	0.000
38.000	Classification	Overland	40	0.085	0.034	0.034
38.001	-	-	100	0.000	0.000	0.000
36.004	-	-	100	0.000	0.000	0.000
39.000	Classification	Overland	40	0.069	0.028	0.028
39.001	-	-	100	0.000	0.000	0.000
36.005	-	-	100	0.000	0.000	0.000
40.000	Classification	Overland	40	0.096	0.038	0.038
40.001	-	-	100	0.000	0.000	0.000
36.006	-	-	100	0.000	0.000	0.000
41.000	Classification	EW (Cut)	20	0.073	0.015	0.015
	Classification	Verge	50	0.014	0.007	0.022
	Classification	Paved	100	0.093	0.093	0.115
42.000	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.127	0.127	0.154
43.000	Classification	Verge	50	0.009	0.005	0.005
	Classification	EW (Cut)	20	0.039	0.008	0.012
43.001	-	-	100	0.000	0.000	0.000
42.001	-	-	100	0.000	0.000	0.000
41.001	-	-	100	0.000	0.000	0.000
44.000	Classification	Overland	40	0.089	0.036	0.036
44.001	-	-	100	0.000	0.000	0.000
36.007	-	-	100	0.000	0.000	0.000
2.009	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				27.864	11.942	11.942

Free Flowing Outfall Details for Existing

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
EX2.009	EX	73.000	72.160	0.000	0	0

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Online Controls for Existing

Depth/Flow Relationship Manhole: EXDUMMY 32, DS/PN: EX12.001, Volume (m³): 0.2

Invert Level (m) 78.363

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.7000	0.600	0.7000	1.100	0.7000	1.600	0.7000	2.100	0.7000	2.600	0.7000
0.200	0.7000	0.700	0.7000	1.200	0.7000	1.700	0.7000	2.200	0.7000	2.700	0.7000
0.300	0.7000	0.800	0.7000	1.300	0.7000	1.800	0.7000	2.300	0.7000	2.800	0.7000
0.400	0.7000	0.900	0.7000	1.400	0.7000	1.900	0.7000	2.400	0.7000	2.900	0.7000
0.500	0.7000	1.000	0.7000	1.500	0.7000	2.000	0.7000	2.500	0.7000	3.000	0.7000

Depth/Flow Relationship Manhole: EXDUMMY 34, DS/PN: EX13.001, Volume (m³): 0.3

Invert Level (m) 76.711

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.6000	0.600	0.6000	1.100	0.6000	1.600	0.6000	2.100	0.6000	2.600	0.6000
0.200	0.6000	0.700	0.6000	1.200	0.6000	1.700	0.6000	2.200	0.6000	2.700	0.6000
0.300	0.6000	0.800	0.6000	1.300	0.6000	1.800	0.6000	2.300	0.6000	2.800	0.6000
0.400	0.6000	0.900	0.6000	1.400	0.6000	1.900	0.6000	2.400	0.6000	2.900	0.6000
0.500	0.6000	1.000	0.6000	1.500	0.6000	2.000	0.6000	2.500	0.6000	3.000	0.6000

Depth/Flow Relationship Manhole: EXDUMMY 36, DS/PN: EX14.001, Volume (m³): 0.3

Invert Level (m) 76.489

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.4000	0.600	0.4000	1.100	0.4000	1.600	0.4000	2.100	0.4000	2.600	0.4000
0.200	0.4000	0.700	0.4000	1.200	0.4000	1.700	0.4000	2.200	0.4000	2.700	0.4000
0.300	0.4000	0.800	0.4000	1.300	0.4000	1.800	0.4000	2.300	0.4000	2.800	0.4000
0.400	0.4000	0.900	0.4000	1.400	0.4000	1.900	0.4000	2.400	0.4000	2.900	0.4000
0.500	0.4000	1.000	0.4000	1.500	0.4000	2.000	0.4000	2.500	0.4000	3.000	0.4000

Depth/Flow Relationship Manhole: EXDUMMY 38, DS/PN: EX15.001, Volume (m³): 0.3

Invert Level (m) 77.206

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: EXDUMMY 40, DS/PN: EX16.001, Volume (m³): 0.3

Invert Level (m) 77.069

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.5000	0.600	0.5000	1.100	0.5000	1.600	0.5000	2.100	0.5000	2.600	0.5000
0.200	0.5000	0.700	0.5000	1.200	0.5000	1.700	0.5000	2.200	0.5000	2.700	0.5000
0.300	0.5000	0.800	0.5000	1.300	0.5000	1.800	0.5000	2.300	0.5000	2.800	0.5000
0.400	0.5000	0.900	0.5000	1.400	0.5000	1.900	0.5000	2.400	0.5000	2.900	0.5000
0.500	0.5000	1.000	0.5000	1.500	0.5000	2.000	0.5000	2.500	0.5000	3.000	0.5000

Depth/Flow Relationship Manhole: EXDUMMY 42, DS/PN: EX17.001, Volume (m³): 0.2

Invert Level (m) 75.943

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.7000	0.600	0.7000	1.100	0.7000	1.600	0.7000	2.100	0.7000	2.600	0.7000
0.200	0.7000	0.700	0.7000	1.200	0.7000	1.700	0.7000	2.200	0.7000	2.700	0.7000
0.300	0.7000	0.800	0.7000	1.300	0.7000	1.800	0.7000	2.300	0.7000	2.800	0.7000
0.400	0.7000	0.900	0.7000	1.400	0.7000	1.900	0.7000	2.400	0.7000	2.900	0.7000
0.500	0.7000	1.000	0.7000	1.500	0.7000	2.000	0.7000	2.500	0.7000	3.000	0.7000

Depth/Flow Relationship Manhole: EXDUMMY 44, DS/PN: EX18.001, Volume (m³): 0.3

Invert Level (m) 75.097

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.8000	0.600	0.8000	1.100	0.8000	1.600	0.8000	2.100	0.8000	2.600	0.8000
0.200	0.8000	0.700	0.8000	1.200	0.8000	1.700	0.8000	2.200	0.8000	2.700	0.8000
0.300	0.8000	0.800	0.8000	1.300	0.8000	1.800	0.8000	2.300	0.8000	2.800	0.8000
0.400	0.8000	0.900	0.8000	1.400	0.8000	1.900	0.8000	2.400	0.8000	2.900	0.8000
0.500	0.8000	1.000	0.8000	1.500	0.8000	2.000	0.8000	2.500	0.8000	3.000	0.8000

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Depth/Flow Relationship Manhole: EXDUMMY 46, DS/PN: EX19.001, Volume (m³): 0.2

Invert Level (m) 74.472

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: EXDUMMY 2, DS/PN: EX20.001, Volume (m³): 0.2

Invert Level (m) 82.001

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: EXDUMMY 4, DS/PN: EX21.001, Volume (m³): 0.2

Invert Level (m) 79.810

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: EXDUMMY 6, DS/PN: EX22.001, Volume (m³): 0.2

Invert Level (m) 78.957

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	47.8000	0.600	47.8000	1.100	47.8000	1.600	47.8000	2.100	47.8000	2.600	47.8000
0.200	47.8000	0.700	47.8000	1.200	47.8000	1.700	47.8000	2.200	47.8000	2.700	47.8000
0.300	47.8000	0.800	47.8000	1.300	47.8000	1.800	47.8000	2.300	47.8000	2.800	47.8000
0.400	47.8000	0.900	47.8000	1.400	47.8000	1.900	47.8000	2.400	47.8000	2.900	47.8000
0.500	47.8000	1.000	47.8000	1.500	47.8000	2.000	47.8000	2.500	47.8000	3.000	47.8000

Depth/Flow Relationship Manhole: EXDUMMY 8, DS/PN: EX23.001, Volume (m³): 0.2

Invert Level (m) 78.235

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	22.7000	0.600	22.7000	1.100	22.7000	1.600	22.7000	2.100	22.7000	2.600	22.7000
0.200	22.7000	0.700	22.7000	1.200	22.7000	1.700	22.7000	2.200	22.7000	2.700	22.7000
0.300	22.7000	0.800	22.7000	1.300	22.7000	1.800	22.7000	2.300	22.7000	2.800	22.7000
0.400	22.7000	0.900	22.7000	1.400	22.7000	1.900	22.7000	2.400	22.7000	2.900	22.7000
0.500	22.7000	1.000	22.7000	1.500	22.7000	2.000	22.7000	2.500	22.7000	3.000	22.7000

Depth/Flow Relationship Manhole: EXDUMMY 10, DS/PN: EX24.001, Volume (m³): 0.3

Invert Level (m) 79.505

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.4000	0.600	6.4000	1.100	6.4000	1.600	6.4000	2.100	6.4000	2.600	6.4000
0.200	6.4000	0.700	6.4000	1.200	6.4000	1.700	6.4000	2.200	6.4000	2.700	6.4000
0.300	6.4000	0.800	6.4000	1.300	6.4000	1.800	6.4000	2.300	6.4000	2.800	6.4000
0.400	6.4000	0.900	6.4000	1.400	6.4000	1.900	6.4000	2.400	6.4000	2.900	6.4000
0.500	6.4000	1.000	6.4000	1.500	6.4000	2.000	6.4000	2.500	6.4000	3.000	6.4000

Depth/Flow Relationship Manhole: EXDUMMY 12, DS/PN: EX25.001, Volume (m³): 0.3

Invert Level (m) 78.665

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	9.2000	0.600	9.2000	1.100	9.2000	1.600	9.2000	2.100	9.2000	2.600	9.2000
0.200	9.2000	0.700	9.2000	1.200	9.2000	1.700	9.2000	2.200	9.2000	2.700	9.2000
0.300	9.2000	0.800	9.2000	1.300	9.2000	1.800	9.2000	2.300	9.2000	2.800	9.2000
0.400	9.2000	0.900	9.2000	1.400	9.2000	1.900	9.2000	2.400	9.2000	2.900	9.2000
0.500	9.2000	1.000	9.2000	1.500	9.2000	2.000	9.2000	2.500	9.2000	3.000	9.2000

Depth/Flow Relationship Manhole: EXDUMMY 14, DS/PN: EX26.001, Volume (m³): 0.3

Invert Level (m) 77.102

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Depth/Flow Relationship Manhole: EXDUMMY 14, DS/PN: EX26.001, Volume (m³): 0.3

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	58.2000	0.600	58.2000	1.100	58.2000	1.600	58.2000	2.100	58.2000	2.600	58.2000
0.200	58.2000	0.700	58.2000	1.200	58.2000	1.700	58.2000	2.200	58.2000	2.700	58.2000
0.300	58.2000	0.800	58.2000	1.300	58.2000	1.800	58.2000	2.300	58.2000	2.800	58.2000
0.400	58.2000	0.900	58.2000	1.400	58.2000	1.900	58.2000	2.400	58.2000	2.900	58.2000
0.500	58.2000	1.000	58.2000	1.500	58.2000	2.000	58.2000	2.500	58.2000	3.000	58.2000

Depth/Flow Relationship Manhole: EXDUMMY 16, DS/PN: EX27.001, Volume (m³): 0.3

Invert Level (m) 75.983

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.3000	0.600	5.3000	1.100	5.3000	1.600	5.3000	2.100	5.3000	2.600	5.3000
0.200	5.3000	0.700	5.3000	1.200	5.3000	1.700	5.3000	2.200	5.3000	2.700	5.3000
0.300	5.3000	0.800	5.3000	1.300	5.3000	1.800	5.3000	2.300	5.3000	2.800	5.3000
0.400	5.3000	0.900	5.3000	1.400	5.3000	1.900	5.3000	2.400	5.3000	2.900	5.3000
0.500	5.3000	1.000	5.3000	1.500	5.3000	2.000	5.3000	2.500	5.3000	3.000	5.3000

Depth/Flow Relationship Manhole: EXDUMMY 18, DS/PN: EX28.001, Volume (m³): 0.3

Invert Level (m) 79.160

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: EXDUMMY 20, DS/PN: EX29.001, Volume (m³): 0.3

Invert Level (m) 77.793

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	30.0000	0.600	30.0000	1.100	30.0000	1.600	30.0000	2.100	30.0000	2.600	30.0000
0.200	30.0000	0.700	30.0000	1.200	30.0000	1.700	30.0000	2.200	30.0000	2.700	30.0000
0.300	30.0000	0.800	30.0000	1.300	30.0000	1.800	30.0000	2.300	30.0000	2.800	30.0000
0.400	30.0000	0.900	30.0000	1.400	30.0000	1.900	30.0000	2.400	30.0000	2.900	30.0000
0.500	30.0000	1.000	30.0000	1.500	30.0000	2.000	30.0000	2.500	30.0000	3.000	30.0000

Depth/Flow Relationship Manhole: EXDUMMY 22, DS/PN: EX30.001, Volume (m³): 0.4

Invert Level (m) 77.145

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	14.2000	0.600	14.2000	1.100	14.2000	1.600	14.2000	2.100	14.2000	2.600	14.2000
0.200	14.2000	0.700	14.2000	1.200	14.2000	1.700	14.2000	2.200	14.2000	2.700	14.2000
0.300	14.2000	0.800	14.2000	1.300	14.2000	1.800	14.2000	2.300	14.2000	2.800	14.2000
0.400	14.2000	0.900	14.2000	1.400	14.2000	1.900	14.2000	2.400	14.2000	2.900	14.2000
0.500	14.2000	1.000	14.2000	1.500	14.2000	2.000	14.2000	2.500	14.2000	3.000	14.2000

Depth/Flow Relationship Manhole: EXDUMMY 24, DS/PN: EX31.001, Volume (m³): 0.4

Invert Level (m) 76.721

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	26.0000	0.600	26.0000	1.100	26.0000	1.600	26.0000	2.100	26.0000	2.600	26.0000
0.200	26.0000	0.700	26.0000	1.200	26.0000	1.700	26.0000	2.200	26.0000	2.700	26.0000
0.300	26.0000	0.800	26.0000	1.300	26.0000	1.800	26.0000	2.300	26.0000	2.800	26.0000
0.400	26.0000	0.900	26.0000	1.400	26.0000	1.900	26.0000	2.400	26.0000	2.900	26.0000
0.500	26.0000	1.000	26.0000	1.500	26.0000	2.000	26.0000	2.500	26.0000	3.000	26.0000

Depth/Flow Relationship Manhole: EXDUMMY 26, DS/PN: EX32.001, Volume (m³): 0.4

Invert Level (m) 75.636

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	28.0000	0.600	28.0000	1.100	28.0000	1.600	28.0000	2.100	28.0000	2.600	28.0000
0.200	28.0000	0.700	28.0000	1.200	28.0000	1.700	28.0000	2.200	28.0000	2.700	28.0000
0.300	28.0000	0.800	28.0000	1.300	28.0000	1.800	28.0000	2.300	28.0000	2.800	28.0000
0.400	28.0000	0.900	28.0000	1.400	28.0000	1.900	28.0000	2.400	28.0000	2.900	28.0000
0.500	28.0000	1.000	28.0000	1.500	28.0000	2.000	28.0000	2.500	28.0000	3.000	28.0000

Depth/Flow Relationship Manhole: EXDUMMY 28, DS/PN: EX33.001, Volume (m³): 0.4

Invert Level (m) 75.476

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	13.6000	0.300	13.6000	0.500	13.6000	0.700	13.6000	0.900	13.6000	1.100	13.6000
0.200	13.6000	0.400	13.6000	0.600	13.6000	0.800	13.6000	1.000	13.6000	1.200	13.6000

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Depth/Flow Relationship Manhole: EXDUMMY 28, DS/PN: EX33.001, Volume (m³): 0.4

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
1.300	13.6000	1.600	13.6000	1.900	13.6000	2.200	13.6000	2.500	13.6000	2.800	13.6000
1.400	13.6000	1.700	13.6000	2.000	13.6000	2.300	13.6000	2.600	13.6000	2.900	13.6000
1.500	13.6000	1.800	13.6000	2.100	13.6000	2.400	13.6000	2.700	13.6000	3.000	13.6000

Depth/Flow Relationship Manhole: EXDUMMY 30, DS/PN: EX34.001, Volume (m³): 0.3

Invert Level (m) 76.209

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	13.0000	0.600	13.0000	1.100	13.0000	1.600	13.0000	2.100	13.0000	2.600	13.0000
0.200	13.0000	0.700	13.0000	1.200	13.0000	1.700	13.0000	2.200	13.0000	2.700	13.0000
0.300	13.0000	0.800	13.0000	1.300	13.0000	1.800	13.0000	2.300	13.0000	2.800	13.0000
0.400	13.0000	0.900	13.0000	1.400	13.0000	1.900	13.0000	2.400	13.0000	2.900	13.0000
0.500	13.0000	1.000	13.0000	1.500	13.0000	2.000	13.0000	2.500	13.0000	3.000	13.0000

Depth/Flow Relationship Manhole: EXDUMMY 48, DS/PN: EX36.001, Volume (m³): 0.4

Invert Level (m) 78.486

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.6000	0.600	0.6000	1.100	0.6000	1.600	0.6000	2.100	0.6000	2.600	0.6000
0.200	0.6000	0.700	0.6000	1.200	0.6000	1.700	0.6000	2.200	0.6000	2.700	0.6000
0.300	0.6000	0.800	0.6000	1.300	0.6000	1.800	0.6000	2.300	0.6000	2.800	0.6000
0.400	0.6000	0.900	0.6000	1.400	0.6000	1.900	0.6000	2.400	0.6000	2.900	0.6000
0.500	0.6000	1.000	0.6000	1.500	0.6000	2.000	0.6000	2.500	0.6000	3.000	0.6000

Depth/Flow Relationship Manhole: EXDUMMY 50, DS/PN: EX37.001, Volume (m³): 0.5

Invert Level (m) 77.187

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.5000	0.600	0.5000	1.100	0.5000	1.600	0.5000	2.100	0.5000	2.600	0.5000
0.200	0.5000	0.700	0.5000	1.200	0.5000	1.700	0.5000	2.200	0.5000	2.700	0.5000
0.300	0.5000	0.800	0.5000	1.300	0.5000	1.800	0.5000	2.300	0.5000	2.800	0.5000
0.400	0.5000	0.900	0.5000	1.400	0.5000	1.900	0.5000	2.400	0.5000	2.900	0.5000
0.500	0.5000	1.000	0.5000	1.500	0.5000	2.000	0.5000	2.500	0.5000	3.000	0.5000

Depth/Flow Relationship Manhole: EXDUMMY 52, DS/PN: EX38.001, Volume (m³): 0.4

Invert Level (m) 75.999

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.0000	0.600	1.0000	1.100	1.0000	1.600	1.0000	2.100	1.0000	2.600	1.0000
0.200	1.0000	0.700	1.0000	1.200	1.0000	1.700	1.0000	2.200	1.0000	2.700	1.0000
0.300	1.0000	0.800	1.0000	1.300	1.0000	1.800	1.0000	2.300	1.0000	2.800	1.0000
0.400	1.0000	0.900	1.0000	1.400	1.0000	1.900	1.0000	2.400	1.0000	2.900	1.0000
0.500	1.0000	1.000	1.0000	1.500	1.0000	2.000	1.0000	2.500	1.0000	3.000	1.0000

Depth/Flow Relationship Manhole: EXDUMMY 54, DS/PN: EX39.001, Volume (m³): 0.4

Invert Level (m) 74.883

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.8000	0.600	0.8000	1.100	0.8000	1.600	0.8000	2.100	0.8000	2.600	0.8000
0.200	0.8000	0.700	0.8000	1.200	0.8000	1.700	0.8000	2.200	0.8000	2.700	0.8000
0.300	0.8000	0.800	0.8000	1.300	0.8000	1.800	0.8000	2.300	0.8000	2.800	0.8000
0.400	0.8000	0.900	0.8000	1.400	0.8000	1.900	0.8000	2.400	0.8000	2.900	0.8000
0.500	0.8000	1.000	0.8000	1.500	0.8000	2.000	0.8000	2.500	0.8000	3.000	0.8000

Depth/Flow Relationship Manhole: EXDUMMY 56, DS/PN: EX40.001, Volume (m³): 0.5

Invert Level (m) 74.514

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.1000	0.600	1.1000	1.100	1.1000	1.600	1.1000	2.100	1.1000	2.600	1.1000
0.200	1.1000	0.700	1.1000	1.200	1.1000	1.700	1.1000	2.200	1.1000	2.700	1.1000
0.300	1.1000	0.800	1.1000	1.300	1.1000	1.800	1.1000	2.300	1.1000	2.800	1.1000
0.400	1.1000	0.900	1.1000	1.400	1.1000	1.900	1.1000	2.400	1.1000	2.900	1.1000
0.500	1.1000	1.000	1.1000	1.500	1.1000	2.000	1.1000	2.500	1.1000	3.000	1.1000

Depth/Flow Relationship Manhole: EXDUMMY 58, DS/PN: EX44.001, Volume (m³): 0.3

Invert Level (m) 74.851

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.0000	0.500	1.0000	0.900	1.0000	1.300	1.0000	1.700	1.0000	2.100	1.0000
0.200	1.0000	0.600	1.0000	1.000	1.0000	1.400	1.0000	1.800	1.0000	2.200	1.0000
0.300	1.0000	0.700	1.0000	1.100	1.0000	1.500	1.0000	1.900	1.0000	2.300	1.0000
0.400	1.0000	0.800	1.0000	1.200	1.0000	1.600	1.0000	2.000	1.0000	2.400	1.0000

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Depth/Flow Relationship Manhole: EXDUMMY 58, DS/PN: EX44.001, Volume (m³): 0.3

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
2.500	1.0000	2.600	1.0000	2.700	1.0000	2.800	1.0000	2.900	1.0000	3.000	1.0000

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	29	Number of Storage Structures	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.233
FEH Rainfall Version	1999	E (1km)	0.299
Site Location	GB 438400 279200 SP 38400 79200	F (1km)	2.381
C (1km)	-0.025	Cv (Summer)	0.900
D1 (1km)	0.382	Cv (Winter)	0.900
D2 (1km)	0.332		

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	100
Climate Change (%)	0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)
EX2.000	EXCP42	15 Summer	100	+0%	100/15 Summer	100/15 Summer			76.252	1.636	1.875
EX3.000	EXCP58	15 Summer	100	+0%	100/15 Summer	100/15 Summer			76.401	1.465	0.613
EX4.000	EXCP67	15 Summer	100	+0%	100/15 Summer				76.402	1.172	0.000
EX4.001	EXCP68	15 Summer	100	+0%	100/15 Summer				76.265	1.600	0.000
EX3.001	EXCP59	15 Summer	100	+0%	100/15 Summer				76.257	1.606	0.000
EX2.001	EXCP43	15 Summer	100	+0%	100/15 Summer	100/15 Summer			76.201	1.640	0.622
EX2.002	EXCP44	15 Summer	100	+0%	100/15 Summer	100/15 Summer			75.981	1.786	1.316
EX5.000	EXCP60	15 Summer	100	+0%	100/15 Summer	100/15 Summer			76.327	1.553	6.742
EX5.001	EXCP61	30 Summer	100	+0%	100/15 Summer				76.127	1.807	0.000
EX6.000	EXCP68 - DUMMY	15 Summer	100	+0%					74.955	0.000	0.000
EX6.001	EXCP69	30 Summer	100	+0%	100/15 Summer				75.921	1.506	0.000
EX6.002	EXCP70	30 Summer	100	+0%	100/15 Summer				75.890	1.630	0.000
EX5.002	EXCP62	30 Summer	100	+0%	100/15 Summer				75.887	1.737	0.000
EX2.003	EXCP45	30 Winter	100	+0%	100/15 Summer	100/15 Summer			75.847	1.772	17.423
EX2.004	EXMH46	60 Summer	100	+0%	100/15 Summer				75.565	1.730	0.000
EX7.000	EXCP62-DUMMY	15 Summer	100	+0%					74.595	0.000	0.000
EX7.001	EXCP63	30 Summer	100	+0%	100/15 Summer	100/15 Summer			75.924	1.809	13.557
EX8.000	EXCP70 - DUMMY	15 Summer	100	+0%					74.470	0.000	0.000
EX8.001	EXCP71	30 Summer	100	+0%	100/15 Summer				75.714	1.534	0.000
EX9.000	EXCP73-DUMMY	15 Summer	100	+0%					73.570	0.000	0.000
EX8.002	EXCP72	60 Summer	100	+0%	100/15 Summer				75.095	1.605	0.000
EX7.002	EXCP64	60 Summer	100	+0%	100/15 Summer				75.087	1.447	0.000
EX2.005	EXCP47	60 Summer	100	+0%	100/15 Summer				75.032	1.432	0.000
EX2.006	EXCP48	60 Summer	100	+0%	100/15 Summer				74.462	1.052	0.000
EX10.000	EXCP64-DUMMY	15 Summer	100	+0%					74.255	0.000	0.000
EX10.001	EXCP65	15 Summer	100	+0%	100/15 Summer	100/15 Summer			75.588	1.813	8.457
EX11.000	EXCP73-DUMMY	15 Summer	100	+0%					74.186	-0.064	0.000
EX11.001	EXCP74	30 Winter	100	+0%	100/15 Summer				74.039	0.734	0.000
EX10.002	EXCP66	30 Winter	100	+0%	100/15 Summer				74.035	0.800	0.000
EX2.007	EXCP49	60 Summer	100	+0%	100/15 Summer				73.778	0.578	0.000
EX12.000	EXDUMMY 31	15 Summer	100	+0%					78.540	0.000	0.000
EX12.001	EXDUMMY 32	15 Summer	100	+0%					78.513	0.000	0.000
EX12.002	EXCP51	180 Winter	100	+0%					77.259	-0.131	0.000
EX13.000	EXDUMMY 33	15 Summer	100	+0%					76.890	0.000	0.000
EX13.001	EXDUMMY 34	15 Summer	100	+0%					76.861	0.000	0.000
EX12.003	EXCP52	480 Winter	100	+0%					75.735	-0.115	0.000
EX14.000	EXDUMMY 35	15 Summer	100	+0%					76.670	0.000	0.000
EX14.001	EXDUMMY 36	15 Summer	100	+0%					76.639	0.000	0.000
EX12.004	EXCP53	960 Winter	100	+0%					75.185	-0.115	0.000
EX15.000	EXDUMMY 37	15 Summer	100	+0%					77.390	0.000	0.000
EX15.001	EXDUMMY 38	15 Summer	100	+0%					77.356	0.000	0.000
EX12.005	EXCP54	480 Summer	100	+0%					74.050	-0.100	0.000
EX16.000	EXDUMMY 39	15 Summer	100	+0%					77.250	0.000	0.000
EX16.001	EXDUMMY 40	15 Summer	100	+0%					77.219	0.000	0.000
EX12.006	EXCP55	480 Summer	100	+0%					73.809	-0.091	0.000
EX17.000	EXDUMMY 41	15 Summer	100	+0%					76.120	0.000	0.000
EX17.001	EXDUMMY 42	15 Summer	100	+0%					76.093	0.000	0.000
EX12.007	EXCP56	60 Summer	100	+0%					73.638	-0.012	0.000
EX18.000	EXDUMMY 43	15 Summer	100	+0%					75.280	0.000	0.000
EX18.001	EXDUMMY 44	15 Summer	100	+0%					75.247	0.000	0.000
EX12.008	EXCP57	60 Summer	100	+0%	100/15 Summer				73.589	0.539	0.000
EX19.000	EXDUMMY 45	1440 Summer	100	+0%					74.650	0.000	0.000
EX19.001	EXDUMMY 46	1440 Summer	100	+0%					74.622	0.000	0.000
EX2.008	EXCP50	60 Summer	100	+0%	100/15 Summer				73.543	0.433	0.000
EX20.000	EXDUMMY 1	1440 Summer	100	+0%					82.170	0.000	0.000
EX20.001	EXDUMMY 2	15 Summer	100	+0%					82.151	0.000	0.000
EX20.002	EXCP75	15 Summer	100	+0%					80.870	-0.150	0.000
EX21.000	EXDUMMY 3	30 Summer	100	+0%					79.980	0.000	0.000
EX21.001	EXDUMMY 4	15 Summer	100	+0%					79.960	0.000	0.000
EX20.003	EXCP76	720 Summer	100	+0%	100/15 Summer				79.594	0.764	0.000

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing

PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX2.000	EXCP42	1.15			25.4	FLOOD	4
EX3.000	EXCP58	1.06			28.1	FLOOD	3
EX4.000	EXCP67	0.66			8.6	FLOOD RISK	
EX4.001	EXCP68	0.83			8.6	SURCHARGED	
EX3.001	EXCP59	0.52			25.0	FLOOD RISK	
EX2.001	EXCP43	0.83			69.9	FLOOD	3
EX2.002	EXCP44	1.10			72.7	FLOOD	3
EX5.000	EXCP60	1.38			38.2	FLOOD	5
EX5.001	EXCP61	1.09			47.5	FLOOD RISK	
EX6.000	EXCP68 - DUMMY	0.37			10.1	SURCHARGED*	
EX6.001	EXCP69	0.70			13.8	SURCHARGED	
EX6.002	EXCP70	0.21			14.8	SURCHARGED	
EX5.002	EXCP62	0.99			45.0	FLOOD RISK	
EX2.003	EXCP45	1.56			106.6	FLOOD	6
EX2.004	EXMH46	1.56			106.0	FLOOD RISK	
EX7.000	EXCP62-DUMMY	1.73			44.0	SURCHARGED*	
EX7.001	EXCP63	1.70			42.3	FLOOD	6
EX8.000	EXCP70 - DUMMY	1.09			7.4	SURCHARGED*	
EX8.001	EXCP71	1.03			10.6	SURCHARGED	
EX9.000	EXCP73-DUMMY	0.93			5.8	SURCHARGED*	
EX8.002	EXCP72	0.47			11.3	SURCHARGED	
EX7.002	EXCP64	1.35			48.4	SURCHARGED	
EX2.005	EXCP47	1.78			173.8	SURCHARGED	
EX2.006	EXCP48	1.84			190.4	SURCHARGED	
EX10.000	EXCP64-DUMMY	1.71			43.6	SURCHARGED*	
EX10.001	EXCP65	1.93			52.1	FLOOD	5
EX11.000	EXCP73-DUMMY	0.52			6.7	OK*	
EX11.001	EXCP74	0.11			3.8	SURCHARGED	
EX10.002	EXCP66	3.50			48.8	SURCHARGED	
EX2.007	EXCP49	1.65			236.8	SURCHARGED	
EX12.000	EXDUMMY 31	0.68			3.4	FLOOD RISK*	
EX12.001	EXDUMMY 32	0.15			0.7	FLOOD RISK*	
EX12.002	EXCP51	0.04			0.7	OK	
EX13.000	EXDUMMY 33	0.61			3.3	FLOOD RISK*	
EX13.001	EXDUMMY 34	0.11			0.6	FLOOD RISK*	
EX12.003	EXCP52	0.12			1.3	OK	
EX14.000	EXDUMMY 35	0.55			3.1	FLOOD RISK*	
EX14.001	EXDUMMY 36	0.07			0.4	FLOOD RISK*	
EX12.004	EXCP53	0.13			1.7	OK	
EX15.000	EXDUMMY 37	0.49			2.7	FLOOD RISK*	
EX15.001	EXDUMMY 38	0.05			0.3	FLOOD RISK*	
EX12.005	EXCP54	0.24			2.0	OK	
EX16.000	EXDUMMY 39	0.57			3.2	FLOOD RISK*	
EX16.001	EXDUMMY 40	0.09			0.5	FLOOD RISK*	
EX12.006	EXCP55	0.33			2.5	OK	
EX17.000	EXDUMMY 41	0.67			3.5	FLOOD RISK*	
EX17.001	EXDUMMY 42	0.13			0.7	FLOOD RISK*	
EX12.007	EXCP56	0.35			3.8	OK	
EX18.000	EXDUMMY 43	0.68			3.8	FLOOD RISK*	
EX18.001	EXDUMMY 44	0.14			0.8	FLOOD RISK*	
EX12.008	EXCP57	0.80			5.3	SURCHARGED	
EX19.000	EXDUMMY 45	0.01			0.0	FLOOD RISK*	
EX19.001	EXDUMMY 46	0.00			0.0	FLOOD RISK*	
EX2.008	EXCP50	1.05			237.7	SURCHARGED	
EX20.000	EXDUMMY 1	0.01			0.0	FLOOD RISK*	
EX20.001	EXDUMMY 2	0.00			0.0	FLOOD RISK*	
EX20.002	EXCP75	0.00			0.0	OK	
EX21.000	EXDUMMY 3	0.15			0.7	FLOOD RISK*	
EX21.001	EXDUMMY 4	0.02			0.1	FLOOD RISK*	
EX20.003	EXCP76	0.00			0.1	SURCHARGED	

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PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)
EX22.000	EXDUMMY 5	15 Summer	100	+0%					79.130	0.000	0.000
EX22.001	EXDUMMY 6	15 Summer	100	+0%					79.107	0.000	0.000
EX20.004	EXCP77	720 Summer	100	+0%	100/15 Summer	100/15 Summer			79.594	1.614	414.350
EX23.000	EXDUMMY 7	15 Summer	100	+0%					78.410	0.000	0.000
EX23.001	EXDUMMY 8	15 Summer	100	+0%					78.385	0.000	0.000
EX20.005	EXCP78	480 Summer	100	+0%					77.673	-0.087	0.000
EX24.000	EXDUMMY 9	15 Summer	100	+0%					79.690	0.000	0.000
EX24.001	EXDUMMY 10	15 Summer	100	+0%					79.655	0.000	0.000
EX20.006	EXCP79	480 Summer	100	+0%					77.352	-0.078	0.000
EX25.000	EXDUMMY 11	15 Summer	100	+0%					78.850	0.000	0.000
EX25.001	EXDUMMY 12	15 Summer	100	+0%					78.815	0.000	0.000
EX20.007	EXCP80	480 Summer	100	+0%					76.974	-0.156	0.000
EX26.000	EXDUMMY 13	15 Summer	100	+0%					77.290	0.000	0.000
EX26.001	EXDUMMY 14	15 Summer	100	+0%					77.252	0.000	0.000
EX20.008	EXCP81	360 Summer	100	+0%	100/15 Summer				76.513	1.043	0.000
EX27.000	EXDUMMY 15	15 Summer	100	+0%					76.170	0.000	0.000
EX27.001	EXDUMMY 16	15 Summer	100	+0%					76.133	0.000	0.000
EX20.009	EXCP82	360 Summer	100	+0%					74.995	-0.115	0.000
EX28.000	EXDUMMY 17	15 Summer	100	+0%					79.340	0.000	0.000
EX28.001	EXDUMMY 18	15 Summer	100	+0%					79.310	0.000	0.000
EX28.002	EXCP84	720 Winter	100	+0%	100/120 Summer				78.339	0.149	0.000
EX29.000	EXDUMMY 19	15 Summer	100	+0%					77.980	0.000	0.000
EX29.001	EXDUMMY 20	15 Summer	100	+0%					77.943	0.000	0.000
EX28.003	EXCP85	720 Winter	100	+0%	100/15 Summer	100/15 Summer			78.339	1.509	309.113
EX30.000	EXDUMMY 21	15 Summer	100	+0%					77.340	0.000	0.000
EX30.001	EXDUMMY 22	15 Summer	100	+0%					77.295	0.000	0.000
EX28.004	EXCP86	960 Winter	100	+0%	100/15 Summer	100/15 Summer			77.715	1.525	324.955
EX31.000	EXDUMMY 23	15 Summer	100	+0%					76.920	0.000	0.000
EX31.001	EXDUMMY 24	15 Summer	100	+0%					76.871	0.000	0.000
EX28.005	EXCP87	600 Summer	100	+0%	100/15 Summer	100/15 Summer			77.160	1.390	189.720
EX32.000	EXDUMMY 25	15 Summer	100	+0%					75.830	0.000	0.000
EX32.001	EXDUMMY 26	15 Summer	100	+0%					75.786	0.000	0.000
EX28.006	EXCP88	240 Winter	100	+0%					74.570	-0.110	0.000
EX33.000	EXDUMMY 27	15 Summer	100	+0%					75.670	0.000	0.000
EX33.001	EXDUMMY 28	15 Summer	100	+0%					75.626	0.000	0.000
EX28.007	EXCP89	240 Winter	100	+0%					74.339	-0.176	0.000
EX34.000	EXDUMMY 29	15 Summer	100	+0%					76.390	0.000	0.000
EX34.001	EXDUMMY 30	15 Summer	100	+0%					76.359	0.000	0.000
EX28.008	EXCP90	240 Winter	100	+0%					73.887	-0.088	0.000
EX35.000	EXHW10	15 Summer	100	+0%					76.500	-0.225	0.000
EX20.010	EXCP83	60 Summer	100	+0%					73.422	-0.228	0.000
EX36.000	EXDUMMY 47	15 Summer	100	+0%					78.680	0.000	0.000
EX36.001	EXDUMMY 48	15 Summer	100	+0%					78.636	0.000	0.000
EX36.002	EXCP91	360 Winter	100	+0%					77.400	-0.130	0.000
EX37.000	EXDUMMY 49	15 Summer	100	+0%					77.390	0.000	0.000
EX37.001	EXDUMMY 50	15 Summer	100	+0%					77.337	0.000	0.000
EX36.003	EXCP92	960 Winter	100	+0%					76.120	-0.120	0.000
EX38.000	EXDUMMY 51	15 Summer	100	+0%					76.190	0.000	0.000
EX38.001	EXDUMMY 52	15 Summer	100	+0%					76.149	0.000	0.000
EX36.004	EXCP93	1440 Summer	100	+0%					74.931	-0.109	0.000
EX39.000	EXDUMMY 53	15 Summer	100	+0%					75.080	0.000	0.000
EX39.001	EXDUMMY 54	15 Summer	100	+0%					75.033	0.000	0.000
EX36.005	EXCP94	30 Summer	100	+0%	100/15 Summer				74.049	0.119	0.000
EX40.000	EXDUMMY 55	15 Summer	100	+0%					74.720	0.000	0.000
EX40.001	EXDUMMY 56	15 Summer	100	+0%					74.664	0.000	0.000
EX36.006	EXCP95	30 Summer	100	+0%	100/15 Summer				74.037	0.467	0.000
EX41.000	EXCP49-DUMMY	15 Summer	100	+0%					73.675	0.000	0.000
EX42.000	EXCP66-DUMMY	15 Summer	100	+0%					73.925	0.000	0.000
EX43.000	EXCP74-DUMMY	15 Summer	100	+0%					74.140	0.000	0.000
EX43.001	EXCP97	15 Summer	100	+0%	100/15 Summer				74.475	1.000	0.000
EX42.001	EXCP98	15 Summer	100	+0%	100/15 Summer				74.472	1.027	0.000
EX41.001	EXCP99	15 Summer	100	+0%	100/15 Summer				74.224	0.934	0.000
EX44.000	EXDUMMY 57	15 Summer	100	+0%					75.030	0.000	0.000
EX44.001	EXDUMMY 58	15 Summer	100	+0%					75.001	0.000	0.000
EX36.007	EXCP96	30 Summer	100	+0%	100/15 Summer				74.025	0.805	0.000
EX2.009	EXCP51	60 Summer	100	+0%	100/15 Summer				73.368	0.268	0.000

PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX22.000	EXDUMMY 5	6.81			32.9	FLOOD RISK*	
EX22.001	EXDUMMY 6	6.46			32.8	FLOOD RISK*	
EX20.004	EXCP77	2.89			15.9	FLOOD	24
EX23.000	EXDUMMY 7	5.34			26.7	FLOOD RISK*	
EX23.001	EXDUMMY 8	4.58			22.6	FLOOD RISK*	
EX20.005	EXCP78	0.85			38.1	OK	
EX24.000	EXDUMMY 9	1.96			10.7	FLOOD RISK*	
EX24.001	EXDUMMY 10	1.18			6.4	FLOOD RISK*	
EX20.006	EXCP79	0.90			44.4	OK	
EX25.000	EXDUMMY 11	2.53			13.7	FLOOD RISK*	
EX25.001	EXDUMMY 12	1.70			9.2	FLOOD RISK*	
EX20.007	EXCP80	0.47			53.6	OK	
EX26.000	EXDUMMY 13	5.11			27.6	FLOOD RISK*	
EX26.001	EXDUMMY 14	5.10			27.6	FLOOD RISK*	

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PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
EX20.008	EXCP81	2.19			87.5	SURCHARGED	
EX27.000	EXDUMMY 15	1.77			9.6	FLOOD RISK*	
EX27.001	EXDUMMY 16	0.98			5.3	FLOOD RISK*	
EX20.009	EXCP82	0.70			92.8	OK	
EX28.000	EXDUMMY 17	0.41			2.2	FLOOD RISK*	
EX28.001	EXDUMMY 18	0.04			0.2	FLOOD RISK*	
EX28.002	EXCP84	0.01			0.2	SURCHARGED	
EX29.000	EXDUMMY 19	4.52			25.2	FLOOD RISK*	
EX29.001	EXDUMMY 20	4.43			24.7	FLOOD RISK*	
EX28.003	EXCP85	0.99			9.5	FLOOD	24
EX30.000	EXDUMMY 21	3.36			18.6	FLOOD RISK*	
EX30.001	EXDUMMY 22	2.55			14.2	FLOOD RISK*	
EX28.004	EXCP86	1.92			15.3	FLOOD	24
EX31.000	EXDUMMY 23	4.36			24.3	FLOOD RISK*	
EX31.001	EXDUMMY 24	4.23			23.5	FLOOD RISK*	
EX28.005	EXCP87	1.51			20.7	FLOOD	24
EX32.000	EXDUMMY 25	4.66			26.0	FLOOD RISK*	
EX32.001	EXDUMMY 26	4.65			25.9	FLOOD RISK*	
EX28.006	EXCP88	0.84			48.2	OK	
EX33.000	EXDUMMY 27	3.35			18.0	FLOOD RISK*	
EX33.001	EXDUMMY 28	2.53			13.6	FLOOD RISK*	
EX28.007	EXCP89	0.55			61.8	OK	
EX34.000	EXDUMMY 29	3.24			17.4	FLOOD RISK*	
EX34.001	EXDUMMY 30	2.42			13.0	FLOOD RISK*	
EX28.008	EXCP90	0.94			74.8	OK	
EX35.000	EXHW10	0.00			0.0	OK*	
EX20.010	EXCP83	0.34			164.1	OK	
EX36.000	EXDUMMY 47	0.77			4.0	FLOOD RISK*	
EX36.001	EXDUMMY 48	0.11			0.6	FLOOD RISK*	
EX36.002	EXCP91	0.04			0.6	OK	
EX37.000	EXDUMMY 49	0.78			4.3	FLOOD RISK*	
EX37.001	EXDUMMY 50	0.09			0.5	FLOOD RISK*	
EX36.003	EXCP92	0.09			1.1	OK	
EX38.000	EXDUMMY 51	0.77			4.1	FLOOD RISK*	
EX38.001	EXDUMMY 52	0.19			1.0	FLOOD RISK*	
EX36.004	EXCP93	0.17			2.1	OK	
EX39.000	EXDUMMY 53	0.78			4.3	FLOOD RISK*	
EX39.001	EXDUMMY 54	0.14			0.8	FLOOD RISK*	
EX36.005	EXCP94	0.54			4.0	SURCHARGED	
EX40.000	EXDUMMY 55	1.01			5.6	FLOOD RISK*	
EX40.001	EXDUMMY 56	0.20			1.1	FLOOD RISK*	
EX36.006	EXCP95	0.39			8.2	SURCHARGED	
EX41.000	EXCP49-DUMMY	1.95			48.9	SURCHARGED*	
EX42.000	EXCP66-DUMMY	2.36			58.2	SURCHARGED*	
EX43.000	EXCP74-DUMMY	0.64			6.4	SURCHARGED*	
EX43.001	EXCP97	0.65			8.2	SURCHARGED	
EX42.001	EXCP98	1.06			50.2	SURCHARGED	
EX41.001	EXCP99	2.78			86.0	SURCHARGED	
EX44.000	EXDUMMY 57	0.79			4.1	FLOOD RISK*	
EX44.001	EXDUMMY 58	0.18			1.0	FLOOD RISK*	
EX36.007	EXCP96	1.48			67.9	SURCHARGED	
EX2.009	EXCP51	1.37			442.2	SURCHARGED	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes A46 Manhole Sizes A46

FEH Rainfall Model

Return Period (years)	1
FEH Rainfall Version	1999
Site Location GB 438400 279200 SP 38400 79200	
C (1km)	-0.025
D1 (1km)	0.382
D2 (1km)	0.332
D3 (1km)	0.233
E (1km)	0.299
F (1km)	2.381
Maximum Rainfall (mm/hr)	50
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.750
PIMP (%)	100
Add Flow / Climate Change (%)	0
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	1.00
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	55.828	0.560	99.7	0.078	5.00	0.0	4.800	o	150	Pipe/Conduit	
1.001	4.885	0.010	488.5	0.000	0.00	0.0	4.800	o	300	Pipe/Conduit	
2.000	41.145	1.897	21.7	0.000	5.00	0.0	4.800	o	150	Pipe/Conduit	
3.000	55.171	0.774	71.3	0.085	5.00	0.0	0.600	o	300	Pipe/Conduit	
3.001	52.351	0.551	95.0	0.072	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.002	57.255	0.340	168.2	0.070	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.003	68.797	0.409	168.2	0.081	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.004	90.000	0.675	133.3	0.162	0.00	0.0	0.600	o	375	Pipe/Conduit	
3.005	99.429	0.425	233.9	0.091	0.00	0.0	0.600	o	375	Pipe/Conduit	
3.006	52.606	0.274	192.0	0.078	0.00	0.0	0.600	o	375	Pipe/Conduit	
3.007	54.946	0.949	57.9	0.084	0.00	0.0	0.600	o	375	Pipe/Conduit	
3.008	89.327	1.747	51.1	0.138	0.00	0.0	0.600	o	375	Pipe/Conduit	
3.009	86.827	2.050	42.4	0.145	0.00	0.0	0.600	o	375	Pipe/Conduit	
3.010	82.074	1.277	64.3	0.147	0.00	0.0	0.600	o	375	Pipe/Conduit	
3.011	65.879	0.234	281.5	0.099	0.00	0.0	0.600	o	600	Pipe/Conduit	
3.012	45.601	0.313	145.7	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
3.013	42.060	0.001	42060.0	0.279	0.00	0.0	0.600	o	600	Pipe/Conduit	
3.014	19.227	0.084	228.9	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
3.015	55.416	0.155	357.5	0.012	0.00	0.0	5.200	o	150	Pipe/Conduit	
3.016	24.128	0.765	31.5	0.034	0.00	0.0	5.200	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	43.48	6.32	69.660	0.078	0.0	0.0	0.0	0.71	12.5	9.1
1.001	42.82	6.47	68.950	0.078	0.0	0.0	0.0	0.52	36.6	9.1
2.000	47.62	5.45	70.987	0.000	0.0	0.0	0.0	1.52	26.8	0.0
3.000	47.40	5.49	80.413	0.085	0.0	0.0	0.0	1.86	131.8	10.9
3.001	44.72	6.03	79.639	0.157	0.0	0.0	0.0	1.61	114.0	19.0
3.002	41.45	6.82	79.088	0.227	0.0	0.0	0.0	1.21	85.5	25.5
3.003	38.25	7.77	78.748	0.308	0.0	0.0	0.0	1.21	85.5	31.9
3.004	35.60	8.73	78.264	0.470	0.0	0.0	0.0	1.57	173.1	45.3
3.005	32.47	10.13	77.589	0.561	0.0	0.0	0.0	1.18	130.4	49.4
3.006	31.20	10.80	77.164	0.639	0.0	0.0	0.0	1.30	144.0	54.0
3.007	30.54	11.19	76.890	0.723	0.0	0.0	0.0	2.39	263.4	59.8
3.008	29.59	11.77	75.941	0.861	0.0	0.0	0.0	2.54	280.4	69.0
3.009	28.81	12.29	74.194	1.006	0.0	0.0	0.0	2.79	308.3	78.5
3.010	27.97	12.90	72.144	1.153	0.0	0.0	0.0	2.26	250.0	87.4
3.011	27.00	13.66	70.642	1.253	0.0	0.0	0.0	1.45	408.9	91.6
3.012	26.55	14.03	70.408	1.253	0.0	0.0	0.0	2.02	569.9	91.6
3.013	21.06	20.41	70.095	1.532	0.0	0.0	0.0	0.11	31.1«	91.6
3.014	20.89	20.68	70.094	1.532	0.0	0.0	0.0	1.19	131.8	91.6
3.015	19.46	23.20	70.010	1.544	0.0	0.0	0.0	0.37	6.5«	91.6
3.016	19.29	23.53	69.855	1.578	0.0	0.0	0.0	1.24	21.9«	91.6

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.002	21.926	0.512	42.8	0.010	0.00	0.0	5.200	o	300	Pipe/Conduit	
4.000	42.687	1.272	33.6	0.033	5.00	0.0	4.800	o	150	Pipe/Conduit	
1.003	62.256	0.260	239.4	0.023	0.00	0.0	5.200	o	300	Pipe/Conduit	
5.000	47.403	0.122	388.5	0.073	5.00	0.0	5.200	o	225	Pipe/Conduit	
5.001	4.962	0.298	16.7	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
5.002	42.053	0.400	105.1	0.023	0.00	0.0	5.200	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.002	19.18	23.74	68.940	1.666	0.0	0.0	0.0	1.73	122.0	91.6
4.000	46.92	5.58	69.850	0.033	0.0	0.0	0.0	1.22	21.6	4.1
1.003	18.50	25.16	68.428	1.722	0.0	0.0	0.0	0.73	51.5«	91.6
5.000	41.97	6.69	70.445	0.073	0.0	0.0	0.0	0.47	18.6	8.3
5.001	41.83	6.72	70.323	0.073	0.0	0.0	0.0	2.27	90.2	8.3
5.002	39.10	7.50	70.025	0.097	0.0	0.0	0.0	0.90	35.9	10.3

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
EX-NW4-1	71.950	2.290	Open Manhole	1050	1.000	69.660	150				
EX-NW4-2	71.823	2.873	Open Manhole	1050	1.001	68.950	300	1.000	69.100	150	
EX-NW4-5	72.337	1.350	Open Manhole	1050	2.000	70.987	150				
NW4-10	81.763	1.350	Open Manhole	1050	3.000	80.413	300				
NW4-11	80.989	1.350	Open Manhole	1050	3.001	79.639	300	3.000	79.639	300	
NW4-12	80.627	1.539	Open Manhole	1050	3.002	79.088	300	3.001	79.088	300	
NW4-13	80.300	1.552	Open Manhole	1050	3.003	78.748	300	3.002	78.748	300	
NW4-14	79.876	1.612	Open Manhole	1050	3.004	78.264	375	3.003	78.339	300	
NW4-15	79.013	1.424	Open Manhole	1050	3.005	77.589	375	3.004	77.589	375	
NW4-16	78.588	1.424	Open Manhole	1050	3.006	77.164	375	3.005	77.164	375	
NW4-17	78.314	1.424	Open Manhole	1050	3.007	76.890	375	3.006	76.890	375	
NW4-18	77.365	1.424	Open Manhole	1050	3.008	75.941	375	3.007	75.941	375	
NW4-19	75.618	1.424	Open Manhole	1050	3.009	74.194	375	3.008	74.194	375	
NW4-20	73.568	1.424	Open Manhole	1050	3.010	72.144	375	3.009	72.144	375	
NW4-21	72.291	1.649	Open Manhole	1500	3.011	70.642	600	3.010	70.867	375	
NW4-22	72.057	1.649	Open Manhole	1500	3.012	70.408	600	3.011	70.408	600	
POND DUMMY 1	72.600	2.505	Junction		3.013	70.095	600	3.012	70.095	600	
POND DUMMY 2	72.600	2.506	Junction		3.014	70.094	375	3.013	70.094	600	
EX-NW4-23	71.810	1.800	Open Manhole	1050	3.015	70.010	150	3.014	70.010	375	
EX-NW4-24	71.205	1.350	Open Manhole	1050	3.016	69.855	150	3.015	69.855	150	
EX-NW4-3	71.676	2.736	Open Manhole	1050	1.002	68.940	300	1.001	68.940	300	
								2.000	69.090	150	
								3.016	69.090	150	
EX-NW4-6	71.200	1.350	Open Manhole	1050	4.000	69.850	150				
EX-NW4-4	71.278	2.850	Open Manhole	1050	1.003	68.428	300	1.002	68.428	300	
								4.000	68.578	150	
EX-NW4-HW1	70.000	1.832	Open Manhole	0		OUTFALL		1.003	68.168	300	
EX-NW4-7	71.870	1.425	Open Manhole	1050	5.000	70.445	225				
EX-NW4-8	71.760	1.437	Open Manhole	1050	5.001	70.323	225	5.000	70.323	225	
EX-NW4-9	71.450	1.425	Open Manhole	1050	5.002	70.025	225	5.001	70.025	225	
EX-NW4-HW2	70.000	0.375	Open Manhole	0		OUTFALL		5.002	69.625	225	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EX-NW4-1	438157.720	279357.950	438157.720	279357.950	Required	
EX-NW4-2	438104.866	279375.929	438104.866	279375.929	Required	
EX-NW4-5	438145.477	279368.346	438145.477	279368.346	Required	
NW4-10	438648.413	279950.329	438648.413	279950.329	Required	
NW4-11	438616.313	279905.457	438616.313	279905.457	Required	
NW4-12	438591.791	279859.205	438591.791	279859.205	Required	
NW4-13	438570.913	279805.892	438570.913	279805.892	Required	
NW4-14	438553.423	279739.356	438553.423	279739.356	Required	
NW4-15	438538.172	279650.657	438538.172	279650.657	Required	
NW4-16	438514.293	279554.138	438514.293	279554.138	Required	
NW4-17	438492.625	279506.203	438492.625	279506.203	Required	
NW4-18	438462.648	279460.154	438462.648	279460.154	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW4-19	438403.453	279393.256	438403.453	279393.256	Required	
NW4-20	438332.152	279343.708	438332.152	279343.708	Required	
NW4-21	438250.785	279332.954	438250.785	279332.954	Required	
NW4-22	438186.728	279348.338	438186.728	279348.338	Required	
POND DUMMY 1	438167.423	279389.651			No Entry	
POND DUMMY 2	438168.142	279431.705			No Entry	
EX-NW4-23	438152.141	279442.366	438152.141	279442.366	Required	
EX-NW4-24	438112.143	279404.012	438112.143	279404.012	Required	
EX-NW4-3	438106.207	279380.626	438106.207	279380.626	Required	
EX-NW4-6	438117.020	279417.200	438117.020	279417.200	Required	
EX-NW4-4	438085.650	279388.250	438085.650	279388.250	Required	
EX-NW4-HW1	438026.870	279408.760			No Entry	
EX-NW4-7	438126.730	279357.200	438126.730	279357.200	Required	
EX-NW4-8	438081.740	279372.130	438081.740	279372.130	Required	
EX-NW4-9	438080.240	279367.400	438080.240	279367.400	Required	
EX-NW4-HW2	438039.850	279379.110			No Entry	

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	Classification	Paved	100	0.025	0.025	0.025
	Classification	Verge	50	0.042	0.021	0.046
	Classification	Paved	100	0.015	0.015	0.061
	Classification	Verge	50	0.033	0.017	0.078
1.001	-	-	100	0.000	0.000	0.000
2.000	-	-	100	0.000	0.000	0.000
3.000	Classification	Paved	100	0.071	0.071	0.071
	Classification	Verge	50	0.028	0.014	0.085
3.001	Classification	Paved	100	0.059	0.059	0.059
	Classification	Verge	50	0.026	0.013	0.072
3.002	Classification	Paved	100	0.056	0.056	0.056
	Classification	Verge	50	0.029	0.014	0.070
3.003	Classification	Verge	50	0.034	0.017	0.017
	Classification	Paved	100	0.064	0.064	0.081
3.004	Classification	Paved	100	0.120	0.120	0.120
	Classification	Verge	50	0.084	0.042	0.162
3.005	Classification	Verge	50	0.062	0.031	0.031
	Classification	Paved	100	0.060	0.060	0.091
3.006	Classification	Paved	100	0.051	0.051	0.051
	Classification	Verge	50	0.052	0.026	0.077
	Classification	EW (Cut)	20	0.004	0.001	0.078
3.007	Classification	EW (Cut)	20	0.022	0.004	0.004
	Classification	Verge	50	0.055	0.027	0.032
	Classification	Paved	100	0.053	0.053	0.084
3.008	Classification	Paved	100	0.085	0.085	0.085
	Classification	Verge	50	0.089	0.044	0.130
	Classification	EW (Cut)	20	0.042	0.008	0.138
3.009	Classification	Paved	100	0.085	0.085	0.085
	Classification	Verge	50	0.109	0.055	0.140
	Classification	EW (Cut)	20	0.025	0.005	0.145
3.010	Classification	EW (Cut)	20	0.047	0.009	0.009
	Classification	Verge	50	0.115	0.057	0.067
	Classification	Paved	100	0.081	0.081	0.147
3.011	Classification	EW (Cut)	20	0.043	0.009	0.009
	Classification	Verge	50	0.054	0.027	0.036
	Classification	Paved	100	0.064	0.064	0.099
3.012	-	-	100	0.000	0.000	0.000
3.013	Classification	Verge	50	0.558	0.279	0.279
3.014	-	-	100	0.000	0.000	0.000
3.015	Classification	Overland	20	0.062	0.012	0.012
3.016	Classification	Overland	20	0.170	0.034	0.034
1.002	Classification	Paved	100	0.010	0.010	0.010
4.000	Classification	Paved	100	0.033	0.033	0.033
1.003	Classification	Paved	100	0.023	0.023	0.023
5.000	Classification	Paved	100	0.022	0.022	0.022
	Classification	Verge	50	0.009	0.005	0.027
	Classification	EW (Cut)	20	0.017	0.003	0.030
	Classification	Paved	100	0.025	0.025	0.056
	Classification	Verge	50	0.018	0.009	0.065
	Classification	EW (Cut)	20	0.043	0.009	0.073
5.001	-	-	100	0.000	0.000	0.000
5.002	Classification	Paved	100	0.016	0.016	0.016
	Classification	Verge	50	0.009	0.005	0.021
	Classification	EW (Cut)	20	0.012	0.002	0.023
				Total	Total	Total
				2.912	1.819	1.819

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.003	EX-NW4-HW1	70.000	68.168	0.000	0	0

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
5.002	EX-NW4-HW2	70.000	69.625	0.000	0	0

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: POND DUMMY 2, DS/PN: 3.014, Volume (m³): 11.9

Unit Reference	MD-SHE-0132-1020-2000-1020	Sump Available	Yes
Design Head (m)	2.000	Diameter (mm)	132
Design Flow (l/s)	10.2	Invert Level (m)	70.094
Flush-Flo™	Calculated	Minimum Outlet Pipe Diameter (mm)	150
Objective	Minimise upstream storage	Suggested Manhole Diameter (mm)	1500
Application	Surface		

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.000	10.2	Kick-Flo®	1.181	8.0
Flush-Flo™	0.579	10.0	Mean Flow over Head Range	-	8.9

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.8	0.600	10.0	1.600	9.2	2.600	11.5	5.000	15.7	7.500	19.1
0.200	8.4	0.800	9.8	1.800	9.7	3.000	12.3	5.500	16.5	8.000	19.7
0.300	9.3	1.000	9.2	2.000	10.2	3.500	13.3	6.000	17.2	8.500	20.3
0.400	9.8	1.200	8.0	2.200	10.7	4.000	14.2	6.500	17.8	9.000	20.9
0.500	10.0	1.400	8.6	2.400	11.1	4.500	15.0	7.000	18.5	9.500	21.4

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Storage Structures for Storm

Tank or Pond Manhole: POND DUMMY 2, DS/PN: 3.014

Invert Level (m) 70.094

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	1604.0	2.500	3012.0

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.233
FEH Rainfall Version	1999	E (1km)	0.299
Site Location	GB 438400 279200 SP 38400 79200	F (1km)	2.381
C (1km)	-0.025	Cv (Summer)	0.900
D1 (1km)	0.382	Cv (Winter)	0.900
D2 (1km)	0.332		

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 20, 20, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
1.000	EX-NW4-1	15 Summer	1	+20%	5/15 Summer	100/15 Summer			69.780	-0.030	0.000	0.98
1.001	EX-NW4-2	15 Summer	1	+20%	100/15 Summer				69.064	-0.186	0.000	0.30
2.000	EX-NW4-5	15 Summer	1	+20%					70.987	-0.150	0.000	0.00
3.000	NW4-10	15 Summer	1	+20%	100/15 Summer				80.478	-0.235	0.000	0.11
3.001	NW4-11	15 Summer	1	+20%	100/15 Summer	100/15 Summer			79.733	-0.206	0.000	0.21
3.002	NW4-12	15 Summer	1	+20%	100/15 Summer	100/15 Summer			79.217	-0.171	0.000	0.37
3.003	NW4-13	15 Summer	1	+20%	100/15 Summer	100/15 Summer			78.896	-0.152	0.000	0.47
3.004	NW4-14	15 Summer	1	+20%	100/15 Summer	100/15 Summer			78.414	-0.224	0.000	0.33
3.005	NW4-15	15 Summer	1	+20%	100/15 Summer	100/15 Summer			77.777	-0.187	0.000	0.48
3.006	NW4-16	15 Summer	1	+20%	100/15 Summer				77.350	-0.188	0.000	0.49
3.007	NW4-17	15 Summer	1	+20%	100/15 Summer				77.028	-0.237	0.000	0.29
3.008	NW4-18	30 Summer	1	+20%	100/15 Summer				76.083	-0.233	0.000	0.30
3.009	NW4-19	30 Summer	1	+20%	100/15 Summer	100/15 Summer			74.339	-0.230	0.000	0.32
3.010	NW4-20	30 Summer	1	+20%	100/15 Summer	100/15 Summer			72.318	-0.200	0.000	0.44
3.011	NW4-21	30 Summer	1	+20%	100/15 Summer				70.869	-0.373	0.000	0.30
3.012	NW4-22	30 Summer	1	+20%	100/15 Summer				70.601	-0.407	0.000	0.23
3.013	POND DUMMY 1	30 Summer	1	+20%					70.455	-0.240	0.000	0.67
3.014	POND DUMMY 2	1440 Summer	1	+20%	100/60 Summer				70.296	-0.173	0.000	0.06
3.015	EX-NW4-23	1440 Summer	1	+20%	5/180 Winter				70.146	-0.014	0.000	1.00
3.016	EX-NW4-24	960 Summer	1	+20%	100/15 Summer				69.913	-0.092	0.000	0.31
1.002	EX-NW4-3	15 Summer	1	+20%	100/15 Summer				69.022	-0.218	0.000	0.17
4.000	EX-NW4-6	15 Summer	1	+20%	100/15 Summer				69.900	-0.100	0.000	0.24
1.003	EX-NW4-4	15 Summer	1	+20%	100/15 Summer				68.584	-0.144	0.000	0.49
5.000	EX-NW4-7	15 Summer	1	+20%	100/15 Summer				70.576	-0.094	0.000	0.60
5.001	EX-NW4-8	15 Summer	1	+20%	100/15 Summer				70.380	-0.168	0.000	0.14
5.002	EX-NW4-9	15 Summer	1	+20%	100/15 Summer				70.124	-0.126	0.000	0.38

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	EX-NW4-1			12.1	OK	5
1.001	EX-NW4-2			12.1	OK	
2.000	EX-NW4-5			0.0	OK	
3.000	NW4-10			13.1	OK	
3.001	NW4-11			22.4	OK	2
3.002	NW4-12			30.2	OK	3
3.003	NW4-13			38.1	OK	3
3.004	NW4-14			53.9	OK	2
3.005	NW4-15			59.9	OK	3
3.006	NW4-16			65.7	OK	
3.007	NW4-17			71.5	OK	
3.008	NW4-18			81.7	OK	
3.009	NW4-19			93.0	OK	2
3.010	NW4-20			105.1	OK	4
3.011	NW4-21			112.2	OK	
3.012	NW4-22			112.2	OK	
3.013	POND DUMMY 1			131.8	OK*	
3.014	POND DUMMY 2			6.4	OK*	
3.015	EX-NW4-23			6.4	OK	
3.016	EX-NW4-24			6.7	OK	
1.002	EX-NW4-3			18.9	OK	
4.000	EX-NW4-6			5.1	OK	
1.003	EX-NW4-4			24.8	OK	
5.000	EX-NW4-7			10.9	OK	
5.001	EX-NW4-8			10.9	OK	
5.002	EX-NW4-9			13.4	OK	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.233
FEH Rainfall Version	1999	E (1km)	0.299
Site Location	GB 438400 279200 SP 38400 79200	F (1km)	2.381
C (1km)	-0.025	Cv (Summer)	0.900
D1 (1km)	0.382	Cv (Winter)	0.900
D2 (1km)	0.332		

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 5, 100
Climate Change (%)	20, 20, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
1.000	EX-NW4-1	15 Summer	5	+20%	5/15 Summer	100/15 Summer			70.319	0.509	0.000	1.38
1.001	EX-NW4-2	15 Summer	5	+20%	100/15 Summer				69.086	-0.164	0.000	0.43
2.000	EX-NW4-5	15 Summer	5	+20%					70.987	-0.150	0.000	0.00
3.000	NW4-10	15 Summer	5	+20%	100/15 Summer				80.498	-0.215	0.000	0.17
3.001	NW4-11	15 Summer	5	+20%	100/15 Summer	100/15 Summer			79.762	-0.177	0.000	0.34
3.002	NW4-12	15 Summer	5	+20%	100/15 Summer	100/15 Summer			79.262	-0.126	0.000	0.61
3.003	NW4-13	15 Summer	5	+20%	100/15 Summer	100/15 Summer			78.953	-0.095	0.000	0.77
3.004	NW4-14	15 Summer	5	+20%	100/15 Summer	100/15 Summer			78.464	-0.174	0.000	0.54
3.005	NW4-15	15 Summer	5	+20%	100/15 Summer	100/15 Summer			77.849	-0.115	0.000	0.79
3.006	NW4-16	15 Summer	5	+20%	100/15 Summer				77.421	-0.117	0.000	0.80
3.007	NW4-17	15 Summer	5	+20%	100/15 Summer				77.072	-0.192	0.000	0.47
3.008	NW4-18	15 Summer	5	+20%	100/15 Summer				76.128	-0.188	0.000	0.49
3.009	NW4-19	15 Summer	5	+20%	100/15 Summer	100/15 Summer			74.383	-0.185	0.000	0.50
3.010	NW4-20	30 Summer	5	+20%	100/15 Summer	100/15 Summer			72.377	-0.141	0.000	0.70
3.011	NW4-21	30 Summer	5	+20%	100/15 Summer				70.939	-0.303	0.000	0.49
3.012	NW4-22	30 Summer	5	+20%	100/15 Summer				70.697	-0.310	0.000	0.35
3.013	POND DUMMY 1	30 Summer	5	+20%					70.625	-0.070	0.000	1.00
3.014	POND DUMMY 2	1440 Summer	5	+20%	100/60 Summer				70.384	-0.085	0.000	0.07
3.015	EX-NW4-23	1440 Summer	5	+20%	5/180 Winter				70.208	0.048	0.000	1.16
3.016	EX-NW4-24	15 Summer	5	+20%	100/15 Summer				69.926	-0.079	0.000	0.45
1.002	EX-NW4-3	15 Summer	5	+20%	100/15 Summer				69.039	-0.201	0.000	0.24
4.000	EX-NW4-6	15 Summer	5	+20%	100/15 Summer				69.916	-0.084	0.000	0.39
1.003	EX-NW4-4	15 Summer	5	+20%	100/15 Summer				68.631	-0.097	0.000	0.75
5.000	EX-NW4-7	15 Summer	5	+20%	100/15 Summer				70.657	-0.013	0.000	0.98
5.001	EX-NW4-8	15 Summer	5	+20%	100/15 Summer				70.397	-0.151	0.000	0.24
5.002	EX-NW4-9	15 Summer	5	+20%	100/15 Summer				70.157	-0.093	0.000	0.62

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	EX-NW4-1			17.0	SURCHARGED	5
1.001	EX-NW4-2			17.0	OK	
2.000	EX-NW4-5			0.0	OK	
3.000	NW4-10			21.7	OK	
3.001	NW4-11			36.9	OK	2
3.002	NW4-12			49.9	OK	3
3.003	NW4-13			62.9	OK	3
3.004	NW4-14			88.9	OK	2
3.005	NW4-15			98.4	OK	3
3.006	NW4-16			107.2	OK	
3.007	NW4-17			116.2	OK	
3.008	NW4-18			131.3	OK	
3.009	NW4-19			147.9	OK	2
3.010	NW4-20			166.7	OK	4
3.011	NW4-21			179.0	OK	
3.012	NW4-22			174.4	OK	
3.013	POND DUMMY 1			197.5	OK*	
3.014	POND DUMMY 2			7.4	OK*	
3.015	EX-NW4-23			7.5	SURCHARGED	
3.016	EX-NW4-24			9.5	OK	
1.002	EX-NW4-3			27.2	OK	
4.000	EX-NW4-6			8.3	OK	
1.003	EX-NW4-4			37.4	OK	
5.000	EX-NW4-7			17.8	OK	
5.001	EX-NW4-8			17.8	OK	
5.002	EX-NW4-9			21.8	OK	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.233
FEH Rainfall Version	1999	E (1km)	0.299
Site Location	GB 438400 279200 SP 38400 79200	F (1km)	2.381
C (1km)	-0.025	Cv (Summer)	0.900
D1 (1km)	0.382	Cv (Winter)	0.900
D2 (1km)	0.332		

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 5, 100
Climate Change (%)	20, 20, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
1.000	EX-NW4-1	15 Summer	100	+20%	5/15 Summer	100/15 Summer			71.955	2.145	5.065	2.20
1.001	EX-NW4-2	15 Summer	100	+20%	100/15 Summer				69.348	0.098	0.000	0.75
2.000	EX-NW4-5	15 Summer	100	+20%					70.987	-0.150	0.000	0.00
3.000	NW4-10	15 Summer	100	+20%	100/15 Summer				81.166	0.453	0.000	0.44
3.001	NW4-11	15 Summer	100	+20%	100/15 Summer	100/15 Summer			80.990	1.051	0.729	0.79
3.002	NW4-12	15 Summer	100	+20%	100/15 Summer	100/15 Summer			80.634	1.246	6.913	1.04
3.003	NW4-13	15 Summer	100	+20%	100/15 Summer	100/15 Summer			80.305	1.258	5.286	1.41
3.004	NW4-14	15 Summer	100	+20%	100/15 Summer	100/15 Summer			79.877	1.238	0.781	1.11
3.005	NW4-15	15 Summer	100	+20%	100/15 Summer	100/15 Summer			79.020	1.056	6.665	1.49
3.006	NW4-16	15 Summer	100	+20%	100/15 Summer				78.384	0.845	0.000	1.46
3.007	NW4-17	15 Winter	100	+20%	100/15 Summer				77.803	0.538	0.000	0.90
3.008	NW4-18	15 Summer	100	+20%	100/15 Summer				77.063	0.748	0.000	0.91
3.009	NW4-19	15 Summer	100	+20%	100/15 Summer	100/15 Summer			75.620	1.052	2.100	1.00
3.010	NW4-20	15 Summer	100	+20%	100/15 Summer	100/15 Summer			73.578	1.059	9.693	1.36
3.011	NW4-21	15 Summer	100	+20%	100/15 Summer				71.327	0.086	0.000	0.99
3.012	NW4-22	15 Summer	100	+20%	100/15 Summer				71.087	0.079	0.000	0.76
3.013	POND DUMMY 1	15 Summer	100	+20%					70.695	0.000	0.000	2.48
3.014	POND DUMMY 2	960 Winter	100	+20%	100/60 Summer				70.709	0.240	0.000	0.08
3.015	EX-NW4-23	720 Winter	100	+20%	5/180 Winter				70.351	0.191	0.000	1.51
3.016	EX-NW4-24	15 Summer	100	+20%	100/15 Summer				70.353	0.348	0.000	1.17
1.002	EX-NW4-3	15 Summer	100	+20%	100/15 Summer				69.337	0.097	0.000	0.48
4.000	EX-NW4-6	15 Summer	100	+20%	100/15 Summer				70.394	0.394	0.000	0.95
1.003	EX-NW4-4	15 Summer	100	+20%	100/15 Summer				69.227	0.499	0.000	1.64
5.000	EX-NW4-7	15 Summer	100	+20%	100/15 Summer				71.542	0.872	0.000	2.54
5.001	EX-NW4-8	15 Summer	100	+20%	100/15 Summer				70.854	0.306	0.000	0.59
5.002	EX-NW4-9	15 Summer	100	+20%	100/15 Summer				70.751	0.501	0.000	1.46

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	EX-NW4-1			27.2	FLOOD	5
1.001	EX-NW4-2			29.7	SURCHARGED	
2.000	EX-NW4-5			0.0	OK	
3.000	NW4-10			54.3	SURCHARGED	
3.001	NW4-11			85.5	FLOOD	2
3.002	NW4-12			84.0	FLOOD	3
3.003	NW4-13			115.5	FLOOD	3
3.004	NW4-14			184.2	FLOOD	2
3.005	NW4-15			186.8	FLOOD	3
3.006	NW4-16			194.9	FLOOD RISK	
3.007	NW4-17			221.1	SURCHARGED	
3.008	NW4-18			242.8	SURCHARGED	
3.009	NW4-19			293.7	FLOOD	2
3.010	NW4-20			323.1	FLOOD	4
3.011	NW4-21			366.7	SURCHARGED	
3.012	NW4-22			373.4	SURCHARGED	
3.013	POND DUMMY 1			489.1	SURCHARGED*	
3.014	POND DUMMY 2			9.6	SURCHARGED*	
3.015	EX-NW4-23			9.7	SURCHARGED	
3.016	EX-NW4-24			24.9	SURCHARGED	
1.002	EX-NW4-3			55.1	SURCHARGED	
4.000	EX-NW4-6			20.2	SURCHARGED	
1.003	EX-NW4-4			82.4	SURCHARGED	
5.000	EX-NW4-7			46.3	SURCHARGED	
5.001	EX-NW4-8			44.3	SURCHARGED	
5.002	EX-NW4-9			51.0	SURCHARGED	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes A46 pipe Manhole Sizes A46 manholes

FEH Rainfall Model

Return Period (years)	1
FEH Rainfall Version	1999
Site Location	GB 438400 279200 SP 38400 79200
C (1km)	-0.025
D1 (1km)	0.382
D2 (1km)	0.332
D3 (1km)	0.233
E (1km)	0.299
F (1km)	2.381
Maximum Rainfall (mm/hr)	300
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.900
PIMP (%)	100
Add Flow / Climate Change (%)	25
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	0.75
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	90.000	0.330	272.7	0.023	5.00	0.0	1.500	o	150	Pipe/Conduit	
1.001	90.000	1.526	59.0	0.030	0.00	0.0	1.500	o	150	Pipe/Conduit	
1.002	45.021	1.114	40.4	0.016	0.00	0.0	1.500	o	150	Pipe/Conduit	
1.003	45.015	1.130	39.8	0.015	0.00	0.0	1.500	o	150	Pipe/Conduit	
1.004	45.040	1.080	41.7	0.015	0.00	0.0	1.500	o	150	Pipe/Conduit	
1.005	45.017	1.010	44.6	0.015	0.00	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	38.05	7.84	81.880	0.023	0.0	0.0	0.7	0.53	9.3	3.6
1.001	34.57	9.15	81.550	0.053	0.0	0.0	1.5	1.14	20.2	7.5
1.002	33.36	9.70	80.024	0.069	0.0	0.0	1.9	1.38	24.4	9.4
1.003	32.26	10.24	78.910	0.084	0.0	0.0	2.2	1.39	24.6	11.1
1.004	31.23	10.79	77.780	0.099	0.0	0.0	2.5	1.36	24.0	12.6
1.005	30.25	11.36	76.700	0.114	0.0	0.0	2.8	1.31	23.2	14.0

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.006	44.331	2.392	18.5	0.017	0.00	0.0	1.500	o	150	Pipe/Conduit	
2.000	90.000	0.350	257.1	0.115	5.00	0.0	0.600	o	225	Pipe/Conduit	
2.001	89.908	1.618	55.6	0.116	0.00	0.0	0.600	o	225	Pipe/Conduit	
2.002	89.885	2.272	39.6	0.116	0.00	0.0	0.600	o	375	Pipe/Conduit	
2.003	89.832	1.970	45.6	0.134	0.00	0.0	0.600	o	750	Pipe/Conduit	
2.004	40.610	1.658	24.5	0.076	0.00	0.0	0.600	o	450	Pipe/Conduit	
3.000	90.000	0.391	230.2	0.101	5.00	0.0	1.500	o	225	Pipe/Conduit	
3.001	90.000	1.736	51.8	0.108	0.00	0.0	1.500	o	225	Pipe/Conduit	
3.002	90.000	2.379	37.8	0.109	0.00	0.0	1.500	o	300	Pipe/Conduit	
3.003	90.000	2.146	41.9	0.115	0.00	0.0	1.500	o	750	Pipe/Conduit	
3.004	34.417	0.787	43.7	0.045	0.00	0.0	1.500	o	300	Pipe/Conduit	
3.005	19.010	0.090	211.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
2.005	12.017	0.129	93.2	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
1.007	34.656	3.698	9.4	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
4.000	82.678	3.410	24.2	0.028	5.00	0.0	4.800	o	150	Pipe/Conduit	
4.001	83.965	1.900	44.2	0.029	0.00	0.0	4.800	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.006	29.67	11.72	75.690	0.131	0.0	0.0	3.2	2.04	36.1	15.8
2.000	41.35	6.85	81.595	0.115	0.0	0.0	3.9	0.81	32.2	19.4
2.001	38.46	7.70	81.245	0.231	0.0	0.0	7.2	1.76	69.9	36.1
2.002	36.94	8.22	79.477	0.347	0.0	0.0	10.4	2.89	319.0	52.1
2.003	35.97	8.58	76.830	0.481	0.0	0.0	14.1	4.15	1833.8	70.3
2.004	35.56	8.75	74.860	0.557	0.0	0.0	16.1	4.12	655.5	80.4
3.000	40.85	6.99	81.331	0.101	0.0	0.0	3.3	0.75	30.0	16.7
3.001	37.78	7.93	80.940	0.209	0.0	0.0	6.4	1.60	63.5	32.0
3.002	35.95	8.59	79.129	0.318	0.0	0.0	9.3	2.26	159.6	46.4
3.003	34.98	8.98	76.300	0.433	0.0	0.0	12.3	3.87	1707.6	61.5
3.004	34.34	9.25	74.154	0.478	0.0	0.0	13.3	2.10	148.4	66.6
3.005	33.68	9.55	73.367	0.478	0.0	0.0	13.3	1.08	76.2	66.6
2.005	33.45	9.65	73.202	1.035	0.0	0.0	28.1	1.88	207.3	140.6
1.007	29.52	11.82	73.073	1.166	0.0	0.0	28.1	5.95	657.0	140.6
4.000	45.07	5.96	75.070	0.028	0.0	0.0	1.0	1.44	25.4	5.2
4.001	39.84	7.28	71.660	0.057	0.0	0.0	1.8	1.06	18.8	9.2

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.008	4.644	0.270	17.2	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.008	29.49	11.84	69.375	1.223	0.0	0.0	29.3	4.39	484.5	146.5

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
NW1-1	83.230	1.350	Open Manhole	1050	1.000	81.880	150				
NW1-2	82.900	1.350	Open Manhole	1050	1.001	81.550	150	1.000	81.550	150	
NW1-3	81.374	1.350	Open Manhole	1050	1.002	80.024	150	1.001	80.024	150	
NW1-4	80.260	1.350	Open Manhole	1050	1.003	78.910	150	1.002	78.910	150	
NW1-5	79.130	1.350	Open Manhole	1050	1.004	77.780	150	1.003	77.780	150	
NW1-6	78.050	1.350	Open Manhole	1050	1.005	76.700	150	1.004	76.700	150	
NW1-7	77.040	1.350	Open Manhole	1050	1.006	75.690	150	1.005	75.690	150	
NW1-8	83.020	1.425	Open Manhole	1050	2.000	81.595	225				
NW1-9	82.670	1.425	Open Manhole	1050	2.001	81.245	225	2.000	81.245	225	
NW1-10	81.052	1.575	Open Manhole	1050	2.002	79.477	375	2.001	79.627	225	
NW1-11	78.780	1.950	Open Manhole	1800	2.003	76.830	750	2.002	77.205	375	
NW1-12	76.510	1.650	Open Manhole	1800	2.004	74.860	450	2.003	74.860	750	
NW1-13	82.756	1.425	Open Manhole	1050	3.000	81.331	225				
NW1-14	82.365	1.425	Open Manhole	1050	3.001	80.940	225	3.000	80.940	225	
NW1-15	80.629	1.500	Open Manhole	1050	3.002	79.129	300	3.001	79.204	225	
NW1-16	78.250	1.950	Open Manhole	1800	3.003	76.300	750	3.002	76.750	300	
NW1-17	75.804	1.650	Open Manhole	1800	3.004	74.154	300	3.003	74.154	750	
NW1-18	74.867	1.500	Open Manhole	1050	3.005	73.367	300	3.004	73.367	300	
NW1-19	75.550	2.348	Open Manhole	1500	2.005	73.202	375	2.004	73.202	450	
								3.005	73.277	300	
NW1-20	76.080	3.007	Open Manhole	1050	1.007	73.073	375	1.006	73.298	150	
								2.005	73.073	375	
NW1-21	76.930	1.860	Open Manhole	900	4.000	75.070	150				
NW1-22	73.010	1.350	Open Manhole	900	4.001	71.660	150	4.000	71.660	150	
NW1-23	71.380	2.005	Open Manhole	1050	1.008	69.375	375	1.007	69.375	375	
								4.001	69.760	150	160
EX-HW3	69.580	0.475	Open Manhole	0		OUTFALL		1.008	69.105	375	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW1-1	438506.161	278830.337	438506.161	278830.337	Required	
NW1-2	438463.454	278909.559	438463.454	278909.559	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW1-3	438424.121	278990.509	438424.121	278990.509	Required	
NW1-4	438407.874	279032.497	438407.874	279032.497	Required	
NW1-5	438394.035	279075.331	438394.035	279075.331	Required	
NW1-6	438382.666	279118.913	438382.666	279118.913	Required	
NW1-7	438374.423	279163.168	438374.423	279163.168	Required	
NW1-8	438516.440	278835.927	438516.440	278835.927	Required	
NW1-9	438473.732	278915.149	438473.732	278915.149	Required	
NW1-10	438434.490	278996.041	438434.490	278996.041	Required	
NW1-11	438404.615	279080.815	438404.615	279080.815	Required	
NW1-12	438385.604	279168.612	438385.604	279168.612	Required	
NW1-13	438526.223	278842.646	438526.223	278842.646	Required	
NW1-14	438483.519	278921.870	438483.519	278921.870	Required	
NW1-15	438444.408	279002.928	438444.408	279002.928	Required	
NW1-16	438415.275	279088.082	438415.275	279088.082	Required	
NW1-17	438401.351	279176.998	438401.351	279176.998	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW1-18	438401.644	279211.414	438401.644	279211.414	Required	
NW1-19	438382.773	279209.123	438382.773	279209.123	Required	
NW1-20	438370.887	279207.358	438370.887	279207.358	Required	
NW1-21	438375.510	279040.510	438375.510	279040.510	Required	
NW1-22	438351.950	279119.760	438351.950	279119.760	Required	
NW1-23	438336.600	279202.310	438336.600	279202.310	Required	
EX-HW3	438335.240	279206.750			No Entry	



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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	Classification	EW (Cut)	20	0.059	0.012	0.012
	Classification	Verge	50	0.023	0.011	0.023
1.001	Classification	EW (Cut)	20	0.095	0.019	0.019
	Classification	Verge	50	0.023	0.011	0.030
1.002	Classification	Verge	50	0.011	0.006	0.006
	Classification	EW (Cut)	20	0.052	0.010	0.016
1.003	Classification	Verge	50	0.011	0.006	0.006
	Classification	EW (Cut)	20	0.047	0.009	0.015
1.004	Classification	EW (Cut)	20	0.046	0.009	0.009
	Classification	Verge	50	0.011	0.006	0.015
1.005	Classification	Verge	50	0.011	0.006	0.006
	Classification	EW (Cut)	20	0.046	0.009	0.015
1.006	Classification	Verge	50	0.011	0.006	0.006
	Classification	EW (Cut)	20	0.058	0.012	0.017
2.000	Classification	Paved	100	0.040	0.040	0.040
	Classification	Paved	100	0.075	0.075	0.115
2.001	Classification	Paved	100	0.041	0.041	0.041
	Classification	Paved	100	0.075	0.075	0.116
2.002	Classification	Paved	100	0.041	0.041	0.041
	Classification	Paved	100	0.075	0.075	0.116
2.003	Classification	Paved	100	0.058	0.058	0.058
	Classification	Paved	100	0.076	0.076	0.134
2.004	Classification	Paved	100	0.042	0.042	0.042
	Classification	Paved	100	0.033	0.033	0.076
3.000	Classification	Paved	100	0.075	0.075	0.075
	Classification	Verge	50	0.023	0.011	0.087
	Classification	EW (Cut)	20	0.071	0.014	0.101
3.001	Classification	Verge	50	0.023	0.011	0.011
	Classification	Paved	100	0.075	0.075	0.086
	Classification	EW (Cut)	20	0.108	0.022	0.108
3.002	Classification	Paved	100	0.075	0.075	0.075
	Classification	Verge	50	0.029	0.015	0.090
	Classification	EW (Cut)	20	0.096	0.019	0.109
3.003	Classification	EW (Cut)	20	0.067	0.013	0.013
	Classification	Verge	50	0.052	0.026	0.039
	Classification	Paved	100	0.076	0.076	0.115
3.004	Classification	Paved	100	0.028	0.028	0.028
	Classification	Verge	50	0.026	0.013	0.041
	Classification	EW (Cut)	20	0.017	0.003	0.045
3.005	-	-	100	0.000	0.000	0.000
2.005	-	-	100	0.000	0.000	0.000
1.007	-	-	100	0.000	0.000	0.000
4.000	Classification	EW (fill)	20	0.142	0.028	0.028
4.001	Classification	EW (fill)	20	0.143	0.029	0.029
1.008	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				2.186	1.223	1.223

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Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.008	EX-HW3	69.580	69.105	0.000	0	0

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Online Controls for Storm

Orifice Manhole: NW1-12, DS/PN: 2.004, Volume (m³): 43.1

Diameter (m) 0.167 Discharge Coefficient 0.600 Invert Level (m) 74.860

Orifice Manhole: NW1-17, DS/PN: 3.004, Volume (m³): 43.2

Diameter (m) 0.160 Discharge Coefficient 0.600 Invert Level (m) 74.154

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
FEH Rainfall Version	1999
Site Location	GB 438400 279200 SP 38400 79200
C (1km)	-0.025
D1 (1km)	0.382
D2 (1km)	0.332
D3 (1km)	0.233
E (1km)	0.299
F (1km)	2.381
Cv (Summer)	0.900
Cv (Winter)	0.900

Margin for Flood Risk Warning (mm)	300.0	DVD Status	OFF
Analysis Timestep	Fine	Inertia Status	OFF
DTS Status	ON		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 5, 100
Climate Change (%)	20, 20, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
1.000	NW1-1	15 Summer	1	+20%	100/15 Summer			
1.001	NW1-2	15 Summer	1	+20%	100/15 Summer			
1.002	NW1-3	15 Summer	1	+20%	100/15 Summer			
1.003	NW1-4	15 Summer	1	+20%	100/15 Summer	100/15 Summer		
1.004	NW1-5	15 Summer	1	+20%	100/15 Summer	100/15 Summer		
1.005	NW1-6	15 Summer	1	+20%	100/15 Summer			
1.006	NW1-7	30 Summer	1	+20%	100/15 Summer			
2.000	NW1-8	15 Summer	1	+20%	100/15 Summer	100/15 Summer		
2.001	NW1-9	15 Summer	1	+20%	100/15 Summer	100/15 Summer		
2.002	NW1-10	15 Summer	1	+20%				
2.003	NW1-11	15 Summer	1	+20%				
2.004	NW1-12	15 Summer	1	+20%	1/15 Summer	100/15 Summer		

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	NW1-1	81.946	-0.084	0.000	0.34			3.1	OK
1.001	NW1-2	81.611	-0.089	0.000	0.32			6.4	OK
1.002	NW1-3	80.085	-0.089	0.000	0.34			8.0	OK
1.003	NW1-4	78.976	-0.084	0.000	0.40			9.5	OK
1.004	NW1-5	77.853	-0.077	0.000	0.47			11.0	OK
1.005	NW1-6	76.779	-0.071	0.000	0.54			12.3	OK
1.006	NW1-7	75.756	-0.084	0.000	0.39			13.9	OK
2.000	NW1-8	81.718	-0.102	0.000	0.50			15.8	OK
2.001	NW1-9	81.350	-0.120	0.000	0.44			29.9	OK
2.002	NW1-10	79.572	-0.280	0.000	0.14			43.2	OK
2.003	NW1-11	76.922	-0.658	0.000	0.04			58.5	OK
2.004	NW1-12	75.602	0.292	0.000	0.08			47.1	SURCHARGED

PN	US/MH Name	Level Exceeded
1.000	NW1-1	
1.001	NW1-2	
1.002	NW1-3	
1.003	NW1-4	2
1.004	NW1-5	3
1.005	NW1-6	
1.006	NW1-7	
2.000	NW1-8	4
2.001	NW1-9	3
2.002	NW1-10	
2.003	NW1-11	
2.004	NW1-12	10

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
3.000	NW1-13	15 Summer	1	+20%	100/15 Summer	100/15 Summer		
3.001	NW1-14	15 Summer	1	+20%	100/15 Summer	100/15 Summer		
3.002	NW1-15	15 Summer	1	+20%				
3.003	NW1-16	15 Summer	1	+20%				
3.004	NW1-17	15 Summer	1	+20%	1/15 Summer	100/15 Summer		
3.005	NW1-18	30 Summer	1	+20%	100/15 Summer			
2.005	NW1-19	30 Summer	1	+20%				
1.007	NW1-20	15 Summer	1	+20%				
4.000	NW1-21	15 Summer	1	+20%				
4.001	NW1-22	15 Summer	1	+20%	100/15 Summer	100/15 Summer		
1.008	NW1-23	30 Summer	1	+20%				

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
3.000	NW1-13	81.449	-0.107	0.000	0.46			13.7	OK
3.001	NW1-14	81.043	-0.122	0.000	0.42			26.1	OK
3.002	NW1-15	79.232	-0.197	0.000	0.25			39.0	OK
3.003	NW1-16	76.389	-0.661	0.000	0.03			52.3	OK
3.004	NW1-17	74.835	0.381	0.000	0.30			41.3	SURCHARGED
3.005	NW1-18	73.539	-0.128	0.000	0.63			41.3	OK
2.005	NW1-19	73.418	-0.159	0.000	0.63			88.4	OK
1.007	NW1-20	73.177	-0.271	0.000	0.17			100.6	OK
4.000	NW1-21	75.112	-0.108	0.000	0.17			4.3	OK
4.001	NW1-22	71.729	-0.081	0.000	0.43			7.9	OK
1.008	NW1-23	69.567	-0.183	0.000	0.52			105.5	OK

PN	US/MH Name	Level Exceeded
3.000	NW1-13	3
3.001	NW1-14	3
3.002	NW1-15	
3.003	NW1-16	
3.004	NW1-17	10
3.005	NW1-18	
2.005	NW1-19	
1.007	NW1-20	
4.000	NW1-21	
4.001	NW1-22	3
1.008	NW1-23	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
FEH Rainfall Version	1999
Site Location	GB 438400 279200 SP 38400 79200
C (1km)	-0.025
D1 (1km)	0.382
D2 (1km)	0.332
D3 (1km)	0.233
E (1km)	0.299
F (1km)	2.381
Cv (Summer)	0.900
Cv (Winter)	0.900

Margin for Flood Risk Warning (mm)	300.0	DVD Status	OFF
Analysis Timestep	Fine	Inertia Status	OFF
DTS Status	ON		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 5, 100
Climate Change (%)	20, 20, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
1.000	NW1-1	15 Summer	5	+20%	100/15 Summer			
1.001	NW1-2	15 Summer	5	+20%	100/15 Summer			
1.002	NW1-3	15 Summer	5	+20%	100/15 Summer			
1.003	NW1-4	15 Summer	5	+20%	100/15 Summer	100/15 Summer		
1.004	NW1-5	15 Summer	5	+20%	100/15 Summer	100/15 Summer		
1.005	NW1-6	15 Summer	5	+20%	100/15 Summer			
1.006	NW1-7	15 Summer	5	+20%	100/15 Summer			
2.000	NW1-8	15 Summer	5	+20%	100/15 Summer	100/15 Summer		
2.001	NW1-9	15 Summer	5	+20%	100/15 Summer	100/15 Summer		
2.002	NW1-10	15 Summer	5	+20%				
2.003	NW1-11	15 Summer	5	+20%				
2.004	NW1-12	15 Summer	5	+20%	1/15 Summer	100/15 Summer		

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	NW1-1	81.969	-0.061	0.000	0.56			5.2	OK
1.001	NW1-2	81.631	-0.069	0.000	0.53			10.5	OK
1.002	NW1-3	80.105	-0.069	0.000	0.56			13.3	OK
1.003	NW1-4	79.000	-0.060	0.000	0.66			15.8	OK
1.004	NW1-5	77.881	-0.049	0.000	0.77			18.2	OK
1.005	NW1-6	76.812	-0.038	0.000	0.90			20.5	OK
1.006	NW1-7	75.779	-0.061	0.000	0.65			23.1	OK
2.000	NW1-8	81.769	-0.051	0.000	0.83			26.1	OK
2.001	NW1-9	81.388	-0.082	0.000	0.72			49.2	OK
2.002	NW1-10	79.601	-0.251	0.000	0.23			71.0	OK
2.003	NW1-11	76.948	-0.632	0.000	0.06			96.0	OK
2.004	NW1-12	76.164	0.854	0.000	0.11			64.1	SURCHARGED

PN	US/MH Name	Level Exceeded
1.000	NW1-1	
1.001	NW1-2	
1.002	NW1-3	
1.003	NW1-4	2
1.004	NW1-5	3
1.005	NW1-6	
1.006	NW1-7	
2.000	NW1-8	4
2.001	NW1-9	3
2.002	NW1-10	
2.003	NW1-11	
2.004	NW1-12	10

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
3.000	NW1-13	15 Summer	5	+20%	100/15 Summer	100/15 Summer		
3.001	NW1-14	15 Summer	5	+20%	100/15 Summer	100/15 Summer		
3.002	NW1-15	15 Summer	5	+20%				
3.003	NW1-16	15 Summer	5	+20%				
3.004	NW1-17	15 Summer	5	+20%	1/15 Summer	100/15 Summer		
3.005	NW1-18	15 Summer	5	+20%	100/15 Summer			
2.005	NW1-19	15 Summer	5	+20%				
1.007	NW1-20	15 Summer	5	+20%				
4.000	NW1-21	15 Summer	5	+20%				
4.001	NW1-22	15 Summer	5	+20%	100/15 Summer	100/15 Summer		
1.008	NW1-23	15 Summer	5	+20%				

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
3.000	NW1-13	81.497	-0.059	0.000	0.77			22.6	OK
3.001	NW1-14	81.081	-0.084	0.000	0.68			42.6	OK
3.002	NW1-15	79.263	-0.166	0.000	0.41			63.2	OK
3.003	NW1-16	76.412	-0.638	0.000	0.05			84.5	OK
3.004	NW1-17	75.340	0.886	0.000	0.40			56.0	SURCHARGED
3.005	NW1-18	73.580	-0.087	0.000	0.85			56.1	OK
2.005	NW1-19	73.469	-0.108	0.000	0.85			120.2	OK
1.007	NW1-20	73.196	-0.252	0.000	0.24			138.7	OK
4.000	NW1-21	75.125	-0.095	0.000	0.28			7.1	OK
4.001	NW1-22	71.754	-0.056	0.000	0.70			13.1	OK
1.008	NW1-23	69.611	-0.139	0.000	0.72			145.5	OK

PN	US/MH Name	Level Exceeded
3.000	NW1-13	3
3.001	NW1-14	3
3.002	NW1-15	
3.003	NW1-16	
3.004	NW1-17	10
3.005	NW1-18	
2.005	NW1-19	
1.007	NW1-20	
4.000	NW1-21	
4.001	NW1-22	3
1.008	NW1-23	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
FEH Rainfall Version	1999
Site Location	GB 438400 279200 SP 38400 79200
C (1km)	-0.025
D1 (1km)	0.382
D2 (1km)	0.332
D3 (1km)	0.233
E (1km)	0.299
F (1km)	2.381
Cv (Summer)	0.900
Cv (Winter)	0.900

Margin for Flood Risk Warning (mm)	300.0	DVD Status	OFF
Analysis Timestep	Fine	Inertia Status	OFF
DTS Status	ON		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 5, 100
Climate Change (%)	20, 20, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
1.000	NW1-1	15 Summer	100	+20%	100/15 Summer			
1.001	NW1-2	15 Summer	100	+20%	100/15 Summer			
1.002	NW1-3	15 Summer	100	+20%	100/15 Summer			
1.003	NW1-4	15 Summer	100	+20%	100/15 Summer	100/15 Summer		
1.004	NW1-5	15 Summer	100	+20%	100/15 Summer	100/15 Summer		
1.005	NW1-6	15 Summer	100	+20%	100/15 Summer			
1.006	NW1-7	15 Summer	100	+20%	100/15 Summer			
2.000	NW1-8	15 Summer	100	+20%	100/15 Summer	100/15 Summer		
2.001	NW1-9	15 Summer	100	+20%	100/15 Summer	100/15 Summer		
2.002	NW1-10	15 Summer	100	+20%				
2.003	NW1-11	15 Summer	100	+20%				
2.004	NW1-12	30 Winter	100	+20%	1/15 Summer	100/15 Summer		

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	NW1-1	83.073	1.043	0.000	1.10			10.1	FLOOD RISK
1.001	NW1-2	82.670	0.970	0.000	0.99			19.8	FLOOD RISK
1.002	NW1-3	81.200	1.026	0.000	0.92			21.9	FLOOD RISK
1.003	NW1-4	80.260	1.200	0.135	1.00			24.1	FLOOD
1.004	NW1-5	79.131	1.201	0.511	1.20			28.1	FLOOD
1.005	NW1-6	77.914	1.064	0.000	1.35			30.6	FLOOD RISK
1.006	NW1-7	76.144	0.304	0.000	1.06			37.4	SURCHARGED
2.000	NW1-8	83.029	1.209	8.793	1.77			55.7	FLOOD
2.001	NW1-9	82.673	1.203	3.105	1.32			90.3	FLOOD
2.002	NW1-10	79.684	-0.168	0.000	0.57			172.3	OK
2.003	NW1-11	77.038	-0.542	0.000	0.16			272.9	OK
2.004	NW1-12	76.589	1.279	78.843	0.13			74.7	FLOOD

PN	US/MH Name	Level Exceeded
1.000	NW1-1	
1.001	NW1-2	
1.002	NW1-3	
1.003	NW1-4	2
1.004	NW1-5	3
1.005	NW1-6	
1.006	NW1-7	
2.000	NW1-8	4
2.001	NW1-9	3
2.002	NW1-10	
2.003	NW1-11	
2.004	NW1-12	10

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
3.000	NW1-13	15 Summer	100	+20%	100/15 Summer	100/15 Summer		
3.001	NW1-14	15 Summer	100	+20%	100/15 Summer	100/15 Summer		
3.002	NW1-15	15 Summer	100	+20%				
3.003	NW1-16	15 Summer	100	+20%				
3.004	NW1-17	30 Summer	100	+20%	1/15 Summer	100/15 Summer		
3.005	NW1-18	30 Summer	100	+20%	100/15 Summer			
2.005	NW1-19	30 Winter	100	+20%				
1.007	NW1-20	15 Summer	100	+20%				
4.000	NW1-21	15 Summer	100	+20%				
4.001	NW1-22	15 Summer	100	+20%	100/15 Summer	100/15 Summer		
1.008	NW1-23	15 Summer	100	+20%				

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
3.000	NW1-13	82.763	1.207	6.860	1.61			47.3	FLOOD
3.001	NW1-14	82.368	1.203	2.829	1.30			81.0	FLOOD
3.002	NW1-15	79.428	-0.001	0.000	1.00			155.4	OK
3.003	NW1-16	76.499	-0.551	0.000	0.15			240.3	OK
3.004	NW1-17	75.865	1.411	60.797	0.49			68.2	FLOOD
3.005	NW1-18	73.673	0.006	0.000	1.03			68.2	SURCHARGED
2.005	NW1-19	73.577	0.000	0.000	1.02			142.9	OK
1.007	NW1-20	73.213	-0.235	0.000	0.30			177.3	OK
4.000	NW1-21	75.211	-0.009	0.000	0.78			19.7	OK
4.001	NW1-22	73.012	1.202	2.177	1.28			23.9	FLOOD
1.008	NW1-23	69.673	-0.077	0.000	0.99			201.2	OK

PN	US/MH Name	Level Exceeded
3.000	NW1-13	3
3.001	NW1-14	3
3.002	NW1-15	
3.003	NW1-16	
3.004	NW1-17	10
3.005	NW1-18	
2.005	NW1-19	
1.007	NW1-20	
4.000	NW1-21	
4.001	NW1-22	3
1.008	NW1-23	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes A46 pipe Manhole Sizes A46 manholes

FEH Rainfall Model

Return Period (years)	1
FEH Rainfall Version	1999
Site Location GB 438400 279200 SP 38400 79200	
C (1km)	-0.025
D1 (1km)	0.382
D2 (1km)	0.332
D3 (1km)	0.233
E (1km)	0.299
F (1km)	2.381
Maximum Rainfall (mm/hr)	300
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.900
PIMP (%)	100
Add Flow / Climate Change (%)	25
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	0.75
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S8.000	44.520	0.280	159.0	0.212	5.00	0.0	0.600	o	300	Pipe/Conduit	
S8.001	44.203	0.280	157.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S8.002	47.586	0.465	102.3	0.169	0.00	0.0	0.600	o	375	Pipe/Conduit	
S8.003	42.068	0.465	90.5	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S9.000	44.988	0.665	67.7	0.146	5.00	0.0	1.500	o	375	Pipe/Conduit	
S9.001	44.312	0.665	66.6	0.000	0.00	0.0	1.500	o	375	Pipe/Conduit	
S9.002	72.018	0.145	496.7	0.104	0.00	0.0	1.500	o	450	Pipe/Conduit	
S10.000	39.345	0.450	87.4	0.010	5.00	0.0	1.500	o	225	Pipe/Conduit	
S10.001	90.000	0.381	236.2	0.025	0.00	0.0	1.500	o	300	Pipe/Conduit	
S10.002	46.521	0.093	499.9	0.014	0.00	0.0	1.500	o	300	Pipe/Conduit	
S10.003	70.709	0.141	500.0	0.020	0.00	0.0	1.500	o	300	Pipe/Conduit	
S10.004	48.706	0.097	500.6	0.005	0.00	0.0	1.500	o	300	Pipe/Conduit	
S10.005	45.022	0.090	499.9	0.006	0.00	0.0	1.500	o	300	Pipe/Conduit	
S10.006	61.757	0.277	222.9	0.009	0.00	0.0	1.500	o	300	Pipe/Conduit	
S10.007	90.993	0.945	96.3	0.065	0.00	0.0	1.500	o	300	Pipe/Conduit	
S9.003	14.490	0.045	322.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S11.000	50.282	0.101	497.8	0.181	5.00	0.0	0.600	o	375	Pipe/Conduit	
S11.001	50.282	0.101	497.8	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S11.002	50.000	0.100	500.0	0.122	0.00	0.0	0.600	o	375	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S8.000	46.85	5.60	73.010	0.212	0.0	0.0	8.1	1.24	88.0	40.3
S8.001	44.04	6.19	72.730	0.212	0.0	0.0	8.1	1.25	88.3	40.3
S8.002	42.20	6.63	72.375	0.381	0.0	0.0	13.1	1.79	197.8	65.3
S8.003	40.81	7.00	71.910	0.381	0.0	0.0	13.1	1.91	210.5	65.3
S9.000	47.99	5.38	72.965	0.146	0.0	0.0	5.7	1.95	215.5	28.5
S9.001	46.03	5.76	72.300	0.146	0.0	0.0	5.7	1.97	217.1	28.5
S9.002	39.93	7.25	71.560	0.250	0.0	0.0	8.1	0.81	128.3	40.6
S10.000	47.18	5.53	74.115	0.010	0.0	0.0	0.4	1.23	48.8	1.9
S10.001	40.10	7.20	73.590	0.035	0.0	0.0	1.2	0.90	63.7	5.8
S10.002	36.31	8.46	73.209	0.050	0.0	0.0	1.5	0.62	43.6	7.3
S10.003	32.01	10.36	73.116	0.070	0.0	0.0	1.8	0.62	43.6	9.1
S10.004	29.74	11.68	72.975	0.075	0.0	0.0	1.8	0.62	43.6	9.1
S10.005	27.97	12.90	72.877	0.082	0.0	0.0	1.9	0.62	43.6	9.3
S10.006	26.58	14.01	72.787	0.091	0.0	0.0	2.0	0.93	65.5	9.8
S10.007	25.39	15.08	72.510	0.156	0.0	0.0	3.2	1.41	99.9	16.1
S9.003	25.17	15.29	71.415	0.406	0.0	0.0	8.3	1.13	179.3	41.5
S11.000	44.69	6.04	73.145	0.181	0.0	0.0	6.6	0.81	88.9	32.8
S11.001	40.51	7.08	73.044	0.181	0.0	0.0	6.6	0.81	88.9	32.8
S11.002	37.23	8.12	72.944	0.302	0.0	0.0	9.1	0.80	88.7	45.7

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S11.003	25.074	0.050	501.5	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S11.004	70.214	0.140	500.0	0.108	0.00	0.0	0.600	o	375	Pipe/Conduit	
S11.005	62.261	0.125	497.6	0.096	0.00	0.0	0.600	o	375	Pipe/Conduit	
S11.006	45.380	0.090	504.2	0.176	0.00	0.0	0.600	o	375	Pipe/Conduit	
S11.007	45.309	0.090	503.4	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S11.008	90.044	0.903	99.7	0.123	0.00	0.0	0.600	o	375	Pipe/Conduit	
S8.004	12.912	0.078	165.5	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S12.000	58.295	1.245	46.8	0.125	5.00	0.0	1.500	o	225	Pipe/Conduit	
S12.001	89.927	0.180	499.6	0.155	0.00	0.0	1.500	o	375	Pipe/Conduit	
S12.002	63.924	0.128	500.0	0.096	0.00	0.0	1.500	o	375	Pipe/Conduit	
S12.003	89.953	0.180	500.0	0.151	0.00	0.0	1.500	o	375	Pipe/Conduit	
S12.004	90.049	0.180	500.3	0.139	0.00	0.0	1.500	o	450	Pipe/Conduit	
S12.005	89.934	0.575	156.4	0.079	0.00	0.0	1.500	o	450	Pipe/Conduit	
S8.005	27.228	0.054	500.0	0.000	0.00	0.0	1.500	o	600	Pipe/Conduit	
S8.006	27.620	0.055	502.2	0.000	0.00	0.0	1.500	o	600	Pipe/Conduit	
S8.007	27.606	0.055	501.9	0.000	0.00	0.0	1.500	o	600	Pipe/Conduit	
S8.008	29.058	0.058	501.0	0.000	0.00	0.0	1.500	o	600	Pipe/Conduit	
S8.009	14.250	0.029	491.4	0.000	0.00	0.0	1.500	o	600	Pipe/Conduit	
S8.010	24.317	0.049	496.3	0.000	0.00	0.0	1.500	o	600	Pipe/Conduit	
S8.011	21.309	0.043	495.5	0.000	0.00	0.0	1.500	o	600	Pipe/Conduit	
S8.012	41.849	0.771	54.3	0.000	0.00	0.0	1.500	o	600	Pipe/Conduit	
S8.013	3.806	0.008	475.7	0.000	0.00	0.0	0.600	o	400	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S11.003	35.83	8.64	72.844	0.302	0.0	0.0	9.1	0.80	88.6	45.7
S11.004	32.54	10.10	72.794	0.411	0.0	0.0	10.9	0.80	88.7	54.3
S11.005	30.21	11.38	72.653	0.507	0.0	0.0	12.4	0.81	89.0	62.2
S11.006	28.76	12.33	72.528	0.683	0.0	0.0	16.0	0.80	88.4	79.8
S11.007	27.48	13.27	72.438	0.683	0.0	0.0	16.0	0.80	88.4	79.8
S11.008	26.47	14.10	72.348	0.806	0.0	0.0	17.3	1.81	200.4	86.7
S8.004	25.04	15.43	71.370	1.593	0.0	0.0	32.4	1.58	250.9	162.0
S12.000	46.95	5.58	74.005	0.125	0.0	0.0	4.8	1.68	66.8	23.9
S12.001	38.54	7.68	72.610	0.280	0.0	0.0	8.8	0.71	78.9	43.8
S12.002	34.54	9.17	72.430	0.376	0.0	0.0	10.5	0.71	78.9	52.7
S12.003	30.41	11.27	72.302	0.527	0.0	0.0	13.0	0.71	78.9	65.1
S12.004	27.66	13.13	72.047	0.665	0.0	0.0	15.0	0.80	127.8	74.8
S12.005	26.39	14.17	71.867	0.744	0.0	0.0	15.9	1.44	229.3	79.7
S8.005	24.58	15.90	71.142	2.337	0.0	0.0	46.7	0.97	273.6	233.3
S8.006	24.13	16.37	71.088	2.337	0.0	0.0	46.7	0.97	273.0	233.3
S8.007	23.71	16.85	71.033	2.337	0.0	0.0	46.7	0.97	273.1	233.3
S8.008	23.28	17.35	70.978	2.337	0.0	0.0	46.7	0.97	273.3	233.3
S8.009	23.08	17.60	70.920	2.337	0.0	0.0	46.7	0.98	276.0	233.3
S8.010	22.75	18.01	70.891	2.337	0.0	0.0	46.7	0.97	274.6	233.3
S8.011	22.47	18.38	70.842	2.337	0.0	0.0	46.7	0.97	274.8	233.3
S8.012	22.29	18.61	70.799	2.337	0.0	0.0	46.7	2.95	833.4	233.3
S8.013	22.24	18.69	70.028	2.337	0.0	0.0	46.7	0.86	107.9«	233.3

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
SNW2A-1	75.257	2.247	Open Manhole	1200	S8.000	73.010	300				
SNW2A-2	74.415	1.685	Open Manhole	1050	S8.001	72.730	300	S8.000	72.730	300	
SNW2A-3	73.950	1.575	Open Manhole	1050	S8.002	72.375	375	S8.001	72.450	300	
SNW2A-4	73.905	1.995	Open Manhole	1200	S8.003	71.910	375	S8.002	71.910	375	
SNW2A-5	74.443	1.478	Open Manhole	1050	S9.000	72.965	375				
SNW2A-6	73.639	1.339	Open Manhole	1050	S9.001	72.300	375	S9.000	72.300	375	
SNW2A-7	73.210	1.650	Open Manhole	1500	S9.002	71.560	450	S9.001	71.635	375	
SNW2A-8	75.540	1.425	Open Manhole	1050	S10.000	74.115	225				
SNW2A-9	75.090	1.500	Open Manhole	1050	S10.001	73.590	300	S10.000	73.665	225	
SNW2A-10	74.709	1.500	Open Manhole	1050	S10.002	73.209	300	S10.001	73.209	300	
SNW2A-11	74.709	1.593	Open Manhole	1050	S10.003	73.116	300	S10.002	73.116	300	
SNW2A-12	74.770	1.795	Open Manhole	1050	S10.004	72.975	300	S10.003	72.975	300	
SNW2A-13	74.750	1.873	Open Manhole	1200	S10.005	72.877	300	S10.004	72.877	300	
SNW2A-14	74.620	1.833	Open Manhole	1200	S10.006	72.787	300	S10.005	72.787	300	
SNW2A-15	74.010	1.500	Open Manhole	1050	S10.007	72.510	300	S10.006	72.510	300	
SNW2A-16	73.240	1.825	Open Manhole	1500	S9.003	71.415	450	S9.002	71.415	450	
								S10.007	71.565	300	
SNW2A-17	74.940	1.795	Open Manhole	1050	S11.000	73.145	375				
SNW2A-18	74.836	1.792	Open Manhole	1050	S11.001	73.044	375	S11.000	73.044	375	
SNW2A-19	74.730	1.787	Open Manhole	1050	S11.002	72.944	375	S11.001	72.943	375	
SNW2A-20	74.616	1.772	Open Manhole	1050	S11.003	72.844	375	S11.002	72.844	375	
SNW2A-21	74.430	1.636	Open Manhole	1050	S11.004	72.794	375	S11.003	72.794	375	
SNW2A-22	74.320	1.667	Open Manhole	1050	S11.005	72.653	375	S11.004	72.653	375	
SNW2A-23	74.250	1.722	Open Manhole	1050	S11.006	72.528	375	S11.005	72.528	375	
SNW2A-24	74.150	1.712	Open Manhole	1050	S11.007	72.438	375	S11.006	72.438	375	
SNW2A-25	74.050	1.702	Open Manhole	1050	S11.008	72.348	375	S11.007	72.348	375	
SNW2A-26	73.860	2.490	Open Manhole	1500	S8.004	71.370	450	S8.003	71.445	375	
								S9.003	71.370	450	
								S11.008	71.445	375	
SNW2A-27	75.430	1.425	Open Manhole	1050	S12.000	74.005	225				
SNW2A-28	74.185	1.575	Open Manhole	1050	S12.001	72.610	375	S12.000	72.760	225	
SNW2A-29	74.100	1.670	Open Manhole	1050	S12.002	72.430	375	S12.001	72.430	375	
SNW2A-30	74.140	1.838	Open Manhole	1050	S12.003	72.302	375	S12.002	72.302	375	
SNW2A-31	73.750	1.703	Open Manhole	1500	S12.004	72.047	450	S12.003	72.122	375	
SNW2A-32	73.590	1.723	Open Manhole	1500	S12.005	71.867	450	S12.004	71.867	450	
SNW2A-33	74.130	2.988	Open Manhole	1500	S8.005	71.142	600	S8.004	71.292	450	
								S12.005	71.292	450	
SNW2A-34	74.292	3.204	Open Manhole	1500	S8.006	71.088	600	S8.005	71.088	600	
SNW2A-35	74.396	3.363	Open Manhole	1500	S8.007	71.033	600	S8.006	71.033	600	
SNW2A-36	74.498	3.520	Open Manhole	1500	S8.008	70.978	600	S8.007	70.978	600	
SNW2A-37	74.700	3.780	Open Manhole	1500	S8.009	70.920	600	S8.008	70.920	600	
SNW2A-38	74.863	3.972	Open Manhole	1500	S8.010	70.891	600	S8.009	70.891	600	
SNW2A-39	74.227	3.385	Open Manhole	1500	S8.011	70.842	600	S8.010	70.842	600	
SNW2A-40	73.860	3.061	Open Manhole	1500	S8.012	70.799	600	S8.011	70.799	600	
SEX-MH136	71.230	1.202	Junction		S8.013	70.028	400	S8.012	70.028	600	
S	71.230	1.210	Open Manhole	0		OUTFALL		S8.013	70.020	400	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2A-1	438384.178	279221.412	438384.178	279221.412	Required	
SNW2A-2	438390.626	279265.463	438390.626	279265.463	Required	
SNW2A-3	438403.770	279307.666	438403.770	279307.666	Required	
SNW2A-4	438425.592	279349.953	438425.592	279349.953	Required	
SNW2A-5	438406.212	279224.559	438406.212	279224.559	Required	
SNW2A-6	438412.632	279269.087	438412.632	279269.087	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2A-7	438428.387	279310.502	438428.387	279310.502	Required	
SNW2A-8	438720.469	279790.985	438720.469	279790.985	Required	
SNW2A-9	438703.072	279755.696	438703.072	279755.696	Required	
SNW2A-10	438662.106	279675.560	438662.106	279675.560	Required	
SNW2A-11	438641.073	279634.065	438641.073	279634.065	Required	
SNW2A-12	438608.532	279571.290	438608.532	279571.290	Required	
SNW2A-13	438584.429	279528.965	438584.429	279528.965	Required	
SNW2A-14	438558.544	279492.130	438558.544	279492.130	Required	
SNW2A-15	438519.177	279444.546	438519.177	279444.546	Required	
SNW2A-16	438460.601	279374.914	438460.601	279374.914	Required	
SNW2A-17	438700.404	279799.353	438700.404	279799.353	Required	
SNW2A-18	438680.717	279753.086	438680.717	279753.086	Required	
SNW2A-19	438661.030	279706.818	438661.030	279706.818	Required	
SNW2A-20	438640.010	279661.451	438640.010	279661.451	Required	
SNW2A-21	438629.468	279638.700	438629.468	279638.700	Required	
SNW2A-22	438598.630	279575.621	438598.630	279575.621	Required	
SNW2A-23	438566.172	279522.489	438566.172	279522.489	Required	
SNW2A-24	438538.853	279486.253	438538.853	279486.253	Required	
SNW2A-25	438509.625	279451.632	438509.625	279451.632	Required	
SNW2A-26	438449.683	279384.440	438449.683	279384.440	Required	
SNW2A-27	438676.258	279807.468	438676.258	279807.468	Required	
SNW2A-28	438656.763	279752.528	438656.763	279752.528	Required	
SNW2A-29	438624.240	279668.689	438624.240	279668.689	Required	
SNW2A-30	438597.827	279610.477	438597.827	279610.477	Required	
SNW2A-31	438554.083	279531.876	438554.083	279531.876	Required	
SNW2A-32	438499.779	279460.044	438499.779	279460.044	Required	
SNW2A-33	438439.936	279392.909	438439.936	279392.909	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2A-34	438423.023	279371.571	438423.023	279371.571	Required	
SNW2A-35	438407.329	279348.844	438407.329	279348.844	Required	
SNW2A-36	438395.002	279324.143	438395.002	279324.143	Required	
SNW2A-37	438384.124	279297.197	438384.124	279297.197	Required	
SNW2A-38	438380.510	279283.413	438380.510	279283.413	Required	
SNW2A-39	438370.284	279261.350	438370.284	279261.350	Required	
SNW2A-40	438349.530	279256.520	438349.530	279256.520	Required	
SEX-MH136	438333.530	279217.850			No Entry	
S	438334.180	279214.100			No Entry	

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
8.000	Classification	Paved	100	0.098	0.098	0.098
	Classification	Paved	100	0.114	0.114	0.212
8.001	-	-	100	0.000	0.000	0.000
8.002	Classification	Paved	100	0.086	0.086	0.086
	Classification	Paved	100	0.083	0.083	0.169
8.003	-	-	100	0.000	0.000	0.000
9.000	Classification	Verge	50	0.084	0.042	0.042
	Classification	EW (Cut)	20	0.026	0.005	0.047
	Classification	Paved	100	0.099	0.099	0.146
9.001	-	-	100	0.000	0.000	0.000
9.002	Classification	EW (Cut)	20	0.034	0.007	0.007
	Classification	Verge	50	0.055	0.027	0.034
	Classification	Paved	100	0.069	0.069	0.104
10.000	Classification	Verge	50	0.010	0.005	0.005
	Classification	EW (Cut)	20	0.025	0.005	0.010
10.001	Classification	Verge	50	0.022	0.011	0.011
	Classification	EW (Cut)	20	0.071	0.014	0.025
10.002	Classification	Verge	50	0.012	0.006	0.006
	Classification	EW (Cut)	20	0.043	0.009	0.014
10.003	Classification	Verge	50	0.015	0.008	0.008
	Classification	EW (Cut)	20	0.062	0.012	0.020
10.004	Classification	Verge	50	0.011	0.005	0.005
10.005	Classification	Verge	50	0.011	0.006	0.006
	Classification	EW (Cut)	20	0.004	0.001	0.006
10.006	Classification	Verge	50	0.015	0.008	0.008
	Classification	EW (Cut)	20	0.006	0.001	0.009
10.007	Classification	Paved	100	0.043	0.043	0.043
	Classification	Verge	50	0.032	0.016	0.058
	Classification	EW (Cut)	20	0.033	0.007	0.065
9.003	-	-	100	0.000	0.000	0.000
11.000	Classification	Paved	100	0.040	0.040	0.040
	Classification	Paved	100	0.140	0.140	0.181
11.001	-	-	100	0.000	0.000	0.000
11.002	Classification	Paved	100	0.038	0.038	0.038
	Classification	Paved	100	0.084	0.084	0.122
11.003	-	-	100	0.000	0.000	0.000
11.004	Classification	Paved	100	0.042	0.042	0.042
	Classification	Paved	100	0.066	0.066	0.108
11.005	Classification	Paved	100	0.039	0.039	0.039
	Classification	Paved	100	0.057	0.057	0.096
11.006	Classification	Paved	100	0.049	0.049	0.049
	Classification	Paved	100	0.043	0.043	0.093
	Classification	Paved	100	0.084	0.084	0.176
11.007	-	-	100	0.000	0.000	0.000
11.008	Classification	Paved	100	0.042	0.042	0.042
	Classification	Paved	100	0.040	0.040	0.081
	Classification	Paved	100	0.042	0.042	0.123
8.004	-	-	100	0.000	0.000	0.000
12.000	Classification	Paved	100	0.088	0.088	0.088
	Classification	Paved	100	0.019	0.019	0.107
	Classification	Verge	50	0.010	0.005	0.112
	Classification	EW (Cut)	20	0.028	0.006	0.118
	Classification	Verge	50	0.015	0.007	0.125
12.001	Classification	Paved	100	0.128	0.128	0.128
	Classification	EW (Cut)	20	0.079	0.016	0.143
	Classification	Verge	50	0.023	0.011	0.155
12.002	Classification	Paved	100	0.073	0.073	0.073
	Classification	EW (Cut)	20	0.076	0.015	0.088
	Classification	Verge	50	0.016	0.008	0.096
12.003	Classification	Paved	100	0.085	0.085	0.085
	Classification	Verge	50	0.021	0.011	0.096
	Classification	EW (Cut)	20	0.029	0.006	0.102
	Classification	EW (Cut)	20	0.246	0.049	0.151
12.004	Classification	Verge	50	0.023	0.011	0.011
	Classification	Paved	100	0.084	0.084	0.095
	Classification	EW (Cut)	20	0.219	0.044	0.139
12.005	Classification	Paved	100	0.042	0.042	0.042
	Classification	Verge	50	0.022	0.011	0.053
	Classification	EW (Cut)	20	0.126	0.025	0.079
8.005	-	-	100	0.000	0.000	0.000
8.006	-	-	100	0.000	0.000	0.000
8.007	-	-	100	0.000	0.000	0.000
8.008	-	-	100	0.000	0.000	0.000
8.009	-	-	100	0.000	0.000	0.000
8.010	-	-	100	0.000	0.000	0.000
8.011	-	-	100	0.000	0.000	0.000
8.012	-	-	100	0.000	0.000	0.000
8.013	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				3.420	2.337	2.337

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S8.013	S	71.230	70.020	0.000	0	0

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Online Controls for Storm

Orifice Manhole: SNW2A-7, DS/PN: S9.002, Volume (m³): 7.7

Diameter (m) 0.105 Discharge Coefficient 0.600 Invert Level (m) 71.560

Orifice Manhole: SNW2A-15, DS/PN: S10.007, Volume (m³): 5.6

Diameter (m) 0.075 Discharge Coefficient 0.600 Invert Level (m) 72.510

Orifice Manhole: SNW2A-25, DS/PN: S11.008, Volume (m³): 6.4

Diameter (m) 0.170 Discharge Coefficient 0.600 Invert Level (m) 72.348

Orifice Manhole: SNW2A-32, DS/PN: S12.005, Volume (m³): 17.1

Diameter (m) 0.180 Discharge Coefficient 0.600 Invert Level (m) 71.867

Orifice Manhole: SNW2A-39, DS/PN: S8.011, Volume (m³): 12.4

Diameter (m) 0.370 Discharge Coefficient 0.600 Invert Level (m) 70.842

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 5 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH D3 (1km) 0.233
FEH Rainfall Version 1999 E (1km) 0.299
Site Location GB 438400 279200 SP 38400 79200 F (1km) 2.381
C (1km) -0.025 Cv (Summer) 0.900
D1 (1km) 0.382 Cv (Winter) 0.900
D2 (1km) 0.332

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 20, 20, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
S8.000	SNW2A-1	15 Summer	1	+20%	100/15 Summer				73.143	-0.167	0.000	0.40
S8.001	SNW2A-2	15 Summer	1	+20%	100/15 Summer				72.860	-0.170	0.000	0.39
S8.002	SNW2A-3	15 Summer	1	+20%	100/15 Summer				72.513	-0.237	0.000	0.28
S8.003	SNW2A-4	15 Summer	1	+20%	100/15 Summer				72.043	-0.242	0.000	0.27
S9.000	SNW2A-5	15 Summer	1	+20%	100/15 Summer				73.049	-0.291	0.000	0.11
S9.001	SNW2A-6	30 Summer	1	+20%	5/15 Summer				72.430	-0.245	0.000	0.10
S9.002	SNW2A-7	30 Summer	1	+20%	1/15 Summer	100/15 Summer			72.422	0.412	0.000	0.14
S10.000	SNW2A-8	15 Summer	1	+20%					74.142	-0.198	0.000	0.03
S10.001	SNW2A-9	15 Summer	1	+20%	100/15 Summer				73.646	-0.244	0.000	0.07
S10.002	SNW2A-10	15 Summer	1	+20%	100/15 Summer				73.285	-0.224	0.000	0.14
S10.003	SNW2A-11	15 Summer	1	+20%	100/15 Summer				73.203	-0.213	0.000	0.17
S10.004	SNW2A-12	15 Summer	1	+20%	100/15 Summer				73.062	-0.213	0.000	0.18
S10.005	SNW2A-13	30 Summer	1	+20%	100/15 Summer				72.965	-0.212	0.000	0.19
S10.006	SNW2A-14	60 Summer	1	+20%	5/60 Summer				72.915	-0.172	0.000	0.10
S10.007	SNW2A-15	60 Summer	1	+20%	1/15 Summer	100/15 Summer			72.905	0.095	0.000	0.07
S9.003	SNW2A-16	60 Summer	1	+20%	100/15 Summer				71.637	-0.228	0.000	0.18
S11.000	SNW2A-17	15 Summer	1	+20%	100/15 Summer	100/15 Summer			73.297	-0.223	0.000	0.33
S11.001	SNW2A-18	15 Summer	1	+20%	5/30 Summer	100/15 Summer			73.192	-0.227	0.000	0.29
S11.002	SNW2A-19	15 Summer	1	+20%	5/15 Summer	100/15 Summer			73.116	-0.203	0.000	0.42
S11.003	SNW2A-20	15 Summer	1	+20%	5/15 Summer				73.035	-0.184	0.000	0.43
S11.004	SNW2A-21	60 Summer	1	+20%	5/15 Summer	100/15 Summer			72.987	-0.182	0.000	0.41
S11.005	SNW2A-22	60 Summer	1	+20%	5/15 Summer	100/15 Summer			72.951	-0.077	0.000	0.40
S11.006	SNW2A-23	60 Summer	1	+20%	1/30 Summer	100/15 Summer			72.926	0.023	0.000	0.45
S11.007	SNW2A-24	60 Summer	1	+20%	1/15 Summer	100/15 Summer			72.898	0.085	0.000	0.44
S11.008	SNW2A-25	60 Summer	1	+20%	1/15 Summer	100/15 Summer			72.869	0.146	0.000	0.21
S8.004	SNW2A-26	60 Summer	1	+20%	100/15 Summer				71.631	-0.189	0.000	0.53
S12.000	SNW2A-27	15 Summer	1	+20%	100/15 Summer	100/15 Summer			74.090	-0.140	0.000	0.30
S12.001	SNW2A-28	15 Summer	1	+20%	100/15 Summer	100/15 Summer			72.804	-0.181	0.000	0.45
S12.002	SNW2A-29	15 Summer	1	+20%	5/30 Summer	100/15 Summer			72.634	-0.171	0.000	0.54
S12.003	SNW2A-30	15 Summer	1	+20%	5/15 Summer	100/15 Summer			72.531	-0.146	0.000	0.64
S12.004	SNW2A-31	30 Summer	1	+20%	5/15 Summer	100/15 Summer			72.367	-0.130	0.000	0.40
S12.005	SNW2A-32	30 Summer	1	+20%	1/30 Summer	100/15 Summer			72.338	0.021	0.000	0.19
S8.005	SNW2A-33	60 Summer	1	+20%	5/30 Summer				71.611	-0.131	0.000	0.53
S8.006	SNW2A-34	60 Summer	1	+20%	5/30 Summer				71.588	-0.100	0.000	0.51
S8.007	SNW2A-35	60 Summer	1	+20%	5/15 Summer				71.565	-0.068	0.000	0.48
S8.008	SNW2A-36	60 Summer	1	+20%	5/15 Summer				71.541	-0.037	0.000	0.46
S8.009	SNW2A-37	60 Summer	1	+20%	5/15 Summer				71.517	-0.003	0.000	0.65
S8.010	SNW2A-38	60 Summer	1	+20%	1/60 Summer				71.498	0.007	0.000	0.46
S8.011	SNW2A-39	60 Summer	1	+20%	1/30 Summer				71.475	0.033	0.000	0.51
S8.012	SNW2A-40	60 Summer	1	+20%					70.948	-0.451	0.000	0.14
S8.013	SEX-MH136	60 Summer	1	+20%	5/30 Summer				70.304	-0.124	0.000	0.82

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S8.000	SNW2A-1			32.7	OK	
S8.001	SNW2A-2			31.9	OK	
S8.002	SNW2A-3			51.8	OK	
S8.003	SNW2A-4			52.0	OK	
S9.000	SNW2A-5			22.6	OK	
S9.001	SNW2A-6			20.4	OK	
S9.002	SNW2A-7			17.4	SURCHARGED	13
S10.000	SNW2A-8			1.5	OK	
S10.001	SNW2A-9			4.4	OK	
S10.002	SNW2A-10			5.8	OK	
S10.003	SNW2A-11			7.3	OK	
S10.004	SNW2A-12			7.5	OK	
S10.005	SNW2A-13			7.7	OK	

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.006	SNW2A-14			6.4	OK	
S10.007	SNW2A-15			7.0	SURCHARGED	7
S9.003	SNW2A-16			23.8	OK	
S11.000	SNW2A-17			26.8	OK	3
S11.001	SNW2A-18			24.2	OK	3
S11.002	SNW2A-19			34.5	OK	5
S11.003	SNW2A-20			33.2	OK	
S11.004	SNW2A-21			34.4	OK	9
S11.005	SNW2A-22			33.0	OK	11
S11.006	SNW2A-23			36.4	SURCHARGED	11
S11.007	SNW2A-24			36.0	SURCHARGED	11
S11.008	SNW2A-25			39.5	SURCHARGED	13
S8.004	SNW2A-26			89.9	OK	
S12.000	SNW2A-27			19.4	OK	3
S12.001	SNW2A-28			34.4	OK	8
S12.002	SNW2A-29			40.8	OK	9
S12.003	SNW2A-30			48.7	OK	4
S12.004	SNW2A-31			49.4	OK	9
S12.005	SNW2A-32			41.6	SURCHARGED	12
S8.005	SNW2A-33			121.1	OK	
S8.006	SNW2A-34			116.4	OK	
S8.007	SNW2A-35			110.1	OK	
S8.008	SNW2A-36			105.7	OK	
S8.009	SNW2A-37			103.1	OK	
S8.010	SNW2A-38			103.0	SURCHARGED	
S8.011	SNW2A-39			103.0	SURCHARGED	
S8.012	SNW2A-40			103.0	OK	
S8.013	SEX-MH136			103.0	OK*	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 5 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.233
FEH Rainfall Version	1999	E (1km)	0.299
Site Location	GB 438400 279200 SP 38400 79200	F (1km)	2.381
C (1km)	-0.025	Cv (Summer)	0.900
D1 (1km)	0.382	Cv (Winter)	0.900
D2 (1km)	0.332		

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 20, 20, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
S8.000	SNW2A-1	15 Summer	5	+20%	100/15 Summer				73.191	-0.119	0.000	0.66
S8.001	SNW2A-2	15 Summer	5	+20%	100/15 Summer				72.907	-0.123	0.000	0.64
S8.002	SNW2A-3	15 Summer	5	+20%	100/15 Summer				72.559	-0.191	0.000	0.47
S8.003	SNW2A-4	15 Summer	5	+20%	100/15 Summer				72.086	-0.199	0.000	0.45
S9.000	SNW2A-5	15 Summer	5	+20%	100/15 Summer				73.075	-0.265	0.000	0.19
S9.001	SNW2A-6	30 Summer	5	+20%	5/15 Summer				73.013	0.338	0.000	0.14
S9.002	SNW2A-7	15 Summer	5	+20%	1/15 Summer	100/15 Summer			73.002	0.992	0.000	0.20
S10.000	SNW2A-8	15 Summer	5	+20%					74.149	-0.191	0.000	0.05
S10.001	SNW2A-9	15 Summer	5	+20%	100/15 Summer				73.662	-0.228	0.000	0.12
S10.002	SNW2A-10	15 Summer	5	+20%	100/15 Summer				73.309	-0.200	0.000	0.23
S10.003	SNW2A-11	15 Summer	5	+20%	100/15 Summer				73.229	-0.187	0.000	0.29
S10.004	SNW2A-12	60 Summer	5	+20%	100/15 Summer				73.104	-0.171	0.000	0.24
S10.005	SNW2A-13	60 Summer	5	+20%	100/15 Summer				73.096	-0.081	0.000	0.19
S10.006	SNW2A-14	60 Summer	5	+20%	5/60 Summer				73.087	0.000	0.000	0.10
S10.007	SNW2A-15	60 Summer	5	+20%	1/15 Summer	100/15 Summer			73.077	0.266	0.000	0.09
S9.003	SNW2A-16	60 Summer	5	+20%	100/15 Summer				71.827	-0.038	0.000	0.22
S11.000	SNW2A-17	30 Summer	5	+20%	100/15 Summer	100/15 Summer			73.511	-0.009	0.000	0.48
S11.001	SNW2A-18	30 Summer	5	+20%	5/30 Summer	100/15 Summer			73.504	0.085	0.000	0.43
S11.002	SNW2A-19	30 Summer	5	+20%	5/15 Summer	100/15 Summer			73.496	0.177	0.000	0.56
S11.003	SNW2A-20	30 Summer	5	+20%	5/15 Summer				73.481	0.262	0.000	0.48
S11.004	SNW2A-21	30 Summer	5	+20%	5/15 Summer	100/15 Summer			73.471	0.302	0.000	0.50
S11.005	SNW2A-22	30 Summer	5	+20%	5/15 Summer	100/15 Summer			73.449	0.420	0.000	0.50
S11.006	SNW2A-23	30 Summer	5	+20%	1/30 Summer	100/15 Summer			73.419	0.515	0.000	0.61
S11.007	SNW2A-24	30 Summer	5	+20%	1/15 Summer	100/15 Summer			73.380	0.567	0.000	0.59
S11.008	SNW2A-25	30 Summer	5	+20%	1/15 Summer	100/15 Summer			73.340	0.617	0.000	0.30
S8.004	SNW2A-26	60 Summer	5	+20%	100/15 Summer				71.818	-0.002	0.000	0.75
S12.000	SNW2A-27	15 Summer	5	+20%	100/15 Summer	100/15 Summer			74.118	-0.112	0.000	0.49
S12.001	SNW2A-28	15 Summer	5	+20%	100/15 Summer	100/15 Summer			72.880	-0.105	0.000	0.74
S12.002	SNW2A-29	30 Summer	5	+20%	5/30 Summer	100/15 Summer			72.820	0.014	0.000	0.80
S12.003	SNW2A-30	30 Summer	5	+20%	5/15 Summer	100/15 Summer			72.800	0.123	0.000	0.92
S12.004	SNW2A-31	30 Summer	5	+20%	5/15 Summer	100/15 Summer			72.764	0.267	0.000	0.48
S12.005	SNW2A-32	30 Summer	5	+20%	1/30 Summer	100/15 Summer			72.723	0.406	0.000	0.26
S8.005	SNW2A-33	60 Summer	5	+20%	5/30 Summer				71.790	0.048	0.000	0.68
S8.006	SNW2A-34	60 Summer	5	+20%	5/30 Summer				71.758	0.070	0.000	0.65
S8.007	SNW2A-35	60 Summer	5	+20%	5/15 Summer				71.726	0.093	0.000	0.63
S8.008	SNW2A-36	60 Summer	5	+20%	5/15 Summer				71.693	0.115	0.000	0.63
S8.009	SNW2A-37	60 Summer	5	+20%	5/15 Summer				71.660	0.140	0.000	0.91
S8.010	SNW2A-38	60 Summer	5	+20%	1/60 Summer				71.634	0.143	0.000	0.65
S8.011	SNW2A-39	60 Summer	5	+20%	1/30 Summer				71.603	0.161	0.000	0.70
S8.012	SNW2A-40	60 Summer	5	+20%					70.978	-0.421	0.000	0.20
S8.013	SEX-MH136	60 Summer	5	+20%	5/30 Summer				70.504	0.076	0.000	1.14

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S8.000	SNW2A-1			54.0	OK	
S8.001	SNW2A-2			52.6	OK	
S8.002	SNW2A-3			85.5	OK	
S8.003	SNW2A-4			85.8	OK	
S9.000	SNW2A-5			37.3	OK	
S9.001	SNW2A-6			28.8	SURCHARGED	
S9.002	SNW2A-7			24.3	FLOOD RISK	13
S10.000	SNW2A-8			2.6	OK	
S10.001	SNW2A-9			7.2	OK	
S10.002	SNW2A-10			9.6	OK	
S10.003	SNW2A-11			12.1	OK	
S10.004	SNW2A-12			10.1	OK	
S10.005	SNW2A-13			7.7	OK	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.006	SNW2A-14			6.6	SURCHARGED	
S10.007	SNW2A-15			8.5	SURCHARGED	7
S9.003	SNW2A-16			28.4	OK	
S11.000	SNW2A-17			39.3	OK	3
S11.001	SNW2A-18			35.1	SURCHARGED	3
S11.002	SNW2A-19			46.4	SURCHARGED	5
S11.003	SNW2A-20			36.9	SURCHARGED	
S11.004	SNW2A-21			41.9	SURCHARGED	9
S11.005	SNW2A-22			41.5	SURCHARGED	11
S11.006	SNW2A-23			49.9	SURCHARGED	11
S11.007	SNW2A-24			48.3	SURCHARGED	11
S11.008	SNW2A-25			56.8	SURCHARGED	13
S8.004	SNW2A-26			126.5	OK	
S12.000	SNW2A-27			31.9	OK	3
S12.001	SNW2A-28			56.7	OK	8
S12.002	SNW2A-29			60.2	SURCHARGED	9
S12.003	SNW2A-30			70.3	SURCHARGED	4
S12.004	SNW2A-31			59.1	SURCHARGED	9
S12.005	SNW2A-32			58.0	SURCHARGED	12
S8.005	SNW2A-33			154.7	SURCHARGED	
S8.006	SNW2A-34			147.7	SURCHARGED	
S8.007	SNW2A-35			143.4	SURCHARGED	
S8.008	SNW2A-36			143.9	SURCHARGED	
S8.009	SNW2A-37			143.9	SURCHARGED	
S8.010	SNW2A-38			143.5	SURCHARGED	
S8.011	SNW2A-39			142.9	SURCHARGED	
S8.012	SNW2A-40			143.2	OK	
S8.013	SEX-MH136			143.5	SURCHARGED*	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 5 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH D3 (1km) 0.233
FEH Rainfall Version 1999 E (1km) 0.299
Site Location GB 438400 279200 SP 38400 79200 F (1km) 2.381
C (1km) -0.025 Cv (Summer) 0.900
D1 (1km) 0.382 Cv (Winter) 0.900
D2 (1km) 0.332

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1, 5, 100
Climate Change (%) 20, 20, 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
S8.000	SNW2A-1	15 Summer	100	+20%	100/15 Summer				74.620	1.310	0.000	1.62
S8.001	SNW2A-2	15 Summer	100	+20%	100/15 Summer				73.865	0.835	0.000	1.59
S8.002	SNW2A-3	15 Summer	100	+20%	100/15 Summer				73.168	0.418	0.000	1.20
S8.003	SNW2A-4	60 Summer	100	+20%	100/15 Summer				72.790	0.505	0.000	0.69
S9.000	SNW2A-5	15 Summer	100	+20%	100/15 Summer				73.586	0.246	0.000	0.52
S9.001	SNW2A-6	15 Summer	100	+20%	5/15 Summer				73.407	0.732	0.000	0.51
S9.002	SNW2A-7	30 Summer	100	+20%	1/15 Summer	100/15 Summer			73.256	1.246	46.173	0.21
S10.000	SNW2A-8	15 Summer	100	+20%					74.174	-0.166	0.000	0.15
S10.001	SNW2A-9	30 Summer	100	+20%	100/15 Summer				74.139	0.249	0.000	0.29
S10.002	SNW2A-10	30 Summer	100	+20%	100/15 Summer				74.127	0.618	0.000	0.44
S10.003	SNW2A-11	30 Summer	100	+20%	100/15 Summer				74.111	0.695	0.000	0.38
S10.004	SNW2A-12	30 Summer	100	+20%	100/15 Summer				74.087	0.812	0.000	0.36
S10.005	SNW2A-13	30 Summer	100	+20%	100/15 Summer				74.064	0.886	0.000	0.35
S10.006	SNW2A-14	30 Summer	100	+20%	5/60 Summer				74.040	0.953	0.000	0.23
S10.007	SNW2A-15	60 Summer	100	+20%	1/15 Summer	100/15 Summer			74.014	1.204	3.753	0.15
S9.003	SNW2A-16	30 Summer	100	+20%	100/15 Summer				72.711	0.846	0.000	0.30
S11.000	SNW2A-17	15 Summer	100	+20%	100/15 Summer	100/15 Summer			74.946	1.426	6.010	1.04
S11.001	SNW2A-18	15 Summer	100	+20%	5/30 Summer	100/15 Summer			74.836	1.417	0.462	1.00
S11.002	SNW2A-19	30 Summer	100	+20%	5/15 Summer	100/15 Summer			74.734	1.415	3.904	1.35
S11.003	SNW2A-20	30 Summer	100	+20%	5/15 Summer				74.560	1.341	0.000	1.44
S11.004	SNW2A-21	30 Summer	100	+20%	5/15 Summer	100/15 Summer			74.465	1.296	34.743	0.92
S11.005	SNW2A-22	60 Summer	100	+20%	5/15 Summer	100/15 Summer			74.352	1.324	32.004	0.85
S11.006	SNW2A-23	30 Summer	100	+20%	1/30 Summer	100/15 Summer			74.269	1.366	18.892	1.13
S11.007	SNW2A-24	60 Summer	100	+20%	1/15 Summer	100/15 Summer			74.170	1.357	20.481	1.00
S11.008	SNW2A-25	120 Summer	100	+20%	1/15 Summer	100/15 Summer			74.089	1.366	39.457	0.41
S8.004	SNW2A-26	30 Summer	100	+20%	100/15 Summer				72.700	0.880	0.000	1.38
S12.000	SNW2A-27	15 Summer	100	+20%	100/15 Summer	100/15 Summer			75.433	1.203	2.654	0.99
S12.001	SNW2A-28	15 Summer	100	+20%	100/15 Summer	100/15 Summer			74.213	1.228	27.911	1.13
S12.002	SNW2A-29	15 Summer	100	+20%	5/30 Summer	100/15 Summer			74.126	1.321	26.359	1.13
S12.003	SNW2A-30	15 Summer	100	+20%	5/15 Summer	100/15 Summer			74.144	1.467	4.270	1.44
S12.004	SNW2A-31	30 Winter	100	+20%	5/15 Summer	100/15 Summer			73.765	1.268	14.749	0.92
S12.005	SNW2A-32	60 Summer	100	+20%	1/30 Summer	100/15 Summer			73.660	1.343	70.072	0.38
S8.005	SNW2A-33	30 Summer	100	+20%	5/30 Summer				72.601	0.859	0.000	1.23
S8.006	SNW2A-34	30 Summer	100	+20%	5/30 Summer				72.541	0.853	0.000	1.21
S8.007	SNW2A-35	30 Summer	100	+20%	5/15 Summer				72.478	0.845	0.000	1.18
S8.008	SNW2A-36	30 Summer	100	+20%	5/15 Summer				72.412	0.834	0.000	1.16
S8.009	SNW2A-37	30 Summer	100	+20%	5/15 Summer				72.340	0.820	0.000	1.67
S8.010	SNW2A-38	30 Summer	100	+20%	1/60 Summer				72.292	0.801	0.000	1.18
S8.011	SNW2A-39	30 Summer	100	+20%	1/30 Summer				72.225	0.783	0.000	1.29
S8.012	SNW2A-40	30 Summer	100	+20%					71.046	-0.353	0.000	0.36
S8.013	SEX-MH136	15 Summer	100	+20%	5/30 Summer				70.628	0.200	0.000	2.00

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S8.000	SNW2A-1			133.1	SURCHARGED	
S8.001	SNW2A-2			130.8	SURCHARGED	
S8.002	SNW2A-3			219.0	SURCHARGED	
S8.003	SNW2A-4			132.3	SURCHARGED	
S9.000	SNW2A-5			104.0	SURCHARGED	
S9.001	SNW2A-6			102.8	FLOOD RISK	
S9.002	SNW2A-7			26.1	FLOOD	13
S10.000	SNW2A-8			7.1	OK	
S10.001	SNW2A-9			17.8	SURCHARGED	
S10.002	SNW2A-10			18.3	SURCHARGED	
S10.003	SNW2A-11			16.1	SURCHARGED	
S10.004	SNW2A-12			14.8	SURCHARGED	
S10.005	SNW2A-13			14.3	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.006	SNW2A-14			14.6	SURCHARGED	
S10.007	SNW2A-15			14.2	FLOOD	7
S9.003	SNW2A-16			39.5	SURCHARGED	
S11.000	SNW2A-17			85.4	FLOOD	3
S11.001	SNW2A-18			82.7	FLOOD	3
S11.002	SNW2A-19			111.2	FLOOD	5
S11.003	SNW2A-20			110.8	FLOOD RISK	
S11.004	SNW2A-21			77.3	FLOOD	9
S11.005	SNW2A-22			71.0	FLOOD	11
S11.006	SNW2A-23			92.0	FLOOD	11
S11.007	SNW2A-24			80.9	FLOOD	11
S11.008	SNW2A-25			77.6	FLOOD	13
S8.004	SNW2A-26			233.6	SURCHARGED	
S12.000	SNW2A-27			64.4	FLOOD	3
S12.001	SNW2A-28			86.4	FLOOD	8
S12.002	SNW2A-29			85.2	FLOOD	9
S12.003	SNW2A-30			110.0	FLOOD	4
S12.004	SNW2A-31			113.0	FLOOD	9
S12.005	SNW2A-32			83.1	FLOOD	12
S8.005	SNW2A-33			279.4	SURCHARGED	
S8.006	SNW2A-34			275.1	SURCHARGED	
S8.007	SNW2A-35			269.9	SURCHARGED	
S8.008	SNW2A-36			267.0	SURCHARGED	
S8.009	SNW2A-37			264.6	SURCHARGED	
S8.010	SNW2A-38			262.8	SURCHARGED	
S8.011	SNW2A-39			262.6	SURCHARGED	
S8.012	SNW2A-40			262.4	OK	
S8.013	SEX-MH136			252.5	SURCHARGED*	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes A46 pipe Manhole Sizes A46 manholes

FEH Rainfall Model

Return Period (years)	1
FEH Rainfall Version	1999
Site Location GB 438400 279200 SP 38400 79200	
C (1km)	-0.025
D1 (1km)	0.382
D2 (1km)	0.332
D3 (1km)	0.233
E (1km)	0.299
F (1km)	2.381
Maximum Rainfall (mm/hr)	300
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.900
PIMP (%)	100
Add Flow / Climate Change (%)	25
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	0.75
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S23.000	48.799	1.440	33.9	0.482	5.00	0.0	1.500		1.5 _/	500	1:1.5 Ditch	
S23.001	85.232	0.001	85231.9	0.000	0.00	0.0	1.500		o	300	Pipe/Conduit	
S24.000	18.573	0.472	39.3	0.032	5.00	0.0	0.600		o	150	Pipe/Conduit	
S24.001	43.042	2.380	18.1	0.100	0.00	0.0	0.600		o	150	Pipe/Conduit	
S24.002	43.224	2.380	18.2	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	
S24.003	35.984	2.296	15.7	0.066	0.00	0.0	1.500		o	150	Pipe/Conduit	
S25.000	29.489	0.059	499.8	0.052	5.00	0.0	0.600		o	225	Pipe/Conduit	
S25.001	13.139	0.131	100.3	0.003	0.00	0.0	0.600		o	225	Pipe/Conduit	
S25.002	13.393	0.414	32.4	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S26.000	19.677	0.128	153.7	0.022	5.00	0.0	1.500		o	150	Pipe/Conduit	
S27.000	36.594	0.285	128.4	0.049	5.00	0.0	1.500		o	150	Pipe/Conduit	
S28.000	34.730	0.350	99.2	0.125	5.00	0.0	1.500		o	225	Pipe/Conduit	
S27.001	15.812	0.303	52.2	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S26.001	16.474	0.032	515.3	0.006	0.00	0.0	1.500		o	300	Pipe/Conduit	
S26.002	15.014	0.030	496.5	0.005	0.00	0.0	1.500		o	300	Pipe/Conduit	
S26.003	15.195	0.031	497.7	0.006	0.00	0.0	1.500		o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S23.000	49.32	5.15	74.170	0.482	0.0	0.0	19.3	5.43	3393.7	96.6
S23.001	16.60	30.00	72.730	0.482	0.0	0.0	19.3	0.04	3.1«	96.6
S24.000	49.07	5.19	80.823	0.032	0.0	0.0	1.3	1.61	28.4	6.4
S24.001	47.39	5.49	80.351	0.132	0.0	0.0	5.1	2.38	42.1	25.4
S24.002	45.84	5.80	77.971	0.132	0.0	0.0	5.1	2.37	42.0	25.4
S24.003	44.57	6.07	75.591	0.199	0.0	0.0	7.2	2.22	39.2	35.9
S25.000	45.59	5.85	80.895	0.052	0.0	0.0	1.9	0.58	23.0	9.6
S25.001	44.80	6.02	80.836	0.055	0.0	0.0	2.0	1.31	51.9	9.9
S25.002	44.36	6.11	80.705	0.055	0.0	0.0	2.0	2.31	91.8	9.9
S26.000	47.55	5.46	80.660	0.022	0.0	0.0	0.8	0.71	12.5	4.2
S27.000	45.88	5.79	81.120	0.049	0.0	0.0	1.8	0.77	13.6	9.1
S28.000	47.35	5.50	81.110	0.125	0.0	0.0	4.8	1.15	45.8	24.1
S27.001	45.18	5.93	80.760	0.174	0.0	0.0	6.4	1.81	72.2	32.0
S26.001	43.18	6.39	80.382	0.202	0.0	0.0	7.1	0.61	43.0	35.5
S26.002	41.58	6.79	80.350	0.208	0.0	0.0	7.1	0.62	43.8	35.5
S26.003	40.10	7.20	80.320	0.213	0.0	0.0	7.1	0.62	43.7	35.5

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S26.004	18.010	0.036	500.0	0.017	0.00	0.0	1.500		o	300	Pipe/Conduit	
S26.005	20.064	0.038	532.1	0.018	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.003	44.545	1.810	24.6	0.054	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.004	45.481	2.291	19.9	0.042	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.005	45.512	2.080	21.9	0.041	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.006	36.792	0.088	416.8	0.040	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.007	9.741	0.019	512.7	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S25.008	88.604	0.191	463.9	0.109	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.009	50.064	0.100	500.6	0.212	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.010	50.064	0.100	500.6	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S29.000	52.516	0.112	467.7	0.150	5.00	0.0	0.600		o	300	Pipe/Conduit	
S29.001	43.361	0.093	467.7	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S29.002	50.095	0.241	207.7	0.160	0.00	0.0	0.600		o	300	Pipe/Conduit	
S29.003	50.219	0.242	207.7	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S29.004	11.810	0.024	492.1	0.000	0.00	0.0	1.500		o	375	Pipe/Conduit	
S25.011	90.000	0.178	505.6	0.213	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.012	78.999	0.138	572.5	0.125	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.013	30.928	0.052	594.8	0.000	0.00	0.0	1.500		o	600	Pipe/Conduit	
S30.000	48.741	0.097	501.4	0.141	5.00	0.0	0.600		o	375	Pipe/Conduit	
S30.001	49.238	0.098	502.4	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S30.002	50.027	0.100	498.7	0.121	0.00	0.0	0.600		o	375	Pipe/Conduit	
S30.003	50.027	0.100	498.7	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S31.000	19.536	0.110	177.6	0.012	5.00	0.0	0.600		o	150	Pipe/Conduit	
S31.001	9.424	0.053	177.8	0.005	0.00	0.0	0.600		o	150	Pipe/Conduit	
S31.002	16.373	0.197	83.1	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	
S31.003	10.400	0.168	61.9	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	
S31.004	33.615	1.550	21.7	0.092	0.00	0.0	1.500		o	150	Pipe/Conduit	
S31.005	33.849	1.590	21.3	0.037	0.00	0.0	1.500		o	150	Pipe/Conduit	
S31.006	33.811	1.250	27.0	0.032	0.00	0.0	1.500		o	150	Pipe/Conduit	
S31.007	82.683	1.355	61.0	0.077	0.00	0.0	1.500		o	225	Pipe/Conduit	
S31.008	9.822	0.240	40.9	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S31.009	99.013	0.330	300.0	0.020	0.00	0.0	1.500		o	300	Pipe/Conduit	
S31.010	100.895	0.202	500.0	0.098	0.00	0.0	1.500		o	300	Pipe/Conduit	
S31.011	99.988	0.208	480.7	0.143	0.00	0.0	1.500		o	375	Pipe/Conduit	
S31.012	101.179	0.202	500.0	0.051	0.00	0.0	1.500		o	375	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S26.004	38.51	7.69	80.289	0.230	0.0	0.0	7.2	0.62	43.6	36.0
S26.005	36.88	8.24	80.253	0.248	0.0	0.0	7.4	0.60	42.3	37.1
S25.003	36.16	8.51	80.216	0.356	0.0	0.0	10.5	2.80	198.0	52.3
S25.004	35.54	8.75	78.406	0.398	0.0	0.0	11.5	3.12	220.5	57.4
S25.005	34.91	9.01	76.115	0.438	0.0	0.0	12.4	2.97	210.0	62.2
S25.006	33.60	9.59	73.735	0.478	0.0	0.0	13.1	1.06	299.8	65.3
S25.007	33.27	9.74	73.646	0.478	0.0	0.0	13.1	1.07	302.1	65.3
S25.008	30.50	11.21	73.627	0.588	0.0	0.0	14.6	1.00	284.1	72.8
S25.009	29.14	12.07	73.436	0.800	0.0	0.0	18.9	0.97	273.4	94.7
S25.010	28.04	12.84	73.336	0.800	0.0	0.0	18.9	1.08	305.8	94.7
S29.000	43.91	6.21	74.220	0.150	0.0	0.0	5.4	0.72	50.9	26.8
S29.001	40.04	7.22	74.108	0.150	0.0	0.0	5.4	0.72	50.9	26.8
S29.002	37.61	7.99	74.015	0.310	0.0	0.0	9.5	1.09	76.8	47.4
S29.003	35.53	8.76	73.774	0.310	0.0	0.0	9.5	1.09	76.8	47.4
S29.004	34.86	9.03	73.457	0.310	0.0	0.0	9.5	0.72	79.5	47.4
S25.011	26.13	14.40	73.236	1.323	0.0	0.0	28.1	0.96	272.1	140.4
S25.012	24.62	15.86	73.058	1.448	0.0	0.0	29.0	0.90	255.6	144.8
S25.013	24.07	16.44	72.920	1.448	0.0	0.0	29.0	0.89	250.7	144.8
S30.000	44.82	6.01	73.735	0.141	0.0	0.0	5.1	0.80	88.6	25.7
S30.001	40.67	7.04	73.638	0.141	0.0	0.0	5.1	0.80	88.5	25.7
S30.002	37.36	8.07	73.539	0.262	0.0	0.0	7.9	0.80	88.9	39.7
S30.003	34.67	9.11	73.439	0.262	0.0	0.0	7.9	0.80	88.9	39.7
S31.000	47.72	5.43	81.183	0.012	0.0	0.0	0.5	0.75	13.3	2.4
S31.001	46.62	5.64	81.073	0.017	0.0	0.0	0.6	0.75	13.3	3.2
S31.002	45.40	5.89	81.020	0.017	0.0	0.0	0.6	1.10	19.5	3.2
S31.003	44.76	6.03	80.823	0.017	0.0	0.0	0.6	1.28	22.6	3.2
S31.004	43.45	6.32	80.655	0.109	0.0	0.0	3.9	1.89	33.3	19.3
S31.005	42.24	6.62	79.105	0.147	0.0	0.0	5.0	1.90	33.7	25.2
S31.006	40.97	6.95	77.515	0.178	0.0	0.0	5.9	1.69	29.8	29.7
S31.007	37.90	7.89	76.190	0.256	0.0	0.0	7.9	1.47	58.5	39.4
S31.008	37.66	7.97	74.835	0.256	0.0	0.0	7.9	2.05	81.5	39.4
S31.009	32.66	10.04	74.520	0.276	0.0	0.0	7.9	0.80	56.4	39.4
S31.010	28.15	12.76	74.190	0.375	0.0	0.0	8.6	0.62	43.6	42.9
S31.011	25.43	15.05	73.913	0.518	0.0	0.0	10.7	0.73	80.5	53.5
S31.012	23.24	17.41	73.705	0.569	0.0	0.0	10.7	0.71	78.9	53.7

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S32.000	14.556	0.081	180.1	0.006	5.00	0.0	0.600		o	225	Pipe/Conduit	
S32.001	15.037	0.086	175.5	0.006	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.002	10.841	0.184	58.9	0.004	0.00	0.0	0.600		o	225	Pipe/Conduit	
S33.000	21.707	0.140	155.0	0.049	5.00	0.0	0.600		o	225	Pipe/Conduit	
S34.000	22.095	0.135	163.7	0.144	5.00	0.0	0.600		o	225	Pipe/Conduit	
S33.001	14.630	0.205	71.4	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.003	11.918	0.117	101.8	0.005	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.004	20.308	0.199	102.3	0.014	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.005	18.076	0.334	54.1	0.015	0.00	0.0	1.500		o	225	Pipe/Conduit	
S32.006	45.502	2.292	19.9	0.104	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.007	45.031	2.292	19.6	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.008	50.708	1.592	31.9	0.052	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.009	10.070	0.462	21.8	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S31.013	11.672	0.164	71.2	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S30.004	12.730	0.231	55.1	0.000	0.00	0.0	0.600		o	450	Pipe/Conduit	
S25.014	14.080	0.023	612.2	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S24.004	22.481	0.115	195.5	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S24.005	56.069	0.001	56069.4	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S23.002	5.000	0.001	5000.1	0.000	0.00	0.0	1.500		o	600	Pipe/Conduit	
S23.003	27.916	0.056	498.5	0.000	0.00	0.0	0.600		o	675	Pipe/Conduit	
S35.000	4.543	0.009	504.7	0.055	5.00	0.0	1.500		o	150	Pipe/Conduit	
S35.001	4.546	0.009	505.2	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S35.002	60.939	1.360	44.8	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S36.000	4.379	0.009	486.5	0.584	5.00	0.0	1.500		o	150	Pipe/Conduit	
S36.001	3.893	0.008	486.6	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S35.003	87.363	2.700	32.4	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S37.000	5.719	0.011	519.9	0.301	5.00	0.0	1.500		o	150	Pipe/Conduit	
S37.001	5.699	0.011	518.1	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S32.000	48.74	5.25	81.291	0.006	0.0	0.0	0.2	0.97	38.6	1.1
S32.001	47.34	5.50	81.210	0.011	0.0	0.0	0.4	0.98	39.1	2.2
S32.002	46.78	5.61	81.124	0.016	0.0	0.0	0.6	1.71	67.9	2.9
S33.000	48.20	5.35	81.285	0.049	0.0	0.0	1.9	1.05	41.7	9.6
S34.000	48.11	5.36	81.280	0.144	0.0	0.0	5.6	1.02	40.5	28.2
S33.001	47.26	5.52	81.145	0.193	0.0	0.0	7.4	1.55	61.6	37.1
S32.003	46.01	5.76	80.940	0.214	0.0	0.0	8.0	1.30	51.5	40.0
S32.004	44.76	6.03	80.823	0.228	0.0	0.0	8.3	1.29	51.4	41.5
S32.005	43.90	6.22	80.624	0.243	0.0	0.0	8.7	1.56	62.1	43.4
S32.006	42.81	6.48	80.290	0.348	0.0	0.0	12.1	2.95	117.3	60.5
S32.007	41.81	6.73	77.999	0.348	0.0	0.0	12.1	2.97	117.9	60.5
S32.008	40.47	7.09	75.707	0.399	0.0	0.0	13.1	2.33	92.5	65.7
S32.009	40.32	7.13	73.965	0.399	0.0	0.0	13.1	3.90	430.3	65.7
S31.013	23.16	17.50	73.503	0.968	0.0	0.0	18.2	2.15	237.5	91.1
S30.004	23.10	17.57	73.264	1.230	0.0	0.0	23.1	2.74	436.3	115.4
S25.014	22.91	17.82	72.868	2.678	0.0	0.0	49.8	0.98	276.2	249.2
S24.004	22.74	18.03	72.845	2.876	0.0	0.0	53.1	1.74	491.5	265.7
S24.005	17.34	27.94	72.730	2.876	0.0	0.0	53.1	0.09	26.7«	265.7
S23.002	16.60	30.00	72.730	3.359	0.0	0.0	53.1	0.30	85.6«	265.7
S23.003	16.60	30.00	72.730	3.359	0.0	0.0	53.1	1.17	417.6	265.7
S35.000	49.06	5.20	79.190	0.055	0.0	0.0	2.2	0.39	6.8«	10.9
S35.001	47.95	5.39	79.181	0.055	0.0	0.0	2.2	0.39	6.8«	10.9
S35.002	44.13	6.17	78.040	0.055	0.0	0.0	2.2	1.31	23.2	10.9
S36.000	49.12	5.19	77.830	0.584	0.0	0.0	23.3	0.39	7.0«	116.6
S36.001	48.18	5.35	77.821	0.584	0.0	0.0	23.3	0.39	7.0«	116.6
S35.003	41.22	6.89	76.605	0.639	0.0	0.0	23.3	2.02	80.4«	116.6
S37.000	48.74	5.25	76.941	0.301	0.0	0.0	11.9	0.38	6.7«	59.6
S37.001	47.37	5.50	76.930	0.301	0.0	0.0	11.9	0.38	6.7«	59.6

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S38.000	5.268	0.012	439.0	0.086	5.00	0.0	1.500		o	150	Pipe/Conduit	
S38.001	4.798	0.011	436.2	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S38.002	26.447	0.350	75.6	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S39.000	5.552	0.011	504.7	0.127	5.00	0.0	1.500		o	150	Pipe/Conduit	
S39.001	5.298	0.011	481.6	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S38.003	43.665	1.280	34.1	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S40.000	4.592	0.009	510.2	0.945	5.00	0.0	1.500		o	150	Pipe/Conduit	
S40.001	5.073	0.010	507.3	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S38.004	76.231	0.630	121.0	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S37.002	59.094	0.118	500.8	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S41.000	5.118	0.010	511.8	0.418	5.00	0.0	1.500		o	150	Pipe/Conduit	
S41.001	5.304	0.011	482.2	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S37.003	87.986	1.842	47.8	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S35.004	48.257	0.355	135.9	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S42.000	110.228	1.290	85.4	0.000	5.00	0.0	1.500		o	150	Pipe/Conduit	
S42.001	33.213	2.465	13.5	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S43.000	76.950	0.155	496.5	0.000	5.00	0.0	1.500		o	150	Pipe/Conduit	
S35.005	44.921	0.090	499.1	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S35.006	38.520	0.336	114.6	0.205	0.00	0.0	0.600		o	300	Pipe/Conduit	
S23.004	48.901	0.099	494.0	0.000	0.00	0.0	0.600		o	675	Pipe/Conduit	
S23.005	30.147	0.060	502.4	0.000	0.00	0.0	1.500	2	_/	500	1:2 Ditch	
S23.006	37.360	0.075	500.0	0.000	0.00	0.0	1.500	2	_/	500	1:2 Ditch	
S23.007	23.001	0.046	500.0	0.000	0.00	0.0	1.500	2	_/	500	1:2 Ditch	
S23.008	17.619	0.035	500.0	0.000	0.00	0.0	1.500	2	_/	500	1:2 Ditch	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S38.000	48.96	5.21	79.248	0.086	0.0	0.0	3.4	0.42	7.3«	17.2
S38.001	47.88	5.40	79.236	0.086	0.0	0.0	3.4	0.42	7.4«	17.2
S38.002	45.63	5.84	78.200	0.086	0.0	0.0	3.4	1.01	17.8	17.2
S39.000	48.80	5.24	78.857	0.127	0.0	0.0	5.0	0.39	6.8«	25.2
S39.001	47.56	5.46	78.846	0.127	0.0	0.0	5.0	0.40	7.0«	25.2
S38.003	43.44	6.32	77.850	0.213	0.0	0.0	7.5	1.50	26.6«	37.6
S40.000	49.04	5.20	77.571	0.945	0.0	0.0	37.6	0.38	6.8«	188.2
S40.001	47.80	5.42	77.562	0.945	0.0	0.0	37.6	0.39	6.8«	188.2
S38.004	38.96	7.54	76.495	1.158	0.0	0.0	37.6	1.04	41.5«	188.2
S37.002	33.84	9.47	75.865	1.459	0.0	0.0	40.1	0.51	20.3«	200.6
S41.000	48.90	5.22	75.550	0.418	0.0	0.0	16.6	0.38	6.8«	83.0
S41.001	47.65	5.45	75.540	0.418	0.0	0.0	16.6	0.40	7.0«	83.0
S37.003	32.03	10.36	75.747	1.877	0.0	0.0	48.8	1.66	66.1«	244.2
S35.004	30.94	10.95	73.830	2.516	0.0	0.0	63.2	1.35	95.2«	316.2
S42.000	41.03	6.94	77.380	0.000	0.0	0.0	0.0	0.95	16.8	0.0
S42.001	40.20	7.17	76.090	0.000	0.0	0.0	0.0	2.40	42.3	0.0
S43.000	36.76	8.29	73.780	0.000	0.0	0.0	0.0	0.39	6.9	0.0
S35.005	29.20	12.03	73.475	2.516	0.0	0.0	63.2	0.70	49.3«	316.2
S35.006	28.57	12.46	73.385	2.720	0.0	0.0	63.2	1.47	103.7«	316.2
S23.004	16.60	30.00	72.674	6.079	0.0	0.0	82.0	1.17	419.5	409.9
S23.005	16.60	30.00	72.540	6.079	0.0	0.0	82.0	0.01	9.4«	409.9
S23.006	16.60	30.00	72.480	6.079	0.0	0.0	82.0	0.01	9.4«	409.9
S23.007	16.60	30.00	72.405	6.079	0.0	0.0	82.0	0.01	9.4«	409.9
S23.008	16.60	30.00	72.359	6.079	0.0	0.0	82.0	0.01	3.1«	409.9

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
SNW2B-72	74.670	0.500	Junction		S23.000	74.170	500				
SNW2B-Pond-HW-B	75.110	2.380	Junction		S23.001	72.730	300	S23.000	72.730	500	
SNW2B-1	82.287	1.464	Open Manhole	1050	S24.000	80.823	150				
SNW2B-2	81.645	1.294	Open Manhole	1050	S24.001	80.351	150	S24.000	80.351	150	
SNW2B-3	81.770	3.799	Open Manhole	1050	S24.002	77.971	150	S24.001	77.971	150	
SNW2B-4	81.770	6.179	Open Manhole	1050	S24.003	75.591	150	S24.002	75.591	150	
SNW2B-6	82.418	1.523	Open Manhole	1050	S25.000	80.895	225				
SNW2B-7	82.470	1.634	Open Manhole	1050	S25.001	80.836	225	S25.000	80.836	225	
SNW2B-8	82.230	1.525	Open Manhole	1050	S25.002	80.705	225	S25.001	80.705	225	
SNW2B-21	82.010	1.350	Open Manhole	1050	S26.000	80.660	150				
SNW2B-27	82.470	1.350	Open Manhole	1050	S27.000	81.120	150				
SNW2B-29	82.460	1.350	Open Manhole	1050	S28.000	81.110	225				
SNW2B-28	82.260	1.500	Open Manhole	1050	S27.001	80.760	225	S27.000	80.835	150	
								S28.000	80.760	225	
SNW2B-22	82.100	1.718	Open Manhole	1050	S26.001	80.382	300	S26.000	80.532	150	
								S27.001	80.457	225	
SNW2B-23	82.140	1.790	Open Manhole	1050	S26.002	80.350	300	S26.001	80.350	300	
SNW2B-24	82.200	1.880	Open Manhole	1050	S26.003	80.320	300	S26.002	80.320	300	
SNW2B-25	82.260	1.971	Open Manhole	1050	S26.004	80.289	300	S26.003	80.289	300	
SNW2B-26	82.250	1.997	Open Manhole	1050	S26.005	80.253	300	S26.004	80.253	300	
SNW2B-9	81.880	1.664	Open Manhole	1050	S25.003	80.216	300	S25.002	80.291	225	
								S26.005	80.216	300	
SNW2B-10	80.070	1.664	Open Manhole	1050	S25.004	78.406	300	S25.003	78.406	300	
SNW2B-11	77.690	1.575	Open Manhole	1050	S25.005	76.115	300	S25.004	76.115	300	
SNW2B-12	75.840	2.105	Open Manhole	1500	S25.006	73.735	600	S25.005	74.035	300	
SNW2B-13	75.125	1.479	Open Manhole	1500	S25.007	73.646	600	S25.006	73.647	600	1
SNW2B-14	75.303	1.676	Open Manhole	1500	S25.008	73.627	600	S25.007	73.627	600	
SNW2B-15	75.000	1.564	Open Manhole	1500	S25.009	73.436	600	S25.008	73.436	600	
SNW2B-16	74.923	1.587	Open Manhole	1500	S25.010	73.336	600	S25.009	73.336	600	
SNW2B-30	75.420	1.200	Open Manhole	1050	S29.000	74.220	300				
SNW2B-X1	75.322	1.214	Open Manhole	1050	S29.001	74.108	300	S29.000	74.108	300	
SNW2B-31	75.250	1.235	Open Manhole	1050	S29.002	74.015	300	S29.001	74.015	300	
SNW2B-X2	75.131	1.357	Open Manhole	1050	S29.003	73.774	300	S29.002	73.774	300	
SNW2B-32	75.111	1.654	Open Manhole	1050	S29.004	73.457	375	S29.003	73.532	300	
SNW2B-17	74.850	1.614	Open Manhole	1500	S25.011	73.236	600	S25.010	73.236	600	
								S29.004	73.433	375	
SNW2B-18	74.720	1.662	Open Manhole	1500	S25.012	73.058	600	S25.011	73.058	600	
SNW2B-19	74.605	1.685	Open Manhole	1500	S25.013	72.920	600	S25.012	72.920	600	
SNW2B-33	75.050	1.315	Open Manhole	1050	S30.000	73.735	375				
SNW2B-X3	74.975	1.337	Open Manhole	1050	S30.001	73.638	375	S30.000	73.638	375	
SNW2B-34	74.900	1.361	Open Manhole	1050	S30.002	73.539	375	S30.001	73.540	375	1
SNW2B-X4	74.801	1.362	Open Manhole	1050	S30.003	73.439	375	S30.002	73.439	375	
SNW2B-36	82.533	1.350	Open Manhole	1050	S31.000	81.183	150				
SNW2B-37	82.598	1.525	Open Manhole	1050	S31.001	81.073	150	S31.000	81.073	150	
SNW2B-38	82.575	1.555	Open Manhole	1050	S31.002	81.020	150	S31.001	81.020	150	
SNW2B-39	82.173	1.350	Open Manhole	1050	S31.003	80.823	150	S31.002	80.823	150	
SNW2B-40	82.005	1.350	Open Manhole	1050	S31.004	80.655	150	S31.003	80.655	150	
SNW2B-41	80.455	1.350	Open Manhole	1050	S31.005	79.105	150	S31.004	79.105	150	
SNW2B-42	78.865	1.350	Open Manhole	1050	S31.006	77.515	150	S31.005	77.515	150	
SNW2B-43	77.615	1.425	Open Manhole	1050	S31.007	76.190	225	S31.006	76.265	150	
SNW2B-44	76.260	1.425	Open Manhole	1050	S31.008	74.835	225	S31.007	74.835	225	
SNW2B-45	76.020	1.500	Open Manhole	1050	S31.009	74.520	300	S31.008	74.595	225	
SNW2B-46	75.690	1.500	Open Manhole	1050	S31.010	74.190	300	S31.009	74.190	300	
SNW2B-47	75.500	1.587	Open Manhole	1050	S31.011	73.913	375	S31.010	73.988	300	
SNW2B-48	75.280	1.575	Open Manhole	1050	S31.012	73.705	375	S31.011	73.705	375	
SNW2B-50	82.591	1.300	Open Manhole	1050	S32.000	81.291	225				
SNW2B-51	82.547	1.337	Open Manhole	1050	S32.001	81.210	225	S32.000	81.210	225	
SNW2B-52	82.513	1.389	Open Manhole	1050	S32.002	81.124	225	S32.001	81.124	225	
SNW2B-60	82.710	1.425	Open Manhole	1050	S33.000	81.285	225				
SNW2B-62	82.705	1.425	Open Manhole	1050	S34.000	81.280	225				
SNW2B-61	82.570	1.425	Open Manhole	1050	S33.001	81.145	225	S33.000	81.145	225	
								S34.000	81.145	225	
SNW2B-53	82.503	1.563	Open Manhole	1050	S32.003	80.940	225	S32.002	80.940	225	
								S33.001	80.940	225	
SNW2B-54	82.510	1.687	Open Manhole	1050	S32.004	80.823	225	S32.003	80.823	225	
SNW2B-55	82.420	1.796	Open Manhole	1050	S32.005	80.624	225	S32.004	80.624	225	
SNW2B-56	81.792	1.502	Open Manhole	1050	S32.006	80.290	225	S32.005	80.290	225	

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
SNW2B-57	79.795	1.796	Open Manhole	1050	S32.007	77.999	225	S32.006	77.999	225	
SNW2B-58	77.132	1.425	Open Manhole	1050	S32.008	75.707	225	S32.007	75.707	225	
SNW2B-59	75.540	1.575	Open Manhole	1050	S32.009	73.965	375	S32.008	74.115	225	
SNW2B-49	75.300	1.797	Open Manhole	1050	S31.013	73.503	375	S31.012	73.503	375	
								S32.009	73.503	375	
SNW2B-35	74.720	1.456	Open Manhole	1500	S30.004	73.264	450	S30.003	73.339	375	
								S31.013	73.339	375	
SNW2B-20	74.490	1.622	Open Manhole	1500	S25.014	72.868	600	S25.013	72.868	600	
								S30.004	73.033	450	15
SNW2B-5	75.430	2.585	Open Manhole	1500	S24.004	72.845	600	S24.003	73.295	150	
								S25.014	72.845	600	
SNW2B-Pond-HW-A	75.470	2.740	Open Manhole	1500	S24.005	72.730	600	S24.004	72.730	600	
SNW2B-Central-Pond-Dummy	75.230	2.501	Open Manhole	1500	S23.002	72.730	600	S23.001	72.729	300	
								S24.005	72.729	600	
SNW2B-Pond-HW-C	75.230	2.501	Open Manhole	1500	S23.003	72.730	675	S23.002	72.729	600	
SDUMMY 9	79.390	0.200	Junction		S35.000	79.190	150				
SDUMMY 10	79.390	0.209	Junction		S35.001	79.181	150	S35.000	79.181	150	
SNW2B-67	79.390	1.350	Open Manhole	1050	S35.002	78.040	150	S35.001	79.172	150	1132
SDUMMY 11	78.030	0.200	Junction		S36.000	77.830	150				
SDUMMY 12	78.030	0.209	Junction		S36.001	77.821	150	S36.000	77.821	150	
SNW2B-68	78.030	1.425	Open Manhole	1050	S35.003	76.605	225	S35.002	76.680	150	
								S36.001	77.813	150	1133
SDUMMY 7	77.141	0.200	Junction		S37.000	76.941	150				
SDUMMY 8	77.141	0.211	Junction		S37.001	76.930	150	S37.000	76.930	150	
SDUMMY 1	79.448	0.200	Junction		S38.000	79.248	150				
SDUMMY 2	79.448	0.212	Junction		S38.001	79.236	150	S38.000	79.236	150	
SNW2B-63	79.448	1.248	Open Manhole	1050	S38.002	78.200	150	S38.001	79.225	150	1025
SDUMMY 3	79.057	0.200	Junction		S39.000	78.857	150				
SDUMMY 4	79.057	0.211	Junction		S39.001	78.846	150	S39.000	78.846	150	
SNW2B-64	79.057	1.207	Open Manhole	1050	S38.003	77.850	150	S38.002	77.850	150	
								S39.001	78.835	150	985
SDUMMY 5	77.771	0.200	Junction		S40.000	77.571	150				
SDUMMY 6	77.771	0.209	Junction		S40.001	77.562	150	S40.000	77.562	150	
SNW2B-65	77.771	1.276	Open Manhole	1050	S38.004	76.495	225	S38.003	76.570	150	
								S40.001	77.552	150	982
SNW2B-65A	77.141	1.276	Open Manhole	1050	S37.002	75.865	225	S37.001	76.919	150	979
								S38.004	75.865	225	
SDUMMY 13	75.750	0.200	Junction		S41.000	75.550	150				
SDUMMY 14	75.750	0.210	Junction		S41.001	75.540	150	S41.000	75.540	150	
SNW2B-65B	77.312	1.783	Open Manhole	1050	S37.003	75.747	225	S37.002	75.747	225	
								S41.001	75.529	150	
SNW2B-65C	77.598	3.768	Open Manhole	1050	S35.004	73.830	300	S35.003	73.905	225	
								S37.003	73.905	225	
SNW2B-70	78.730	1.350	Open Manhole	1050	S42.000	77.380	150				
SNW2B-70A	77.440	1.350	Open Manhole	1050	S42.001	76.090	150	S42.000	76.090	150	
SNW2B-77	75.130	1.350	Open Manhole	1050	S43.000	73.780	150				
SNW2B-65D	75.165	1.690	Open Manhole	1050	S35.005	73.475	300	S35.004	73.475	300	
								S42.001	73.625	150	
								S43.000	73.625	150	
SNW2B-65E	76.278	2.893	Open Manhole	1050	S35.006	73.385	300	S35.005	73.385	300	
SNW2B-65F	75.641	2.967	Open Manhole	1500	S23.004	72.674	675	S23.003	72.674	675	
								S35.006	73.049	300	
SNW2B-73	74.400	1.860	Junction		S23.005	72.540	500	S23.004	72.575	675	210
SNW2B-74	74.090	1.610	Junction		S23.006	72.480	500	S23.005	72.480	500	
SNW2B-75	73.790	1.385	Junction		S23.007	72.405	500	S23.006	72.405	500	
SNW2B-76	73.706	1.347	Junction		S23.008	72.359	500	S23.007	72.359	500	
SEX-NW2B-Outfall	73.622	1.298	Open Manhole	0		OUTFALL		S23.008	72.324	500	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-72	438670.492	279896.585			No Entry	
SNW2B-Pond-HW-B	438656.871	279849.726			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-1	438693.133	279943.669	438693.133	279943.669	Required	
SNW2B-2	438700.213	279926.499	438700.213	279926.499	Required	
SNW2B-3	438697.957	279883.516	438697.957	279883.516	Required	
SNW2B-4	438688.277	279841.390	438688.277	279841.390	Required	
SNW2B-6	438730.704	279983.433	438730.704	279983.433	Required	
SNW2B-7	438713.856	280007.635	438713.856	280007.635	Required	
SNW2B-8	438725.610	280013.505	438725.610	280013.505	Required	
SNW2B-21	438658.890	279964.848	438658.890	279964.848	Required	
SNW2B-27	438702.505	279999.559	438702.505	279999.559	Required	
SNW2B-29	438703.546	279964.544	438703.546	279964.544	Required	
SNW2B-28	438672.075	279979.232	438672.075	279979.232	Required	
SNW2B-22	438657.148	279984.449	438657.148	279984.449	Required	
SNW2B-23	438663.179	279999.780	438663.179	279999.780	Required	
SNW2B-24	438673.887	280010.303	438673.887	280010.303	Required	
SNW2B-25	438688.225	280015.336	438688.225	280015.336	Required	
SNW2B-26	438706.173	280016.827	438706.173	280016.827	Required	
SNW2B-9	438723.612	280026.748	438723.612	280026.748	Required	
SNW2B-10	438755.430	280057.924	438755.430	280057.924	Required	
SNW2B-11	438779.998	280096.199	438779.998	280096.199	Required	
SNW2B-12	438799.033	280137.539	438799.033	280137.539	Required	
SNW2B-13	438811.266	280172.238	438811.266	280172.238	Required	
SNW2B-14	438820.367	280168.763	438820.367	280168.763	Required	
SNW2B-15	438792.827	280084.547	438792.827	280084.547	Required	
SNW2B-16	438776.376	280037.263	438772.657	280026.434	Required	
SNW2B-30	438834.224	280172.000	438834.224	280172.000	Required	
SNW2B-X1	438817.728	280122.142	438817.728	280122.142	Required	
SNW2B-31	438804.108	280080.975	438804.108	280080.975	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-X2	438787.652	280033.660	438787.652	280033.660	Required	
SNW2B-32	438771.126	279986.238	438771.126	279986.238	Required	
SNW2B-17	438759.925	279989.980	438759.925	279989.980	Required	
SNW2B-18	438728.927	279905.486	438728.927	279905.486	Required	
SNW2B-19	438701.118	279831.544	438701.118	279831.544	Required	
SNW2B-33	438770.420	279984.587	438770.420	279984.587	Required	
SNW2B-X3	438753.606	279938.838	438753.606	279938.838	Required	
SNW2B-34	438736.620	279892.622	438736.620	279892.622	Required	
SNW2B-X4	438718.512	279845.988	438718.512	279845.988	Required	
SNW2B-36	438800.217	279958.249	438800.217	279958.249	Required	
SNW2B-37	438816.705	279968.727	438816.705	279968.727	Required	
SNW2B-38	438825.833	279971.071	438825.833	279971.071	Required	
SNW2B-39	438819.536	279986.185	438819.536	279986.185	Required	
SNW2B-40	438829.538	279989.034	438829.538	279989.034	Required	
SNW2B-41	438826.012	280022.464	438826.012	280022.464	Required	
SNW2B-42	438829.583	280056.123	438829.583	280056.123	Required	
SNW2B-43	438836.206	280089.279	438836.206	280089.279	Required	
SNW2B-44	438856.453	280169.445	438856.453	280169.445	Required	
SNW2B-45	438846.935	280171.868	438846.935	280171.868	Required	
SNW2B-46	438818.007	280077.175	438818.007	280077.175	Required	
SNW2B-47	438785.334	279981.717	438785.334	279981.717	Required	
SNW2B-48	438747.568	279889.135	438747.568	279889.135	Required	
SNW2B-50	438848.517	279962.793	438848.517	279962.793	Required	
SNW2B-51	438855.025	279949.774	438855.025	279949.774	Required	
SNW2B-52	438853.349	279934.830	438853.349	279934.830	Required	
SNW2B-60	438831.676	279957.169	438831.676	279957.169	Required	
SNW2B-62	438815.483	279940.669	438815.483	279940.669	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-61	438837.112	279936.154	438837.112	279936.154	Required	
SNW2B-53	438847.409	279925.762	438847.409	279925.762	Required	
SNW2B-54	438837.472	279919.182	438837.472	279919.182	Required	
SNW2B-55	438817.601	279914.992	438817.601	279914.992	Required	
SNW2B-56	438803.570	279903.597	438803.570	279903.597	Required	
SNW2B-57	438770.704	279872.129	438770.704	279872.129	Required	
SNW2B-58	438743.851	279835.980	438743.851	279835.980	Required	
SNW2B-59	438720.469	279790.985	438720.469	279790.985	Required	
SNW2B-49	438711.127	279794.746	438711.127	279794.746	Required	
SNW2B-35	438700.404	279799.353	438700.404	279799.353	Required	
SNW2B-20	438688.329	279803.384	438688.329	279803.384	Required	
SNW2B-5	438675.007	279807.942	438675.007	279807.942	Required	
SNW2B-Pond-HW-A	438654.448	279817.038	438654.448	279817.038	Required	
SNW2B-Central-Pond-Dummy	438619.724	279773.015	438619.724	279773.015	Required	
SNW2B-Pond-HW-C	438615.068	279774.838	438615.068	279774.838	Required	
SDUMMY 9	438633.302	279567.222			No Entry	
SDUMMY 10	438630.281	279570.614			No Entry	
SNW2B-67	438627.460	279574.180	438627.460	279574.180	Required	
SDUMMY 11	438659.257	279626.863			No Entry	
SDUMMY 12	438654.905	279627.348			No Entry	
SNW2B-68	438652.013	279629.954	438652.013	279629.954	Required	
SDUMMY 7	438770.096	279838.193			No Entry	
SDUMMY 8	438764.379	279838.367			No Entry	
SDUMMY 1	438877.822	279932.380			No Entry	
SDUMMY 2	438872.588	279931.784			No Entry	
SNW2B-63	438867.937	279930.605	438867.937	279930.605	Required	
SDUMMY 3	438865.872	279908.344			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SDUMMY 4	438860.322	279908.229			No Entry	
SNW2B-64	438855.075	279907.496	438855.075	279907.496	Required	
SDUMMY 5	438825.197	279889.424			No Entry	
SDUMMY 6	438820.605	279889.424			No Entry	
SNW2B-65	438815.556	279888.926	438815.556	279888.926	Required	
SNW2B-65A	438758.683	279838.165	438758.683	279838.165	Required	
SDUMMY 13	438736.805	279790.294			No Entry	
SDUMMY 14	438731.687	279790.294			No Entry	
SNW2B-65B	438726.706	279788.470	438726.706	279788.470	Required	
SNW2B-65C	438686.340	279710.291	438686.340	279710.291	Required	
SNW2B-70	438576.354	279602.866	438576.354	279602.866	Required	
SNW2B-70A	438629.438	279699.470	438629.438	279699.470	Required	
SNW2B-77	438672.190	279801.000	438672.190	279801.000	Required	
SNW2B-65D	438642.327	279730.080	438642.327	279730.080	Required	
SNW2B-65E	438601.358	279748.502	438601.358	279748.502	Required	
SNW2B-65F	438589.072	279785.010	438589.072	279785.010	Required	
SNW2B-73	438543.518	279802.793			No Entry	
SNW2B-74	438551.661	279831.819			No Entry	
SNW2B-75	438562.717	279867.506			No Entry	
SNW2B-76	438573.748	279887.689			No Entry	
SEX-NW2B-Outfall	438577.404	279904.925			No Entry	

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
23.000	Classification	EW (fill)	20	0.343	0.069	0.069
	Classification	Overland	40	1.034	0.414	0.482
23.001	-	-	100	0.000	0.000	0.000
24.000	-	-	100	0.032	0.032	0.032
24.001	Classification	Paved	100	0.072	0.072	0.072
	Classification	Verge	50	0.057	0.028	0.100
24.002	-	-	100	0.000	0.000	0.000
24.003	Classification	Paved	100	0.028	0.028	0.028
	Classification	Verge	50	0.018	0.009	0.037
	Classification	Paved	100	0.024	0.024	0.061
	Classification	Verge	50	0.010	0.005	0.066
	Classification	EW (Cut)	20	0.002	0.000	0.066
25.000	Classification	Verge	50	0.008	0.004	0.004
	Classification	Paved	100	0.035	0.035	0.039
	As Zoned	Default	100	0.007	0.007	0.007
	User	-	100	0.006	0.006	0.052
25.001	Classification	Verge	50	0.005	0.003	0.003
25.002	-	-	100	0.000	0.000	0.000
26.000	Classification	Paved	100	0.009	0.009	0.009
	Classification	Paved	100	0.010	0.010	0.019
	Classification	Verge	50	0.005	0.002	0.022
27.000	Classification	EW (fill)	20	0.091	0.018	0.018
	Classification	Paved	100	0.031	0.031	0.049
28.000	Classification	EW (fill)	20	0.091	0.018	0.018
	Classification	Paved	100	0.031	0.031	0.049
	As Zoned	Verge	50	0.007	0.003	0.003
	As Zoned	Default	100	0.018	0.018	0.070
		Paved	100	0.000	0.000	0.018
	As Zoned	Paved	100	0.013	0.013	0.013
	As Zoned	Paved	100	0.030	0.030	0.030
	User	-	100	0.013	0.013	0.125
27.001	-	-	100	0.000	0.000	0.000
26.001	Classification	Paved	100	0.006	0.006	0.006
26.002	Classification	Paved	100	0.005	0.005	0.005
26.003	Classification	Paved	100	0.006	0.006	0.006
26.004	Classification	Paved	100	0.014	0.014	0.014
	Classification	Verge	50	0.005	0.002	0.017
26.005	Classification	Verge	50	0.005	0.002	0.002
	Classification	Paved	100	0.016	0.016	0.018
25.003	Classification	Verge	50	0.012	0.006	0.006
	Classification	Paved	100	0.048	0.048	0.054
25.004	Classification	Paved	100	0.036	0.036	0.036
	Classification	Verge	50	0.011	0.006	0.042
25.005	Classification	Verge	50	0.011	0.006	0.006
	Classification	Paved	100	0.035	0.035	0.041
25.006	Classification	Paved	100	0.034	0.034	0.034
	Classification	Verge	50	0.011	0.006	0.040
25.007	-	-	100	0.000	0.000	0.000
25.008	Classification	Paved	100	0.088	0.088	0.088
	Classification	Verge	50	0.043	0.022	0.109
25.009	Classification	Verge	50	0.239	0.120	0.120
	Classification	Paved	100	0.093	0.093	0.212
25.010	-	-	100	0.000	0.000	0.000
29.000	-	-	100	0.150	0.150	0.150
29.001	-	-	100	0.000	0.000	0.000
29.002	-	-	100	0.160	0.160	0.160
29.003	-	-	100	0.000	0.000	0.000
29.004	-	-	100	0.000	0.000	0.000
25.011	Classification	Paved	100	0.084	0.084	0.084
	Classification	Verge	50	0.082	0.041	0.124
	Classification	Verge	50	0.177	0.089	0.213
25.012	Classification	Verge	50	0.102	0.051	0.051
	Classification	Paved	100	0.073	0.073	0.125
25.013	-	-	100	0.000	0.000	0.000
30.000	Classification	Paved	100	0.114	0.114	0.114
	Classification	Paved	100	0.027	0.027	0.141
30.001	-	-	100	0.000	0.000	0.000
30.002	Classification	Paved	100	0.029	0.029	0.029
	Classification	Paved	100	0.092	0.092	0.121
30.003	-	-	100	0.000	0.000	0.000
31.000	Classification	Paved	100	0.012	0.012	0.012
31.001	Classification	Paved	100	0.005	0.005	0.005
31.002	-	-	100	0.000	0.000	0.000
31.003	-	-	100	0.000	0.000	0.000
31.004	Classification	Paved	100	0.028	0.028	0.028
	Classification	Verge	50	0.027	0.014	0.042
	Classification	Paved	100	0.025	0.025	0.067
	As Zoned	Default	100	0.025	0.025	0.092
31.005	Classification	Paved	100	0.027	0.027	0.027
	Classification	Verge	50	0.022	0.011	0.037
31.006	Classification	Paved	100	0.026	0.026	0.026
	Classification	Verge	50	0.011	0.005	0.032
31.007	Classification	Paved	100	0.064	0.064	0.064
	Classification	Verge	50	0.021	0.010	0.074
	Classification	EW (Cut)	20	0.017	0.003	0.077
31.008	-	-	100	0.000	0.000	0.000
31.009	Classification	Verge	50	0.041	0.020	0.020
31.010	Classification	Verge	50	0.197	0.098	0.098

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
31.011	Classification	Verge	50	0.287	0.143	0.143
31.012	Classification	Verge	50	0.102	0.051	0.051
32.000	Classification	Paved	100	0.006	0.006	0.006
32.001	Classification	Paved	100	0.006	0.006	0.006
32.002	Classification	Paved	100	0.004	0.004	0.004
33.000	Classification	Paved	100	0.034	0.034	0.034
	Classification	Verge	50	0.031	0.015	0.049
34.000	Classification	Verge	50	0.031	0.016	0.016
	Classification	Paved	100	0.034	0.034	0.050
	As Zoned	Paved	100	0.025	0.025	0.025
	As Zoned	Default	100	0.009	0.009	0.009
	As Zoned	Paved	100	0.002	0.002	0.002
	As Zoned	Default	100	0.005	0.005	0.005
	As Zoned	Default	100	0.018	0.018	0.110
		Paved	100	0.000	0.000	0.018
	As Zoned	Default	100	0.034	0.034	0.144
33.001	-	-	100	0.000	0.000	0.000
32.003	Classification	Paved	100	0.005	0.005	0.005
32.004	Classification	Paved	100	0.014	0.014	0.014
32.005	Classification	Paved	100	0.015	0.015	0.015
32.006	Classification	Paved	100	0.083	0.083	0.083
	Classification	Verge	50	0.043	0.021	0.104
32.007	-	-	100	0.000	0.000	0.000
32.008	Classification	EW (Cut)	20	0.015	0.003	0.003
	Classification	Verge	50	0.018	0.009	0.012
	Classification	Paved	100	0.040	0.040	0.052
32.009	-	-	100	0.000	0.000	0.000
31.013	-	-	100	0.000	0.000	0.000
30.004	-	-	100	0.000	0.000	0.000
25.014	-	-	100	0.000	0.000	0.000
24.004	-	-	100	0.000	0.000	0.000
24.005	-	-	100	0.000	0.000	0.000
23.002	-	-	100	0.000	0.000	0.000
23.003	-	-	100	0.000	0.000	0.000
35.000	Classification	Overland	40	0.137	0.055	0.055
35.001	-	-	100	0.000	0.000	0.000
35.002	-	-	100	0.000	0.000	0.000
36.000	Classification	Overland	40	1.461	0.584	0.584
36.001	-	-	100	0.000	0.000	0.000
35.003	-	-	100	0.000	0.000	0.000
37.000	Classification	Overland	40	0.506	0.202	0.202
	Classification	Overland	40	0.246	0.099	0.301
37.001	-	-	100	0.000	0.000	0.000
38.000	Classification	Overland	40	0.216	0.086	0.086
38.001	-	-	100	0.000	0.000	0.000
38.002	-	-	100	0.000	0.000	0.000
39.000	Classification	Overland	40	0.317	0.127	0.127
39.001	-	-	100	0.000	0.000	0.000
38.003	-	-	100	0.000	0.000	0.000
40.000	Classification	Overland	40	2.362	0.945	0.945
40.001	-	-	100	0.000	0.000	0.000
38.004	-	-	100	0.000	0.000	0.000
37.002	-	-	100	0.000	0.000	0.000
41.000	Classification	Overland	40	1.045	0.418	0.418
41.001	-	-	100	0.000	0.000	0.000
37.003	-	-	100	0.000	0.000	0.000
35.004	-	-	100	0.000	0.000	0.000
42.000	-	-	100	0.000	0.000	0.000
42.001	-	-	100	0.000	0.000	0.000
43.000	-	-	100	0.000	0.000	0.000
35.005	-	-	100	0.000	0.000	0.000
35.006	User	-	20	1.023	0.205	0.205
23.004	-	-	100	0.000	0.000	0.000
23.005	-	-	100	0.000	0.000	0.000
23.006	-	-	100	0.000	0.000	0.000
23.007	-	-	100	0.000	0.000	0.000
23.008	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				12.556	6.079	6.079

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S23.008	SEX-NW2B-Outfall	73.622	72.324	0.000	0	0

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: SNW2B-Central-Pond-Dummy, DS/PN: S23.002, Volume (m³): 25.8

Unit Reference	MD-SHE-0202-2320-1700-2320	Sump Available	Yes
Design Head (m)	1.700	Diameter (mm)	202
Design Flow (l/s)	23.2	Invert Level (m)	72.730
Flush-Flo™	Calculated	Minimum Outlet Pipe Diameter (mm)	225
Objective	Minimise upstream storage	Suggested Manhole Diameter (mm)	1800
Application	Surface		

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.700	23.2	Kick-Flo®	1.097	18.8
Flush-Flo™	0.507	23.2	Mean Flow over Head Range	-	20.1

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.9	0.600	23.1	1.600	22.5	2.600	28.4	5.000	38.9	7.500	47.4
0.200	19.2	0.800	22.4	1.800	23.8	3.000	30.5	5.500	40.8	8.000	48.9
0.300	22.2	1.000	20.6	2.000	25.1	3.500	32.8	6.000	42.5	8.500	50.3
0.400	23.0	1.200	19.7	2.200	26.2	4.000	35.0	6.500	44.2	9.000	51.8
0.500	23.2	1.400	21.1	2.400	27.4	4.500	37.0	7.000	45.8	9.500	53.1

Depth/Flow Relationship Manhole: SDUMMY 10, DS/PN: S35.001, Volume (m³): 0.1

Invert Level (m) 79.181

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.6000	0.600	0.6000	1.100	0.6000	1.600	0.6000	2.100	0.6000	2.600	0.6000
0.200	0.6000	0.700	0.6000	1.200	0.6000	1.700	0.6000	2.200	0.6000	2.700	0.6000
0.300	0.6000	0.800	0.6000	1.300	0.6000	1.800	0.6000	2.300	0.6000	2.800	0.6000
0.400	0.6000	0.900	0.6000	1.400	0.6000	1.900	0.6000	2.400	0.6000	2.900	0.6000
0.500	0.6000	1.000	0.6000	1.500	0.6000	2.000	0.6000	2.500	0.6000	3.000	0.6000

Depth/Flow Relationship Manhole: SDUMMY 12, DS/PN: S36.001, Volume (m³): 0.1

Invert Level (m) 77.821

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.4000	0.600	6.4000	1.100	6.4000	1.600	6.4000	2.100	6.4000	2.600	6.4000
0.200	6.4000	0.700	6.4000	1.200	6.4000	1.700	6.4000	2.200	6.4000	2.700	6.4000
0.300	6.4000	0.800	6.4000	1.300	6.4000	1.800	6.4000	2.300	6.4000	2.800	6.4000
0.400	6.4000	0.900	6.4000	1.400	6.4000	1.900	6.4000	2.400	6.4000	2.900	6.4000
0.500	6.4000	1.000	6.4000	1.500	6.4000	2.000	6.4000	2.500	6.4000	3.000	6.4000

Depth/Flow Relationship Manhole: SDUMMY 8, DS/PN: S37.001, Volume (m³): 0.1

Invert Level (m) 76.930

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.3000	0.600	3.3000	1.100	3.3000	1.600	3.3000	2.100	3.3000	2.600	3.3000
0.200	3.3000	0.700	3.3000	1.200	3.3000	1.700	3.3000	2.200	3.3000	2.700	3.3000
0.300	3.3000	0.800	3.3000	1.300	3.3000	1.800	3.3000	2.300	3.3000	2.800	3.3000
0.400	3.3000	0.900	3.3000	1.400	3.3000	1.900	3.3000	2.400	3.3000	2.900	3.3000
0.500	3.3000	1.000	3.3000	1.500	3.3000	2.000	3.3000	2.500	3.3000	3.000	3.3000

Depth/Flow Relationship Manhole: SDUMMY 2, DS/PN: S38.001, Volume (m³): 0.1

Invert Level (m) 79.236

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.9000	0.600	0.9000	1.100	0.9000	1.600	0.9000	2.100	0.9000	2.600	0.9000
0.200	0.9000	0.700	0.9000	1.200	0.9000	1.700	0.9000	2.200	0.9000	2.700	0.9000
0.300	0.9000	0.800	0.9000	1.300	0.9000	1.800	0.9000	2.300	0.9000	2.800	0.9000
0.400	0.9000	0.900	0.9000	1.400	0.9000	1.900	0.9000	2.400	0.9000	2.900	0.9000
0.500	0.9000	1.000	0.9000	1.500	0.9000	2.000	0.9000	2.500	0.9000	3.000	0.9000

Depth/Flow Relationship Manhole: SDUMMY 4, DS/PN: S39.001, Volume (m³): 0.1

Invert Level (m) 78.846

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.4000	0.600	1.4000	1.100	1.4000	1.600	1.4000	2.100	1.4000	2.600	1.4000
0.200	1.4000	0.700	1.4000	1.200	1.4000	1.700	1.4000	2.200	1.4000	2.700	1.4000
0.300	1.4000	0.800	1.4000	1.300	1.4000	1.800	1.4000	2.300	1.4000	2.800	1.4000
0.400	1.4000	0.900	1.4000	1.400	1.4000	1.900	1.4000	2.400	1.4000	2.900	1.4000
0.500	1.4000	1.000	1.4000	1.500	1.4000	2.000	1.4000	2.500	1.4000	3.000	1.4000

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Depth/Flow Relationship Manhole: SDUMMY 6, DS/PN: S40.001, Volume (m³): 0.1

Invert Level (m) 77.562

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	10.3000	0.600	10.3000	1.100	10.3000	1.600	10.3000	2.100	10.3000	2.600	10.3000
0.200	10.3000	0.700	10.3000	1.200	10.3000	1.700	10.3000	2.200	10.3000	2.700	10.3000
0.300	10.3000	0.800	10.3000	1.300	10.3000	1.800	10.3000	2.300	10.3000	2.800	10.3000
0.400	10.3000	0.900	10.3000	1.400	10.3000	1.900	10.3000	2.400	10.3000	2.900	10.3000
0.500	10.3000	1.000	10.3000	1.500	10.3000	2.000	10.3000	2.500	10.3000	3.000	10.3000

Depth/Flow Relationship Manhole: SDUMMY 14, DS/PN: S41.001, Volume (m³): 0.1

Invert Level (m) 75.540

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.6000	0.600	4.6000	1.100	4.6000	1.600	4.6000	2.100	4.6000	2.600	4.6000
0.200	4.6000	0.700	4.6000	1.200	4.6000	1.700	4.6000	2.200	4.6000	2.700	4.6000
0.300	4.6000	0.800	4.6000	1.300	4.6000	1.800	4.6000	2.300	4.6000	2.800	4.6000
0.400	4.6000	0.900	4.6000	1.400	4.6000	1.900	4.6000	2.400	4.6000	2.900	4.6000
0.500	4.6000	1.000	4.6000	1.500	4.6000	2.000	4.6000	2.500	4.6000	3.000	4.6000

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Storage Structures for Storm

Tank or Pond Manhole: SNW2B-Central-Pond-Dummy, DS/PN: S23.002

Invert Level (m) 72.730

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	1988.0	2.000	3456.0

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 8 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.233
FEH Rainfall Version	1999	E (1km)	0.299
Site Location	GB 438400 279200 SP 38400 79200	F (1km)	2.381
C (1km)	-0.025	Cv (Summer)	0.900
D1 (1km)	0.382	Cv (Winter)	0.900
D2 (1km)	0.332		

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1
Climate Change (%)	20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
S23.000	SNW2B-72	15 Summer	1	+20%					74.235	-0.435	0.000	0.03
S23.001	SNW2B-Pond-HW-B	15 Summer	1	+20%	1/15 Summer				73.334	0.304	0.000	1.93
S24.000	SNW2B-1	15 Summer	1	+20%					80.867	-0.106	0.000	0.19
S24.001	SNW2B-2	15 Summer	1	+20%					80.422	-0.079	0.000	0.44
S24.002	SNW2B-3	15 Summer	1	+20%					78.042	-0.079	0.000	0.45
S24.003	SNW2B-4	15 Summer	1	+20%					75.685	-0.056	0.000	0.70
S25.000	SNW2B-6	15 Summer	1	+20%					80.991	-0.129	0.000	0.37
S25.001	SNW2B-7	15 Summer	1	+20%					80.901	-0.160	0.000	0.18
S25.002	SNW2B-8	15 Summer	1	+20%					80.753	-0.177	0.000	0.10
S26.000	SNW2B-21	15 Summer	1	+20%					80.715	-0.095	0.000	0.28
S27.000	SNW2B-27	15 Summer	1	+20%					81.202	-0.068	0.000	0.57
S28.000	SNW2B-29	15 Summer	1	+20%					81.216	-0.119	0.000	0.44
S27.001	SNW2B-28	15 Summer	1	+20%					80.862	-0.123	0.000	0.42
S26.001	SNW2B-22	15 Summer	1	+20%					80.654	-0.028	0.000	0.97
S26.002	SNW2B-23	15 Summer	1	+20%					80.610	-0.040	0.000	0.97
S26.003	SNW2B-24	15 Summer	1	+20%					80.570	-0.050	0.000	0.94
S26.004	SNW2B-25	15 Summer	1	+20%					80.527	-0.063	0.000	0.88
S26.005	SNW2B-26	15 Summer	1	+20%					80.479	-0.075	0.000	0.91
S25.003	SNW2B-9	15 Summer	1	+20%					80.310	-0.205	0.000	0.21
S25.004	SNW2B-10	15 Summer	1	+20%					78.499	-0.206	0.000	0.21
S25.005	SNW2B-11	15 Summer	1	+20%					76.215	-0.200	0.000	0.24
S25.006	SNW2B-12	15 Summer	1	+20%					73.945	-0.390	0.000	0.19
S25.007	SNW2B-13	15 Summer	1	+20%					73.881	-0.365	0.000	0.33
S25.008	SNW2B-14	30 Summer	1	+20%					73.819	-0.408	0.000	0.21
S25.009	SNW2B-15	30 Summer	1	+20%					73.673	-0.363	0.000	0.27
S25.010	SNW2B-16	30 Summer	1	+20%					73.593	-0.343	0.000	0.23
S29.000	SNW2B-30	15 Summer	1	+20%					74.369	-0.151	0.000	0.46
S29.001	SNW2B-X1	15 Summer	1	+20%					74.248	-0.160	0.000	0.43
S29.002	SNW2B-31	15 Summer	1	+20%					74.167	-0.148	0.000	0.50
S29.003	SNW2B-X2	15 Summer	1	+20%					73.924	-0.150	0.000	0.49
S29.004	SNW2B-32	15 Summer	1	+20%					73.690	-0.142	0.000	0.71
S25.011	SNW2B-17	60 Summer	1	+20%					73.552	-0.284	0.000	0.37
S25.012	SNW2B-18	60 Summer	1	+20%					73.502	-0.156	0.000	0.35
S25.013	SNW2B-19	60 Summer	1	+20%					73.472	-0.048	0.000	0.43
S30.000	SNW2B-33	15 Summer	1	+20%					73.868	-0.242	0.000	0.26
S30.001	SNW2B-X3	15 Summer	1	+20%					73.769	-0.244	0.000	0.23
S30.002	SNW2B-34	15 Summer	1	+20%					73.698	-0.216	0.000	0.36
S30.003	SNW2B-X4	15 Summer	1	+20%					73.594	-0.220	0.000	0.35
S31.000	SNW2B-36	15 Summer	1	+20%					81.223	-0.110	0.000	0.15
S31.001	SNW2B-37	15 Summer	1	+20%					81.120	-0.103	0.000	0.22
S31.002	SNW2B-38	15 Summer	1	+20%					81.057	-0.113	0.000	0.14
S31.003	SNW2B-39	15 Summer	1	+20%					80.858	-0.115	0.000	0.12
S31.004	SNW2B-40	15 Summer	1	+20%					80.726	-0.079	0.000	0.44
S31.005	SNW2B-41	15 Summer	1	+20%					79.189	-0.066	0.000	0.59
S31.006	SNW2B-42	15 Summer	1	+20%					77.618	-0.047	0.000	0.80
S31.007	SNW2B-43	15 Summer	1	+20%					76.313	-0.102	0.000	0.55
S31.008	SNW2B-44	15 Summer	1	+20%					74.943	-0.117	0.000	0.47
S31.009	SNW2B-45	15 Summer	1	+20%					74.690	-0.130	0.000	0.54
S31.010	SNW2B-46	15 Summer	1	+20%					74.408	-0.082	0.000	0.81
S31.011	SNW2B-47	30 Summer	1	+20%					74.117	-0.171	0.000	0.54
S31.012	SNW2B-48	30 Summer	1	+20%					73.910	-0.170	0.000	0.56
S32.000	SNW2B-50	15 Summer	1	+20%					81.315	-0.201	0.000	0.03
S32.001	SNW2B-51	15 Summer	1	+20%					81.242	-0.193	0.000	0.05
S32.002	SNW2B-52	15 Summer	1	+20%					81.152	-0.197	0.000	0.04
S33.000	SNW2B-60	15 Summer	1	+20%					81.354	-0.156	0.000	0.20
S34.000	SNW2B-62	15 Summer	1	+20%					81.408	-0.097	0.000	0.60
S33.001	SNW2B-61	15 Summer	1	+20%					81.266	-0.104	0.000	0.56

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S23.000	SNW2B-72			75.5	OK	
S23.001	SNW2B-Pond-HW-B			59.4	SURCHARGED*	
S24.000	SNW2B-1			5.0	OK	
S24.001	SNW2B-2			18.2	OK	
S24.002	SNW2B-3			18.1	OK	
S24.003	SNW2B-4			26.8	OK	
S25.000	SNW2B-6			8.0	OK	
S25.001	SNW2B-7			8.3	OK	
S25.002	SNW2B-8			8.2	OK	
S26.000	SNW2B-21			3.3	OK	
S27.000	SNW2B-27			7.5	OK	
S28.000	SNW2B-29			19.4	OK	
S27.001	SNW2B-28			27.0	OK	
S26.001	SNW2B-22			29.3	OK	
S26.002	SNW2B-23			28.7	OK	
S26.003	SNW2B-24			28.1	OK	
S26.004	SNW2B-25			28.8	OK	
S26.005	SNW2B-26			29.9	OK	
S25.003	SNW2B-9			40.3	OK	
S25.004	SNW2B-10			44.1	OK	
S25.005	SNW2B-11			47.8	OK	
S25.006	SNW2B-12			50.4	OK	
S25.007	SNW2B-13			49.5	OK	
S25.008	SNW2B-14			55.6	OK	
S25.009	SNW2B-15			66.0	OK	
S25.010	SNW2B-16			62.9	OK	
S29.000	SNW2B-30			22.1	OK	
S29.001	SNW2B-X1			20.6	OK	
S29.002	SNW2B-31			36.1	OK	
S29.003	SNW2B-X2			35.5	OK	
S29.004	SNW2B-32			35.1	OK	
S25.011	SNW2B-17			94.0	OK	
S25.012	SNW2B-18			84.3	OK	
S25.013	SNW2B-19			92.0	OK	
S30.000	SNW2B-33			21.0	OK	
S30.001	SNW2B-X3			19.1	OK	
S30.002	SNW2B-34			29.9	OK	
S30.003	SNW2B-X4			28.5	OK	
S31.000	SNW2B-36			1.9	OK	
S31.001	SNW2B-37			2.6	OK	
S31.002	SNW2B-38			2.6	OK	
S31.003	SNW2B-39			2.5	OK	
S31.004	SNW2B-40			14.3	OK	
S31.005	SNW2B-41			19.2	OK	
S31.006	SNW2B-42			23.2	OK	
S31.007	SNW2B-43			31.7	OK	
S31.008	SNW2B-44			31.8	OK	
S31.009	SNW2B-45			29.9	OK	
S31.010	SNW2B-46			34.5	OK	
S31.011	SNW2B-47			42.3	OK	
S31.012	SNW2B-48			42.8	OK	
S32.000	SNW2B-50			0.9	OK	
S32.001	SNW2B-51			1.6	OK	
S32.002	SNW2B-52			2.2	OK	
S33.000	SNW2B-60			7.6	OK	
S34.000	SNW2B-62			22.4	OK	
S33.001	SNW2B-61			30.2	OK	

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)
S32.003	SNW2B-53	15 Summer	1	+20%					81.086	-0.079	0.000
S32.004	SNW2B-54	15 Summer	1	+20%					80.969	-0.079	0.000
S32.005	SNW2B-55	15 Summer	1	+20%					80.756	-0.093	0.000
S32.006	SNW2B-56	15 Summer	1	+20%					80.395	-0.120	0.000
S32.007	SNW2B-57	15 Summer	1	+20%					78.103	-0.121	0.000
S32.008	SNW2B-58	15 Summer	1	+20%					75.836	-0.096	0.000
S32.009	SNW2B-59	15 Summer	1	+20%					74.079	-0.261	0.000
S31.013	SNW2B-49	30 Summer	1	+20%					73.691	-0.187	0.000
S30.004	SNW2B-35	60 Summer	1	+20%					73.473	-0.241	0.000
S25.014	SNW2B-20	60 Summer	1	+20%					73.452	-0.016	0.000
S24.004	SNW2B-5	1440 Winter	1	+20%					73.332	-0.113	0.000
S24.005	SNW2B-Pond-HW-A	1440 Winter	1	+20%					73.330	0.000	0.000
S23.002	SNW2B-Central-Pond-Dummy	1440 Winter	1	+20%					73.327	-0.003	0.000
S23.003	SNW2B-Pond-HW-C	1440 Summer	1	+20%					73.349	-0.056	0.000
S35.000	SDUMMY 9	15 Summer	1	+20%					79.340	0.000	0.000
S35.001	SDUMMY 10	15 Summer	1	+20%					79.331	0.000	0.000
S35.002	SNW2B-67	480 Summer	1	+20%					78.056	-0.134	0.000
S36.000	SDUMMY 11	15 Summer	1	+20%					77.980	0.000	0.000
S36.001	SDUMMY 12	15 Summer	1	+20%					77.971	0.000	0.000
S35.003	SNW2B-68	1440 Summer	1	+20%					76.650	-0.180	0.000
S37.000	SDUMMY 7	15 Summer	1	+20%					77.091	0.000	0.000
S37.001	SDUMMY 8	15 Summer	1	+20%					77.080	0.000	0.000
S38.000	SDUMMY 1	15 Summer	1	+20%					79.398	0.000	0.000
S38.001	SDUMMY 2	15 Summer	1	+20%					79.386	0.000	0.000
S38.002	SNW2B-63	720 Summer	1	+20%					78.222	-0.128	0.000
S39.000	SDUMMY 3	15 Summer	1	+20%					79.007	0.000	0.000
S39.001	SDUMMY 4	15 Summer	1	+20%					78.996	0.000	0.000
S38.003	SNW2B-64	960 Summer	1	+20%					77.880	-0.120	0.000
S40.000	SDUMMY 5	15 Summer	1	+20%					77.721	0.000	0.000
S40.001	SDUMMY 6	15 Summer	1	+20%					77.712	0.000	0.000
S38.004	SNW2B-65	1440 Summer	1	+20%					76.581	-0.139	0.000
S37.002	SNW2B-65A	480 Summer	1	+20%					76.018	-0.072	0.000
S41.000	SDUMMY 13	15 Summer	1	+20%					75.700	0.000	0.000
S41.001	SDUMMY 14	15 Summer	1	+20%					75.690	0.000	0.000
S37.003	SNW2B-65B	15 Winter	1	+20%					75.833	-0.139	0.000
S35.004	SNW2B-65C	15 Winter	1	+20%					73.943	-0.187	0.000
S42.000	SNW2B-70	15 Summer	1	+20%					77.380	-0.150	0.000
S42.001	SNW2B-70A	15 Summer	1	+20%					76.090	-0.150	0.000
S43.000	SNW2B-77	15 Summer	1	+20%					73.780	-0.150	0.000
S35.005	SNW2B-65D	15 Winter	1	+20%					73.642	-0.133	0.000
S35.006	SNW2B-65E	60 Summer	1	+20%					73.533	-0.152	0.000
S23.004	SNW2B-65F	1440 Summer	1	+20%	1/1440 Summer				73.351	0.002	0.000
S23.005	SNW2B-73	1440 Summer	1	+20%					73.346	-1.054	0.000
S23.006	SNW2B-74	1440 Summer	1	+20%					73.271	-0.819	0.000
S23.007	SNW2B-75	1440 Summer	1	+20%					73.170	-0.620	0.000
S23.008	SNW2B-76	1440 Summer	1	+20%					73.100	-0.606	0.000

PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S32.003	SNW2B-53	0.74			32.7	OK	
S32.004	SNW2B-54	0.74			34.4	OK	
S32.005	SNW2B-55	0.64			36.4	OK	
S32.006	SNW2B-56	0.43			48.1	OK	
S32.007	SNW2B-57	0.43			48.3	OK	
S32.008	SNW2B-58	0.61			54.5	OK	
S32.009	SNW2B-59	0.20			54.5	OK	
S31.013	SNW2B-49	0.50			79.0	OK	
S30.004	SNW2B-35	0.36			96.2	OK	
S25.014	SNW2B-20	1.13			151.1	OK	
S24.004	SNW2B-5	0.09			30.7	OK	
S24.005	SNW2B-Pond-HW-A	0.16			30.4	OK	
S23.002	SNW2B-Central-Pond-Dummy	0.05			11.1	OK	
S23.003	SNW2B-Pond-HW-C	0.03			10.8	OK	
S35.000	SDUMMY 9	0.17			1.7	FLOOD RISK*	
S35.001	SDUMMY 10	0.06			0.6	FLOOD RISK*	
S35.002	SNW2B-67	0.03			0.6	OK	
S36.000	SDUMMY 11	0.74			7.8	FLOOD RISK*	
S36.001	SDUMMY 12	0.59			6.4	FLOOD RISK*	
S35.003	SNW2B-68	0.09			7.0	OK	
S37.000	SDUMMY 7	0.52			4.8	FLOOD RISK*	
S37.001	SDUMMY 8	0.36			3.3	FLOOD RISK*	
S38.000	SDUMMY 1	0.22			2.1	FLOOD RISK*	
S38.001	SDUMMY 2	0.09			0.9	FLOOD RISK*	
S38.002	SNW2B-63	0.05			0.9	OK	
S39.000	SDUMMY 3	0.30			2.7	FLOOD RISK*	
S39.001	SDUMMY 4	0.15			1.4	FLOOD RISK*	
S38.003	SNW2B-64	0.09			2.3	OK	
S40.000	SDUMMY 5	1.14			11.7	FLOOD RISK*	
S40.001	SDUMMY 6	1.06			10.3	FLOOD RISK*	
S38.004	SNW2B-65	0.31			12.6	OK	
S37.002	SNW2B-65A	0.80			15.9	OK	
S41.000	SDUMMY 13	0.53			5.2	FLOOD RISK*	
S41.001	SDUMMY 14	0.49			4.6	FLOOD RISK*	

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S37.003	SNW2B-65B	0.32			20.5	OK	
S35.004	SNW2B-65C	0.31			27.5	OK	
S42.000	SNW2B-70	0.00			0.0	OK	
S42.001	SNW2B-70A	0.00			0.0	OK	
S43.000	SNW2B-77	0.00			0.0	OK	
S35.005	SNW2B-65D	0.60			27.5	OK	
S35.006	SNW2B-65E	0.49			46.7	OK	
S23.004	SNW2B-65F	0.07			24.9	SURCHARGED	
S23.005	SNW2B-73	0.12			24.9	OK	
S23.006	SNW2B-74	0.16			24.5	OK	
S23.007	SNW2B-75	0.24			24.1	OK	
S23.008	SNW2B-76	0.29			24.0	OK	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes A46 pipe Manhole Sizes A46 manholes

FEH Rainfall Model

Return Period (years)	1
FEH Rainfall Version	1999
Site Location GB 438400 279200 SP 38400 79200	
C (1km)	-0.025
D1 (1km)	0.382
D2 (1km)	0.332
D3 (1km)	0.233
E (1km)	0.299
F (1km)	2.381
Maximum Rainfall (mm/hr)	300
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.900
PIMP (%)	100
Add Flow / Climate Change (%)	25
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	0.75
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S23.000	48.799	1.440	33.9	0.482	5.00	0.0	1.500		1.5 _/	500	1:1.5 Ditch	
S23.001	85.232	0.001	85231.9	0.000	0.00	0.0	1.500		o	300	Pipe/Conduit	
S24.000	18.573	0.472	39.3	0.032	5.00	0.0	0.600		o	150	Pipe/Conduit	
S24.001	43.042	2.380	18.1	0.100	0.00	0.0	0.600		o	150	Pipe/Conduit	
S24.002	43.224	2.380	18.2	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	
S24.003	35.984	2.296	15.7	0.066	0.00	0.0	1.500		o	150	Pipe/Conduit	
S25.000	29.489	0.059	499.8	0.052	5.00	0.0	0.600		o	225	Pipe/Conduit	
S25.001	13.139	0.131	100.3	0.003	0.00	0.0	0.600		o	225	Pipe/Conduit	
S25.002	13.393	0.414	32.4	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S26.000	19.677	0.128	153.7	0.022	5.00	0.0	1.500		o	150	Pipe/Conduit	
S27.000	36.594	0.285	128.4	0.049	5.00	0.0	1.500		o	150	Pipe/Conduit	
S28.000	34.730	0.350	99.2	0.125	5.00	0.0	1.500		o	225	Pipe/Conduit	
S27.001	15.812	0.303	52.2	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S26.001	16.474	0.032	515.3	0.006	0.00	0.0	1.500		o	300	Pipe/Conduit	
S26.002	15.014	0.030	496.5	0.005	0.00	0.0	1.500		o	300	Pipe/Conduit	
S26.003	15.195	0.031	497.7	0.006	0.00	0.0	1.500		o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S23.000	49.32	5.15	74.170	0.482	0.0	0.0	19.3	5.43	3393.7	96.6
S23.001	16.60	30.00	72.730	0.482	0.0	0.0	19.3	0.04	3.1«	96.6
S24.000	49.07	5.19	80.823	0.032	0.0	0.0	1.3	1.61	28.4	6.4
S24.001	47.39	5.49	80.351	0.132	0.0	0.0	5.1	2.38	42.1	25.4
S24.002	45.84	5.80	77.971	0.132	0.0	0.0	5.1	2.37	42.0	25.4
S24.003	44.57	6.07	75.591	0.199	0.0	0.0	7.2	2.22	39.2	35.9
S25.000	45.59	5.85	80.895	0.052	0.0	0.0	1.9	0.58	23.0	9.6
S25.001	44.80	6.02	80.836	0.055	0.0	0.0	2.0	1.31	51.9	9.9
S25.002	44.36	6.11	80.705	0.055	0.0	0.0	2.0	2.31	91.8	9.9
S26.000	47.55	5.46	80.660	0.022	0.0	0.0	0.8	0.71	12.5	4.2
S27.000	45.88	5.79	81.120	0.049	0.0	0.0	1.8	0.77	13.6	9.1
S28.000	47.35	5.50	81.110	0.125	0.0	0.0	4.8	1.15	45.8	24.1
S27.001	45.18	5.93	80.760	0.174	0.0	0.0	6.4	1.81	72.2	32.0
S26.001	43.18	6.39	80.382	0.202	0.0	0.0	7.1	0.61	43.0	35.5
S26.002	41.58	6.79	80.350	0.208	0.0	0.0	7.1	0.62	43.8	35.5
S26.003	40.10	7.20	80.320	0.213	0.0	0.0	7.1	0.62	43.7	35.5

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S26.004	18.010	0.036	500.0	0.017	0.00	0.0	1.500		o	300	Pipe/Conduit	
S26.005	20.064	0.038	532.1	0.018	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.003	44.545	1.810	24.6	0.054	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.004	45.481	2.291	19.9	0.042	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.005	45.512	2.080	21.9	0.041	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.006	36.792	0.088	416.8	0.040	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.007	9.741	0.019	512.7	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S25.008	88.604	0.191	463.9	0.109	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.009	50.064	0.100	500.6	0.212	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.010	50.064	0.100	500.6	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S29.000	52.516	0.112	467.7	0.150	5.00	0.0	0.600		o	300	Pipe/Conduit	
S29.001	43.361	0.093	467.7	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S29.002	50.095	0.241	207.7	0.160	0.00	0.0	0.600		o	300	Pipe/Conduit	
S29.003	50.219	0.242	207.7	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S29.004	11.810	0.024	492.1	0.000	0.00	0.0	1.500		o	375	Pipe/Conduit	
S25.011	90.000	0.178	505.6	0.213	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.012	78.999	0.138	572.5	0.125	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.013	30.928	0.052	594.8	0.000	0.00	0.0	1.500		o	600	Pipe/Conduit	
S30.000	48.741	0.097	501.4	0.141	5.00	0.0	0.600		o	375	Pipe/Conduit	
S30.001	49.238	0.098	502.4	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S30.002	50.027	0.100	498.7	0.121	0.00	0.0	0.600		o	375	Pipe/Conduit	
S30.003	50.027	0.100	498.7	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S31.000	19.536	0.110	177.6	0.012	5.00	0.0	0.600		o	150	Pipe/Conduit	
S31.001	9.424	0.053	177.8	0.005	0.00	0.0	0.600		o	150	Pipe/Conduit	
S31.002	16.373	0.197	83.1	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	
S31.003	10.400	0.168	61.9	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	
S31.004	33.615	1.550	21.7	0.092	0.00	0.0	1.500		o	150	Pipe/Conduit	
S31.005	33.849	1.590	21.3	0.037	0.00	0.0	1.500		o	150	Pipe/Conduit	
S31.006	33.811	1.250	27.0	0.032	0.00	0.0	1.500		o	150	Pipe/Conduit	
S31.007	82.683	1.355	61.0	0.077	0.00	0.0	1.500		o	225	Pipe/Conduit	
S31.008	9.822	0.240	40.9	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S31.009	99.013	0.330	300.0	0.020	0.00	0.0	1.500		o	300	Pipe/Conduit	
S31.010	100.895	0.202	500.0	0.098	0.00	0.0	1.500		o	300	Pipe/Conduit	
S31.011	99.988	0.208	480.7	0.143	0.00	0.0	1.500		o	375	Pipe/Conduit	
S31.012	101.179	0.202	500.0	0.051	0.00	0.0	1.500		o	375	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S26.004	38.51	7.69	80.289	0.230	0.0	0.0	7.2	0.62	43.6	36.0
S26.005	36.88	8.24	80.253	0.248	0.0	0.0	7.4	0.60	42.3	37.1
S25.003	36.16	8.51	80.216	0.356	0.0	0.0	10.5	2.80	198.0	52.3
S25.004	35.54	8.75	78.406	0.398	0.0	0.0	11.5	3.12	220.5	57.4
S25.005	34.91	9.01	76.115	0.438	0.0	0.0	12.4	2.97	210.0	62.2
S25.006	33.60	9.59	73.735	0.478	0.0	0.0	13.1	1.06	299.8	65.3
S25.007	33.27	9.74	73.646	0.478	0.0	0.0	13.1	1.07	302.1	65.3
S25.008	30.50	11.21	73.627	0.588	0.0	0.0	14.6	1.00	284.1	72.8
S25.009	29.14	12.07	73.436	0.800	0.0	0.0	18.9	0.97	273.4	94.7
S25.010	28.04	12.84	73.336	0.800	0.0	0.0	18.9	1.08	305.8	94.7
S29.000	43.91	6.21	74.220	0.150	0.0	0.0	5.4	0.72	50.9	26.8
S29.001	40.04	7.22	74.108	0.150	0.0	0.0	5.4	0.72	50.9	26.8
S29.002	37.61	7.99	74.015	0.310	0.0	0.0	9.5	1.09	76.8	47.4
S29.003	35.53	8.76	73.774	0.310	0.0	0.0	9.5	1.09	76.8	47.4
S29.004	34.86	9.03	73.457	0.310	0.0	0.0	9.5	0.72	79.5	47.4
S25.011	26.13	14.40	73.236	1.323	0.0	0.0	28.1	0.96	272.1	140.4
S25.012	24.62	15.86	73.058	1.448	0.0	0.0	29.0	0.90	255.6	144.8
S25.013	24.07	16.44	72.920	1.448	0.0	0.0	29.0	0.89	250.7	144.8
S30.000	44.82	6.01	73.735	0.141	0.0	0.0	5.1	0.80	88.6	25.7
S30.001	40.67	7.04	73.638	0.141	0.0	0.0	5.1	0.80	88.5	25.7
S30.002	37.36	8.07	73.539	0.262	0.0	0.0	7.9	0.80	88.9	39.7
S30.003	34.67	9.11	73.439	0.262	0.0	0.0	7.9	0.80	88.9	39.7
S31.000	47.72	5.43	81.183	0.012	0.0	0.0	0.5	0.75	13.3	2.4
S31.001	46.62	5.64	81.073	0.017	0.0	0.0	0.6	0.75	13.3	3.2
S31.002	45.40	5.89	81.020	0.017	0.0	0.0	0.6	1.10	19.5	3.2
S31.003	44.76	6.03	80.823	0.017	0.0	0.0	0.6	1.28	22.6	3.2
S31.004	43.45	6.32	80.655	0.109	0.0	0.0	3.9	1.89	33.3	19.3
S31.005	42.24	6.62	79.105	0.147	0.0	0.0	5.0	1.90	33.7	25.2
S31.006	40.97	6.95	77.515	0.178	0.0	0.0	5.9	1.69	29.8	29.7
S31.007	37.90	7.89	76.190	0.256	0.0	0.0	7.9	1.47	58.5	39.4
S31.008	37.66	7.97	74.835	0.256	0.0	0.0	7.9	2.05	81.5	39.4
S31.009	32.66	10.04	74.520	0.276	0.0	0.0	7.9	0.80	56.4	39.4
S31.010	28.15	12.76	74.190	0.375	0.0	0.0	8.6	0.62	43.6	42.9
S31.011	25.43	15.05	73.913	0.518	0.0	0.0	10.7	0.73	80.5	53.5
S31.012	23.24	17.41	73.705	0.569	0.0	0.0	10.7	0.71	78.9	53.7

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S32.000	14.556	0.081	180.1	0.006	5.00	0.0	0.600		o	225	Pipe/Conduit	
S32.001	15.037	0.086	175.5	0.006	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.002	10.841	0.184	58.9	0.004	0.00	0.0	0.600		o	225	Pipe/Conduit	
S33.000	21.707	0.140	155.0	0.049	5.00	0.0	0.600		o	225	Pipe/Conduit	
S34.000	22.095	0.135	163.7	0.144	5.00	0.0	0.600		o	225	Pipe/Conduit	
S33.001	14.630	0.205	71.4	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.003	11.918	0.117	101.8	0.005	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.004	20.308	0.199	102.3	0.014	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.005	18.076	0.334	54.1	0.015	0.00	0.0	1.500		o	225	Pipe/Conduit	
S32.006	45.502	2.292	19.9	0.104	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.007	45.031	2.292	19.6	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.008	50.708	1.592	31.9	0.052	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.009	10.070	0.462	21.8	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S31.013	11.672	0.164	71.2	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S30.004	12.730	0.231	55.1	0.000	0.00	0.0	0.600		o	450	Pipe/Conduit	
S25.014	14.080	0.023	612.2	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S24.004	22.481	0.115	195.5	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S24.005	56.069	0.001	56069.4	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S23.002	5.000	0.001	5000.1	0.000	0.00	0.0	1.500		o	600	Pipe/Conduit	
S23.003	27.916	0.056	498.5	0.000	0.00	0.0	0.600		o	675	Pipe/Conduit	
S35.000	4.543	0.009	504.7	0.055	5.00	0.0	1.500		o	150	Pipe/Conduit	
S35.001	4.546	0.009	505.2	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S35.002	60.939	1.360	44.8	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S36.000	4.379	0.009	486.5	0.584	5.00	0.0	1.500		o	150	Pipe/Conduit	
S36.001	3.893	0.008	486.6	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S35.003	87.363	2.700	32.4	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S37.000	5.719	0.011	519.9	0.301	5.00	0.0	1.500		o	150	Pipe/Conduit	
S37.001	5.699	0.011	518.1	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S32.000	48.74	5.25	81.291	0.006	0.0	0.0	0.2	0.97	38.6	1.1
S32.001	47.34	5.50	81.210	0.011	0.0	0.0	0.4	0.98	39.1	2.2
S32.002	46.78	5.61	81.124	0.016	0.0	0.0	0.6	1.71	67.9	2.9
S33.000	48.20	5.35	81.285	0.049	0.0	0.0	1.9	1.05	41.7	9.6
S34.000	48.11	5.36	81.280	0.144	0.0	0.0	5.6	1.02	40.5	28.2
S33.001	47.26	5.52	81.145	0.193	0.0	0.0	7.4	1.55	61.6	37.1
S32.003	46.01	5.76	80.940	0.214	0.0	0.0	8.0	1.30	51.5	40.0
S32.004	44.76	6.03	80.823	0.228	0.0	0.0	8.3	1.29	51.4	41.5
S32.005	43.90	6.22	80.624	0.243	0.0	0.0	8.7	1.56	62.1	43.4
S32.006	42.81	6.48	80.290	0.348	0.0	0.0	12.1	2.95	117.3	60.5
S32.007	41.81	6.73	77.999	0.348	0.0	0.0	12.1	2.97	117.9	60.5
S32.008	40.47	7.09	75.707	0.399	0.0	0.0	13.1	2.33	92.5	65.7
S32.009	40.32	7.13	73.965	0.399	0.0	0.0	13.1	3.90	430.3	65.7
S31.013	23.16	17.50	73.503	0.968	0.0	0.0	18.2	2.15	237.5	91.1
S30.004	23.10	17.57	73.264	1.230	0.0	0.0	23.1	2.74	436.3	115.4
S25.014	22.91	17.82	72.868	2.678	0.0	0.0	49.8	0.98	276.2	249.2
S24.004	22.74	18.03	72.845	2.876	0.0	0.0	53.1	1.74	491.5	265.7
S24.005	17.34	27.94	72.730	2.876	0.0	0.0	53.1	0.09	26.7«	265.7
S23.002	16.60	30.00	72.730	3.359	0.0	0.0	53.1	0.30	85.6«	265.7
S23.003	16.60	30.00	72.730	3.359	0.0	0.0	53.1	1.17	417.6	265.7
S35.000	49.06	5.20	79.190	0.055	0.0	0.0	2.2	0.39	6.8«	10.9
S35.001	47.95	5.39	79.181	0.055	0.0	0.0	2.2	0.39	6.8«	10.9
S35.002	44.13	6.17	78.040	0.055	0.0	0.0	2.2	1.31	23.2	10.9
S36.000	49.12	5.19	77.830	0.584	0.0	0.0	23.3	0.39	7.0«	116.6
S36.001	48.18	5.35	77.821	0.584	0.0	0.0	23.3	0.39	7.0«	116.6
S35.003	41.22	6.89	76.605	0.639	0.0	0.0	23.3	2.02	80.4«	116.6
S37.000	48.74	5.25	76.941	0.301	0.0	0.0	11.9	0.38	6.7«	59.6
S37.001	47.37	5.50	76.930	0.301	0.0	0.0	11.9	0.38	6.7«	59.6

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S38.000	5.268	0.012	439.0	0.086	5.00	0.0	1.500		o	150	Pipe/Conduit	
S38.001	4.798	0.011	436.2	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S38.002	26.447	0.350	75.6	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S39.000	5.552	0.011	504.7	0.127	5.00	0.0	1.500		o	150	Pipe/Conduit	
S39.001	5.298	0.011	481.6	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S38.003	43.665	1.280	34.1	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S40.000	4.592	0.009	510.2	0.945	5.00	0.0	1.500		o	150	Pipe/Conduit	
S40.001	5.073	0.010	507.3	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S38.004	76.231	0.630	121.0	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S37.002	59.094	0.118	500.8	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S41.000	5.118	0.010	511.8	0.418	5.00	0.0	1.500		o	150	Pipe/Conduit	
S41.001	5.304	0.011	482.2	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S37.003	87.986	1.842	47.8	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S35.004	48.257	0.355	135.9	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S42.000	110.228	1.290	85.4	0.000	5.00	0.0	1.500		o	150	Pipe/Conduit	
S42.001	33.213	2.465	13.5	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S43.000	76.950	0.155	496.5	0.000	5.00	0.0	1.500		o	150	Pipe/Conduit	
S35.005	44.921	0.090	499.1	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S35.006	38.520	0.336	114.6	0.205	0.00	0.0	0.600		o	300	Pipe/Conduit	
S23.004	48.901	0.099	494.0	0.000	0.00	0.0	0.600		o	675	Pipe/Conduit	
S23.005	30.147	0.060	502.4	0.000	0.00	0.0	1.500	2 _/		500	1:2 Ditch	
S23.006	37.360	0.075	500.0	0.000	0.00	0.0	1.500	2 _/		500	1:2 Ditch	
S23.007	23.001	0.046	500.0	0.000	0.00	0.0	1.500	2 _/		500	1:2 Ditch	
S23.008	17.619	0.035	500.0	0.000	0.00	0.0	1.500	2 _/		500	1:2 Ditch	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S38.000	48.96	5.21	79.248	0.086	0.0	0.0	3.4	0.42	7.3«	17.2
S38.001	47.88	5.40	79.236	0.086	0.0	0.0	3.4	0.42	7.4«	17.2
S38.002	45.63	5.84	78.200	0.086	0.0	0.0	3.4	1.01	17.8	17.2
S39.000	48.80	5.24	78.857	0.127	0.0	0.0	5.0	0.39	6.8«	25.2
S39.001	47.56	5.46	78.846	0.127	0.0	0.0	5.0	0.40	7.0«	25.2
S38.003	43.44	6.32	77.850	0.213	0.0	0.0	7.5	1.50	26.6«	37.6
S40.000	49.04	5.20	77.571	0.945	0.0	0.0	37.6	0.38	6.8«	188.2
S40.001	47.80	5.42	77.562	0.945	0.0	0.0	37.6	0.39	6.8«	188.2
S38.004	38.96	7.54	76.495	1.158	0.0	0.0	37.6	1.04	41.5«	188.2
S37.002	33.84	9.47	75.865	1.459	0.0	0.0	40.1	0.51	20.3«	200.6
S41.000	48.90	5.22	75.550	0.418	0.0	0.0	16.6	0.38	6.8«	83.0
S41.001	47.65	5.45	75.540	0.418	0.0	0.0	16.6	0.40	7.0«	83.0
S37.003	32.03	10.36	75.747	1.877	0.0	0.0	48.8	1.66	66.1«	244.2
S35.004	30.94	10.95	73.830	2.516	0.0	0.0	63.2	1.35	95.2«	316.2
S42.000	41.03	6.94	77.380	0.000	0.0	0.0	0.0	0.95	16.8	0.0
S42.001	40.20	7.17	76.090	0.000	0.0	0.0	0.0	2.40	42.3	0.0
S43.000	36.76	8.29	73.780	0.000	0.0	0.0	0.0	0.39	6.9	0.0
S35.005	29.20	12.03	73.475	2.516	0.0	0.0	63.2	0.70	49.3«	316.2
S35.006	28.57	12.46	73.385	2.720	0.0	0.0	63.2	1.47	103.7«	316.2
S23.004	16.60	30.00	72.674	6.079	0.0	0.0	82.0	1.17	419.5	409.9
S23.005	16.60	30.00	72.540	6.079	0.0	0.0	82.0	0.01	9.4«	409.9
S23.006	16.60	30.00	72.480	6.079	0.0	0.0	82.0	0.01	9.4«	409.9
S23.007	16.60	30.00	72.405	6.079	0.0	0.0	82.0	0.01	9.4«	409.9
S23.008	16.60	30.00	72.359	6.079	0.0	0.0	82.0	0.01	3.1«	409.9

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
SNW2B-72	74.670	0.500	Junction		S23.000	74.170	500				
SNW2B-Pond-HW-B	75.110	2.380	Junction		S23.001	72.730	300	S23.000	72.730	500	
SNW2B-1	82.287	1.464	Open Manhole	1050	S24.000	80.823	150				
SNW2B-2	81.645	1.294	Open Manhole	1050	S24.001	80.351	150	S24.000	80.351	150	
SNW2B-3	81.770	3.799	Open Manhole	1050	S24.002	77.971	150	S24.001	77.971	150	
SNW2B-4	81.770	6.179	Open Manhole	1050	S24.003	75.591	150	S24.002	75.591	150	
SNW2B-6	82.418	1.523	Open Manhole	1050	S25.000	80.895	225				
SNW2B-7	82.470	1.634	Open Manhole	1050	S25.001	80.836	225	S25.000	80.836	225	
SNW2B-8	82.230	1.525	Open Manhole	1050	S25.002	80.705	225	S25.001	80.705	225	
SNW2B-21	82.010	1.350	Open Manhole	1050	S26.000	80.660	150				
SNW2B-27	82.470	1.350	Open Manhole	1050	S27.000	81.120	150				
SNW2B-29	82.460	1.350	Open Manhole	1050	S28.000	81.110	225				
SNW2B-28	82.260	1.500	Open Manhole	1050	S27.001	80.760	225	S27.000	80.835	150	
								S28.000	80.760	225	
SNW2B-22	82.100	1.718	Open Manhole	1050	S26.001	80.382	300	S26.000	80.532	150	
								S27.001	80.457	225	
SNW2B-23	82.140	1.790	Open Manhole	1050	S26.002	80.350	300	S26.001	80.350	300	
SNW2B-24	82.200	1.880	Open Manhole	1050	S26.003	80.320	300	S26.002	80.320	300	
SNW2B-25	82.260	1.971	Open Manhole	1050	S26.004	80.289	300	S26.003	80.289	300	
SNW2B-26	82.250	1.997	Open Manhole	1050	S26.005	80.253	300	S26.004	80.253	300	
SNW2B-9	81.880	1.664	Open Manhole	1050	S25.003	80.216	300	S25.002	80.291	225	
								S26.005	80.216	300	
SNW2B-10	80.070	1.664	Open Manhole	1050	S25.004	78.406	300	S25.003	78.406	300	
SNW2B-11	77.690	1.575	Open Manhole	1050	S25.005	76.115	300	S25.004	76.115	300	
SNW2B-12	75.840	2.105	Open Manhole	1500	S25.006	73.735	600	S25.005	74.035	300	
SNW2B-13	75.125	1.479	Open Manhole	1500	S25.007	73.646	600	S25.006	73.647	600	1
SNW2B-14	75.303	1.676	Open Manhole	1500	S25.008	73.627	600	S25.007	73.627	600	
SNW2B-15	75.000	1.564	Open Manhole	1500	S25.009	73.436	600	S25.008	73.436	600	
SNW2B-16	74.923	1.587	Open Manhole	1500	S25.010	73.336	600	S25.009	73.336	600	
SNW2B-30	75.420	1.200	Open Manhole	1050	S29.000	74.220	300				
SNW2B-X1	75.322	1.214	Open Manhole	1050	S29.001	74.108	300	S29.000	74.108	300	
SNW2B-31	75.250	1.235	Open Manhole	1050	S29.002	74.015	300	S29.001	74.015	300	
SNW2B-X2	75.131	1.357	Open Manhole	1050	S29.003	73.774	300	S29.002	73.774	300	
SNW2B-32	75.111	1.654	Open Manhole	1050	S29.004	73.457	375	S29.003	73.532	300	
SNW2B-17	74.850	1.614	Open Manhole	1500	S25.011	73.236	600	S25.010	73.236	600	
								S29.004	73.433	375	
SNW2B-18	74.720	1.662	Open Manhole	1500	S25.012	73.058	600	S25.011	73.058	600	
SNW2B-19	74.605	1.685	Open Manhole	1500	S25.013	72.920	600	S25.012	72.920	600	
SNW2B-33	75.050	1.315	Open Manhole	1050	S30.000	73.735	375				
SNW2B-X3	74.975	1.337	Open Manhole	1050	S30.001	73.638	375	S30.000	73.638	375	
SNW2B-34	74.900	1.361	Open Manhole	1050	S30.002	73.539	375	S30.001	73.540	375	1
SNW2B-X4	74.801	1.362	Open Manhole	1050	S30.003	73.439	375	S30.002	73.439	375	
SNW2B-36	82.533	1.350	Open Manhole	1050	S31.000	81.183	150				
SNW2B-37	82.598	1.525	Open Manhole	1050	S31.001	81.073	150	S31.000	81.073	150	
SNW2B-38	82.575	1.555	Open Manhole	1050	S31.002	81.020	150	S31.001	81.020	150	
SNW2B-39	82.173	1.350	Open Manhole	1050	S31.003	80.823	150	S31.002	80.823	150	
SNW2B-40	82.005	1.350	Open Manhole	1050	S31.004	80.655	150	S31.003	80.655	150	
SNW2B-41	80.455	1.350	Open Manhole	1050	S31.005	79.105	150	S31.004	79.105	150	
SNW2B-42	78.865	1.350	Open Manhole	1050	S31.006	77.515	150	S31.005	77.515	150	
SNW2B-43	77.615	1.425	Open Manhole	1050	S31.007	76.190	225	S31.006	76.265	150	
SNW2B-44	76.260	1.425	Open Manhole	1050	S31.008	74.835	225	S31.007	74.835	225	
SNW2B-45	76.020	1.500	Open Manhole	1050	S31.009	74.520	300	S31.008	74.595	225	
SNW2B-46	75.690	1.500	Open Manhole	1050	S31.010	74.190	300	S31.009	74.190	300	
SNW2B-47	75.500	1.587	Open Manhole	1050	S31.011	73.913	375	S31.010	73.988	300	
SNW2B-48	75.280	1.575	Open Manhole	1050	S31.012	73.705	375	S31.011	73.705	375	
SNW2B-50	82.591	1.300	Open Manhole	1050	S32.000	81.291	225				
SNW2B-51	82.547	1.337	Open Manhole	1050	S32.001	81.210	225	S32.000	81.210	225	
SNW2B-52	82.513	1.389	Open Manhole	1050	S32.002	81.124	225	S32.001	81.124	225	
SNW2B-60	82.710	1.425	Open Manhole	1050	S33.000	81.285	225				
SNW2B-62	82.705	1.425	Open Manhole	1050	S34.000	81.280	225				
SNW2B-61	82.570	1.425	Open Manhole	1050	S33.001	81.145	225	S33.000	81.145	225	
								S34.000	81.145	225	
SNW2B-53	82.503	1.563	Open Manhole	1050	S32.003	80.940	225	S32.002	80.940	225	
								S33.001	80.940	225	
SNW2B-54	82.510	1.687	Open Manhole	1050	S32.004	80.823	225	S32.003	80.823	225	
SNW2B-55	82.420	1.796	Open Manhole	1050	S32.005	80.624	225	S32.004	80.624	225	
SNW2B-56	81.792	1.502	Open Manhole	1050	S32.006	80.290	225	S32.005	80.290	225	

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
SNW2B-57	79.795	1.796	Open Manhole	1050	S32.007	77.999	225	S32.006	77.999	225	
SNW2B-58	77.132	1.425	Open Manhole	1050	S32.008	75.707	225	S32.007	75.707	225	
SNW2B-59	75.540	1.575	Open Manhole	1050	S32.009	73.965	375	S32.008	74.115	225	
SNW2B-49	75.300	1.797	Open Manhole	1050	S31.013	73.503	375	S31.012	73.503	375	
								S32.009	73.503	375	
SNW2B-35	74.720	1.456	Open Manhole	1500	S30.004	73.264	450	S30.003	73.339	375	
								S31.013	73.339	375	
SNW2B-20	74.490	1.622	Open Manhole	1500	S25.014	72.868	600	S25.013	72.868	600	
								S30.004	73.033	450	15
SNW2B-5	75.430	2.585	Open Manhole	1500	S24.004	72.845	600	S24.003	73.295	150	
								S25.014	72.845	600	
SNW2B-Pond-HW-A	75.470	2.740	Open Manhole	1500	S24.005	72.730	600	S24.004	72.730	600	
SNW2B-Central-Pond-Dummy	75.230	2.501	Open Manhole	1500	S23.002	72.730	600	S23.001	72.729	300	
								S24.005	72.729	600	
SNW2B-Pond-HW-C	75.230	2.501	Open Manhole	1500	S23.003	72.730	675	S23.002	72.729	600	
SDUMMY 9	79.390	0.200	Junction		S35.000	79.190	150				
SDUMMY 10	79.390	0.209	Junction		S35.001	79.181	150	S35.000	79.181	150	
SNW2B-67	79.390	1.350	Open Manhole	1050	S35.002	78.040	150	S35.001	79.172	150	1132
SDUMMY 11	78.030	0.200	Junction		S36.000	77.830	150				
SDUMMY 12	78.030	0.209	Junction		S36.001	77.821	150	S36.000	77.821	150	
SNW2B-68	78.030	1.425	Open Manhole	1050	S35.003	76.605	225	S35.002	76.680	150	
								S36.001	77.813	150	1133
SDUMMY 7	77.141	0.200	Junction		S37.000	76.941	150				
SDUMMY 8	77.141	0.211	Junction		S37.001	76.930	150	S37.000	76.930	150	
SDUMMY 1	79.448	0.200	Junction		S38.000	79.248	150				
SDUMMY 2	79.448	0.212	Junction		S38.001	79.236	150	S38.000	79.236	150	
SNW2B-63	79.448	1.248	Open Manhole	1050	S38.002	78.200	150	S38.001	79.225	150	1025
SDUMMY 3	79.057	0.200	Junction		S39.000	78.857	150				
SDUMMY 4	79.057	0.211	Junction		S39.001	78.846	150	S39.000	78.846	150	
SNW2B-64	79.057	1.207	Open Manhole	1050	S38.003	77.850	150	S38.002	77.850	150	
								S39.001	78.835	150	985
SDUMMY 5	77.771	0.200	Junction		S40.000	77.571	150				
SDUMMY 6	77.771	0.209	Junction		S40.001	77.562	150	S40.000	77.562	150	
SNW2B-65	77.771	1.276	Open Manhole	1050	S38.004	76.495	225	S38.003	76.570	150	
								S40.001	77.552	150	982
SNW2B-65A	77.141	1.276	Open Manhole	1050	S37.002	75.865	225	S37.001	76.919	150	979
								S38.004	75.865	225	
SDUMMY 13	75.750	0.200	Junction		S41.000	75.550	150				
SDUMMY 14	75.750	0.210	Junction		S41.001	75.540	150	S41.000	75.540	150	
SNW2B-65B	77.312	1.783	Open Manhole	1050	S37.003	75.747	225	S37.002	75.747	225	
								S41.001	75.529	150	
SNW2B-65C	77.598	3.768	Open Manhole	1050	S35.004	73.830	300	S35.003	73.905	225	
								S37.003	73.905	225	
SNW2B-70	78.730	1.350	Open Manhole	1050	S42.000	77.380	150				
SNW2B-70A	77.440	1.350	Open Manhole	1050	S42.001	76.090	150	S42.000	76.090	150	
SNW2B-77	75.130	1.350	Open Manhole	1050	S43.000	73.780	150				
SNW2B-65D	75.165	1.690	Open Manhole	1050	S35.005	73.475	300	S35.004	73.475	300	
								S42.001	73.625	150	
								S43.000	73.625	150	
SNW2B-65E	76.278	2.893	Open Manhole	1050	S35.006	73.385	300	S35.005	73.385	300	
SNW2B-65F	75.641	2.967	Open Manhole	1500	S23.004	72.674	675	S23.003	72.674	675	
								S35.006	73.049	300	
SNW2B-73	74.400	1.860	Junction		S23.005	72.540	500	S23.004	72.575	675	210
SNW2B-74	74.090	1.610	Junction		S23.006	72.480	500	S23.005	72.480	500	
SNW2B-75	73.790	1.385	Junction		S23.007	72.405	500	S23.006	72.405	500	
SNW2B-76	73.706	1.347	Junction		S23.008	72.359	500	S23.007	72.359	500	
SEX-NW2B-Outfall	73.622	1.298	Open Manhole	0		OUTFALL		S23.008	72.324	500	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-72	438670.492	279896.585			No Entry	
SNW2B-Pond-HW-B	438656.871	279849.726			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-1	438693.133	279943.669	438693.133	279943.669	Required	
SNW2B-2	438700.213	279926.499	438700.213	279926.499	Required	
SNW2B-3	438697.957	279883.516	438697.957	279883.516	Required	
SNW2B-4	438688.277	279841.390	438688.277	279841.390	Required	
SNW2B-6	438730.704	279983.433	438730.704	279983.433	Required	
SNW2B-7	438713.856	280007.635	438713.856	280007.635	Required	
SNW2B-8	438725.610	280013.505	438725.610	280013.505	Required	
SNW2B-21	438658.890	279964.848	438658.890	279964.848	Required	
SNW2B-27	438702.505	279999.559	438702.505	279999.559	Required	
SNW2B-29	438703.546	279964.544	438703.546	279964.544	Required	
SNW2B-28	438672.075	279979.232	438672.075	279979.232	Required	
SNW2B-22	438657.148	279984.449	438657.148	279984.449	Required	
SNW2B-23	438663.179	279999.780	438663.179	279999.780	Required	
SNW2B-24	438673.887	280010.303	438673.887	280010.303	Required	
SNW2B-25	438688.225	280015.336	438688.225	280015.336	Required	
SNW2B-26	438706.173	280016.827	438706.173	280016.827	Required	
SNW2B-9	438723.612	280026.748	438723.612	280026.748	Required	
SNW2B-10	438755.430	280057.924	438755.430	280057.924	Required	
SNW2B-11	438779.998	280096.199	438779.998	280096.199	Required	
SNW2B-12	438799.033	280137.539	438799.033	280137.539	Required	
SNW2B-13	438811.266	280172.238	438811.266	280172.238	Required	
SNW2B-14	438820.367	280168.763	438820.367	280168.763	Required	
SNW2B-15	438792.827	280084.547	438792.827	280084.547	Required	
SNW2B-16	438776.376	280037.263	438772.657	280026.434	Required	
SNW2B-30	438834.224	280172.000	438834.224	280172.000	Required	
SNW2B-X1	438817.728	280122.142	438817.728	280122.142	Required	
SNW2B-31	438804.108	280080.975	438804.108	280080.975	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-X2	438787.652	280033.660	438787.652	280033.660	Required	
SNW2B-32	438771.126	279986.238	438771.126	279986.238	Required	
SNW2B-17	438759.925	279989.980	438759.925	279989.980	Required	
SNW2B-18	438728.927	279905.486	438728.927	279905.486	Required	
SNW2B-19	438701.118	279831.544	438701.118	279831.544	Required	
SNW2B-33	438770.420	279984.587	438770.420	279984.587	Required	
SNW2B-X3	438753.606	279938.838	438753.606	279938.838	Required	
SNW2B-34	438736.620	279892.622	438736.620	279892.622	Required	
SNW2B-X4	438718.512	279845.988	438718.512	279845.988	Required	
SNW2B-36	438800.217	279958.249	438800.217	279958.249	Required	
SNW2B-37	438816.705	279968.727	438816.705	279968.727	Required	
SNW2B-38	438825.833	279971.071	438825.833	279971.071	Required	
SNW2B-39	438819.536	279986.185	438819.536	279986.185	Required	
SNW2B-40	438829.538	279989.034	438829.538	279989.034	Required	
SNW2B-41	438826.012	280022.464	438826.012	280022.464	Required	
SNW2B-42	438829.583	280056.123	438829.583	280056.123	Required	
SNW2B-43	438836.206	280089.279	438836.206	280089.279	Required	
SNW2B-44	438856.453	280169.445	438856.453	280169.445	Required	
SNW2B-45	438846.935	280171.868	438846.935	280171.868	Required	
SNW2B-46	438818.007	280077.175	438818.007	280077.175	Required	
SNW2B-47	438785.334	279981.717	438785.334	279981.717	Required	
SNW2B-48	438747.568	279889.135	438747.568	279889.135	Required	
SNW2B-50	438848.517	279962.793	438848.517	279962.793	Required	
SNW2B-51	438855.025	279949.774	438855.025	279949.774	Required	
SNW2B-52	438853.349	279934.830	438853.349	279934.830	Required	
SNW2B-60	438831.676	279957.169	438831.676	279957.169	Required	
SNW2B-62	438815.483	279940.669	438815.483	279940.669	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-61	438837.112	279936.154	438837.112	279936.154	Required	
SNW2B-53	438847.409	279925.762	438847.409	279925.762	Required	
SNW2B-54	438837.472	279919.182	438837.472	279919.182	Required	
SNW2B-55	438817.601	279914.992	438817.601	279914.992	Required	
SNW2B-56	438803.570	279903.597	438803.570	279903.597	Required	
SNW2B-57	438770.704	279872.129	438770.704	279872.129	Required	
SNW2B-58	438743.851	279835.980	438743.851	279835.980	Required	
SNW2B-59	438720.469	279790.985	438720.469	279790.985	Required	
SNW2B-49	438711.127	279794.746	438711.127	279794.746	Required	
SNW2B-35	438700.404	279799.353	438700.404	279799.353	Required	
SNW2B-20	438688.329	279803.384	438688.329	279803.384	Required	
SNW2B-5	438675.007	279807.942	438675.007	279807.942	Required	
SNW2B-Pond-HW-A	438654.448	279817.038	438654.448	279817.038	Required	
SNW2B-Central-Pond-Dummy	438619.724	279773.015	438619.724	279773.015	Required	
SNW2B-Pond-HW-C	438615.068	279774.838	438615.068	279774.838	Required	
SDUMMY 9	438633.302	279567.222			No Entry	
SDUMMY 10	438630.281	279570.614			No Entry	
SNW2B-67	438627.460	279574.180	438627.460	279574.180	Required	
SDUMMY 11	438659.257	279626.863			No Entry	
SDUMMY 12	438654.905	279627.348			No Entry	
SNW2B-68	438652.013	279629.954	438652.013	279629.954	Required	
SDUMMY 7	438770.096	279838.193			No Entry	
SDUMMY 8	438764.379	279838.367			No Entry	
SDUMMY 1	438877.822	279932.380			No Entry	
SDUMMY 2	438872.588	279931.784			No Entry	
SNW2B-63	438867.937	279930.605	438867.937	279930.605	Required	
SDUMMY 3	438865.872	279908.344			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SDUMMY 4	438860.322	279908.229			No Entry	
SNW2B-64	438855.075	279907.496	438855.075	279907.496	Required	
SDUMMY 5	438825.197	279889.424			No Entry	
SDUMMY 6	438820.605	279889.424			No Entry	
SNW2B-65	438815.556	279888.926	438815.556	279888.926	Required	
SNW2B-65A	438758.683	279838.165	438758.683	279838.165	Required	
SDUMMY 13	438736.805	279790.294			No Entry	
SDUMMY 14	438731.687	279790.294			No Entry	
SNW2B-65B	438726.706	279788.470	438726.706	279788.470	Required	
SNW2B-65C	438686.340	279710.291	438686.340	279710.291	Required	
SNW2B-70	438576.354	279602.866	438576.354	279602.866	Required	
SNW2B-70A	438629.438	279699.470	438629.438	279699.470	Required	
SNW2B-77	438672.190	279801.000	438672.190	279801.000	Required	
SNW2B-65D	438642.327	279730.080	438642.327	279730.080	Required	
SNW2B-65E	438601.358	279748.502	438601.358	279748.502	Required	
SNW2B-65F	438589.072	279785.010	438589.072	279785.010	Required	
SNW2B-73	438543.518	279802.793			No Entry	
SNW2B-74	438551.661	279831.819			No Entry	
SNW2B-75	438562.717	279867.506			No Entry	
SNW2B-76	438573.748	279887.689			No Entry	
SEX-NW2B-Outfall	438577.404	279904.925			No Entry	

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
23.000	Classification	EW (fill)	20	0.343	0.069	0.069
	Classification	Overland	40	1.034	0.414	0.482
23.001	-	-	100	0.000	0.000	0.000
24.000	-	-	100	0.032	0.032	0.032
24.001	Classification	Paved	100	0.072	0.072	0.072
	Classification	Verge	50	0.057	0.028	0.100
24.002	-	-	100	0.000	0.000	0.000
24.003	Classification	Paved	100	0.028	0.028	0.028
	Classification	Verge	50	0.018	0.009	0.037
	Classification	Paved	100	0.024	0.024	0.061
	Classification	Verge	50	0.010	0.005	0.066
	Classification	EW (Cut)	20	0.002	0.000	0.066
25.000	Classification	Verge	50	0.008	0.004	0.004
	Classification	Paved	100	0.035	0.035	0.039
	As Zoned	Default	100	0.007	0.007	0.007
	User	-	100	0.006	0.006	0.052
25.001	Classification	Verge	50	0.005	0.003	0.003
25.002	-	-	100	0.000	0.000	0.000
26.000	Classification	Paved	100	0.009	0.009	0.009
	Classification	Paved	100	0.010	0.010	0.019
	Classification	Verge	50	0.005	0.002	0.022
27.000	Classification	EW (fill)	20	0.091	0.018	0.018
	Classification	Paved	100	0.031	0.031	0.049
28.000	Classification	EW (fill)	20	0.091	0.018	0.018
	Classification	Paved	100	0.031	0.031	0.049
	As Zoned	Verge	50	0.007	0.003	0.003
	As Zoned	Default	100	0.018	0.018	0.070
		Paved	100	0.000	0.000	0.018
	As Zoned	Paved	100	0.013	0.013	0.013
	As Zoned	Paved	100	0.030	0.030	0.030
	User	-	100	0.013	0.013	0.125
27.001	-	-	100	0.000	0.000	0.000
26.001	Classification	Paved	100	0.006	0.006	0.006
26.002	Classification	Paved	100	0.005	0.005	0.005
26.003	Classification	Paved	100	0.006	0.006	0.006
26.004	Classification	Paved	100	0.014	0.014	0.014
	Classification	Verge	50	0.005	0.002	0.017
26.005	Classification	Verge	50	0.005	0.002	0.002
	Classification	Paved	100	0.016	0.016	0.018
25.003	Classification	Verge	50	0.012	0.006	0.006
	Classification	Paved	100	0.048	0.048	0.054
25.004	Classification	Paved	100	0.036	0.036	0.036
	Classification	Verge	50	0.011	0.006	0.042
25.005	Classification	Verge	50	0.011	0.006	0.006
	Classification	Paved	100	0.035	0.035	0.041
25.006	Classification	Paved	100	0.034	0.034	0.034
	Classification	Verge	50	0.011	0.006	0.040
25.007	-	-	100	0.000	0.000	0.000
25.008	Classification	Paved	100	0.088	0.088	0.088
	Classification	Verge	50	0.043	0.022	0.109
25.009	Classification	Verge	50	0.239	0.120	0.120
	Classification	Paved	100	0.093	0.093	0.212
25.010	-	-	100	0.000	0.000	0.000
29.000	-	-	100	0.150	0.150	0.150
29.001	-	-	100	0.000	0.000	0.000
29.002	-	-	100	0.160	0.160	0.160
29.003	-	-	100	0.000	0.000	0.000
29.004	-	-	100	0.000	0.000	0.000
25.011	Classification	Paved	100	0.084	0.084	0.084
	Classification	Verge	50	0.082	0.041	0.124
	Classification	Verge	50	0.177	0.089	0.213
25.012	Classification	Verge	50	0.102	0.051	0.051
	Classification	Paved	100	0.073	0.073	0.125
25.013	-	-	100	0.000	0.000	0.000
30.000	Classification	Paved	100	0.114	0.114	0.114
	Classification	Paved	100	0.027	0.027	0.141
30.001	-	-	100	0.000	0.000	0.000
30.002	Classification	Paved	100	0.029	0.029	0.029
	Classification	Paved	100	0.092	0.092	0.121
30.003	-	-	100	0.000	0.000	0.000
31.000	Classification	Paved	100	0.012	0.012	0.012
31.001	Classification	Paved	100	0.005	0.005	0.005
31.002	-	-	100	0.000	0.000	0.000
31.003	-	-	100	0.000	0.000	0.000
31.004	Classification	Paved	100	0.028	0.028	0.028
	Classification	Verge	50	0.027	0.014	0.042
	Classification	Paved	100	0.025	0.025	0.067
	As Zoned	Default	100	0.025	0.025	0.092
31.005	Classification	Paved	100	0.027	0.027	0.027
	Classification	Verge	50	0.022	0.011	0.037
31.006	Classification	Paved	100	0.026	0.026	0.026
	Classification	Verge	50	0.011	0.005	0.032
31.007	Classification	Paved	100	0.064	0.064	0.064
	Classification	Verge	50	0.021	0.010	0.074
	Classification	EW (Cut)	20	0.017	0.003	0.077
31.008	-	-	100	0.000	0.000	0.000
31.009	Classification	Verge	50	0.041	0.020	0.020
31.010	Classification	Verge	50	0.197	0.098	0.098

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
31.011	Classification	Verge	50	0.287	0.143	0.143
31.012	Classification	Verge	50	0.102	0.051	0.051
32.000	Classification	Paved	100	0.006	0.006	0.006
32.001	Classification	Paved	100	0.006	0.006	0.006
32.002	Classification	Paved	100	0.004	0.004	0.004
33.000	Classification	Paved	100	0.034	0.034	0.034
	Classification	Verge	50	0.031	0.015	0.049
34.000	Classification	Verge	50	0.031	0.016	0.016
	Classification	Paved	100	0.034	0.034	0.050
	As Zoned	Paved	100	0.025	0.025	0.025
	As Zoned	Default	100	0.009	0.009	0.009
	As Zoned	Paved	100	0.002	0.002	0.002
	As Zoned	Default	100	0.005	0.005	0.005
	As Zoned	Default	100	0.018	0.018	0.110
		Paved	100	0.000	0.000	0.018
	As Zoned	Default	100	0.034	0.034	0.144
33.001	-	-	100	0.000	0.000	0.000
32.003	Classification	Paved	100	0.005	0.005	0.005
32.004	Classification	Paved	100	0.014	0.014	0.014
32.005	Classification	Paved	100	0.015	0.015	0.015
32.006	Classification	Paved	100	0.083	0.083	0.083
	Classification	Verge	50	0.043	0.021	0.104
32.007	-	-	100	0.000	0.000	0.000
32.008	Classification	EW (Cut)	20	0.015	0.003	0.003
	Classification	Verge	50	0.018	0.009	0.012
	Classification	Paved	100	0.040	0.040	0.052
32.009	-	-	100	0.000	0.000	0.000
31.013	-	-	100	0.000	0.000	0.000
30.004	-	-	100	0.000	0.000	0.000
25.014	-	-	100	0.000	0.000	0.000
24.004	-	-	100	0.000	0.000	0.000
24.005	-	-	100	0.000	0.000	0.000
23.002	-	-	100	0.000	0.000	0.000
23.003	-	-	100	0.000	0.000	0.000
35.000	Classification	Overland	40	0.137	0.055	0.055
35.001	-	-	100	0.000	0.000	0.000
35.002	-	-	100	0.000	0.000	0.000
36.000	Classification	Overland	40	1.461	0.584	0.584
36.001	-	-	100	0.000	0.000	0.000
35.003	-	-	100	0.000	0.000	0.000
37.000	Classification	Overland	40	0.506	0.202	0.202
	Classification	Overland	40	0.246	0.099	0.301
37.001	-	-	100	0.000	0.000	0.000
38.000	Classification	Overland	40	0.216	0.086	0.086
38.001	-	-	100	0.000	0.000	0.000
38.002	-	-	100	0.000	0.000	0.000
39.000	Classification	Overland	40	0.317	0.127	0.127
39.001	-	-	100	0.000	0.000	0.000
38.003	-	-	100	0.000	0.000	0.000
40.000	Classification	Overland	40	2.362	0.945	0.945
40.001	-	-	100	0.000	0.000	0.000
38.004	-	-	100	0.000	0.000	0.000
37.002	-	-	100	0.000	0.000	0.000
41.000	Classification	Overland	40	1.045	0.418	0.418
41.001	-	-	100	0.000	0.000	0.000
37.003	-	-	100	0.000	0.000	0.000
35.004	-	-	100	0.000	0.000	0.000
42.000	-	-	100	0.000	0.000	0.000
42.001	-	-	100	0.000	0.000	0.000
43.000	-	-	100	0.000	0.000	0.000
35.005	-	-	100	0.000	0.000	0.000
35.006	User	-	20	1.023	0.205	0.205
23.004	-	-	100	0.000	0.000	0.000
23.005	-	-	100	0.000	0.000	0.000
23.006	-	-	100	0.000	0.000	0.000
23.007	-	-	100	0.000	0.000	0.000
23.008	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				12.556	6.079	6.079

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S23.008	SEX-NW2B-Outfall	73.622	72.324	0.000	0	0

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: SNW2B-Central-Pond-Dummy, DS/PN: S23.002, Volume (m³): 25.8

Unit Reference	MD-SHE-0202-2320-1700-2320	Sump Available	Yes
Design Head (m)	1.700	Diameter (mm)	202
Design Flow (l/s)	23.2	Invert Level (m)	72.730
Flush-Flo™	Calculated	Minimum Outlet Pipe Diameter (mm)	225
Objective	Minimise upstream storage	Suggested Manhole Diameter (mm)	1800
Application	Surface		

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.700	23.2	Kick-Flo®	1.097	18.8
Flush-Flo™	0.507	23.2	Mean Flow over Head Range	-	20.1

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.9	0.600	23.1	1.600	22.5	2.600	28.4	5.000	38.9	7.500	47.4
0.200	19.2	0.800	22.4	1.800	23.8	3.000	30.5	5.500	40.8	8.000	48.9
0.300	22.2	1.000	20.6	2.000	25.1	3.500	32.8	6.000	42.5	8.500	50.3
0.400	23.0	1.200	19.7	2.200	26.2	4.000	35.0	6.500	44.2	9.000	51.8
0.500	23.2	1.400	21.1	2.400	27.4	4.500	37.0	7.000	45.8	9.500	53.1

Depth/Flow Relationship Manhole: SDUMMY 10, DS/PN: S35.001, Volume (m³): 0.1

Invert Level (m) 79.181

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.9000	0.600	0.9000	1.100	0.9000	1.600	0.9000	2.100	0.9000	2.600	0.9000
0.200	0.9000	0.700	0.9000	1.200	0.9000	1.700	0.9000	2.200	0.9000	2.700	0.9000
0.300	0.9000	0.800	0.9000	1.300	0.9000	1.800	0.9000	2.300	0.9000	2.800	0.9000
0.400	0.9000	0.900	0.9000	1.400	0.9000	1.900	0.9000	2.400	0.9000	2.900	0.9000
0.500	0.9000	1.000	0.9000	1.500	0.9000	2.000	0.9000	2.500	0.9000	3.000	0.9000

Depth/Flow Relationship Manhole: SDUMMY 12, DS/PN: S36.001, Volume (m³): 0.1

Invert Level (m) 77.821

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	9.5000	0.600	9.5000	1.100	9.5000	1.600	9.5000	2.100	9.5000	2.600	9.5000
0.200	9.5000	0.700	9.5000	1.200	9.5000	1.700	9.5000	2.200	9.5000	2.700	9.5000
0.300	9.5000	0.800	9.5000	1.300	9.5000	1.800	9.5000	2.300	9.5000	2.800	9.5000
0.400	9.5000	0.900	9.5000	1.400	9.5000	1.900	9.5000	2.400	9.5000	2.900	9.5000
0.500	9.5000	1.000	9.5000	1.500	9.5000	2.000	9.5000	2.500	9.5000	3.000	9.5000

Depth/Flow Relationship Manhole: SDUMMY 8, DS/PN: S37.001, Volume (m³): 0.1

Invert Level (m) 76.930

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.9000	0.600	4.9000	1.100	4.9000	1.600	4.9000	2.100	4.9000	2.600	4.9000
0.200	4.9000	0.700	4.9000	1.200	4.9000	1.700	4.9000	2.200	4.9000	2.700	4.9000
0.300	4.9000	0.800	4.9000	1.300	4.9000	1.800	4.9000	2.300	4.9000	2.800	4.9000
0.400	4.9000	0.900	4.9000	1.400	4.9000	1.900	4.9000	2.400	4.9000	2.900	4.9000
0.500	4.9000	1.000	4.9000	1.500	4.9000	2.000	4.9000	2.500	4.9000	3.000	4.9000

Depth/Flow Relationship Manhole: SDUMMY 2, DS/PN: S38.001, Volume (m³): 0.1

Invert Level (m) 79.236

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.4000	0.600	1.4000	1.100	1.4000	1.600	1.4000	2.100	1.4000	2.600	1.4000
0.200	1.4000	0.700	1.4000	1.200	1.4000	1.700	1.4000	2.200	1.4000	2.700	1.4000
0.300	1.4000	0.800	1.4000	1.300	1.4000	1.800	1.4000	2.300	1.4000	2.800	1.4000
0.400	1.4000	0.900	1.4000	1.400	1.4000	1.900	1.4000	2.400	1.4000	2.900	1.4000
0.500	1.4000	1.000	1.4000	1.500	1.4000	2.000	1.4000	2.500	1.4000	3.000	1.4000

Depth/Flow Relationship Manhole: SDUMMY 4, DS/PN: S39.001, Volume (m³): 0.1

Invert Level (m) 78.846

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.1000	0.600	2.1000	1.100	2.1000	1.600	2.1000	2.100	2.1000	2.600	2.1000
0.200	2.1000	0.700	2.1000	1.200	2.1000	1.700	2.1000	2.200	2.1000	2.700	2.1000
0.300	2.1000	0.800	2.1000	1.300	2.1000	1.800	2.1000	2.300	2.1000	2.800	2.1000
0.400	2.1000	0.900	2.1000	1.400	2.1000	1.900	2.1000	2.400	2.1000	2.900	2.1000
0.500	2.1000	1.000	2.1000	1.500	2.1000	2.000	2.1000	2.500	2.1000	3.000	2.1000

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Depth/Flow Relationship Manhole: SDUMMY 6, DS/PN: S40.001, Volume (m³): 0.1

Invert Level (m) 77.562

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	15.3000	0.600	15.3000	1.100	15.3000	1.600	15.3000	2.100	15.3000	2.600	15.3000
0.200	15.3000	0.700	15.3000	1.200	15.3000	1.700	15.3000	2.200	15.3000	2.700	15.3000
0.300	15.3000	0.800	15.3000	1.300	15.3000	1.800	15.3000	2.300	15.3000	2.800	15.3000
0.400	15.3000	0.900	15.3000	1.400	15.3000	1.900	15.3000	2.400	15.3000	2.900	15.3000
0.500	15.3000	1.000	15.3000	1.500	15.3000	2.000	15.3000	2.500	15.3000	3.000	15.3000

Depth/Flow Relationship Manhole: SDUMMY 14, DS/PN: S41.001, Volume (m³): 0.1

Invert Level (m) 75.540

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.8000	0.600	6.8000	1.100	6.8000	1.600	6.8000	2.100	6.8000	2.600	6.8000
0.200	6.8000	0.700	6.8000	1.200	6.8000	1.700	6.8000	2.200	6.8000	2.700	6.8000
0.300	6.8000	0.800	6.8000	1.300	6.8000	1.800	6.8000	2.300	6.8000	2.800	6.8000
0.400	6.8000	0.900	6.8000	1.400	6.8000	1.900	6.8000	2.400	6.8000	2.900	6.8000
0.500	6.8000	1.000	6.8000	1.500	6.8000	2.000	6.8000	2.500	6.8000	3.000	6.8000

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Storage Structures for Storm

Tank or Pond Manhole: SNW2B-Central-Pond-Dummy, DS/PN: S23.002

Invert Level (m) 72.730

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	1988.0	2.000	3456.0

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 8 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.233
FEH Rainfall Version	1999	E (1km)	0.299
Site Location	GB 438400 279200 SP 38400 79200	F (1km)	2.381
C (1km)	-0.025	Cv (Summer)	0.900
D1 (1km)	0.382	Cv (Winter)	0.900
D2 (1km)	0.332		

Margin for Flood Risk Warning (mm) 300.0
Analysis Timestep 2.5 Second Increment (Extended)
DTS Status OFF
DVD Status OFF
Inertia Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 5
Climate Change (%) 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
S23.000	SNW2B-72	15 Summer	5	+20%					74.258	-0.412	0.000	0.05
S23.001	SNW2B-Pond-HW-B	15 Summer	5	+20%	5/15 Summer				73.704	0.674	0.000	2.80
S24.000	SNW2B-1	15 Summer	5	+20%					80.881	-0.092	0.000	0.31
S24.001	SNW2B-2	15 Summer	5	+20%					80.448	-0.053	0.000	0.73
S24.002	SNW2B-3	15 Summer	5	+20%					78.068	-0.053	0.000	0.73
S24.003	SNW2B-4	15 Summer	5	+20%	5/15 Summer				76.098	0.357	0.000	1.07
S25.000	SNW2B-6	15 Summer	5	+20%					81.025	-0.095	0.000	0.62
S25.001	SNW2B-7	15 Summer	5	+20%					80.921	-0.140	0.000	0.31
S25.002	SNW2B-8	15 Summer	5	+20%					80.767	-0.163	0.000	0.17
S26.000	SNW2B-21	15 Summer	5	+20%					80.802	-0.008	0.000	0.45
S27.000	SNW2B-27	15 Summer	5	+20%					81.237	-0.033	0.000	0.93
S28.000	SNW2B-29	15 Summer	5	+20%					81.256	-0.079	0.000	0.73
S27.001	SNW2B-28	15 Summer	5	+20%					80.899	-0.086	0.000	0.70
S26.001	SNW2B-22	15 Summer	5	+20%	5/15 Summer				80.779	0.097	0.000	1.58
S26.002	SNW2B-23	15 Summer	5	+20%	5/15 Summer				80.731	0.081	0.000	1.60
S26.003	SNW2B-24	15 Summer	5	+20%	5/15 Summer				80.684	0.064	0.000	1.60
S26.004	SNW2B-25	15 Summer	5	+20%	5/15 Summer				80.635	0.045	0.000	1.52
S26.005	SNW2B-26	15 Summer	5	+20%	5/15 Summer				80.574	0.020	0.000	1.58
S25.003	SNW2B-9	15 Summer	5	+20%					80.344	-0.171	0.000	0.38
S25.004	SNW2B-10	15 Summer	5	+20%					78.532	-0.173	0.000	0.37
S25.005	SNW2B-11	15 Summer	5	+20%					76.251	-0.164	0.000	0.42
S25.006	SNW2B-12	15 Summer	5	+20%					74.027	-0.308	0.000	0.34
S25.007	SNW2B-13	15 Summer	5	+20%					73.968	-0.278	0.000	0.56
S25.008	SNW2B-14	15 Summer	5	+20%					73.888	-0.339	0.000	0.35
S25.009	SNW2B-15	30 Summer	5	+20%					73.770	-0.266	0.000	0.42
S25.010	SNW2B-16	30 Summer	5	+20%					73.717	-0.219	0.000	0.36
S29.000	SNW2B-30	15 Summer	5	+20%					74.427	-0.093	0.000	0.76
S29.001	SNW2B-X1	15 Summer	5	+20%					74.301	-0.107	0.000	0.71
S29.002	SNW2B-31	15 Summer	5	+20%					74.226	-0.089	0.000	0.82
S29.003	SNW2B-X2	15 Summer	5	+20%					73.981	-0.093	0.000	0.80
S29.004	SNW2B-32	15 Winter	5	+20%					73.832	0.000	0.000	1.07
S25.011	SNW2B-17	30 Summer	5	+20%					73.687	-0.149	0.000	0.59
S25.012	SNW2B-18	30 Summer	5	+20%					73.618	-0.040	0.000	0.64
S25.013	SNW2B-19	30 Summer	5	+20%	5/15 Summer				73.553	0.033	0.000	0.72
S30.000	SNW2B-33	15 Summer	5	+20%					73.911	-0.199	0.000	0.42
S30.001	SNW2B-X3	15 Summer	5	+20%					73.816	-0.197	0.000	0.38
S30.002	SNW2B-34	15 Summer	5	+20%					73.753	-0.162	0.000	0.60
S30.003	SNW2B-X4	15 Summer	5	+20%					73.646	-0.168	0.000	0.57
S31.000	SNW2B-36	15 Summer	5	+20%					81.235	-0.098	0.000	0.25
S31.001	SNW2B-37	15 Summer	5	+20%					81.135	-0.088	0.000	0.36
S31.002	SNW2B-38	15 Summer	5	+20%					81.069	-0.101	0.000	0.23
S31.003	SNW2B-39	15 Summer	5	+20%					80.869	-0.104	0.000	0.21
S31.004	SNW2B-40	15 Summer	5	+20%					80.753	-0.052	0.000	0.73
S31.005	SNW2B-41	15 Summer	5	+20%	5/15 Summer				79.327	0.072	0.000	0.92
S31.006	SNW2B-42	15 Summer	5	+20%	5/15 Summer				78.099	0.434	0.000	1.16
S31.007	SNW2B-43	15 Summer	5	+20%					76.350	-0.065	0.000	0.83
S31.008	SNW2B-44	15 Summer	5	+20%					74.974	-0.086	0.000	0.70
S31.009	SNW2B-45	15 Summer	5	+20%					74.809	-0.011	0.000	0.85
S31.010	SNW2B-46	15 Summer	5	+20%	5/15 Summer				74.581	0.091	0.000	1.18
S31.011	SNW2B-47	30 Summer	5	+20%					74.170	-0.118	0.000	0.78
S31.012	SNW2B-48	30 Summer	5	+20%					73.967	-0.113	0.000	0.81
S32.000	SNW2B-50	15 Summer	5	+20%					81.321	-0.195	0.000	0.04
S32.001	SNW2B-51	15 Summer	5	+20%					81.252	-0.183	0.000	0.08
S32.002	SNW2B-52	15 Summer	5	+20%					81.218	-0.131	0.000	0.07
S33.000	SNW2B-60	15 Summer	5	+20%					81.382	-0.128	0.000	0.33
S34.000	SNW2B-62	15 Summer	5	+20%					81.472	-0.033	0.000	0.99
S33.001	SNW2B-61	15 Summer	5	+20%					81.350	-0.020	0.000	0.84

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S23.000	SNW2B-72			124.6	OK	
S23.001	SNW2B-Pond-HW-B			86.3	SURCHARGED*	
S24.000	SNW2B-1			8.3	OK	
S24.001	SNW2B-2			30.0	OK	
S24.002	SNW2B-3			29.9	OK	
S24.003	SNW2B-4			41.1	SURCHARGED	
S25.000	SNW2B-6			13.2	OK	
S25.001	SNW2B-7			13.7	OK	
S25.002	SNW2B-8			13.7	OK	
S26.000	SNW2B-21			5.4	OK	
S27.000	SNW2B-27			12.4	OK	
S28.000	SNW2B-29			32.0	OK	
S27.001	SNW2B-28			44.5	OK	
S26.001	SNW2B-22			47.6	SURCHARGED	
S26.002	SNW2B-23			47.3	SURCHARGED	
S26.003	SNW2B-24			47.5	SURCHARGED	
S26.004	SNW2B-25			50.0	SURCHARGED	
S26.005	SNW2B-26			52.1	SURCHARGED	
S25.003	SNW2B-9			71.5	OK	
S25.004	SNW2B-10			77.4	OK	
S25.005	SNW2B-11			83.5	OK	
S25.006	SNW2B-12			87.7	OK	
S25.007	SNW2B-13			85.8	OK	
S25.008	SNW2B-14			93.1	OK	
S25.009	SNW2B-15			103.7	OK	
S25.010	SNW2B-16			96.3	OK	
S29.000	SNW2B-30			36.4	OK	
S29.001	SNW2B-X1			34.0	OK	
S29.002	SNW2B-31			59.4	OK	
S29.003	SNW2B-X2			58.2	OK	
S29.004	SNW2B-32			53.4	OK	
S25.011	SNW2B-17			151.4	OK	
S25.012	SNW2B-18			152.7	OK	
S25.013	SNW2B-19			153.2	SURCHARGED	
S30.000	SNW2B-33			34.7	OK	
S30.001	SNW2B-X3			31.2	OK	
S30.002	SNW2B-34			49.1	OK	
S30.003	SNW2B-X4			46.8	OK	
S31.000	SNW2B-36			3.2	OK	
S31.001	SNW2B-37			4.2	OK	
S31.002	SNW2B-38			4.2	OK	
S31.003	SNW2B-39			4.2	OK	
S31.004	SNW2B-40			23.7	OK	
S31.005	SNW2B-41			30.1	SURCHARGED	
S31.006	SNW2B-42			33.7	SURCHARGED	
S31.007	SNW2B-43			47.3	OK	
S31.008	SNW2B-44			47.3	OK	
S31.009	SNW2B-45			46.6	OK	
S31.010	SNW2B-46			50.3	SURCHARGED	
S31.011	SNW2B-47			60.9	OK	
S31.012	SNW2B-48			62.2	OK	
S32.000	SNW2B-50			1.4	OK	
S32.001	SNW2B-51			2.7	OK	
S32.002	SNW2B-52			4.0	OK	
S33.000	SNW2B-60			12.6	OK	
S34.000	SNW2B-62			36.5	OK	
S33.001	SNW2B-61			45.5	OK	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)
S32.003	SNW2B-53	15 Summer	5	+20%	5/15 Summer				81.213	0.048	0.000
S32.004	SNW2B-54	15 Summer	5	+20%	5/15 Summer				81.074	0.026	0.000
S32.005	SNW2B-55	15 Summer	5	+20%					80.795	-0.054	0.000
S32.006	SNW2B-56	15 Summer	5	+20%					80.424	-0.091	0.000
S32.007	SNW2B-57	15 Summer	5	+20%					78.131	-0.093	0.000
S32.008	SNW2B-58	15 Summer	5	+20%					75.878	-0.054	0.000
S32.009	SNW2B-59	15 Summer	5	+20%					74.108	-0.232	0.000
S31.013	SNW2B-49	30 Summer	5	+20%					73.751	-0.127	0.000
S30.004	SNW2B-35	30 Summer	5	+20%					73.563	-0.151	0.000
S25.014	SNW2B-20	30 Summer	5	+20%	5/15 Summer				73.521	0.053	0.000
S24.004	SNW2B-5	1440 Winter	5	+20%	5/15 Summer				73.507	0.062	0.000
S24.005	SNW2B-Pond-HW-A	1440 Winter	5	+20%	5/15 Summer				73.504	0.174	0.000
S23.002	SNW2B-Central-Pond-Dummy	1440 Winter	5	+20%	5/360 Summer				73.501	0.171	0.000
S23.003	SNW2B-Pond-HW-C	1440 Summer	5	+20%	5/120 Summer				73.512	0.107	0.000
S35.000	SDUMMY 9	15 Summer	5	+20%					79.340	0.000	0.000
S35.001	SDUMMY 10	15 Summer	5	+20%					79.331	0.000	0.000
S35.002	SNW2B-67	180 Winter	5	+20%					78.059	-0.131	0.000
S36.000	SDUMMY 11	15 Summer	5	+20%					77.980	0.000	0.000
S36.001	SDUMMY 12	15 Summer	5	+20%					77.971	0.000	0.000
S35.003	SNW2B-68	120 Summer	5	+20%					76.659	-0.171	0.000
S37.000	SDUMMY 7	15 Summer	5	+20%					77.091	0.000	0.000
S37.001	SDUMMY 8	15 Summer	5	+20%					77.080	0.000	0.000
S38.000	SDUMMY 1	15 Summer	5	+20%					79.398	0.000	0.000
S38.001	SDUMMY 2	15 Summer	5	+20%					79.386	0.000	0.000
S38.002	SNW2B-63	720 Summer	5	+20%					78.228	-0.122	0.000
S39.000	SDUMMY 3	15 Summer	5	+20%					79.007	0.000	0.000
S39.001	SDUMMY 4	15 Summer	5	+20%					78.996	0.000	0.000
S38.003	SNW2B-64	240 Summer	5	+20%					77.886	-0.114	0.000
S40.000	SDUMMY 5	15 Summer	5	+20%					77.721	0.000	0.000
S40.001	SDUMMY 6	15 Summer	5	+20%					77.712	0.000	0.000
S38.004	SNW2B-65	480 Winter	5	+20%					76.602	-0.118	0.000
S37.002	SNW2B-65A	360 Winter	5	+20%	5/15 Summer				76.131	0.041	0.000
S41.000	SDUMMY 13	15 Summer	5	+20%					75.700	0.000	0.000
S41.001	SDUMMY 14	15 Summer	5	+20%					75.690	0.000	0.000
S37.003	SNW2B-65B	720 Winter	5	+20%					75.855	-0.117	0.000
S35.004	SNW2B-65C	600 Summer	5	+20%					73.972	-0.158	0.000
S42.000	SNW2B-70	15 Summer	5	+20%					77.380	-0.150	0.000
S42.001	SNW2B-70A	15 Summer	5	+20%					76.090	-0.150	0.000
S43.000	SNW2B-77	15 Summer	5	+20%					73.780	-0.150	0.000
S35.005	SNW2B-65D	600 Summer	5	+20%					73.694	-0.081	0.000
S35.006	SNW2B-65E	30 Summer	5	+20%					73.579	-0.106	0.000
S23.004	SNW2B-65F	1440 Summer	5	+20%	5/60 Summer				73.513	0.164	0.000
S23.005	SNW2B-73	1440 Summer	5	+20%					73.505	-0.895	0.000
S23.006	SNW2B-74	1440 Summer	5	+20%					73.426	-0.664	0.000
S23.007	SNW2B-75	1440 Summer	5	+20%					73.318	-0.472	0.000
S23.008	SNW2B-76	1440 Summer	5	+20%					73.231	-0.475	0.000

PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S32.003	SNW2B-53	1.09			48.1	SURCHARGED	
S32.004	SNW2B-54	1.08			50.5	SURCHARGED	
S32.005	SNW2B-55	0.93			53.0	OK	
S32.006	SNW2B-56	0.65			72.3	OK	
S32.007	SNW2B-57	0.64			72.2	OK	
S32.008	SNW2B-58	0.93			82.4	OK	
S32.009	SNW2B-59	0.31			82.4	OK	
S31.013	SNW2B-49	0.77			121.9	OK	
S30.004	SNW2B-35	0.60			161.8	OK	
S25.014	SNW2B-20	1.96			263.0	SURCHARGED	
S24.004	SNW2B-5	0.12			41.5	SURCHARGED	
S24.005	SNW2B-Pond-HW-A	0.22			41.2	SURCHARGED	
S23.002	SNW2B-Central-Pond-Dummy	0.08			16.4	SURCHARGED	
S23.003	SNW2B-Pond-HW-C	0.05			16.0	SURCHARGED	
S35.000	SDUMMY 9	0.24			2.4	FLOOD RISK*	
S35.001	SDUMMY 10	0.09			0.9	FLOOD RISK*	
S35.002	SNW2B-67	0.04			0.9	OK	
S36.000	SDUMMY 11	1.09			11.3	FLOOD RISK*	
S36.001	SDUMMY 12	0.87			9.5	FLOOD RISK*	
S35.003	SNW2B-68	0.13			10.4	OK	
S37.000	SDUMMY 7	0.74			6.7	FLOOD RISK*	
S37.001	SDUMMY 8	0.54			4.9	FLOOD RISK*	
S38.000	SDUMMY 1	0.32			3.0	FLOOD RISK*	
S38.001	SDUMMY 2	0.14			1.4	FLOOD RISK*	
S38.002	SNW2B-63	0.08			1.4	OK	
S39.000	SDUMMY 3	0.42			3.9	FLOOD RISK*	
S39.001	SDUMMY 4	0.22			2.1	FLOOD RISK*	
S38.003	SNW2B-64	0.13			3.5	OK	
S40.000	SDUMMY 5	1.69			17.2	FLOOD RISK*	
S40.001	SDUMMY 6	1.58			15.3	FLOOD RISK*	
S38.004	SNW2B-65	0.46			18.8	OK	
S37.002	SNW2B-65A	1.20			23.7	SURCHARGED	
S41.000	SDUMMY 13	0.88			8.5	FLOOD RISK*	
S41.001	SDUMMY 14	0.72			6.8	FLOOD RISK*	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S37.003	SNW2B-65B	0.47			30.5	OK	
S35.004	SNW2B-65C	0.46			40.9	OK	
S42.000	SNW2B-70	0.00			0.0	OK	
S42.001	SNW2B-70A	0.00			0.0	OK	
S43.000	SNW2B-77	0.00			0.0	OK	
S35.005	SNW2B-65D	0.89			40.9	OK	
S35.006	SNW2B-65E	0.74			71.1	OK	
S23.004	SNW2B-65F	0.11			39.0	SURCHARGED	
S23.005	SNW2B-73	0.18			39.0	OK	
S23.006	SNW2B-74	0.26			38.6	OK	
S23.007	SNW2B-75	0.38			38.2	OK	
S23.008	SNW2B-76	0.47			38.1	OK	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes A46 pipe Manhole Sizes A46 manholes

FEH Rainfall Model	
Return Period (years)	1
FEH Rainfall Version	1999
Site Location	GB 438400 279200 SP 38400 79200
C (1km)	-0.025
D1 (1km)	0.382
D2 (1km)	0.332
D3 (1km)	0.233
E (1km)	0.299
F (1km)	2.381
Maximum Rainfall (mm/hr)	300
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.900
PIMP (%)	100
Add Flow / Climate Change (%)	25
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	0.75
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S23.000	48.799	1.440	33.9	0.482	5.00	0.0	1.500		1.5 _/	500	1:1.5 Ditch	
S23.001	85.232	0.001	85231.9	0.000	0.00	0.0	1.500		o	300	Pipe/Conduit	
S24.000	18.573	0.472	39.3	0.032	5.00	0.0	0.600		o	150	Pipe/Conduit	
S24.001	43.042	2.380	18.1	0.100	0.00	0.0	0.600		o	150	Pipe/Conduit	
S24.002	43.224	2.380	18.2	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	
S24.003	35.984	2.296	15.7	0.066	0.00	0.0	1.500		o	150	Pipe/Conduit	
S25.000	29.489	0.059	499.8	0.052	5.00	0.0	0.600		o	225	Pipe/Conduit	
S25.001	13.139	0.131	100.3	0.003	0.00	0.0	0.600		o	225	Pipe/Conduit	
S25.002	13.393	0.414	32.4	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S26.000	19.677	0.128	153.7	0.022	5.00	0.0	1.500		o	150	Pipe/Conduit	
S27.000	36.594	0.285	128.4	0.049	5.00	0.0	1.500		o	150	Pipe/Conduit	
S28.000	34.730	0.350	99.2	0.125	5.00	0.0	1.500		o	225	Pipe/Conduit	
S27.001	15.812	0.303	52.2	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S26.001	16.474	0.032	515.3	0.006	0.00	0.0	1.500		o	300	Pipe/Conduit	
S26.002	15.014	0.030	496.5	0.005	0.00	0.0	1.500		o	300	Pipe/Conduit	
S26.003	15.195	0.031	497.7	0.006	0.00	0.0	1.500		o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S23.000	49.32	5.15	74.170	0.482	0.0	0.0	19.3	5.43	3393.7	96.6
S23.001	16.60	30.00	72.730	0.482	0.0	0.0	19.3	0.04	3.1«	96.6
S24.000	49.07	5.19	80.823	0.032	0.0	0.0	1.3	1.61	28.4	6.4
S24.001	47.39	5.49	80.351	0.132	0.0	0.0	5.1	2.38	42.1	25.4
S24.002	45.84	5.80	77.971	0.132	0.0	0.0	5.1	2.37	42.0	25.4
S24.003	44.57	6.07	75.591	0.199	0.0	0.0	7.2	2.22	39.2	35.9
S25.000	45.59	5.85	80.895	0.052	0.0	0.0	1.9	0.58	23.0	9.6
S25.001	44.80	6.02	80.836	0.055	0.0	0.0	2.0	1.31	51.9	9.9
S25.002	44.36	6.11	80.705	0.055	0.0	0.0	2.0	2.31	91.8	9.9
S26.000	47.55	5.46	80.660	0.022	0.0	0.0	0.8	0.71	12.5	4.2
S27.000	45.88	5.79	81.120	0.049	0.0	0.0	1.8	0.77	13.6	9.1
S28.000	47.35	5.50	81.110	0.125	0.0	0.0	4.8	1.15	45.8	24.1
S27.001	45.18	5.93	80.760	0.174	0.0	0.0	6.4	1.81	72.2	32.0
S26.001	43.18	6.39	80.382	0.202	0.0	0.0	7.1	0.61	43.0	35.5
S26.002	41.58	6.79	80.350	0.208	0.0	0.0	7.1	0.62	43.8	35.5
S26.003	40.10	7.20	80.320	0.213	0.0	0.0	7.1	0.62	43.7	35.5

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S26.004	18.010	0.036	500.0	0.017	0.00	0.0	1.500		o	300	Pipe/Conduit	
S26.005	20.064	0.038	532.1	0.018	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.003	44.545	1.810	24.6	0.054	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.004	45.481	2.291	19.9	0.042	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.005	45.512	2.080	21.9	0.041	0.00	0.0	1.500		o	300	Pipe/Conduit	
S25.006	36.792	0.088	416.8	0.040	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.007	9.741	0.019	512.7	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S25.008	88.604	0.191	463.9	0.109	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.009	50.064	0.100	500.6	0.212	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.010	50.064	0.100	500.6	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S29.000	52.516	0.112	467.7	0.150	5.00	0.0	0.600		o	300	Pipe/Conduit	
S29.001	43.361	0.093	467.7	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S29.002	50.095	0.241	207.7	0.160	0.00	0.0	0.600		o	300	Pipe/Conduit	
S29.003	50.219	0.242	207.7	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S29.004	11.810	0.024	492.1	0.000	0.00	0.0	1.500		o	375	Pipe/Conduit	
S25.011	90.000	0.178	505.6	0.213	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.012	78.999	0.138	572.5	0.125	0.00	0.0	1.500		o	600	Pipe/Conduit	
S25.013	30.928	0.052	594.8	0.000	0.00	0.0	1.500		o	600	Pipe/Conduit	
S30.000	48.741	0.097	501.4	0.141	5.00	0.0	0.600		o	375	Pipe/Conduit	
S30.001	49.238	0.098	502.4	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S30.002	50.027	0.100	498.7	0.121	0.00	0.0	0.600		o	375	Pipe/Conduit	
S30.003	50.027	0.100	498.7	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S31.000	19.536	0.110	177.6	0.012	5.00	0.0	0.600		o	150	Pipe/Conduit	
S31.001	9.424	0.053	177.8	0.005	0.00	0.0	0.600		o	150	Pipe/Conduit	
S31.002	16.373	0.197	83.1	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	
S31.003	10.400	0.168	61.9	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	
S31.004	33.615	1.550	21.7	0.092	0.00	0.0	1.500		o	150	Pipe/Conduit	
S31.005	33.849	1.590	21.3	0.037	0.00	0.0	1.500		o	150	Pipe/Conduit	
S31.006	33.811	1.250	27.0	0.032	0.00	0.0	1.500		o	150	Pipe/Conduit	
S31.007	82.683	1.355	61.0	0.077	0.00	0.0	1.500		o	225	Pipe/Conduit	
S31.008	9.822	0.240	40.9	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S31.009	99.013	0.330	300.0	0.020	0.00	0.0	1.500		o	300	Pipe/Conduit	
S31.010	100.895	0.202	500.0	0.098	0.00	0.0	1.500		o	300	Pipe/Conduit	
S31.011	99.988	0.208	480.7	0.143	0.00	0.0	1.500		o	375	Pipe/Conduit	
S31.012	101.179	0.202	500.0	0.051	0.00	0.0	1.500		o	375	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S26.004	38.51	7.69	80.289	0.230	0.0	0.0	7.2	0.62	43.6	36.0
S26.005	36.88	8.24	80.253	0.248	0.0	0.0	7.4	0.60	42.3	37.1
S25.003	36.16	8.51	80.216	0.356	0.0	0.0	10.5	2.80	198.0	52.3
S25.004	35.54	8.75	78.406	0.398	0.0	0.0	11.5	3.12	220.5	57.4
S25.005	34.91	9.01	76.115	0.438	0.0	0.0	12.4	2.97	210.0	62.2
S25.006	33.60	9.59	73.735	0.478	0.0	0.0	13.1	1.06	299.8	65.3
S25.007	33.27	9.74	73.646	0.478	0.0	0.0	13.1	1.07	302.1	65.3
S25.008	30.50	11.21	73.627	0.588	0.0	0.0	14.6	1.00	284.1	72.8
S25.009	29.14	12.07	73.436	0.800	0.0	0.0	18.9	0.97	273.4	94.7
S25.010	28.04	12.84	73.336	0.800	0.0	0.0	18.9	1.08	305.8	94.7
S29.000	43.91	6.21	74.220	0.150	0.0	0.0	5.4	0.72	50.9	26.8
S29.001	40.04	7.22	74.108	0.150	0.0	0.0	5.4	0.72	50.9	26.8
S29.002	37.61	7.99	74.015	0.310	0.0	0.0	9.5	1.09	76.8	47.4
S29.003	35.53	8.76	73.774	0.310	0.0	0.0	9.5	1.09	76.8	47.4
S29.004	34.86	9.03	73.457	0.310	0.0	0.0	9.5	0.72	79.5	47.4
S25.011	26.13	14.40	73.236	1.323	0.0	0.0	28.1	0.96	272.1	140.4
S25.012	24.62	15.86	73.058	1.448	0.0	0.0	29.0	0.90	255.6	144.8
S25.013	24.07	16.44	72.920	1.448	0.0	0.0	29.0	0.89	250.7	144.8
S30.000	44.82	6.01	73.735	0.141	0.0	0.0	5.1	0.80	88.6	25.7
S30.001	40.67	7.04	73.638	0.141	0.0	0.0	5.1	0.80	88.5	25.7
S30.002	37.36	8.07	73.539	0.262	0.0	0.0	7.9	0.80	88.9	39.7
S30.003	34.67	9.11	73.439	0.262	0.0	0.0	7.9	0.80	88.9	39.7
S31.000	47.72	5.43	81.183	0.012	0.0	0.0	0.5	0.75	13.3	2.4
S31.001	46.62	5.64	81.073	0.017	0.0	0.0	0.6	0.75	13.3	3.2
S31.002	45.40	5.89	81.020	0.017	0.0	0.0	0.6	1.10	19.5	3.2
S31.003	44.76	6.03	80.823	0.017	0.0	0.0	0.6	1.28	22.6	3.2
S31.004	43.45	6.32	80.655	0.109	0.0	0.0	3.9	1.89	33.3	19.3
S31.005	42.24	6.62	79.105	0.147	0.0	0.0	5.0	1.90	33.7	25.2
S31.006	40.97	6.95	77.515	0.178	0.0	0.0	5.9	1.69	29.8	29.7
S31.007	37.90	7.89	76.190	0.256	0.0	0.0	7.9	1.47	58.5	39.4
S31.008	37.66	7.97	74.835	0.256	0.0	0.0	7.9	2.05	81.5	39.4
S31.009	32.66	10.04	74.520	0.276	0.0	0.0	7.9	0.80	56.4	39.4
S31.010	28.15	12.76	74.190	0.375	0.0	0.0	8.6	0.62	43.6	42.9
S31.011	25.43	15.05	73.913	0.518	0.0	0.0	10.7	0.73	80.5	53.5
S31.012	23.24	17.41	73.705	0.569	0.0	0.0	10.7	0.71	78.9	53.7

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S32.000	14.556	0.081	180.1	0.006	5.00	0.0	0.600		o	225	Pipe/Conduit	
S32.001	15.037	0.086	175.5	0.006	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.002	10.841	0.184	58.9	0.004	0.00	0.0	0.600		o	225	Pipe/Conduit	
S33.000	21.707	0.140	155.0	0.049	5.00	0.0	0.600		o	225	Pipe/Conduit	
S34.000	22.095	0.135	163.7	0.144	5.00	0.0	0.600		o	225	Pipe/Conduit	
S33.001	14.630	0.205	71.4	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.003	11.918	0.117	101.8	0.005	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.004	20.308	0.199	102.3	0.014	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.005	18.076	0.334	54.1	0.015	0.00	0.0	1.500		o	225	Pipe/Conduit	
S32.006	45.502	2.292	19.9	0.104	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.007	45.031	2.292	19.6	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.008	50.708	1.592	31.9	0.052	0.00	0.0	0.600		o	225	Pipe/Conduit	
S32.009	10.070	0.462	21.8	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S31.013	11.672	0.164	71.2	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
S30.004	12.730	0.231	55.1	0.000	0.00	0.0	0.600		o	450	Pipe/Conduit	
S25.014	14.080	0.023	612.2	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S24.004	22.481	0.115	195.5	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S24.005	56.069	0.001	56069.4	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
S23.002	5.000	0.001	5000.1	0.000	0.00	0.0	1.500		o	600	Pipe/Conduit	
S23.003	27.916	0.056	498.5	0.000	0.00	0.0	0.600		o	675	Pipe/Conduit	
S35.000	4.543	0.009	504.7	0.055	5.00	0.0	1.500		o	150	Pipe/Conduit	
S35.001	4.546	0.009	505.2	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S35.002	60.939	1.360	44.8	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S36.000	4.379	0.009	486.5	0.584	5.00	0.0	1.500		o	150	Pipe/Conduit	
S36.001	3.893	0.008	486.6	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S35.003	87.363	2.700	32.4	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S37.000	5.719	0.011	519.9	0.301	5.00	0.0	1.500		o	150	Pipe/Conduit	
S37.001	5.699	0.011	518.1	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S32.000	48.74	5.25	81.291	0.006	0.0	0.0	0.2	0.97	38.6	1.1
S32.001	47.34	5.50	81.210	0.011	0.0	0.0	0.4	0.98	39.1	2.2
S32.002	46.78	5.61	81.124	0.016	0.0	0.0	0.6	1.71	67.9	2.9
S33.000	48.20	5.35	81.285	0.049	0.0	0.0	1.9	1.05	41.7	9.6
S34.000	48.11	5.36	81.280	0.144	0.0	0.0	5.6	1.02	40.5	28.2
S33.001	47.26	5.52	81.145	0.193	0.0	0.0	7.4	1.55	61.6	37.1
S32.003	46.01	5.76	80.940	0.214	0.0	0.0	8.0	1.30	51.5	40.0
S32.004	44.76	6.03	80.823	0.228	0.0	0.0	8.3	1.29	51.4	41.5
S32.005	43.90	6.22	80.624	0.243	0.0	0.0	8.7	1.56	62.1	43.4
S32.006	42.81	6.48	80.290	0.348	0.0	0.0	12.1	2.95	117.3	60.5
S32.007	41.81	6.73	77.999	0.348	0.0	0.0	12.1	2.97	117.9	60.5
S32.008	40.47	7.09	75.707	0.399	0.0	0.0	13.1	2.33	92.5	65.7
S32.009	40.32	7.13	73.965	0.399	0.0	0.0	13.1	3.90	430.3	65.7
S31.013	23.16	17.50	73.503	0.968	0.0	0.0	18.2	2.15	237.5	91.1
S30.004	23.10	17.57	73.264	1.230	0.0	0.0	23.1	2.74	436.3	115.4
S25.014	22.91	17.82	72.868	2.678	0.0	0.0	49.8	0.98	276.2	249.2
S24.004	22.74	18.03	72.845	2.876	0.0	0.0	53.1	1.74	491.5	265.7
S24.005	17.34	27.94	72.730	2.876	0.0	0.0	53.1	0.09	26.7«	265.7
S23.002	16.60	30.00	72.730	3.359	0.0	0.0	53.1	0.30	85.6«	265.7
S23.003	16.60	30.00	72.730	3.359	0.0	0.0	53.1	1.17	417.6	265.7
S35.000	49.06	5.20	79.190	0.055	0.0	0.0	2.2	0.39	6.8«	10.9
S35.001	47.95	5.39	79.181	0.055	0.0	0.0	2.2	0.39	6.8«	10.9
S35.002	44.13	6.17	78.040	0.055	0.0	0.0	2.2	1.31	23.2	10.9
S36.000	49.12	5.19	77.830	0.584	0.0	0.0	23.3	0.39	7.0«	116.6
S36.001	48.18	5.35	77.821	0.584	0.0	0.0	23.3	0.39	7.0«	116.6
S35.003	41.22	6.89	76.605	0.639	0.0	0.0	23.3	2.02	80.4«	116.6
S37.000	48.74	5.25	76.941	0.301	0.0	0.0	11.9	0.38	6.7«	59.6
S37.001	47.37	5.50	76.930	0.301	0.0	0.0	11.9	0.38	6.7«	59.6

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S38.000	5.268	0.012	439.0	0.086	5.00	0.0	1.500		o	150	Pipe/Conduit	
S38.001	4.798	0.011	436.2	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S38.002	26.447	0.350	75.6	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S39.000	5.552	0.011	504.7	0.127	5.00	0.0	1.500		o	150	Pipe/Conduit	
S39.001	5.298	0.011	481.6	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S38.003	43.665	1.280	34.1	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S40.000	4.592	0.009	510.2	0.945	5.00	0.0	1.500		o	150	Pipe/Conduit	
S40.001	5.073	0.010	507.3	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S38.004	76.231	0.630	121.0	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S37.002	59.094	0.118	500.8	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S41.000	5.118	0.010	511.8	0.418	5.00	0.0	1.500		o	150	Pipe/Conduit	
S41.001	5.304	0.011	482.2	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S37.003	87.986	1.842	47.8	0.000	0.00	0.0	1.500		o	225	Pipe/Conduit	
S35.004	48.257	0.355	135.9	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S42.000	110.228	1.290	85.4	0.000	5.00	0.0	1.500		o	150	Pipe/Conduit	
S42.001	33.213	2.465	13.5	0.000	0.00	0.0	1.500		o	150	Pipe/Conduit	
S43.000	76.950	0.155	496.5	0.000	5.00	0.0	1.500		o	150	Pipe/Conduit	
S35.005	44.921	0.090	499.1	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
S35.006	38.520	0.336	114.6	0.205	0.00	0.0	0.600		o	300	Pipe/Conduit	
S23.004	48.901	0.099	494.0	0.000	0.00	0.0	0.600		o	675	Pipe/Conduit	
S23.005	30.147	0.060	502.4	0.000	0.00	0.0	1.500	2	_/	500	1:2 Ditch	
S23.006	37.360	0.075	500.0	0.000	0.00	0.0	1.500	2	_/	500	1:2 Ditch	
S23.007	23.001	0.046	500.0	0.000	0.00	0.0	1.500	2	_/	500	1:2 Ditch	
S23.008	17.619	0.035	500.0	0.000	0.00	0.0	1.500	2	_/	500	1:2 Ditch	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S38.000	48.96	5.21	79.248	0.086	0.0	0.0	3.4	0.42	7.3«	17.2
S38.001	47.88	5.40	79.236	0.086	0.0	0.0	3.4	0.42	7.4«	17.2
S38.002	45.63	5.84	78.200	0.086	0.0	0.0	3.4	1.01	17.8	17.2
S39.000	48.80	5.24	78.857	0.127	0.0	0.0	5.0	0.39	6.8«	25.2
S39.001	47.56	5.46	78.846	0.127	0.0	0.0	5.0	0.40	7.0«	25.2
S38.003	43.44	6.32	77.850	0.213	0.0	0.0	7.5	1.50	26.6«	37.6
S40.000	49.04	5.20	77.571	0.945	0.0	0.0	37.6	0.38	6.8«	188.2
S40.001	47.80	5.42	77.562	0.945	0.0	0.0	37.6	0.39	6.8«	188.2
S38.004	38.96	7.54	76.495	1.158	0.0	0.0	37.6	1.04	41.5«	188.2
S37.002	33.84	9.47	75.865	1.459	0.0	0.0	40.1	0.51	20.3«	200.6
S41.000	48.90	5.22	75.550	0.418	0.0	0.0	16.6	0.38	6.8«	83.0
S41.001	47.65	5.45	75.540	0.418	0.0	0.0	16.6	0.40	7.0«	83.0
S37.003	32.03	10.36	75.747	1.877	0.0	0.0	48.8	1.66	66.1«	244.2
S35.004	30.94	10.95	73.830	2.516	0.0	0.0	63.2	1.35	95.2«	316.2
S42.000	41.03	6.94	77.380	0.000	0.0	0.0	0.0	0.95	16.8	0.0
S42.001	40.20	7.17	76.090	0.000	0.0	0.0	0.0	2.40	42.3	0.0
S43.000	36.76	8.29	73.780	0.000	0.0	0.0	0.0	0.39	6.9	0.0
S35.005	29.20	12.03	73.475	2.516	0.0	0.0	63.2	0.70	49.3«	316.2
S35.006	28.57	12.46	73.385	2.720	0.0	0.0	63.2	1.47	103.7«	316.2
S23.004	16.60	30.00	72.674	6.079	0.0	0.0	82.0	1.17	419.5	409.9
S23.005	16.60	30.00	72.540	6.079	0.0	0.0	82.0	0.01	9.4«	409.9
S23.006	16.60	30.00	72.480	6.079	0.0	0.0	82.0	0.01	9.4«	409.9
S23.007	16.60	30.00	72.405	6.079	0.0	0.0	82.0	0.01	9.4«	409.9
S23.008	16.60	30.00	72.359	6.079	0.0	0.0	82.0	0.01	3.1«	409.9

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
SNW2B-72	74.670	0.500	Junction		S23.000	74.170	500				
SNW2B-Pond-HW-B	75.110	2.380	Junction		S23.001	72.730	300	S23.000	72.730	500	
SNW2B-1	82.287	1.464	Open Manhole	1050	S24.000	80.823	150				
SNW2B-2	81.645	1.294	Open Manhole	1050	S24.001	80.351	150	S24.000	80.351	150	
SNW2B-3	81.770	3.799	Open Manhole	1050	S24.002	77.971	150	S24.001	77.971	150	
SNW2B-4	81.770	6.179	Open Manhole	1050	S24.003	75.591	150	S24.002	75.591	150	
SNW2B-6	82.418	1.523	Open Manhole	1050	S25.000	80.895	225				
SNW2B-7	82.470	1.634	Open Manhole	1050	S25.001	80.836	225	S25.000	80.836	225	
SNW2B-8	82.230	1.525	Open Manhole	1050	S25.002	80.705	225	S25.001	80.705	225	
SNW2B-21	82.010	1.350	Open Manhole	1050	S26.000	80.660	150				
SNW2B-27	82.470	1.350	Open Manhole	1050	S27.000	81.120	150				
SNW2B-29	82.460	1.350	Open Manhole	1050	S28.000	81.110	225				
SNW2B-28	82.260	1.500	Open Manhole	1050	S27.001	80.760	225	S27.000	80.835	150	
								S28.000	80.760	225	
SNW2B-22	82.100	1.718	Open Manhole	1050	S26.001	80.382	300	S26.000	80.532	150	
								S27.001	80.457	225	
SNW2B-23	82.140	1.790	Open Manhole	1050	S26.002	80.350	300	S26.001	80.350	300	
SNW2B-24	82.200	1.880	Open Manhole	1050	S26.003	80.320	300	S26.002	80.320	300	
SNW2B-25	82.260	1.971	Open Manhole	1050	S26.004	80.289	300	S26.003	80.289	300	
SNW2B-26	82.250	1.997	Open Manhole	1050	S26.005	80.253	300	S26.004	80.253	300	
SNW2B-9	81.880	1.664	Open Manhole	1050	S25.003	80.216	300	S25.002	80.291	225	
								S26.005	80.216	300	
SNW2B-10	80.070	1.664	Open Manhole	1050	S25.004	78.406	300	S25.003	78.406	300	
SNW2B-11	77.690	1.575	Open Manhole	1050	S25.005	76.115	300	S25.004	76.115	300	
SNW2B-12	75.840	2.105	Open Manhole	1500	S25.006	73.735	600	S25.005	74.035	300	
SNW2B-13	75.125	1.479	Open Manhole	1500	S25.007	73.646	600	S25.006	73.647	600	1
SNW2B-14	75.303	1.676	Open Manhole	1500	S25.008	73.627	600	S25.007	73.627	600	
SNW2B-15	75.000	1.564	Open Manhole	1500	S25.009	73.436	600	S25.008	73.436	600	
SNW2B-16	74.923	1.587	Open Manhole	1500	S25.010	73.336	600	S25.009	73.336	600	
SNW2B-30	75.420	1.200	Open Manhole	1050	S29.000	74.220	300				
SNW2B-X1	75.322	1.214	Open Manhole	1050	S29.001	74.108	300	S29.000	74.108	300	
SNW2B-31	75.250	1.235	Open Manhole	1050	S29.002	74.015	300	S29.001	74.015	300	
SNW2B-X2	75.131	1.357	Open Manhole	1050	S29.003	73.774	300	S29.002	73.774	300	
SNW2B-32	75.111	1.654	Open Manhole	1050	S29.004	73.457	375	S29.003	73.532	300	
SNW2B-17	74.850	1.614	Open Manhole	1500	S25.011	73.236	600	S25.010	73.236	600	
								S29.004	73.433	375	
SNW2B-18	74.720	1.662	Open Manhole	1500	S25.012	73.058	600	S25.011	73.058	600	
SNW2B-19	74.605	1.685	Open Manhole	1500	S25.013	72.920	600	S25.012	72.920	600	
SNW2B-33	75.050	1.315	Open Manhole	1050	S30.000	73.735	375				
SNW2B-X3	74.975	1.337	Open Manhole	1050	S30.001	73.638	375	S30.000	73.638	375	
SNW2B-34	74.900	1.361	Open Manhole	1050	S30.002	73.539	375	S30.001	73.540	375	1
SNW2B-X4	74.801	1.362	Open Manhole	1050	S30.003	73.439	375	S30.002	73.439	375	
SNW2B-36	82.533	1.350	Open Manhole	1050	S31.000	81.183	150				
SNW2B-37	82.598	1.525	Open Manhole	1050	S31.001	81.073	150	S31.000	81.073	150	
SNW2B-38	82.575	1.555	Open Manhole	1050	S31.002	81.020	150	S31.001	81.020	150	
SNW2B-39	82.173	1.350	Open Manhole	1050	S31.003	80.823	150	S31.002	80.823	150	
SNW2B-40	82.005	1.350	Open Manhole	1050	S31.004	80.655	150	S31.003	80.655	150	
SNW2B-41	80.455	1.350	Open Manhole	1050	S31.005	79.105	150	S31.004	79.105	150	
SNW2B-42	78.865	1.350	Open Manhole	1050	S31.006	77.515	150	S31.005	77.515	150	
SNW2B-43	77.615	1.425	Open Manhole	1050	S31.007	76.190	225	S31.006	76.265	150	
SNW2B-44	76.260	1.425	Open Manhole	1050	S31.008	74.835	225	S31.007	74.835	225	
SNW2B-45	76.020	1.500	Open Manhole	1050	S31.009	74.520	300	S31.008	74.595	225	
SNW2B-46	75.690	1.500	Open Manhole	1050	S31.010	74.190	300	S31.009	74.190	300	
SNW2B-47	75.500	1.587	Open Manhole	1050	S31.011	73.913	375	S31.010	73.988	300	
SNW2B-48	75.280	1.575	Open Manhole	1050	S31.012	73.705	375	S31.011	73.705	375	
SNW2B-50	82.591	1.300	Open Manhole	1050	S32.000	81.291	225				
SNW2B-51	82.547	1.337	Open Manhole	1050	S32.001	81.210	225	S32.000	81.210	225	
SNW2B-52	82.513	1.389	Open Manhole	1050	S32.002	81.124	225	S32.001	81.124	225	
SNW2B-60	82.710	1.425	Open Manhole	1050	S33.000	81.285	225				
SNW2B-62	82.705	1.425	Open Manhole	1050	S34.000	81.280	225				
SNW2B-61	82.570	1.425	Open Manhole	1050	S33.001	81.145	225	S33.000	81.145	225	
								S34.000	81.145	225	
SNW2B-53	82.503	1.563	Open Manhole	1050	S32.003	80.940	225	S32.002	80.940	225	
								S33.001	80.940	225	
SNW2B-54	82.510	1.687	Open Manhole	1050	S32.004	80.823	225	S32.003	80.823	225	
SNW2B-55	82.420	1.796	Open Manhole	1050	S32.005	80.624	225	S32.004	80.624	225	
SNW2B-56	81.792	1.502	Open Manhole	1050	S32.006	80.290	225	S32.005	80.290	225	

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
SNW2B-57	79.795	1.796	Open Manhole	1050	S32.007	77.999	225	S32.006	77.999	225	
SNW2B-58	77.132	1.425	Open Manhole	1050	S32.008	75.707	225	S32.007	75.707	225	
SNW2B-59	75.540	1.575	Open Manhole	1050	S32.009	73.965	375	S32.008	74.115	225	
SNW2B-49	75.300	1.797	Open Manhole	1050	S31.013	73.503	375	S31.012	73.503	375	
								S32.009	73.503	375	
SNW2B-35	74.720	1.456	Open Manhole	1500	S30.004	73.264	450	S30.003	73.339	375	
								S31.013	73.339	375	
SNW2B-20	74.490	1.622	Open Manhole	1500	S25.014	72.868	600	S25.013	72.868	600	
								S30.004	73.033	450	15
SNW2B-5	75.430	2.585	Open Manhole	1500	S24.004	72.845	600	S24.003	73.295	150	
								S25.014	72.845	600	
SNW2B-Pond-HW-A	75.470	2.740	Open Manhole	1500	S24.005	72.730	600	S24.004	72.730	600	
SNW2B-Central-Pond-Dummy	75.230	2.501	Open Manhole	1500	S23.002	72.730	600	S23.001	72.729	300	
								S24.005	72.729	600	
SNW2B-Pond-HW-C	75.230	2.501	Open Manhole	1500	S23.003	72.730	675	S23.002	72.729	600	
SDUMMY 9	79.390	0.200	Junction		S35.000	79.190	150				
SDUMMY 10	79.390	0.209	Junction		S35.001	79.181	150	S35.000	79.181	150	
SNW2B-67	79.390	1.350	Open Manhole	1050	S35.002	78.040	150	S35.001	79.172	150	1132
SDUMMY 11	78.030	0.200	Junction		S36.000	77.830	150				
SDUMMY 12	78.030	0.209	Junction		S36.001	77.821	150	S36.000	77.821	150	
SNW2B-68	78.030	1.425	Open Manhole	1050	S35.003	76.605	225	S35.002	76.680	150	
								S36.001	77.813	150	1133
SDUMMY 7	77.141	0.200	Junction		S37.000	76.941	150				
SDUMMY 8	77.141	0.211	Junction		S37.001	76.930	150	S37.000	76.930	150	
SDUMMY 1	79.448	0.200	Junction		S38.000	79.248	150				
SDUMMY 2	79.448	0.212	Junction		S38.001	79.236	150	S38.000	79.236	150	
SNW2B-63	79.448	1.248	Open Manhole	1050	S38.002	78.200	150	S38.001	79.225	150	1025
SDUMMY 3	79.057	0.200	Junction		S39.000	78.857	150				
SDUMMY 4	79.057	0.211	Junction		S39.001	78.846	150	S39.000	78.846	150	
SNW2B-64	79.057	1.207	Open Manhole	1050	S38.003	77.850	150	S38.002	77.850	150	
								S39.001	78.835	150	985
SDUMMY 5	77.771	0.200	Junction		S40.000	77.571	150				
SDUMMY 6	77.771	0.209	Junction		S40.001	77.562	150	S40.000	77.562	150	
SNW2B-65	77.771	1.276	Open Manhole	1050	S38.004	76.495	225	S38.003	76.570	150	
								S40.001	77.552	150	982
SNW2B-65A	77.141	1.276	Open Manhole	1050	S37.002	75.865	225	S37.001	76.919	150	979
								S38.004	75.865	225	
SDUMMY 13	75.750	0.200	Junction		S41.000	75.550	150				
SDUMMY 14	75.750	0.210	Junction		S41.001	75.540	150	S41.000	75.540	150	
SNW2B-65B	77.312	1.783	Open Manhole	1050	S37.003	75.747	225	S37.002	75.747	225	
								S41.001	75.529	150	
SNW2B-65C	77.598	3.768	Open Manhole	1050	S35.004	73.830	300	S35.003	73.905	225	
								S37.003	73.905	225	
SNW2B-70	78.730	1.350	Open Manhole	1050	S42.000	77.380	150				
SNW2B-70A	77.440	1.350	Open Manhole	1050	S42.001	76.090	150	S42.000	76.090	150	
SNW2B-77	75.130	1.350	Open Manhole	1050	S43.000	73.780	150				
SNW2B-65D	75.165	1.690	Open Manhole	1050	S35.005	73.475	300	S35.004	73.475	300	
								S42.001	73.625	150	
								S43.000	73.625	150	
SNW2B-65E	76.278	2.893	Open Manhole	1050	S35.006	73.385	300	S35.005	73.385	300	
SNW2B-65F	75.641	2.967	Open Manhole	1500	S23.004	72.674	675	S23.003	72.674	675	
								S35.006	73.049	300	
SNW2B-73	74.400	1.860	Junction		S23.005	72.540	500	S23.004	72.575	675	210
SNW2B-74	74.090	1.610	Junction		S23.006	72.480	500	S23.005	72.480	500	
SNW2B-75	73.790	1.385	Junction		S23.007	72.405	500	S23.006	72.405	500	
SNW2B-76	73.706	1.347	Junction		S23.008	72.359	500	S23.007	72.359	500	
SEX-NW2B-Outfall	73.622	1.298	Open Manhole	0		OUTFALL		S23.008	72.324	500	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-72	438670.492	279896.585			No Entry	
SNW2B-Pond-HW-B	438656.871	279849.726			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-1	438693.133	279943.669	438693.133	279943.669	Required	
SNW2B-2	438700.213	279926.499	438700.213	279926.499	Required	
SNW2B-3	438697.957	279883.516	438697.957	279883.516	Required	
SNW2B-4	438688.277	279841.390	438688.277	279841.390	Required	
SNW2B-6	438730.704	279983.433	438730.704	279983.433	Required	
SNW2B-7	438713.856	280007.635	438713.856	280007.635	Required	
SNW2B-8	438725.610	280013.505	438725.610	280013.505	Required	
SNW2B-21	438658.890	279964.848	438658.890	279964.848	Required	
SNW2B-27	438702.505	279999.559	438702.505	279999.559	Required	
SNW2B-29	438703.546	279964.544	438703.546	279964.544	Required	
SNW2B-28	438672.075	279979.232	438672.075	279979.232	Required	
SNW2B-22	438657.148	279984.449	438657.148	279984.449	Required	
SNW2B-23	438663.179	279999.780	438663.179	279999.780	Required	
SNW2B-24	438673.887	280010.303	438673.887	280010.303	Required	
SNW2B-25	438688.225	280015.336	438688.225	280015.336	Required	
SNW2B-26	438706.173	280016.827	438706.173	280016.827	Required	
SNW2B-9	438723.612	280026.748	438723.612	280026.748	Required	
SNW2B-10	438755.430	280057.924	438755.430	280057.924	Required	
SNW2B-11	438779.998	280096.199	438779.998	280096.199	Required	
SNW2B-12	438799.033	280137.539	438799.033	280137.539	Required	
SNW2B-13	438811.266	280172.238	438811.266	280172.238	Required	
SNW2B-14	438820.367	280168.763	438820.367	280168.763	Required	
SNW2B-15	438792.827	280084.547	438792.827	280084.547	Required	
SNW2B-16	438776.376	280037.263	438772.657	280026.434	Required	
SNW2B-30	438834.224	280172.000	438834.224	280172.000	Required	
SNW2B-X1	438817.728	280122.142	438817.728	280122.142	Required	
SNW2B-31	438804.108	280080.975	438804.108	280080.975	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-X2	438787.652	280033.660	438787.652	280033.660	Required	
SNW2B-32	438771.126	279986.238	438771.126	279986.238	Required	
SNW2B-17	438759.925	279989.980	438759.925	279989.980	Required	
SNW2B-18	438728.927	279905.486	438728.927	279905.486	Required	
SNW2B-19	438701.118	279831.544	438701.118	279831.544	Required	
SNW2B-33	438770.420	279984.587	438770.420	279984.587	Required	
SNW2B-X3	438753.606	279938.838	438753.606	279938.838	Required	
SNW2B-34	438736.620	279892.622	438736.620	279892.622	Required	
SNW2B-X4	438718.512	279845.988	438718.512	279845.988	Required	
SNW2B-36	438800.217	279958.249	438800.217	279958.249	Required	
SNW2B-37	438816.705	279968.727	438816.705	279968.727	Required	
SNW2B-38	438825.833	279971.071	438825.833	279971.071	Required	
SNW2B-39	438819.536	279986.185	438819.536	279986.185	Required	
SNW2B-40	438829.538	279989.034	438829.538	279989.034	Required	
SNW2B-41	438826.012	280022.464	438826.012	280022.464	Required	
SNW2B-42	438829.583	280056.123	438829.583	280056.123	Required	
SNW2B-43	438836.206	280089.279	438836.206	280089.279	Required	
SNW2B-44	438856.453	280169.445	438856.453	280169.445	Required	
SNW2B-45	438846.935	280171.868	438846.935	280171.868	Required	
SNW2B-46	438818.007	280077.175	438818.007	280077.175	Required	
SNW2B-47	438785.334	279981.717	438785.334	279981.717	Required	
SNW2B-48	438747.568	279889.135	438747.568	279889.135	Required	
SNW2B-50	438848.517	279962.793	438848.517	279962.793	Required	
SNW2B-51	438855.025	279949.774	438855.025	279949.774	Required	
SNW2B-52	438853.349	279934.830	438853.349	279934.830	Required	
SNW2B-60	438831.676	279957.169	438831.676	279957.169	Required	
SNW2B-62	438815.483	279940.669	438815.483	279940.669	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SNW2B-61	438837.112	279936.154	438837.112	279936.154	Required	
SNW2B-53	438847.409	279925.762	438847.409	279925.762	Required	
SNW2B-54	438837.472	279919.182	438837.472	279919.182	Required	
SNW2B-55	438817.601	279914.992	438817.601	279914.992	Required	
SNW2B-56	438803.570	279903.597	438803.570	279903.597	Required	
SNW2B-57	438770.704	279872.129	438770.704	279872.129	Required	
SNW2B-58	438743.851	279835.980	438743.851	279835.980	Required	
SNW2B-59	438720.469	279790.985	438720.469	279790.985	Required	
SNW2B-49	438711.127	279794.746	438711.127	279794.746	Required	
SNW2B-35	438700.404	279799.353	438700.404	279799.353	Required	
SNW2B-20	438688.329	279803.384	438688.329	279803.384	Required	
SNW2B-5	438675.007	279807.942	438675.007	279807.942	Required	
SNW2B-Pond-HW-A	438654.448	279817.038	438654.448	279817.038	Required	
SNW2B-Central-Pond-Dummy	438619.724	279773.015	438619.724	279773.015	Required	
SNW2B-Pond-HW-C	438615.068	279774.838	438615.068	279774.838	Required	
SDUMMY 9	438633.302	279567.222			No Entry	
SDUMMY 10	438630.281	279570.614			No Entry	
SNW2B-67	438627.460	279574.180	438627.460	279574.180	Required	
SDUMMY 11	438659.257	279626.863			No Entry	
SDUMMY 12	438654.905	279627.348			No Entry	
SNW2B-68	438652.013	279629.954	438652.013	279629.954	Required	
SDUMMY 7	438770.096	279838.193			No Entry	
SDUMMY 8	438764.379	279838.367			No Entry	
SDUMMY 1	438877.822	279932.380			No Entry	
SDUMMY 2	438872.588	279931.784			No Entry	
SNW2B-63	438867.937	279930.605	438867.937	279930.605	Required	
SDUMMY 3	438865.872	279908.344			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SDUMMY 4	438860.322	279908.229			No Entry	
SNW2B-64	438855.075	279907.496	438855.075	279907.496	Required	
SDUMMY 5	438825.197	279889.424			No Entry	
SDUMMY 6	438820.605	279889.424			No Entry	
SNW2B-65	438815.556	279888.926	438815.556	279888.926	Required	
SNW2B-65A	438758.683	279838.165	438758.683	279838.165	Required	
SDUMMY 13	438736.805	279790.294			No Entry	
SDUMMY 14	438731.687	279790.294			No Entry	
SNW2B-65B	438726.706	279788.470	438726.706	279788.470	Required	
SNW2B-65C	438686.340	279710.291	438686.340	279710.291	Required	
SNW2B-70	438576.354	279602.866	438576.354	279602.866	Required	
SNW2B-70A	438629.438	279699.470	438629.438	279699.470	Required	
SNW2B-77	438672.190	279801.000	438672.190	279801.000	Required	
SNW2B-65D	438642.327	279730.080	438642.327	279730.080	Required	
SNW2B-65E	438601.358	279748.502	438601.358	279748.502	Required	
SNW2B-65F	438589.072	279785.010	438589.072	279785.010	Required	
SNW2B-73	438543.518	279802.793			No Entry	
SNW2B-74	438551.661	279831.819			No Entry	
SNW2B-75	438562.717	279867.506			No Entry	
SNW2B-76	438573.748	279887.689			No Entry	
SEX-NW2B-Outfall	438577.404	279904.925			No Entry	

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
23.000	Classification	EW (fill)	20	0.343	0.069	0.069
	Classification	Overland	40	1.034	0.414	0.482
23.001	-	-	100	0.000	0.000	0.000
24.000	-	-	100	0.032	0.032	0.032
24.001	Classification	Paved	100	0.072	0.072	0.072
	Classification	Verge	50	0.057	0.028	0.100
24.002	-	-	100	0.000	0.000	0.000
24.003	Classification	Paved	100	0.028	0.028	0.028
	Classification	Verge	50	0.018	0.009	0.037
	Classification	Paved	100	0.024	0.024	0.061
	Classification	Verge	50	0.010	0.005	0.066
	Classification	EW (Cut)	20	0.002	0.000	0.066
25.000	Classification	Verge	50	0.008	0.004	0.004
	Classification	Paved	100	0.035	0.035	0.039
	As Zoned	Default	100	0.007	0.007	0.007
	User	-	100	0.006	0.006	0.052
25.001	Classification	Verge	50	0.005	0.003	0.003
25.002	-	-	100	0.000	0.000	0.000
26.000	Classification	Paved	100	0.009	0.009	0.009
	Classification	Paved	100	0.010	0.010	0.019
	Classification	Verge	50	0.005	0.002	0.022
27.000	Classification	EW (fill)	20	0.091	0.018	0.018
	Classification	Paved	100	0.031	0.031	0.049
28.000	Classification	EW (fill)	20	0.091	0.018	0.018
	Classification	Paved	100	0.031	0.031	0.049
	As Zoned	Verge	50	0.007	0.003	0.003
	As Zoned	Default	100	0.018	0.018	0.070
		Paved	100	0.000	0.000	0.018
	As Zoned	Paved	100	0.013	0.013	0.013
	As Zoned	Paved	100	0.030	0.030	0.030
	User	-	100	0.013	0.013	0.125
27.001	-	-	100	0.000	0.000	0.000
26.001	Classification	Paved	100	0.006	0.006	0.006
26.002	Classification	Paved	100	0.005	0.005	0.005
26.003	Classification	Paved	100	0.006	0.006	0.006
26.004	Classification	Paved	100	0.014	0.014	0.014
	Classification	Verge	50	0.005	0.002	0.017
26.005	Classification	Verge	50	0.005	0.002	0.002
	Classification	Paved	100	0.016	0.016	0.018
25.003	Classification	Verge	50	0.012	0.006	0.006
	Classification	Paved	100	0.048	0.048	0.054
25.004	Classification	Paved	100	0.036	0.036	0.036
	Classification	Verge	50	0.011	0.006	0.042
25.005	Classification	Verge	50	0.011	0.006	0.006
	Classification	Paved	100	0.035	0.035	0.041
25.006	Classification	Paved	100	0.034	0.034	0.034
	Classification	Verge	50	0.011	0.006	0.040
25.007	-	-	100	0.000	0.000	0.000
25.008	Classification	Paved	100	0.088	0.088	0.088
	Classification	Verge	50	0.043	0.022	0.109
25.009	Classification	Verge	50	0.239	0.120	0.120
	Classification	Paved	100	0.093	0.093	0.212
25.010	-	-	100	0.000	0.000	0.000
29.000	-	-	100	0.150	0.150	0.150
29.001	-	-	100	0.000	0.000	0.000
29.002	-	-	100	0.160	0.160	0.160
29.003	-	-	100	0.000	0.000	0.000
29.004	-	-	100	0.000	0.000	0.000
25.011	Classification	Paved	100	0.084	0.084	0.084
	Classification	Verge	50	0.082	0.041	0.124
	Classification	Verge	50	0.177	0.089	0.213
25.012	Classification	Verge	50	0.102	0.051	0.051
	Classification	Paved	100	0.073	0.073	0.125
25.013	-	-	100	0.000	0.000	0.000
30.000	Classification	Paved	100	0.114	0.114	0.114
	Classification	Paved	100	0.027	0.027	0.141
30.001	-	-	100	0.000	0.000	0.000
30.002	Classification	Paved	100	0.029	0.029	0.029
	Classification	Paved	100	0.092	0.092	0.121
30.003	-	-	100	0.000	0.000	0.000
31.000	Classification	Paved	100	0.012	0.012	0.012
31.001	Classification	Paved	100	0.005	0.005	0.005
31.002	-	-	100	0.000	0.000	0.000
31.003	-	-	100	0.000	0.000	0.000
31.004	Classification	Paved	100	0.028	0.028	0.028
	Classification	Verge	50	0.027	0.014	0.042
	Classification	Paved	100	0.025	0.025	0.067
	As Zoned	Default	100	0.025	0.025	0.092
31.005	Classification	Paved	100	0.027	0.027	0.027
	Classification	Verge	50	0.022	0.011	0.037
31.006	Classification	Paved	100	0.026	0.026	0.026
	Classification	Verge	50	0.011	0.005	0.032
31.007	Classification	Paved	100	0.064	0.064	0.064
	Classification	Verge	50	0.021	0.010	0.074
	Classification	EW (Cut)	20	0.017	0.003	0.077
31.008	-	-	100	0.000	0.000	0.000
31.009	Classification	Verge	50	0.041	0.020	0.020
31.010	Classification	Verge	50	0.197	0.098	0.098

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
31.011	Classification	Verge	50	0.287	0.143	0.143
31.012	Classification	Verge	50	0.102	0.051	0.051
32.000	Classification	Paved	100	0.006	0.006	0.006
32.001	Classification	Paved	100	0.006	0.006	0.006
32.002	Classification	Paved	100	0.004	0.004	0.004
33.000	Classification	Paved	100	0.034	0.034	0.034
	Classification	Verge	50	0.031	0.015	0.049
34.000	Classification	Verge	50	0.031	0.016	0.016
	Classification	Paved	100	0.034	0.034	0.050
	As Zoned	Paved	100	0.025	0.025	0.025
	As Zoned	Default	100	0.009	0.009	0.009
	As Zoned	Paved	100	0.002	0.002	0.002
	As Zoned	Default	100	0.005	0.005	0.005
	As Zoned	Default	100	0.018	0.018	0.110
		Paved	100	0.000	0.000	0.018
	As Zoned	Default	100	0.034	0.034	0.144
33.001	-	-	100	0.000	0.000	0.000
32.003	Classification	Paved	100	0.005	0.005	0.005
32.004	Classification	Paved	100	0.014	0.014	0.014
32.005	Classification	Paved	100	0.015	0.015	0.015
32.006	Classification	Paved	100	0.083	0.083	0.083
	Classification	Verge	50	0.043	0.021	0.104
32.007	-	-	100	0.000	0.000	0.000
32.008	Classification	EW (Cut)	20	0.015	0.003	0.003
	Classification	Verge	50	0.018	0.009	0.012
	Classification	Paved	100	0.040	0.040	0.052
32.009	-	-	100	0.000	0.000	0.000
31.013	-	-	100	0.000	0.000	0.000
30.004	-	-	100	0.000	0.000	0.000
25.014	-	-	100	0.000	0.000	0.000
24.004	-	-	100	0.000	0.000	0.000
24.005	-	-	100	0.000	0.000	0.000
23.002	-	-	100	0.000	0.000	0.000
23.003	-	-	100	0.000	0.000	0.000
35.000	Classification	Overland	40	0.137	0.055	0.055
35.001	-	-	100	0.000	0.000	0.000
35.002	-	-	100	0.000	0.000	0.000
36.000	Classification	Overland	40	1.461	0.584	0.584
36.001	-	-	100	0.000	0.000	0.000
35.003	-	-	100	0.000	0.000	0.000
37.000	Classification	Overland	40	0.506	0.202	0.202
	Classification	Overland	40	0.246	0.099	0.301
37.001	-	-	100	0.000	0.000	0.000
38.000	Classification	Overland	40	0.216	0.086	0.086
38.001	-	-	100	0.000	0.000	0.000
38.002	-	-	100	0.000	0.000	0.000
39.000	Classification	Overland	40	0.317	0.127	0.127
39.001	-	-	100	0.000	0.000	0.000
38.003	-	-	100	0.000	0.000	0.000
40.000	Classification	Overland	40	2.362	0.945	0.945
40.001	-	-	100	0.000	0.000	0.000
38.004	-	-	100	0.000	0.000	0.000
37.002	-	-	100	0.000	0.000	0.000
41.000	Classification	Overland	40	1.045	0.418	0.418
41.001	-	-	100	0.000	0.000	0.000
37.003	-	-	100	0.000	0.000	0.000
35.004	-	-	100	0.000	0.000	0.000
42.000	-	-	100	0.000	0.000	0.000
42.001	-	-	100	0.000	0.000	0.000
43.000	-	-	100	0.000	0.000	0.000
35.005	-	-	100	0.000	0.000	0.000
35.006	User	-	20	1.023	0.205	0.205
23.004	-	-	100	0.000	0.000	0.000
23.005	-	-	100	0.000	0.000	0.000
23.006	-	-	100	0.000	0.000	0.000
23.007	-	-	100	0.000	0.000	0.000
23.008	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				12.556	6.079	6.079

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S23.008	SEX-NW2B-Outfall	73.622	72.324	0.000	0	0

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: SNW2B-Central-Pond-Dummy, DS/PN: S23.002, Volume (m³): 25.8

Unit Reference	MD-SHE-0202-2320-1700-2320	Sump Available	Yes
Design Head (m)	1.700	Diameter (mm)	202
Design Flow (l/s)	23.2	Invert Level (m)	72.730
Flush-Flo™	Calculated	Minimum Outlet Pipe Diameter (mm)	225
Objective	Minimise upstream storage	Suggested Manhole Diameter (mm)	1800
Application	Surface		

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.700	23.2	Kick-Flo®	1.097	18.8
Flush-Flo™	0.507	23.2	Mean Flow over Head Range	-	20.1

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.9	0.600	23.1	1.600	22.5	2.600	28.4	5.000	38.9	7.500	47.4
0.200	19.2	0.800	22.4	1.800	23.8	3.000	30.5	5.500	40.8	8.000	48.9
0.300	22.2	1.000	20.6	2.000	25.1	3.500	32.8	6.000	42.5	8.500	50.3
0.400	23.0	1.200	19.7	2.200	26.2	4.000	35.0	6.500	44.2	9.000	51.8
0.500	23.2	1.400	21.1	2.400	27.4	4.500	37.0	7.000	45.8	9.500	53.1

Depth/Flow Relationship Manhole: SDUMMY 10, DS/PN: S35.001, Volume (m³): 0.1

Invert Level (m) 79.181

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.2000	0.600	2.2000	1.100	2.2000	1.600	2.2000	2.100	2.2000	2.600	2.2000
0.200	2.2000	0.700	2.2000	1.200	2.2000	1.700	2.2000	2.200	2.2000	2.700	2.2000
0.300	2.2000	0.800	2.2000	1.300	2.2000	1.800	2.2000	2.300	2.2000	2.800	2.2000
0.400	2.2000	0.900	2.2000	1.400	2.2000	1.900	2.2000	2.400	2.2000	2.900	2.2000
0.500	2.2000	1.000	2.2000	1.500	2.2000	2.000	2.2000	2.500	2.2000	3.000	2.2000

Depth/Flow Relationship Manhole: SDUMMY 12, DS/PN: S36.001, Volume (m³): 0.1

Invert Level (m) 77.821

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	23.1000	0.600	23.1000	1.100	23.1000	1.600	23.1000	2.100	23.1000	2.600	23.1000
0.200	23.1000	0.700	23.1000	1.200	23.1000	1.700	23.1000	2.200	23.1000	2.700	23.1000
0.300	23.1000	0.800	23.1000	1.300	23.1000	1.800	23.1000	2.300	23.1000	2.800	23.1000
0.400	23.1000	0.900	23.1000	1.400	23.1000	1.900	23.1000	2.400	23.1000	2.900	23.1000
0.500	23.1000	1.000	23.1000	1.500	23.1000	2.000	23.1000	2.500	23.1000	3.000	23.1000

Depth/Flow Relationship Manhole: SDUMMY 8, DS/PN: S37.001, Volume (m³): 0.1

Invert Level (m) 76.930

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	11.9000	0.600	11.9000	1.100	11.9000	1.600	11.9000	2.100	11.9000	2.600	11.9000
0.200	11.9000	0.700	11.9000	1.200	11.9000	1.700	11.9000	2.200	11.9000	2.700	11.9000
0.300	11.9000	0.800	11.9000	1.300	11.9000	1.800	11.9000	2.300	11.9000	2.800	11.9000
0.400	11.9000	0.900	11.9000	1.400	11.9000	1.900	11.9000	2.400	11.9000	2.900	11.9000
0.500	11.9000	1.000	11.9000	1.500	11.9000	2.000	11.9000	2.500	11.9000	3.000	11.9000

Depth/Flow Relationship Manhole: SDUMMY 2, DS/PN: S38.001, Volume (m³): 0.1

Invert Level (m) 79.236

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.4000	0.600	3.4000	1.100	3.4000	1.600	3.4000	2.100	3.4000	2.600	3.4000
0.200	3.4000	0.700	3.4000	1.200	3.4000	1.700	3.4000	2.200	3.4000	2.700	3.4000
0.300	3.4000	0.800	3.4000	1.300	3.4000	1.800	3.4000	2.300	3.4000	2.800	3.4000
0.400	3.4000	0.900	3.4000	1.400	3.4000	1.900	3.4000	2.400	3.4000	2.900	3.4000
0.500	3.4000	1.000	3.4000	1.500	3.4000	2.000	3.4000	2.500	3.4000	3.000	3.4000

Depth/Flow Relationship Manhole: SDUMMY 4, DS/PN: S39.001, Volume (m³): 0.1

Invert Level (m) 78.846

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.0000	0.600	5.0000	1.100	5.0000	1.600	5.0000	2.100	5.0000	2.600	5.0000
0.200	5.0000	0.700	5.0000	1.200	5.0000	1.700	5.0000	2.200	5.0000	2.700	5.0000
0.300	5.0000	0.800	5.0000	1.300	5.0000	1.800	5.0000	2.300	5.0000	2.800	5.0000
0.400	5.0000	0.900	5.0000	1.400	5.0000	1.900	5.0000	2.400	5.0000	2.900	5.0000
0.500	5.0000	1.000	5.0000	1.500	5.0000	2.000	5.0000	2.500	5.0000	3.000	5.0000

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Depth/Flow Relationship Manhole: SDUMMY 6, DS/PN: S40.001, Volume (m³): 0.1

Invert Level (m) 77.562

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	37.3000	0.600	37.3000	1.100	37.3000	1.600	37.3000	2.100	37.3000	2.600	37.3000
0.200	37.3000	0.700	37.3000	1.200	37.3000	1.700	37.3000	2.200	37.3000	2.700	37.3000
0.300	37.3000	0.800	37.3000	1.300	37.3000	1.800	37.3000	2.300	37.3000	2.800	37.3000
0.400	37.3000	0.900	37.3000	1.400	37.3000	1.900	37.3000	2.400	37.3000	2.900	37.3000
0.500	37.3000	1.000	37.3000	1.500	37.3000	2.000	37.3000	2.500	37.3000	3.000	37.3000

Depth/Flow Relationship Manhole: SDUMMY 14, DS/PN: S41.001, Volume (m³): 0.1

Invert Level (m) 75.540

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	16.5000	0.600	16.5000	1.100	16.5000	1.600	16.5000	2.100	16.5000	2.600	16.5000
0.200	16.5000	0.700	16.5000	1.200	16.5000	1.700	16.5000	2.200	16.5000	2.700	16.5000
0.300	16.5000	0.800	16.5000	1.300	16.5000	1.800	16.5000	2.300	16.5000	2.800	16.5000
0.400	16.5000	0.900	16.5000	1.400	16.5000	1.900	16.5000	2.400	16.5000	2.900	16.5000
0.500	16.5000	1.000	16.5000	1.500	16.5000	2.000	16.5000	2.500	16.5000	3.000	16.5000

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Storage Structures for Storm

Tank or Pond Manhole: SNW2B-Central-Pond-Dummy, DS/PN: S23.002

Invert Level (m) 72.730

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	1988.0	2.000	3456.0

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 8 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.233
FEH Rainfall Version	1999	E (1km)	0.299
Site Location	GB 438400 279200 SP 38400 79200	F (1km)	2.381
C (1km)	-0.025	Cv (Summer)	0.900
D1 (1km)	0.382	Cv (Winter)	0.900
D2 (1km)	0.332		

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	100
Climate Change (%)	20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
S23.000	SNW2B-72	15 Summer	100	+20%	100/15 Summer	100/15 Summer			74.703	0.033	34.792	0.10
S23.001	SNW2B-Pond-HW-B	15 Summer	100	+20%	100/15 Summer	100/15 Summer			75.111	2.081	1.272	5.05
S24.000	SNW2B-1	15 Summer	100	+20%	100/15 Summer				82.004	1.031	0.000	0.86
S24.001	SNW2B-2	15 Summer	100	+20%	100/15 Summer	100/15 Summer			81.658	1.157	12.898	1.02
S24.002	SNW2B-3	15 Summer	100	+20%	100/15 Summer				80.753	2.632	0.000	1.01
S24.003	SNW2B-4	15 Summer	100	+20%	100/15 Summer				79.956	4.215	0.000	1.66
S25.000	SNW2B-6	15 Summer	100	+20%	100/15 Summer				81.237	0.117	0.000	1.73
S25.001	SNW2B-7	15 Summer	100	+20%					80.998	-0.063	0.000	0.86
S25.002	SNW2B-8	15 Summer	100	+20%					80.816	-0.114	0.000	0.48
S26.000	SNW2B-21	15 Summer	100	+20%	100/15 Summer				81.688	0.878	0.000	1.00
S27.000	SNW2B-27	15 Summer	100	+20%	100/15 Summer	100/15 Summer			82.472	1.202	1.912	1.53
S28.000	SNW2B-29	15 Summer	100	+20%	100/15 Summer	100/15 Summer			82.464	1.129	3.997	1.40
S27.001	SNW2B-28	15 Summer	100	+20%	100/15 Summer				81.948	0.963	0.000	1.20
S26.001	SNW2B-22	15 Summer	100	+20%	100/15 Summer				81.551	0.869	0.000	2.92
S26.002	SNW2B-23	15 Summer	100	+20%	100/15 Summer				81.378	0.728	0.000	3.06
S26.003	SNW2B-24	15 Summer	100	+20%	100/15 Summer				81.209	0.589	0.000	3.10
S26.004	SNW2B-25	15 Summer	100	+20%	100/15 Summer				81.030	0.440	0.000	2.98
S26.005	SNW2B-26	15 Summer	100	+20%	100/15 Summer				80.794	0.241	0.000	3.15
S25.003	SNW2B-9	15 Summer	100	+20%					80.443	-0.073	0.000	0.88
S25.004	SNW2B-10	15 Summer	100	+20%					78.680	-0.026	0.000	0.92
S25.005	SNW2B-11	15 Summer	100	+20%	100/15 Summer				76.886	0.471	0.000	1.05
S25.006	SNW2B-12	30 Summer	100	+20%	100/15 Summer				75.174	0.839	0.000	0.74
S25.007	SNW2B-13	30 Summer	100	+20%	100/15 Summer	100/15 Summer			75.127	0.881	2.329	1.17
S25.008	SNW2B-14	30 Summer	100	+20%	100/15 Summer				75.106	0.879	0.000	0.72
S25.009	SNW2B-15	30 Winter	100	+20%	100/15 Summer	100/15 Summer			75.005	0.969	4.761	0.89
S25.010	SNW2B-16	30 Summer	100	+20%	100/15 Summer	100/15 Summer			74.931	0.995	8.126	0.81
S29.000	SNW2B-30	15 Summer	100	+20%	100/15 Summer	100/15 Summer			75.430	0.910	9.836	1.25
S29.001	SNW2B-X1	15 Summer	100	+20%	100/15 Summer	100/15 Summer			75.326	0.918	3.774	0.92
S29.002	SNW2B-31	30 Summer	100	+20%	100/15 Summer	100/15 Summer			75.259	0.944	8.659	1.59
S29.003	SNW2B-X2	15 Winter	100	+20%	100/15 Summer	100/15 Summer			75.131	1.057	0.026	1.52
S29.004	SNW2B-32	30 Summer	100	+20%	100/15 Summer				74.910	1.078	0.000	1.87
S25.011	SNW2B-17	30 Summer	100	+20%	100/15 Summer	100/15 Summer			74.881	1.045	30.669	1.17
S25.012	SNW2B-18	15 Winter	100	+20%	100/15 Summer	100/15 Summer			74.725	1.067	5.028	1.24
S25.013	SNW2B-19	15 Winter	100	+20%	100/15 Summer				74.585	1.065	0.000	1.39
S30.000	SNW2B-33	30 Summer	100	+20%	100/15 Summer				74.979	0.869	0.000	0.93
S30.001	SNW2B-X3	30 Summer	100	+20%	100/15 Summer				74.940	0.927	0.000	0.76
S30.002	SNW2B-34	30 Summer	100	+20%	100/15 Summer	100/30 Summer			74.900	0.986	0.092	1.29
S30.003	SNW2B-X4	30 Summer	100	+20%	100/15 Summer	100/15 Summer			74.802	0.988	1.152	1.09
S31.000	SNW2B-36	15 Summer	100	+20%	100/15 Summer				82.173	0.840	0.000	0.59
S31.001	SNW2B-37	15 Summer	100	+20%	100/15 Summer				82.131	0.908	0.000	0.80
S31.002	SNW2B-38	15 Summer	100	+20%	100/15 Summer				82.098	0.928	0.000	0.68
S31.003	SNW2B-39	15 Summer	100	+20%	100/15 Summer				82.046	1.073	0.000	0.78
S31.004	SNW2B-40	15 Summer	100	+20%	100/15 Summer	100/15 Summer			82.010	1.206	5.461	1.00
S31.005	SNW2B-41	15 Winter	100	+20%	100/15 Summer	100/15 Summer			80.462	1.207	7.278	1.00
S31.006	SNW2B-42	15 Summer	100	+20%	100/15 Summer	100/15 Summer			78.873	1.208	7.945	1.40
S31.007	SNW2B-43	15 Summer	100	+20%	100/15 Summer	100/15 Summer			77.618	1.203	3.306	1.15
S31.008	SNW2B-44	15 Winter	100	+20%	100/15 Summer				76.219	1.159	0.000	0.89
S31.009	SNW2B-45	15 Summer	100	+20%	100/15 Summer	100/15 Summer			76.024	1.204	3.925	1.03
S31.010	SNW2B-46	30 Winter	100	+20%	100/15 Summer	100/15 Summer			75.707	1.217	16.819	2.21
S31.011	SNW2B-47	30 Winter	100	+20%	100/15 Summer	100/15 Summer			75.503	1.215	3.273	1.42
S31.012	SNW2B-48	30 Summer	100	+20%	100/15 Summer	100/15 Summer			75.282	1.202	2.424	1.37
S32.000	SNW2B-50	15 Summer	100	+20%	100/15 Summer				82.524	1.008	0.000	0.12
S32.001	SNW2B-51	15 Summer	100	+20%	100/15 Summer				82.519	1.084	0.000	0.31
S32.002	SNW2B-52	15 Summer	100	+20%	100/15 Summer				82.509	1.160	0.000	0.28
S33.000	SNW2B-60	15 Summer	100	+20%	100/15 Summer				82.692	1.182	0.000	0.87
S34.000	SNW2B-62	15 Summer	100	+20%	100/15 Summer	100/15 Summer			82.716	1.211	10.983	1.65
S33.001	SNW2B-61	15 Summer	100	+20%	100/15 Summer	100/15 Summer			82.575	1.205	5.387	1.34

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S23.000	SNW2B-72			273.9	FLOOD	5
S23.001	SNW2B-Pond-HW-B			155.4	FLOOD	4
S24.000	SNW2B-1			22.8	FLOOD RISK	
S24.001	SNW2B-2			41.5	FLOOD	5
S24.002	SNW2B-3			41.0	SURCHARGED	
S24.003	SNW2B-4			63.5	SURCHARGED	
S25.000	SNW2B-6			37.1	SURCHARGED	
S25.001	SNW2B-7			38.7	OK	
S25.002	SNW2B-8			38.4	OK	
S26.000	SNW2B-21			11.9	SURCHARGED	
S27.000	SNW2B-27			20.3	FLOOD	3
S28.000	SNW2B-29			61.1	FLOOD	3
S27.001	SNW2B-28			76.8	SURCHARGED	
S26.001	SNW2B-22			88.2	SURCHARGED	
S26.002	SNW2B-23			90.4	SURCHARGED	
S26.003	SNW2B-24			92.1	SURCHARGED	
S26.004	SNW2B-25			97.8	SURCHARGED	
S26.005	SNW2B-26			103.7	SURCHARGED	
S25.003	SNW2B-9			166.1	OK	
S25.004	SNW2B-10			192.6	OK	
S25.005	SNW2B-11			209.8	SURCHARGED	
S25.006	SNW2B-12			192.8	SURCHARGED	
S25.007	SNW2B-13			177.2	FLOOD	4
S25.008	SNW2B-14			193.1	FLOOD RISK	
S25.009	SNW2B-15			219.6	FLOOD	5
S25.010	SNW2B-16			218.1	FLOOD	5
S29.000	SNW2B-30			60.2	FLOOD	5
S29.001	SNW2B-X1			43.7	FLOOD	5
S29.002	SNW2B-31			114.9	FLOOD	6
S29.003	SNW2B-X2			109.9	FLOOD	2
S29.004	SNW2B-32			93.2	FLOOD RISK	
S25.011	SNW2B-17			298.4	FLOOD	6
S25.012	SNW2B-18			294.8	FLOOD	6
S25.013	SNW2B-19			295.4	FLOOD RISK	
S30.000	SNW2B-33			76.2	FLOOD RISK	
S30.001	SNW2B-X3			62.3	FLOOD RISK	
S30.002	SNW2B-34			106.3	FLOOD	1
S30.003	SNW2B-X4			89.8	FLOOD	4
S31.000	SNW2B-36			7.3	SURCHARGED	
S31.001	SNW2B-37			9.4	SURCHARGED	
S31.002	SNW2B-38			12.3	SURCHARGED	
S31.003	SNW2B-39			15.7	FLOOD RISK	
S31.004	SNW2B-40			32.4	FLOOD	4
S31.005	SNW2B-41			32.7	FLOOD	6
S31.006	SNW2B-42			40.7	FLOOD	7
S31.007	SNW2B-43			65.9	FLOOD	4
S31.008	SNW2B-44			60.6	FLOOD RISK	
S31.009	SNW2B-45			56.9	FLOOD	6
S31.010	SNW2B-46			94.3	FLOOD	7
S31.011	SNW2B-47			110.9	FLOOD	5
S31.012	SNW2B-48			104.4	FLOOD	5
S32.000	SNW2B-50			3.9	FLOOD RISK	
S32.001	SNW2B-51			10.6	FLOOD RISK	
S32.002	SNW2B-52			15.9	FLOOD RISK	
S33.000	SNW2B-60			33.1	FLOOD RISK	
S34.000	SNW2B-62			60.9	FLOOD	4
S33.001	SNW2B-61			72.2	FLOOD	4

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S32.003	SNW2B-53	15 Summer	100	+20%	100/15 Summer				82.499	1.334
S32.004	SNW2B-54	15 Summer	100	+20%	100/15 Summer				82.393	1.345
S32.005	SNW2B-55	15 Summer	100	+20%	100/15 Summer				82.162	1.313
S32.006	SNW2B-56	15 Summer	100	+20%	100/15 Summer	100/15 Summer			81.793	1.278
S32.007	SNW2B-57	15 Summer	100	+20%	100/15 Summer				79.454	1.230
S32.008	SNW2B-58	15 Summer	100	+20%	100/15 Summer	100/15 Summer			77.139	1.207
S32.009	SNW2B-59	15 Summer	100	+20%	100/15 Summer				75.048	0.708
S31.013	SNW2B-49	15 Summer	100	+20%	100/15 Summer				74.999	1.121
S30.004	SNW2B-35	15 Summer	100	+20%	100/15 Summer	100/15 Summer			74.722	1.008
S25.014	SNW2B-20	30 Summer	100	+20%	100/15 Summer	100/15 Summer			74.491	1.023
S24.004	SNW2B-5	30 Summer	100	+20%	100/15 Summer				74.204	0.759
S24.005	SNW2B-Pond-HW-A	1440 Summer	100	+20%	100/15 Summer				74.018	0.688
S23.002	SNW2B-Central-Pond-Dummy	1440 Summer	100	+20%	100/60 Summer				74.012	0.682
S23.003	SNW2B-Pond-HW-C	60 Summer	100	+20%	100/15 Summer				74.028	0.623
S35.000	SDUMMY 9	15 Summer	100	+20%					79.340	0.000
S35.001	SDUMMY 10	15 Summer	100	+20%					79.331	0.000
S35.002	SNW2B-67	720 Summer	100	+20%					78.071	-0.119
S36.000	SDUMMY 11	15 Summer	100	+20%					77.980	0.000
S36.001	SDUMMY 12	15 Summer	100	+20%					77.971	0.000
S35.003	SNW2B-68	960 Summer	100	+20%					76.692	-0.138
S37.000	SDUMMY 7	15 Summer	100	+20%					77.091	0.000
S37.001	SDUMMY 8	15 Summer	100	+20%					77.080	0.000
S38.000	SDUMMY 1	15 Summer	100	+20%					79.398	0.000
S38.001	SDUMMY 2	15 Summer	100	+20%					79.386	0.000
S38.002	SNW2B-63	360 Winter	100	+20%					78.245	-0.105
S39.000	SDUMMY 3	15 Summer	100	+20%					79.007	0.000
S39.001	SDUMMY 4	15 Summer	100	+20%					78.996	0.000
S38.003	SNW2B-64	360 Summer	100	+20%					77.968	-0.032
S40.000	SDUMMY 5	15 Summer	100	+20%					77.721	0.000
S40.001	SDUMMY 6	15 Summer	100	+20%					77.712	0.000
S38.004	SNW2B-65	360 Summer	100	+20%	100/15 Summer	100/15 Summer			77.834	1.114
S37.002	SNW2B-65A	360 Summer	100	+20%	100/15 Summer	100/15 Summer			77.217	1.127
S41.000	SDUMMY 13	15 Summer	100	+20%					75.700	0.000
S41.001	SDUMMY 14	15 Summer	100	+20%					75.690	0.000
S37.003	SNW2B-65B	30 Summer	100	+20%	100/15 Summer				76.795	0.823
S35.004	SNW2B-65C	60 Summer	100	+20%	100/15 Summer				75.438	1.308
S42.000	SNW2B-70	15 Summer	100	+20%					77.380	-0.150
S42.001	SNW2B-70A	15 Summer	100	+20%					76.090	-0.150
S43.000	SNW2B-77	60 Summer	100	+20%	100/15 Summer	100/60 Summer			75.130	1.200
S35.005	SNW2B-65D	60 Summer	100	+20%	100/15 Summer				75.161	1.386
S35.006	SNW2B-65E	60 Summer	100	+20%	100/15 Summer				74.933	1.248
S23.004	SNW2B-65F	60 Summer	100	+20%	100/15 Summer				74.036	0.687
S23.005	SNW2B-73	60 Summer	100	+20%					74.010	-0.390
S23.006	SNW2B-74	960 Summer	100	+20%					73.793	-0.297
S23.007	SNW2B-75	960 Summer	100	+20%					73.641	-0.149
S23.008	SNW2B-76	960 Summer	100	+20%					73.539	-0.167

PN	US/MH Name		Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S32.003	SNW2B-53		0.000	1.77			77.8	FLOOD RISK	
S32.004	SNW2B-54		0.000	1.71			79.9	FLOOD RISK	
S32.005	SNW2B-55		0.000	1.43			81.5	FLOOD RISK	
S32.006	SNW2B-56		0.819	1.03			115.3	FLOOD	2
S32.007	SNW2B-57		0.000	1.00			112.9	SURCHARGED	
S32.008	SNW2B-58		7.397	1.33			117.8	FLOOD	5
S32.009	SNW2B-59		0.000	0.44			117.8	SURCHARGED	
S31.013	SNW2B-49		0.000	1.29			203.9	SURCHARGED	
S30.004	SNW2B-35		2.101	1.07			291.1	FLOOD	4
S25.014	SNW2B-20		0.699	4.06			543.8	FLOOD	5
S24.004	SNW2B-5		0.000	1.72			596.4	SURCHARGED	
S24.005	SNW2B-Pond-HW-A		0.000	0.63			120.2	SURCHARGED	
S23.002	SNW2B-Central-Pond-Dummy		0.000	0.11			23.2	SURCHARGED	
S23.003	SNW2B-Pond-HW-C		0.000	0.00			0.0	SURCHARGED	
S35.000	SDUMMY 9		0.000	0.63			6.4	FLOOD RISK*	
S35.001	SDUMMY 10		0.000	0.21			2.2	FLOOD RISK*	
S35.002	SNW2B-67		0.000	0.10			2.2	OK	
S36.000	SDUMMY 11		0.000	2.72			28.3	FLOOD RISK*	
S36.001	SDUMMY 12		0.000	2.13			23.1	FLOOD RISK*	
S35.003	SNW2B-68		0.000	0.32			25.3	OK	
S37.000	SDUMMY 7		0.000	1.86			17.0	FLOOD RISK*	
S37.001	SDUMMY 8		0.000	1.30			11.9	FLOOD RISK*	
S38.000	SDUMMY 1		0.000	0.84			8.0	FLOOD RISK*	
S38.001	SDUMMY 2		0.000	0.34			3.4	FLOOD RISK*	
S38.002	SNW2B-63		0.000	0.20			3.4	OK	
S39.000	SDUMMY 3		0.000	1.06			9.8	FLOOD RISK*	
S39.001	SDUMMY 4		0.000	0.53			5.0	FLOOD RISK*	
S38.003	SNW2B-64		0.000	0.32			8.4	OK	
S40.000	SDUMMY 5		0.000	4.20			42.7	FLOOD RISK*	
S40.001	SDUMMY 6		0.000	3.85			37.3	FLOOD RISK*	
S38.004	SNW2B-65		63.148	1.00			40.6	FLOOD	23
S37.002	SNW2B-65A		75.636	3.04			60.0	FLOOD	23
S41.000	SDUMMY 13		0.000	2.25			21.7	FLOOD RISK*	
S41.001	SDUMMY 14		0.000	1.74			16.5	FLOOD RISK*	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S37.003	SNW2B-65B	0.000	0.98			63.9	SURCHARGED	
S35.004	SNW2B-65C	0.000	1.00			89.1	SURCHARGED	
S42.000	SNW2B-70	0.000	0.00			0.0	OK	
S42.001	SNW2B-70A	0.000	0.00			0.0	OK	
S43.000	SNW2B-77	0.073	0.14			0.9	FLOOD	1
S35.005	SNW2B-65D	0.000	1.93			89.3	FLOOD RISK	
S35.006	SNW2B-65E	0.000	1.62			155.9	SURCHARGED	
S23.004	SNW2B-65F	0.000	0.37			132.9	SURCHARGED	
S23.005	SNW2B-73	0.000	0.61			132.3	OK	
S23.006	SNW2B-74	0.000	0.61			91.5	FLOOD RISK*	
S23.007	SNW2B-75	0.000	0.91			91.3	FLOOD RISK*	
S23.008	SNW2B-76	0.000	1.12			91.1	FLOOD RISK*	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes A46 pipe Manhole Sizes A46 manholes

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	19.300	Add Flow / Climate Change (%)	25
Ratio R	0.400	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	300	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	0.75
Volumetric Runoff Coeff.	0.900	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
18.000	1.917	0.004	479.3	0.002	5.00	0.0	1.500	o	150	Pipe/Conduit	
18.001	1.735	0.003	578.3	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.002	13.548	2.190	6.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
19.000	3.108	0.006	500.1	0.002	5.00	0.0	1.500	o	150	Pipe/Conduit	
19.001	2.376	0.005	475.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.003	13.068	0.850	15.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
20.000	3.687	0.007	526.7	1.385	5.00	0.0	1.500	o	150	Pipe/Conduit	
20.001	3.026	0.006	504.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.004	64.283	0.127	506.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
21.000	3.624	0.007	517.6	0.326	5.00	0.0	1.500	o	150	Pipe/Conduit	
21.001	2.960	0.006	493.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.005	47.190	0.093	507.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
22.000	2.928	0.006	500.0	0.810	5.00	0.0	1.500	o	150	Pipe/Conduit	
22.001	3.026	0.006	499.9	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.006	100.088	0.330	303.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
23.000	1.908	0.004	476.9	0.228	5.00	0.0	1.500	o	150	Pipe/Conduit	
23.001	2.716	0.005	543.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.007	73.601	0.300	245.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
24.000	2.729	0.005	545.8	0.328	5.00	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
18.000	52.47	5.08	81.720	0.002	0.0	0.0	0.1	0.40	7.0	0.4
18.001	52.11	5.16	81.716	0.002	0.0	0.0	0.1	0.36	6.4	0.4
18.002	51.76	5.24	80.870	0.002	0.0	0.0	0.1	2.84	50.3	0.4
19.000	52.23	5.13	79.530	0.002	0.0	0.0	0.1	0.39	6.9	0.4
19.001	51.79	5.23	79.524	0.002	0.0	0.0	0.1	0.40	7.1	0.4
18.003	51.24	5.36	78.680	0.004	0.0	0.0	0.2	1.80	31.9	0.8
20.000	52.10	5.16	78.680	1.385	0.0	0.0	58.6	0.38	6.7«	293.1
20.001	51.53	5.29	78.148	1.385	0.0	0.0	58.6	0.39	6.8«	293.1
18.004	40.13	8.78	77.830	1.388	0.0	0.0	58.6	0.31	5.5«	293.1
21.000	52.12	5.16	77.960	0.326	0.0	0.0	13.8	0.38	6.8«	69.0
21.001	51.57	5.28	77.953	0.326	0.0	0.0	13.8	0.39	6.9«	69.0
18.005	35.06	11.30	77.703	1.714	0.0	0.0	58.6	0.31	5.5«	293.1
22.000	52.27	5.13	77.960	0.810	0.0	0.0	34.4	0.39	6.9«	172.0
22.001	51.69	5.26	77.954	0.810	0.0	0.0	34.4	0.39	6.9«	172.0
18.006	31.21	13.90	77.460	2.524	0.0	0.0	64.0	0.64	45.3«	320.0
23.000	52.47	5.08	79.240	0.228	0.0	0.0	9.7	0.40	7.0«	48.7
23.001	51.93	5.20	79.236	0.228	0.0	0.0	9.7	0.37	6.6«	48.7
18.007	29.16	15.63	77.130	2.753	0.0	0.0	65.2	0.71	50.4«	326.0
24.000	52.28	5.12	78.400	0.328	0.0	0.0	13.9	0.37	6.6«	69.6

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
24.001	2.872	0.006	478.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.008	75.913	1.660	45.7	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
25.000	1.871	0.004	499.9	0.769	5.00	0.0	1.500	o	150	Pipe/Conduit	
25.001	2.496	0.005	500.0	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.009	55.646	0.149	373.5	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
26.000	2.675	0.005	535.0	1.278	5.00	0.0	1.500	o	150	Pipe/Conduit	
26.001	3.319	0.007	474.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.010	48.737	0.131	372.0	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
27.000	2.669	0.005	533.7	0.169	5.00	0.0	1.500	o	150	Pipe/Conduit	
27.001	3.495	0.007	499.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.011	44.382	0.200	221.9	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
18.012	8.229	1.314	6.3	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
28.000	2.086	0.005	417.3	0.008	5.00	0.0	1.500	o	150	Pipe/Conduit	
28.001	2.703	0.005	540.6	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.002	12.146	0.055	220.8	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
29.000	2.489	0.005	497.9	0.033	5.00	0.0	1.500	o	150	Pipe/Conduit	
29.001	2.725	0.005	544.9	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.003	12.349	0.062	199.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
30.000	3.030	0.006	505.0	0.111	5.00	0.0	1.500	o	150	Pipe/Conduit	
30.001	3.264	0.007	466.3	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.004	13.753	0.137	100.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
31.000	3.601	0.007	514.4	0.040	5.00	0.0	1.500	o	150	Pipe/Conduit	
31.001	3.443	0.007	491.9	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.005	16.784	0.567	29.6	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
32.000	4.233	0.008	529.2	0.033	5.00	0.0	1.500	o	150	Pipe/Conduit	
32.001	4.057	0.008	507.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
24.001	51.75	5.24	78.395	0.328	0.0	0.0	13.9	0.40	7.0«	69.6
18.008	28.34	16.39	76.830	3.080	0.0	0.0	70.9	1.65	116.8«	354.6
25.000	52.47	5.08	76.840	0.769	0.0	0.0	32.8	0.39	6.9«	164.0
25.001	51.99	5.19	76.836	0.769	0.0	0.0	32.8	0.39	6.9«	164.0
18.009	26.79	18.00	75.170	3.849	0.0	0.0	83.8	0.58	40.8«	419.0
26.000	52.30	5.12	75.720	1.278	0.0	0.0	54.3	0.38	6.6«	271.4
26.001	51.68	5.26	75.715	1.278	0.0	0.0	54.3	0.40	7.1«	271.4
18.010	25.59	19.40	75.021	5.127	0.0	0.0	106.6	0.58	40.9«	533.0
27.000	52.30	5.12	75.720	0.169	0.0	0.0	7.2	0.38	6.6«	35.9
27.001	51.64	5.27	75.715	0.169	0.0	0.0	7.2	0.39	6.9«	35.9
18.011	24.82	20.39	74.890	5.296	0.0	0.0	106.8	0.75	53.0«	534.0
18.012	24.80	20.41	74.615	5.296	0.0	0.0	106.8	7.28	804.0	534.0
28.000	52.47	5.08	78.800	0.008	0.0	0.0	0.3	0.43	7.5	1.7
28.001	51.93	5.20	78.795	0.008	0.0	0.0	0.3	0.37	6.6	1.7
28.002	51.31	5.34	77.800	0.000	0.1	0.0	0.0	0.59	10.4	0.1
29.000	52.35	5.11	78.780	0.033	0.0	0.0	1.4	0.39	6.9«	6.9
29.001	51.81	5.23	78.775	0.033	0.0	0.0	1.4	0.37	6.6«	6.9
28.003	51.36	5.33	77.745	0.000	0.4	0.0	0.1	0.62	10.9	0.4
30.000	52.25	5.13	78.750	0.111	0.0	0.0	4.7	0.39	6.8«	23.5
30.001	51.65	5.27	78.744	0.111	0.0	0.0	4.7	0.40	7.1«	23.5
28.004	51.66	5.26	77.683	0.000	1.4	0.0	0.3	0.87	15.4	1.4
31.000	52.13	5.16	78.550	0.040	0.0	0.0	1.7	0.38	6.8«	8.5
31.001	51.48	5.30	78.543	0.040	0.0	0.0	1.7	0.39	6.9«	8.5
28.005	52.05	5.17	77.546	0.000	1.8	0.0	0.4	1.61	28.5	1.8
32.000	52.00	5.19	77.985	0.033	0.0	0.0	1.4	0.38	6.7«	7.1
32.001	51.23	5.36	77.977	0.033	0.0	0.0	1.4	0.39	6.8«	7.1

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
28.006	14.790	0.370	40.0	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
33.000	2.804	0.006	467.3	0.229	5.00	0.0	1.500	o	150	Pipe/Conduit	
33.001	2.466	0.005	493.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.007	52.061	0.651	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
34.000	2.437	0.005	487.4	0.184	5.00	0.0	1.500	o	150	Pipe/Conduit	
34.001	2.581	0.005	516.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.008	40.943	0.512	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
35.000	2.231	0.004	557.8	0.143	5.00	0.0	1.500	o	150	Pipe/Conduit	
35.001	2.688	0.005	537.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.009	24.890	0.311	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
36.000	2.989	0.006	498.1	0.160	5.00	0.0	1.500	o	150	Pipe/Conduit	
36.001	3.496	0.007	499.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.010	34.631	0.433	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
37.000	2.246	0.004	561.5	0.063	5.00	0.0	1.500	o	150	Pipe/Conduit	
37.001	2.478	0.005	495.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.011	27.694	0.923	30.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
28.012	7.434	0.253	29.4	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
18.013	51.355	0.576	89.2	0.000	0.00	0.0	6.200	o	600	Pipe/Conduit	
18.014	37.639	0.130	289.5	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
18.015	40.998	0.140	292.8	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
18.016	7.840	0.050	156.8	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
38.000	8.050	0.016	500.0	0.023	5.00	0.0	1.500	o	150	Pipe/Conduit	
38.001	8.042	0.016	500.0	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.002	75.053	1.540	48.7	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
39.000	2.328	0.005	465.6	0.020	5.00	0.0	1.500	o	150	Pipe/Conduit	
39.001	3.546	0.007	506.5	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
28.006	52.04	5.18	76.979	0.000	2.1	0.0	0.4	1.39	24.5	2.1
33.000	52.31	5.12	77.635	0.229	0.0	0.0	9.7	0.40	7.1«	48.7
33.001	51.84	5.22	77.629	0.229	0.0	0.0	9.7	0.39	6.9«	48.7
28.007	49.92	5.68	76.534	0.000	4.2	0.0	0.8	1.28	51.1	4.2
34.000	52.37	5.10	77.090	0.184	0.0	0.0	7.8	0.39	7.0«	39.2
34.001	51.87	5.22	77.085	0.184	0.0	0.0	7.8	0.38	6.8«	39.2
28.008	50.51	5.53	75.883	0.000	5.9	0.0	1.2	1.28	51.1	5.9
35.000	52.38	5.10	76.860	0.143	0.0	0.0	6.1	0.37	6.5«	30.5
35.001	51.85	5.22	76.856	0.143	0.0	0.0	6.1	0.37	6.6«	30.5
28.009	51.40	5.32	75.371	0.000	7.2	0.0	1.4	1.28	51.0	7.2
36.000	52.26	5.13	76.870	0.160	0.0	0.0	6.8	0.39	6.9«	34.0
36.001	51.60	5.28	76.864	0.160	0.0	0.0	6.8	0.39	6.9«	34.0
28.010	50.86	5.45	75.060	0.000	8.7	0.0	1.7	1.28	51.1	8.7
37.000	52.37	5.10	77.220	0.063	0.0	0.0	2.7	0.37	6.5«	13.3
37.001	51.90	5.21	77.216	0.063	0.0	0.0	2.7	0.39	6.9«	13.3
28.011	51.85	5.22	74.627	0.000	9.3	0.0	1.9	2.10	83.5	9.3
28.012	51.62	5.27	73.704	0.000	9.3	0.0	2.3	2.42	96.3	11.6
18.013	24.46	20.87	73.076	5.296	9.3	0.0	107.6	1.85	524.4«	537.9
18.014	24.15	21.31	72.500	5.296	9.3	0.0	107.6	1.43	403.2«	537.9
18.015	23.81	21.79	72.370	5.296	9.3	0.0	107.6	1.42	400.9«	537.9
18.016	23.77	21.86	72.230	5.296	9.3	0.0	107.6	1.94	549.2	537.9
38.000	51.30	5.34	78.090	0.023	0.0	0.0	1.0	0.39	6.9	4.9
38.001	49.87	5.69	78.074	0.023	0.0	0.0	1.0	0.39	6.9	4.9
38.002	45.39	6.93	77.240	0.023	0.0	0.0	1.0	1.01	17.9	4.9
39.000	52.40	5.10	76.440	0.020	0.0	0.0	0.9	0.40	7.1	4.3
39.001	51.72	5.25	76.435	0.020	0.0	0.0	0.9	0.39	6.8	4.3

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
38.003	76.397	0.550	138.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
40.000	4.584	0.009	509.4	0.016	5.00	0.0	1.500	o	150	Pipe/Conduit	
40.001	4.874	0.010	487.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.004	97.695	1.150	85.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
41.000	1.999	0.004	499.8	0.009	5.00	0.0	4.800	o	150	Pipe/Conduit	
41.001	2.330	0.005	466.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
38.005	54.754	0.250	219.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
42.000	3.503	0.007	500.4	0.031	5.00	0.0	4.800	o	150	Pipe/Conduit	
42.001	4.224	0.008	527.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
38.006	67.101	0.250	268.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
43.000	4.415	0.009	490.5	0.023	5.00	0.0	1.500	o	150	Pipe/Conduit	
43.001	4.479	0.009	497.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.007	80.902	0.600	134.8	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
44.000	6.883	0.014	491.6	0.015	5.00	0.0	1.500	o	150	Pipe/Conduit	
44.001	6.345	0.013	488.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.008	82.367	0.175	470.7	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
45.000	54.459	0.205	265.7	0.063	5.00	0.0	5.200	o	225	Pipe/Conduit	
46.000	53.186	0.285	186.6	0.064	5.00	0.0	5.200	o	225	Pipe/Conduit	
47.000	55.004	0.610	90.2	0.017	5.00	0.0	4.800	o	150	Pipe/Conduit	
47.001	11.235	0.014	802.5	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
46.001	11.729	0.240	48.9	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
45.001	51.063	0.183	279.0	0.120	0.00	0.0	5.700	o	375	Pipe/Conduit	
45.002	51.063	0.183	279.0	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit	
45.003	51.792	0.120	431.6	0.059	0.00	0.0	5.700	o	375	Pipe/Conduit	
48.000	50.000	0.290	172.6	0.122	5.00	0.0	5.200	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
38.003	39.49	9.05	75.700	0.044	0.0	0.0	1.4	0.60	10.6	7.0
40.000	51.94	5.20	76.220	0.016	0.0	0.0	0.7	0.39	6.8	3.3
40.001	51.05	5.40	76.211	0.016	0.0	0.0	0.7	0.39	7.0	3.3
38.004	35.27	11.18	75.150	0.059	0.0	0.0	1.7	0.77	13.5	8.5
41.000	52.36	5.11	76.940	0.009	0.0	0.0	0.4	0.31	5.6	2.0
41.001	51.83	5.22	76.936	0.009	0.0	0.0	0.4	0.33	5.8	2.0
38.005	32.30	13.09	74.000	0.069	0.0	0.0	1.8	0.48	8.4«	9.0
42.000	52.00	5.19	76.800	0.031	0.0	0.0	1.3	0.31	5.6«	6.5
42.001	51.00	5.42	76.793	0.031	0.0	0.0	1.3	0.31	5.4«	6.5
38.006	29.09	15.69	73.750	0.100	0.0	0.0	2.4	0.43	7.6«	11.8
43.000	51.99	5.19	75.670	0.023	0.0	0.0	1.0	0.39	6.9	4.8
43.001	51.16	5.38	75.661	0.023	0.0	0.0	1.0	0.39	6.9	4.8
38.007	26.87	17.91	73.500	0.122	0.0	0.0	2.7	0.61	10.7«	13.3
44.000	51.53	5.29	74.830	0.015	0.0	0.0	0.6	0.39	6.9	3.2
44.001	50.39	5.56	74.816	0.015	0.0	0.0	0.6	0.39	7.0	3.2
38.008	24.95	20.21	72.825	0.138	0.0	0.0	2.8	0.60	23.7	14.0
45.000	46.47	6.60	74.391	0.063	0.0	0.0	2.4	0.57	22.5	11.9
46.000	47.50	6.31	74.711	0.064	0.0	0.0	2.5	0.68	26.9	12.3
47.000	47.78	6.23	75.080	0.017	0.0	0.0	0.7	0.74	13.1	3.4
47.001	45.77	6.81	74.440	0.017	0.0	0.0	0.7	0.33	12.9	3.4
46.001	45.29	6.96	74.426	0.081	0.0	0.0	3.0	1.32	52.6	15.0
45.001	42.02	8.06	74.186	0.264	0.0	0.0	9.0	0.77	85.4	45.1
45.002	39.24	9.16	74.003	0.264	0.0	0.0	9.0	0.77	85.4	45.1
45.003	36.39	10.54	73.820	0.323	0.0	0.0	9.6	0.62	68.7	47.8
48.000	47.96	6.18	74.549	0.122	0.0	0.0	4.7	0.70	28.0	23.7

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
48.001	36.642	0.212	172.6	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
48.002	8.627	0.028	306.7	0.062	0.00	0.0	5.500	o	300	Pipe/Conduit	
48.003	43.520	0.142	306.7	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
49.000	40.824	0.225	181.4	0.022	5.00	0.0	5.200	o	225	Pipe/Conduit	
49.001	60.824	0.335	181.6	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
49.002	52.494	0.160	328.1	0.011	0.00	0.0	5.200	o	225	Pipe/Conduit	
49.003	11.571	0.122	94.8	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
48.004	11.816	0.050	236.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
45.004	99.866	0.240	416.1	0.115	0.00	0.0	5.700	o	375	Pipe/Conduit	
45.005	101.023	0.240	420.9	0.114	0.00	0.0	5.700	o	375	Pipe/Conduit	
50.000	49.729	0.232	214.5	0.118	5.00	0.0	5.200	o	225	Pipe/Conduit	
50.001	50.032	0.248	201.7	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
50.002	50.344	0.240	209.8	0.119	0.00	0.0	0.600	o	300	Pipe/Conduit	
50.003	50.344	0.310	162.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
51.000	100.466	0.300	334.9	0.026	5.00	0.0	4.800	o	150	Pipe/Conduit	
51.001	100.750	0.590	170.8	0.028	0.00	0.0	4.800	o	150	Pipe/Conduit	
52.000	97.740	1.150	85.0	0.021	5.00	0.0	0.600	o	150	Pipe/Conduit	
51.002	10.811	0.025	432.4	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
50.004	13.766	0.040	344.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
45.006	101.000	0.190	531.6	0.138	0.00	0.0	0.600	o	450	Pipe/Conduit	
45.007	102.259	0.210	486.9	0.189	0.00	0.0	0.600	o	450	Pipe/Conduit	
53.000	50.684	0.244	207.3	0.140	5.00	0.0	0.600	o	225	Pipe/Conduit	
53.001	48.809	0.236	206.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
53.002	49.994	0.276	181.3	0.184	0.00	0.0	0.600	o	300	Pipe/Conduit	
53.003	47.903	0.264	181.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
54.000	49.115	0.276	178.0	0.009	5.00	0.0	0.600	o	150	Pipe/Conduit	
54.001	44.463	0.972	45.7	0.007	0.00	0.0	0.600	o	150	Pipe/Conduit	
54.002	22.132	0.107	206.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
53.004	22.474	0.105	214.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
48.001	44.98	7.05	74.259	0.122	0.0	0.0	4.7	0.70	28.0	23.7
48.002	44.27	7.28	74.020	0.183	0.0	0.0	6.6	0.64	45.0	33.0
48.003	41.06	8.42	73.992	0.183	0.0	0.0	6.6	0.64	45.0	33.0
49.000	48.68	5.99	74.740	0.022	0.0	0.0	0.9	0.69	27.3	4.3
49.001	43.69	7.47	74.515	0.022	0.0	0.0	0.9	0.69	27.3	4.3
49.002	39.18	9.19	74.180	0.032	0.0	0.0	1.0	0.51	20.3	5.1
49.003	38.79	9.35	73.960	0.032	0.0	0.0	1.0	1.15	81.1	5.1
48.004	38.19	9.62	73.850	0.215	0.0	0.0	6.7	0.73	51.3	33.4
45.004	32.19	13.17	73.700	0.654	0.0	0.0	17.1	0.63	69.9«	85.5
45.005	28.91	15.85	73.460	0.768	0.0	0.0	18.0	0.63	69.5«	90.2
50.000	47.48	6.31	74.370	0.118	0.0	0.0	4.6	0.63	25.1	22.8
50.001	43.32	7.60	74.138	0.118	0.0	0.0	4.6	0.65	25.9	22.8
50.002	41.18	8.37	73.815	0.237	0.0	0.0	7.9	1.08	76.5	39.7
50.003	39.49	9.05	73.575	0.237	0.0	0.0	7.9	1.23	87.0	39.7
51.000	38.80	9.35	74.320	0.026	0.0	0.0	0.8	0.39	6.8	4.1
51.001	33.21	12.46	74.030	0.054	0.0	0.0	1.4	0.54	9.5	7.2
52.000	46.85	6.49	74.590	0.021	0.0	0.0	0.8	1.09	19.3	4.0
51.002	32.72	12.79	73.290	0.074	0.0	0.0	2.0	0.54	37.9	9.9
50.004	32.33	13.07	73.265	0.312	0.0	0.0	8.2	0.84	59.5	40.9
45.006	27.00	17.77	73.075	1.218	0.0	0.0	26.7	0.87	139.1	133.5
45.007	25.40	19.63	72.885	1.406	0.0	0.0	29.0	0.91	145.5	145.1
53.000	48.90	5.93	74.030	0.140	0.0	0.0	5.6	0.90	36.0	27.9
53.001	45.69	6.83	73.786	0.140	0.0	0.0	5.6	0.91	36.0	27.9
53.002	43.46	7.55	73.550	0.324	0.0	0.0	11.4	1.16	82.3	57.2
53.003	41.54	8.23	73.274	0.324	0.0	0.0	11.4	1.16	82.3	57.2
54.000	48.30	6.09	74.515	0.009	0.0	0.0	0.3	0.75	13.3	1.7
54.001	46.52	6.59	74.239	0.016	0.0	0.0	0.6	1.49	26.4	3.0
54.002	44.77	7.12	73.267	0.016	0.0	0.0	0.6	0.69	12.3	3.0
53.004	40.63	8.58	73.010	0.340	0.0	0.0	11.4	1.07	75.7	57.2

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
45.008	8.026	0.075	107.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.009	29.684	0.100	296.8	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.010	12.000	0.040	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.011	30.000	0.105	285.7	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.012	6.500	0.025	260.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
18.017	10.152	0.020	507.6	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
45.008	25.35	19.70	72.675	1.746	0.0	0.0	36.0	1.96	312.5	179.8
38.009	24.64	20.63	72.600	1.884	0.0	0.0	37.7	1.17	186.8«	188.5
38.010	24.51	20.80	72.500	1.884	0.0	0.0	37.7	1.17	185.8«	188.5
38.011	24.21	21.22	72.460	1.884	0.0	0.0	37.7	1.20	190.5	188.5
38.012	24.15	21.31	72.355	1.884	0.0	0.0	37.7	1.26	199.8	188.5
18.017	23.66	22.02	72.180	7.180	9.3	0.0	140.3	1.07	303.7«	701.7

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
DUMMY 21	82.220	0.500	Junction		18.000	81.720	150				
DUMMY 22	82.220	0.504	Junction		18.001	81.716	150	18.000	81.716	150	
EX-NW3-37	82.220	1.350	Open Manhole	1050	18.002	80.870	150	18.001	81.713	150	843
DUMMY 23	80.030	0.500	Junction		19.000	79.530	150				
DUMMY 24	80.030	0.506	Junction		19.001	79.524	150	19.000	79.524	150	
EX-NW3-38	80.030	1.350	Open Manhole	1050	18.003	78.680	150	18.002	78.680	150	
								19.001	79.519	150	839
DUMMY 25	79.180	0.500	Junction		20.000	78.680	150				
DUMMY 26	79.180	1.032	Junction		20.001	78.148	150	20.000	78.673	150	525
EX-NW3-39	79.180	1.350	Open Manhole	1050	18.004	77.830	150	18.003	77.830	150	
								20.001	78.142	150	312
DUMMY 27	78.460	0.500	Junction		21.000	77.960	150				
DUMMY 28	78.460	0.507	Junction		21.001	77.953	150	21.000	77.953	150	
NW3-40	78.460	0.757	Open Manhole	1050	18.005	77.703	150	18.004	77.703	150	
								21.001	77.947	150	244
DUMMY 29	78.460	0.500	Junction		22.000	77.960	150				
DUMMY 30	78.460	0.506	Junction		22.001	77.954	150	22.000	77.954	150	
EX-NW3-41	78.460	1.000	Open Manhole	1050	18.006	77.460	300	18.005	77.610	150	
								22.001	77.948	150	338
DUMMY 31	79.740	0.500	Junction		23.000	79.240	150				
DUMMY 32	79.740	0.504	Junction		23.001	79.236	150	23.000	79.236	150	
EX-NW3-42	79.740	2.610	Open Manhole	1050	18.007	77.130	300	18.006	77.130	300	
								23.001	79.231	150	1951
DUMMY 33	78.900	0.500	Junction		24.000	78.400	150				
DUMMY 34	78.900	0.505	Junction		24.001	78.395	150	24.000	78.395	150	
EX-NW3-43	78.900	2.070	Open Manhole	1050	18.008	76.830	300	18.007	76.830	300	
								24.001	78.389	150	1409
DUMMY 35	77.340	0.500	Junction		25.000	76.840	150				
DUMMY 36	77.340	0.504	Junction		25.001	76.836	150	25.000	76.836	150	
EX-NW3-44	77.340	2.170	Open Manhole	1050	18.009	75.170	300	18.008	75.170	300	
								25.001	76.831	150	1511
DUMMY 37	76.220	0.500	Junction		26.000	75.720	150				
DUMMY 38	76.220	0.505	Junction		26.001	75.715	150	26.000	75.715	150	
NW3-45	76.220	1.199	Open Manhole	1050	18.010	75.021	300	18.009	75.021	300	
								26.001	75.708	150	537
DUMMY 39	76.220	0.500	Junction		27.000	75.720	150				
DUMMY 40	76.220	0.505	Junction		27.001	75.715	150	27.000	75.715	150	
NW3-46	76.220	1.330	Open Manhole	1050	18.011	74.890	300	18.010	74.890	300	
								27.001	75.708	150	668
NW3-47	76.480	1.865	Open Manhole	1050	18.012	74.615	375	18.011	74.690	300	
DUMMY 1	79.200	0.400	Junction		28.000	78.800	150				
DUMMY 2	79.200	0.405	Junction		28.001	78.795	150	28.000	78.795	150	
NW3-49	79.200	1.400	Open Manhole	1050	28.002	77.800	150	28.001	78.790	150	990
DUMMY 3	79.180	0.400	Junction		29.000	78.780	150				
DUMMY 4	79.180	0.405	Junction		29.001	78.775	150	29.000	78.775	150	
NW3-50	79.180	1.435	Open Manhole	1050	28.003	77.745	150	28.002	77.745	150	
								29.001	78.770	150	1025
DUMMY 5	79.150	0.400	Junction		30.000	78.750	150				
DUMMY 6	79.150	0.406	Junction		30.001	78.744	150	30.000	78.744	150	
NW3-51	79.150	1.467	Open Manhole	1050	28.004	77.683	150	28.003	77.683	150	
								30.001	78.737	150	1054
DUMMY 7	78.950	0.400	Junction		31.000	78.550	150				
DUMMY 8	78.950	0.407	Junction		31.001	78.543	150	31.000	78.543	150	
NW3-52	78.950	1.404	Open Manhole	1050	28.005	77.546	150	28.004	77.546	150	
								31.001	78.536	150	990
DUMMY 9	78.385	0.400	Junction		32.000	77.985	150				
DUMMY 10	78.385	0.408	Junction		32.001	77.977	150	32.000	77.977	150	
NW3-53	78.385	1.406	Open Manhole	1050	28.006	76.979	150	28.005	76.979	150	
								32.001	77.969	150	990
DUMMY 11	78.035	0.400	Junction		33.000	77.635	150				
DUMMY 12	78.035	0.406	Junction		33.001	77.629	150	33.000	77.629	150	
NW3-54	78.035	1.501	Open Manhole	1050	28.007	76.534	225	28.006	76.609	150	
								33.001	77.624	150	1015
DUMMY 13	77.490	0.400	Junction		34.000	77.090	150				
DUMMY 14	77.490	0.405	Junction		34.001	77.085	150	34.000	77.085	150	
NW3-55	77.490	1.607	Open Manhole	1050	28.008	75.883	225	28.007	75.883	225	
								34.001	77.080	150	1122

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
DUMMY 15	77.260	0.400	Junction		35.000	76.860	150				
DUMMY 16	77.260	0.404	Junction		35.001	76.856	150	35.000	76.856	150	
NW3-56	77.260	1.889	Open Manhole	1050	28.009	75.371	225	28.008	75.371	225	
								35.001	76.851	150	1405
DUMMY 17	77.270	0.400	Junction		36.000	76.870	150				
DUMMY 18	77.270	0.406	Junction		36.001	76.864	150	36.000	76.864	150	
NW3-57	77.270	2.210	Open Manhole	1050	28.010	75.060	225	28.009	75.060	225	
								36.001	76.857	150	1722
DUMMY 19	77.620	0.400	Junction		37.000	77.220	150				
DUMMY 20	77.620	0.404	Junction		37.001	77.216	150	37.000	77.216	150	
NW3-58	77.620	2.993	Open Manhole	1050	28.011	74.627	225	28.010	74.627	225	
								37.001	77.211	150	2509
NW3-59	77.270	3.566	Open Manhole	1050	28.012	73.704	225	28.011	73.704	225	
NW3-48	76.180	3.104	Open Manhole	1500	18.013	73.076	600	18.012	73.301	375	
								28.012	73.451	225	
NW3-9	74.800	2.300	Open Manhole	1500	18.014	72.500	600	18.013	72.500	600	
NW3-9a	74.856	2.486	Open Manhole	1500	18.015	72.370	600	18.014	72.370	600	
NW3-9b	73.687	1.457	Open Manhole	1500	18.016	72.230	600	18.015	72.230	600	
DUMMY 41	78.590	0.500	Junction		38.000	78.090	150				
DUMMY 42	78.590	0.516	Junction		38.001	78.074	150	38.000	78.074	150	
EX-NW3-1	78.590	1.350	Open Manhole	1050	38.002	77.240	150	38.001	78.058	150	818
DUMMY 43	76.940	0.500	Junction		39.000	76.440	150				
DUMMY 44	76.940	0.505	Junction		39.001	76.435	150	39.000	76.435	150	
EX-NW3-2	76.940	1.240	Open Manhole	1050	38.003	75.700	150	38.002	75.700	150	
								39.001	76.428	150	728
DUMMY 45	76.720	0.500	Junction		40.000	76.220	150				
DUMMY 46	76.720	0.509	Junction		40.001	76.211	150	40.000	76.211	150	
EX-NW3-3	76.720	1.570	Open Manhole	1050	38.004	75.150	150	38.003	75.150	150	
								40.001	76.201	150	1051
DUMMY 47	77.440	0.500	Junction		41.000	76.940	150				
DUMMY 48	77.440	0.504	Junction		41.001	76.936	150	41.000	76.936	150	
EX-NW3-4	77.440	3.440	Open Manhole	1050	38.005	74.000	150	38.004	74.000	150	
								41.001	76.931	150	2931
DUMMY 49	77.300	0.500	Junction		42.000	76.800	150				
DUMMY 50	77.300	0.507	Junction		42.001	76.793	150	42.000	76.793	150	
EX-NW3-5	77.300	3.550	Open Manhole	1050	38.006	73.750	150	38.005	73.750	150	
								42.001	76.785	150	3035
DUMMY 51	76.170	0.500	Junction		43.000	75.670	150				
DUMMY 52	76.170	0.509	Junction		43.001	75.661	150	43.000	75.661	150	
EX-NW3-6	76.170	2.670	Open Manhole	1050	38.007	73.500	150	38.006	73.500	150	
								43.001	75.652	150	2152
DUMMY 53	75.330	0.500	Junction		44.000	74.830	150				
DUMMY 54	75.330	0.514	Junction		44.001	74.816	150	44.000	74.816	150	
EX-NW3-7	75.330	2.505	Open Manhole	1050	38.008	72.825	225	38.007	72.900	150	
								44.001	74.803	150	1903
EX-NW3-10	76.250	1.859	Open Manhole	1050	45.000	74.391	225				
NW3-19	76.400	1.689	Open Manhole	1050	46.000	74.711	225				
EX-NW3-21	76.700	1.620	Open Manhole	1050	47.000	75.080	150				
EX-NW3-29	76.620	2.180	Open Manhole	1050	47.001	74.440	225	47.000	74.470	150	
NW3-20	76.320	1.894	Open Manhole	1050	46.001	74.426	225	46.000	74.426	225	
								47.001	74.426	225	
EX-NW3-11	76.200	2.014	Open Manhole	1050	45.001	74.186	375	45.000	74.186	225	
								46.001	74.186	225	
NW3-12	76.118	2.115	Open Manhole	1050	45.002	74.003	375	45.001	74.003	375	
EX-NW3-13	75.980	2.160	Open Manhole	1050	45.003	73.820	375	45.002	73.820	375	
NW3-22	76.320	1.771	Open Manhole	1050	48.000	74.549	225				
NW3-X1	76.219	1.960	Open Manhole	1050	48.001	74.259	225	48.000	74.259	225	
NW3-23	76.150	2.130	Open Manhole	1050	48.002	74.020	300	48.001	74.047	225	
NW3-X2	76.120	2.128	Open Manhole	1050	48.003	73.992	300	48.002	73.992	300	
EXCP68-DUMMY	76.620	1.880	Junction		49.000	74.740	225				
NW3-30	76.522	2.007	Open Manhole	1050	49.001	74.515	225	49.000	74.515	225	
EX-NW3-31	76.470	2.290	Open Manhole	1050	49.002	74.180	225	49.001	74.180	225	
EX-NW3-32	76.360	2.400	Open Manhole	1050	49.003	73.960	300	49.002	74.020	225	
NW3-24	76.080	2.242	Open Manhole	1050	48.004	73.850	300	48.003	73.850	300	
								49.003	73.838	300	
EX-NW3-14	75.830	2.130	Open Manhole	1050	45.004	73.700	375	45.003	73.700	375	
								48.004	73.800	300	25

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
EX-NW3-15	75.770	2.310	Open Manhole	1050	45.005	73.460	375	45.004	73.460	375	
EXCP62-DUMMY	76.080	1.710	Junction		50.000	74.370	225				
NW3-X3	75.966	1.828	Open Manhole	1050	50.001	74.138	225	50.000	74.138	225	
NW3-25	75.910	2.095	Open Manhole	1050	50.002	73.815	300	50.001	73.890	225	
NW3-X4	75.797	2.222	Open Manhole	1050	50.003	73.575	300	50.002	73.575	300	
EXCP70-DUMMY	76.360	2.040	Junction		51.000	74.320	150				
EX-NW3-33	76.130	2.110	Open Manhole	1050	51.001	74.030	150	51.000	74.020	150	
29-DUMMY	75.940	1.350	Junction		52.000	74.590	150				
NW3-34	75.960	2.670	Open Manhole	1050	51.002	73.290	300	51.001	73.440	150	
								52.000	73.440	150	
NW3-26	75.760	2.495	Open Manhole	1050	50.004	73.265	300	50.003	73.265	300	
								51.002	73.265	300	
NW3-16	75.780	2.705	Open Manhole	1050	45.006	73.075	450	45.005	73.220	375	70
								50.004	73.225	300	
NW3-17	75.280	2.395	Open Manhole	1500	45.007	72.885	450	45.006	72.885	450	
EXCP64-DUMMY	75.760	1.730	Junction		53.000	74.030	225				
NW3-X5	75.703	1.917	Open Manhole	1050	53.001	73.786	225	53.000	73.786	225	
NW3-27	75.580	2.030	Open Manhole	1050	53.002	73.550	300	53.001	73.550	225	
NW3-X6	75.489	2.215	Open Manhole	1050	53.003	73.274	300	53.002	73.274	300	
NW3-35	75.940	1.425	Open Manhole	1050	54.000	74.515	150				
NW3-35A	75.980	1.741	Open Manhole	1050	54.001	74.239	150	54.000	74.239	150	
NW3-36	76.130	2.863	Open Manhole	1050	54.002	73.267	150	54.001	73.267	150	
NW3-28	75.420	2.410	Open Manhole	1050	53.004	73.010	300	53.003	73.010	300	
								54.002	73.160	150	
NW3-18	75.050	2.375	Open Manhole	1500	45.008	72.675	450	45.007	72.675	450	
								53.004	72.905	300	80
NW3-8	74.700	2.100	Open Manhole	1500	38.009	72.600	450	38.008	72.650	225	
								45.008	72.600	450	
NW3-8a	74.868	2.368	Open Manhole	1500	38.010	72.500	450	38.009	72.500	450	
NW3-8b Pond US	74.568	2.108	Junction		38.011	72.460	450	38.010	72.460	450	
NW3-8c Pond DS	73.694	1.339	Junction		38.012	72.355	450	38.011	72.355	450	
NW3-8d	73.538	1.358	Open Manhole	1500	18.017	72.180	600	18.016	72.180	600	
								38.012	72.330	450	
EX-NW3-Outfall	73.378	1.218	Open Manhole	0		OUTFALL		18.017	72.160	600	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
DUMMY 21	439032.522	280684.639			No Entry	
DUMMY 22	439030.638	280684.287			No Entry	
EX-NW3-37	439029.020	280683.660	439029.020	280683.660	Required	
DUMMY 23	439024.627	280675.401			No Entry	
DUMMY 24	439021.542	280675.021			No Entry	
EX-NW3-38	439019.307	280674.214	439019.307	280674.214	Required	
DUMMY 25	439021.498	280663.454			No Entry	
DUMMY 26	439017.859	280662.859			No Entry	
EX-NW3-39	439014.996	280661.878	439014.996	280661.878	Required	
DUMMY 27	439000.207	280603.537			No Entry	
DUMMY 28	438996.759	280602.425			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW3-40	438994.122	280601.079	438994.122	280601.079	Required	
DUMMY 29	438983.069	280560.561			No Entry	
DUMMY 30	438980.785	280558.729			No Entry	
EX-NW3-41	438978.799	280556.447	438978.799	280556.447	Required	
DUMMY 31	438956.496	280462.625			No Entry	
DUMMY 32	438954.896	280461.587			No Entry	
EX-NW3-42	438952.873	280459.775	438952.873	280459.775	Required	
DUMMY 33	438932.060	280394.296			No Entry	
DUMMY 34	438929.852	280392.693			No Entry	
EX-NW3-43	438927.988	280390.508	438927.988	280390.508	Required	
DUMMY 35	438905.443	280321.906			No Entry	
DUMMY 36	438903.876	280320.885			No Entry	
EX-NW3-44	438902.077	280319.154	438902.077	280319.154	Required	
DUMMY 37	438891.957	280268.236			No Entry	
DUMMY 38	438889.537	280267.095			No Entry	
NW3-45	438886.513	280265.729	438886.513	280265.729	Required	
DUMMY 39	438877.249	280223.174			No Entry	
DUMMY 40	438875.029	280221.694			No Entry	
NW3-46	438872.880	280218.937	438872.880	280218.937	Required	
NW3-47	438864.381	280175.377	438864.381	280175.377	Required	
DUMMY 1	438872.681	279930.122			No Entry	
DUMMY 2	438870.639	279930.551			No Entry	
NW3-49	438867.937	279930.605	438867.937	279930.605	Required	
DUMMY 3	438873.211	279941.035			No Entry	
DUMMY 4	438870.813	279941.705			No Entry	
NW3-50	438868.296	279942.745	438868.296	279942.745	Required	
DUMMY 5	438873.432	279953.618			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
DUMMY 6	438870.437	279954.077			No Entry	
NW3-51	438867.324	279955.056	438867.324	279955.056	Required	
DUMMY 7	438869.234	279966.990			No Entry	
DUMMY 8	438865.649	279967.334			No Entry	
NW3-52	438862.243	279967.836	438862.243	279967.836	Required	
DUMMY 9	438860.692	279980.629			No Entry	
DUMMY 10	438856.475	279981.004			No Entry	
NW3-53	438852.445	279981.464	438852.445	279981.464	Required	
DUMMY 11	438852.085	279994.235			No Entry	
DUMMY 12	438849.299	279994.554			No Entry	
NW3-54	438846.914	279995.181	438846.914	279995.181	Required	
DUMMY 13	438843.242	280044.161			No Entry	
DUMMY 14	438841.157	280045.423			No Entry	
NW3-55	438838.868	280046.616	438838.868	280046.616	Required	
DUMMY 15	438843.738	280084.170			No Entry	
DUMMY 16	438842.121	280085.708			No Entry	
NW3-56	438840.153	280087.539	438840.153	280087.539	Required	
DUMMY 17	438848.673	280106.083			No Entry	
DUMMY 18	438847.386	280108.781			No Entry	
NW3-57	438845.649	280111.814	438845.649	280111.814	Required	
DUMMY 19	438859.723	280140.618			No Entry	
DUMMY 20	438858.459	280142.474			No Entry	
NW3-58	438857.051	280144.514	438857.051	280144.514	Required	
NW3-59	438863.441	280171.461	438863.441	280171.461	Required	
NW3-48	438856.336	280173.648	438856.336	280173.648	Required	
NW3-9	438805.029	280175.882	438805.029	280175.882	Required	
NW3-9a	438780.937	280146.963	438780.937	280146.963	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW3-9b	438739.950	280147.885	438739.950	280147.885	Required	
DUMMY 41	438959.776	280700.410			No Entry	
DUMMY 42	438965.353	280694.604			No Entry	
EX-NW3-1	438970.202	280688.189	438970.202	280688.189	Required	
DUMMY 43	438944.757	280620.827			No Entry	
DUMMY 44	438946.441	280619.219			No Entry	
EX-NW3-2	438948.510	280616.340	438948.510	280616.340	Required	
DUMMY 45	438921.260	280550.716			No Entry	
DUMMY 46	438924.085	280547.105			No Entry	
EX-NW3-3	438926.837	280543.082	438926.837	280543.082	Required	
DUMMY 47	438898.681	280452.379			No Entry	
DUMMY 48	438899.718	280450.670			No Entry	
EX-NW3-4	438901.142	280448.826	438901.142	280448.826	Required	
DUMMY 49	438876.877	280404.284			No Entry	
DUMMY 50	438878.866	280401.401			No Entry	
EX-NW3-5	438881.154	280397.851	438881.154	280397.851	Required	
DUMMY 51	438852.220	280342.446			No Entry	
DUMMY 52	438854.545	280338.692			No Entry	
EX-NW3-6	438857.276	280335.143	438857.276	280335.143	Required	
DUMMY 53	438823.166	280269.833			No Entry	
DUMMY 54	438827.102	280264.187			No Entry	
EX-NW3-7	438830.471	280258.810	438830.471	280258.810	Required	
EX-NW3-10	439007.784	280760.452	439007.784	280760.452	Required	
NW3-19	439019.522	280757.055	439019.522	280757.055	Required	
EX-NW3-21	439029.912	280754.057	439029.912	280754.057	Required	
EX-NW3-29	439013.806	280701.464	439013.806	280701.464	Required	
NW3-20	439003.660	280706.289	439003.660	280706.289	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EX-NW3-11	438992.105	280708.299	438992.105	280708.299	Required	
NW3-12	438976.971	280659.530	438976.971	280659.530	Required	
EX-NW3-13	438961.838	280610.762	438961.838	280610.762	Required	
NW3-22	438998.898	280690.307	438998.898	280690.307	Required	
NW3-X1	438984.145	280642.534	438984.145	280642.534	Required	
NW3-23	438973.333	280607.523	438973.333	280607.523	Required	
NW3-X2	438970.755	280599.290	438970.755	280599.290	Required	
EXCP68-DUMMY	439013.787	280701.402			No Entry	
NW3-30	439001.887	280662.350	439001.887	280662.350	Required	
EX-NW3-31	438984.158	280604.168	438984.158	280604.168	Required	
EX-NW3-32	438968.694	280554.003	438968.694	280554.003	Required	
NW3-24	438957.750	280557.758	438957.750	280557.758	Required	
EX-NW3-14	438946.477	280561.301	438946.477	280561.301	Required	
EX-NW3-15	438916.754	280465.960	438916.754	280465.960	Required	
EXCP62-DUMMY	438957.667	280557.496			No Entry	
NW3-X3	438942.727	280510.063	438942.727	280510.063	Required	
NW3-25	438927.696	280462.342	438927.696	280462.342	Required	
NW3-X4	438912.545	280414.332	438912.545	280414.332	Required	
EXCP70-DUMMY	438968.647	280553.852			No Entry	
EX-NW3-33	438938.359	280458.060	438938.359	280458.060	Required	
29-DUMMY	438882.362	280267.707			No Entry	
NW3-34	438907.383	280362.190	438907.383	280362.190	Required	
NW3-26	438897.394	280366.323	438897.394	280366.323	Required	
NW3-16	438884.221	280370.319	438884.221	280370.319	Required	
NW3-17	438851.170	280274.880	438851.170	280274.880	Required	
EXCP64-DUMMY	438897.350	280366.188			No Entry	
NW3-X5	438881.711	280317.977	438881.711	280317.977	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW3-27	438866.619	280271.560	438866.619	280271.560	Required	
NW3-X6	438851.167	280224.015	438851.167	280224.015	Required	
NW3-35	438882.076	280267.030	438882.076	280267.030	Required	
NW3-35A	438869.461	280219.563	438869.461	280219.563	Required	
NW3-36	438858.405	280176.496	438858.405	280176.496	Required	
NW3-28	438836.360	280178.457	438836.360	280178.457	Required	
NW3-18	438813.917	280179.648	438813.917	280179.648	Required	
NW3-8	438805.910	280180.190	438805.910	280180.190	Required	
NW3-8a	438785.722	280158.428	438785.722	280158.428	Required	
NW3-8b Pond US	438773.756	280157.528			No Entry	
NW3-8c Pond DS	438743.841	280155.278			No Entry	
NW3-8d	438737.341	280155.278	438737.341	280155.278	Required	
EX-NW3-Outfall	438733.962	280164.851			No Entry	

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
18.000	Classification	Overland	40	0.005	0.002	0.002
18.001	-	-	100	0.000	0.000	0.000
18.002	-	-	100	0.000	0.000	0.000
19.000	Classification	Overland	40	0.005	0.002	0.002
19.001	-	-	100	0.000	0.000	0.000
18.003	-	-	100	0.000	0.000	0.000
20.000	Classification	Overland	40	3.461	1.385	1.385
20.001	-	-	100	0.000	0.000	0.000
18.004	-	-	100	0.000	0.000	0.000
21.000	Classification	Overland	40	0.815	0.326	0.326
21.001	-	-	100	0.000	0.000	0.000
18.005	-	-	100	0.000	0.000	0.000
22.000	Classification	Overland	40	2.025	0.810	0.810
22.001	-	-	100	0.000	0.000	0.000
18.006	-	-	100	0.000	0.000	0.000
23.000	Classification	Overland	40	0.571	0.228	0.228
23.001	-	-	100	0.000	0.000	0.000
18.007	-	-	100	0.000	0.000	0.000
24.000	Classification	Overland	40	0.819	0.328	0.328
24.001	-	-	100	0.000	0.000	0.000
18.008	-	-	100	0.000	0.000	0.000
25.000	Classification	Overland	40	1.924	0.769	0.769
25.001	-	-	100	0.000	0.000	0.000
18.009	-	-	100	0.000	0.000	0.000
26.000	Classification	Overland	40	3.194	1.278	1.278
26.001	-	-	100	0.000	0.000	0.000
18.010	-	-	100	0.000	0.000	0.000
27.000	Classification	Overland	40	0.423	0.169	0.169
27.001	-	-	100	0.000	0.000	0.000
18.011	-	-	100	0.000	0.000	0.000
18.012	-	-	100	0.000	0.000	0.000
28.000	Classification	Overland	40	0.020	0.008	0.008
28.001	-	-	100	0.000	0.000	0.000
28.002	-	-	100	0.000	0.000	0.000
29.000	Classification	Overland	40	0.082	0.033	0.033
29.001	-	-	100	0.000	0.000	0.000
28.003	-	-	100	0.000	0.000	0.000
30.000	Classification	Overland	40	0.276	0.111	0.111
30.001	-	-	100	0.000	0.000	0.000
28.004	-	-	100	0.000	0.000	0.000
31.000	Classification	Overland	40	0.100	0.040	0.040
31.001	-	-	100	0.000	0.000	0.000
28.005	-	-	100	0.000	0.000	0.000
32.000	Classification	Overland	40	0.084	0.033	0.033
32.001	-	-	100	0.000	0.000	0.000
28.006	-	-	100	0.000	0.000	0.000
33.000	Classification	Overland	40	0.573	0.229	0.229
33.001	-	-	100	0.000	0.000	0.000
28.007	-	-	100	0.000	0.000	0.000
34.000	Classification	Overland	40	0.460	0.184	0.184
34.001	-	-	100	0.000	0.000	0.000
28.008	-	-	100	0.000	0.000	0.000
35.000	Classification	Overland	40	0.359	0.143	0.143
35.001	-	-	100	0.000	0.000	0.000
28.009	-	-	100	0.000	0.000	0.000
36.000	Classification	Overland	40	0.401	0.160	0.160
36.001	-	-	100	0.000	0.000	0.000
28.010	-	-	100	0.000	0.000	0.000
37.000	Classification	Overland	40	0.157	0.063	0.063
37.001	-	-	100	0.000	0.000	0.000
28.011	-	-	100	0.000	0.000	0.000
28.012	-	-	100	0.000	0.000	0.000
18.013	-	-	100	0.000	0.000	0.000
18.014	-	-	100	0.000	0.000	0.000
18.015	-	-	100	0.000	0.000	0.000
18.016	-	-	100	0.000	0.000	0.000
38.000	Classification	Overland	40	0.058	0.023	0.023
38.001	-	-	100	0.000	0.000	0.000
38.002	-	-	100	0.000	0.000	0.000
39.000	Classification	Overland	40	0.051	0.020	0.020
39.001	-	-	100	0.000	0.000	0.000
38.003	-	-	100	0.000	0.000	0.000
40.000	Classification	Overland	40	0.039	0.016	0.016
40.001	-	-	100	0.000	0.000	0.000
38.004	-	-	100	0.000	0.000	0.000
41.000	Classification	Overland	40	0.023	0.009	0.009
41.001	-	-	100	0.000	0.000	0.000
38.005	-	-	100	0.000	0.000	0.000
42.000	Classification	Overland	40	0.077	0.031	0.031
42.001	-	-	100	0.000	0.000	0.000
38.006	-	-	100	0.000	0.000	0.000
43.000	Classification	Overland	40	0.057	0.023	0.023
43.001	-	-	100	0.000	0.000	0.000
38.007	-	-	100	0.000	0.000	0.000
44.000	Classification	Overland	40	0.039	0.015	0.015
44.001	-	-	100	0.000	0.000	0.000
38.008	-	-	100	0.000	0.000	0.000
45.000	Classification	Paved	100	0.049	0.049	0.049

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
	Classification	Verge	50	0.010	0.005	0.054
	Classification	EW (Cut)	20	0.043	0.009	0.063
46.000	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.050	0.050	0.064
47.000	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.068	0.014	0.017
47.001	-	-	100	0.000	0.000	0.000
46.001	-	-	100	0.000	0.000	0.000
45.001	Classification	EW (Cut)	20	0.065	0.013	0.013
	Classification	Verge	50	0.028	0.014	0.027
	Classification	Paved	100	0.093	0.093	0.120
45.002	-	-	100	0.000	0.000	0.000
45.003	Classification	Paved	100	0.047	0.047	0.047
	Classification	Verge	50	0.009	0.005	0.052
	Classification	EW (Cut)	20	0.034	0.007	0.059
48.000	Classification	Paved	100	0.095	0.095	0.095
	Classification	Paved	100	0.027	0.027	0.122
48.001	-	-	100	0.000	0.000	0.000
48.002	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.048	0.048	0.062
48.003	-	-	100	0.000	0.000	0.000
49.000	Classification	EW (Cut)	20	0.067	0.013	0.013
	Classification	Verge	50	0.016	0.008	0.022
49.001	-	-	100	0.000	0.000	0.000
49.002	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.033	0.007	0.011
49.003	-	-	100	0.000	0.000	0.000
48.004	-	-	100	0.000	0.000	0.000
45.004	Classification	EW (Cut)	20	0.066	0.013	0.013
	Classification	Verge	50	0.020	0.010	0.023
	Classification	Paved	100	0.092	0.092	0.115
45.005	Classification	Paved	100	0.092	0.092	0.092
	Classification	Verge	50	0.024	0.012	0.104
	Classification	EW (Cut)	20	0.048	0.010	0.114
50.000	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.092	0.092	0.118
50.001	-	-	100	0.000	0.000	0.000
50.002	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.093	0.093	0.119
50.003	-	-	100	0.000	0.000	0.000
51.000	Classification	Verge	50	0.015	0.008	0.008
	Classification	EW (Cut)	20	0.093	0.019	0.026
51.001	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.098	0.020	0.028
52.000	Classification	Verge	50	0.025	0.012	0.012
	Classification	EW (Cut)	20	0.043	0.009	0.021
51.002	-	-	100	0.000	0.000	0.000
50.004	-	-	100	0.000	0.000	0.000
45.006	Classification	EW (Cut)	20	0.032	0.006	0.006
	Classification	Verge	50	0.028	0.014	0.021
	Classification	Paved	100	0.117	0.117	0.138
45.007	Classification	Paved	100	0.167	0.167	0.167
	Classification	Verge	50	0.026	0.013	0.179
	Classification	EW (Cut)	20	0.046	0.009	0.189
53.000	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.115	0.115	0.140
53.001	-	-	100	0.000	0.000	0.000
53.002	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.159	0.159	0.184
53.003	-	-	100	0.000	0.000	0.000
54.000	Classification	Verge	50	0.012	0.006	0.006
	Classification	EW (Cut)	20	0.012	0.002	0.009
54.001	Classification	Verge	50	0.011	0.006	0.006
	Classification	EW (Cut)	20	0.009	0.002	0.007
54.002	-	-	100	0.000	0.000	0.000
53.004	-	-	100	0.000	0.000	0.000
45.008	-	-	100	0.000	0.000	0.000
38.009	-	-	100	0.000	0.000	0.000
38.010	-	-	100	0.000	0.000	0.000
38.011	-	-	100	0.000	0.000	0.000
38.012	-	-	100	0.000	0.000	0.000
18.017	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				18.575	8.184	8.184

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
18.017	EX-NW3-Outfall	73.378	72.160	0.000	0	0

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Online Controls for Storm

Depth/Flow Relationship Manhole: DUMMY 22, DS/PN: 18.001, Volume (m³): 0.0

Invert Level (m) 81.716

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: DUMMY 24, DS/PN: 19.001, Volume (m³): 0.1

Invert Level (m) 79.524

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: DUMMY 26, DS/PN: 20.001, Volume (m³): 0.1

Invert Level (m) 78.148

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	15.2000	0.600	15.2000	1.100	15.2000	1.600	15.2000	2.100	15.2000	2.600	15.2000
0.200	15.2000	0.700	15.2000	1.200	15.2000	1.700	15.2000	2.200	15.2000	2.700	15.2000
0.300	15.2000	0.800	15.2000	1.300	15.2000	1.800	15.2000	2.300	15.2000	2.800	15.2000
0.400	15.2000	0.900	15.2000	1.400	15.2000	1.900	15.2000	2.400	15.2000	2.900	15.2000
0.500	15.2000	1.000	15.2000	1.500	15.2000	2.000	15.2000	2.500	15.2000	3.000	15.2000

Depth/Flow Relationship Manhole: DUMMY 28, DS/PN: 21.001, Volume (m³): 0.1

Invert Level (m) 77.953

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.6000	0.600	3.6000	1.100	3.6000	1.600	3.6000	2.100	3.6000	2.600	3.6000
0.200	3.6000	0.700	3.6000	1.200	3.6000	1.700	3.6000	2.200	3.6000	2.700	3.6000
0.300	3.6000	0.800	3.6000	1.300	3.6000	1.800	3.6000	2.300	3.6000	2.800	3.6000
0.400	3.6000	0.900	3.6000	1.400	3.6000	1.900	3.6000	2.400	3.6000	2.900	3.6000
0.500	3.6000	1.000	3.6000	1.500	3.6000	2.000	3.6000	2.500	3.6000	3.000	3.6000

Depth/Flow Relationship Manhole: DUMMY 30, DS/PN: 22.001, Volume (m³): 0.1

Invert Level (m) 77.954

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	8.9000	0.600	8.9000	1.100	8.9000	1.600	8.9000	2.100	8.9000	2.600	8.9000
0.200	8.9000	0.700	8.9000	1.200	8.9000	1.700	8.9000	2.200	8.9000	2.700	8.9000
0.300	8.9000	0.800	8.9000	1.300	8.9000	1.800	8.9000	2.300	8.9000	2.800	8.9000
0.400	8.9000	0.900	8.9000	1.400	8.9000	1.900	8.9000	2.400	8.9000	2.900	8.9000
0.500	8.9000	1.000	8.9000	1.500	8.9000	2.000	8.9000	2.500	8.9000	3.000	8.9000

Depth/Flow Relationship Manhole: DUMMY 32, DS/PN: 23.001, Volume (m³): 0.0

Invert Level (m) 79.236

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.5000	0.600	2.5000	1.100	2.5000	1.600	2.5000	2.100	2.5000	2.600	2.5000
0.200	2.5000	0.700	2.5000	1.200	2.5000	1.700	2.5000	2.200	2.5000	2.700	2.5000
0.300	2.5000	0.800	2.5000	1.300	2.5000	1.800	2.5000	2.300	2.5000	2.800	2.5000
0.400	2.5000	0.900	2.5000	1.400	2.5000	1.900	2.5000	2.400	2.5000	2.900	2.5000
0.500	2.5000	1.000	2.5000	1.500	2.5000	2.000	2.5000	2.500	2.5000	3.000	2.5000

Depth/Flow Relationship Manhole: DUMMY 34, DS/PN: 24.001, Volume (m³): 0.0

Invert Level (m) 78.395

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.6000	0.600	3.6000	1.100	3.6000	1.600	3.6000	2.100	3.6000	2.600	3.6000
0.200	3.6000	0.700	3.6000	1.200	3.6000	1.700	3.6000	2.200	3.6000	2.700	3.6000
0.300	3.6000	0.800	3.6000	1.300	3.6000	1.800	3.6000	2.300	3.6000	2.800	3.6000
0.400	3.6000	0.900	3.6000	1.400	3.6000	1.900	3.6000	2.400	3.6000	2.900	3.6000
0.500	3.6000	1.000	3.6000	1.500	3.6000	2.000	3.6000	2.500	3.6000	3.000	3.6000

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Depth/Flow Relationship Manhole: DUMMY 36, DS/PN: 25.001, Volume (m³): 0.0

Invert Level (m) 76.836

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	8.4000	0.600	8.4000	1.100	8.4000	1.600	8.4000	2.100	8.4000	2.600	8.4000
0.200	8.4000	0.700	8.4000	1.200	8.4000	1.700	8.4000	2.200	8.4000	2.700	8.4000
0.300	8.4000	0.800	8.4000	1.300	8.4000	1.800	8.4000	2.300	8.4000	2.800	8.4000
0.400	8.4000	0.900	8.4000	1.400	8.4000	1.900	8.4000	2.400	8.4000	2.900	8.4000
0.500	8.4000	1.000	8.4000	1.500	8.4000	2.000	8.4000	2.500	8.4000	3.000	8.4000

Depth/Flow Relationship Manhole: DUMMY 38, DS/PN: 26.001, Volume (m³): 0.0

Invert Level (m) 75.715

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	14.0000	0.600	14.0000	1.100	14.0000	1.600	14.0000	2.100	14.0000	2.600	14.0000
0.200	14.0000	0.700	14.0000	1.200	14.0000	1.700	14.0000	2.200	14.0000	2.700	14.0000
0.300	14.0000	0.800	14.0000	1.300	14.0000	1.800	14.0000	2.300	14.0000	2.800	14.0000
0.400	14.0000	0.900	14.0000	1.400	14.0000	1.900	14.0000	2.400	14.0000	2.900	14.0000
0.500	14.0000	1.000	14.0000	1.500	14.0000	2.000	14.0000	2.500	14.0000	3.000	14.0000

Depth/Flow Relationship Manhole: DUMMY 40, DS/PN: 27.001, Volume (m³): 0.0

Invert Level (m) 75.715

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.8000	0.600	1.8000	1.100	1.8000	1.600	1.8000	2.100	1.8000	2.600	1.8000
0.200	1.8000	0.700	1.8000	1.200	1.8000	1.700	1.8000	2.200	1.8000	2.700	1.8000
0.300	1.8000	0.800	1.8000	1.300	1.8000	1.800	1.8000	2.300	1.8000	2.800	1.8000
0.400	1.8000	0.900	1.8000	1.400	1.8000	1.900	1.8000	2.400	1.8000	2.900	1.8000
0.500	1.8000	1.000	1.8000	1.500	1.8000	2.000	1.8000	2.500	1.8000	3.000	1.8000

Depth/Flow Relationship Manhole: DUMMY 2, DS/PN: 28.001, Volume (m³): 0.0

Invert Level (m) 78.795

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: DUMMY 4, DS/PN: 29.001, Volume (m³): 0.0

Invert Level (m) 78.775

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.4000	0.600	0.4000	1.100	0.4000	1.600	0.4000	2.100	0.4000	2.600	0.4000
0.200	0.4000	0.700	0.4000	1.200	0.4000	1.700	0.4000	2.200	0.4000	2.700	0.4000
0.300	0.4000	0.800	0.4000	1.300	0.4000	1.800	0.4000	2.300	0.4000	2.800	0.4000
0.400	0.4000	0.900	0.4000	1.400	0.4000	1.900	0.4000	2.400	0.4000	2.900	0.4000
0.500	0.4000	1.000	0.4000	1.500	0.4000	2.000	0.4000	2.500	0.4000	3.000	0.4000

Depth/Flow Relationship Manhole: DUMMY 6, DS/PN: 30.001, Volume (m³): 0.1

Invert Level (m) 78.744

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.2000	0.600	1.2000	1.100	1.2000	1.600	1.2000	2.100	1.2000	2.600	1.2000
0.200	1.2000	0.700	1.2000	1.200	1.2000	1.700	1.2000	2.200	1.2000	2.700	1.2000
0.300	1.2000	0.800	1.2000	1.300	1.2000	1.800	1.2000	2.300	1.2000	2.800	1.2000
0.400	1.2000	0.900	1.2000	1.400	1.2000	1.900	1.2000	2.400	1.2000	2.900	1.2000
0.500	1.2000	1.000	1.2000	1.500	1.2000	2.000	1.2000	2.500	1.2000	3.000	1.2000

Depth/Flow Relationship Manhole: DUMMY 8, DS/PN: 31.001, Volume (m³): 0.1

Invert Level (m) 78.543

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.4000	0.600	0.4000	1.100	0.4000	1.600	0.4000	2.100	0.4000	2.600	0.4000
0.200	0.4000	0.700	0.4000	1.200	0.4000	1.700	0.4000	2.200	0.4000	2.700	0.4000
0.300	0.4000	0.800	0.4000	1.300	0.4000	1.800	0.4000	2.300	0.4000	2.800	0.4000
0.400	0.4000	0.900	0.4000	1.400	0.4000	1.900	0.4000	2.400	0.4000	2.900	0.4000
0.500	0.4000	1.000	0.4000	1.500	0.4000	2.000	0.4000	2.500	0.4000	3.000	0.4000

Depth/Flow Relationship Manhole: DUMMY 10, DS/PN: 32.001, Volume (m³): 0.1

Invert Level (m) 77.977

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Depth/Flow Relationship Manhole: DUMMY 10, DS/PN: 32.001, Volume (m³): 0.1

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.4000	0.600	0.4000	1.100	0.4000	1.600	0.4000	2.100	0.4000	2.600	0.4000
0.200	0.4000	0.700	0.4000	1.200	0.4000	1.700	0.4000	2.200	0.4000	2.700	0.4000
0.300	0.4000	0.800	0.4000	1.300	0.4000	1.800	0.4000	2.300	0.4000	2.800	0.4000
0.400	0.4000	0.900	0.4000	1.400	0.4000	1.900	0.4000	2.400	0.4000	2.900	0.4000
0.500	0.4000	1.000	0.4000	1.500	0.4000	2.000	0.4000	2.500	0.4000	3.000	0.4000

Depth/Flow Relationship Manhole: DUMMY 12, DS/PN: 33.001, Volume (m³): 0.0

Invert Level (m) 77.629

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.5000	0.600	2.5000	1.100	2.5000	1.600	2.5000	2.100	2.5000	2.600	2.5000
0.200	2.5000	0.700	2.5000	1.200	2.5000	1.700	2.5000	2.200	2.5000	2.700	2.5000
0.300	2.5000	0.800	2.5000	1.300	2.5000	1.800	2.5000	2.300	2.5000	2.800	2.5000
0.400	2.5000	0.900	2.5000	1.400	2.5000	1.900	2.5000	2.400	2.5000	2.900	2.5000
0.500	2.5000	1.000	2.5000	1.500	2.5000	2.000	2.5000	2.500	2.5000	3.000	2.5000

Depth/Flow Relationship Manhole: DUMMY 14, DS/PN: 34.001, Volume (m³): 0.0

Invert Level (m) 77.085

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.0000	0.600	2.0000	1.100	2.0000	1.600	2.0000	2.100	2.0000	2.600	2.0000
0.200	2.0000	0.700	2.0000	1.200	2.0000	1.700	2.0000	2.200	2.0000	2.700	2.0000
0.300	2.0000	0.800	2.0000	1.300	2.0000	1.800	2.0000	2.300	2.0000	2.800	2.0000
0.400	2.0000	0.900	2.0000	1.400	2.0000	1.900	2.0000	2.400	2.0000	2.900	2.0000
0.500	2.0000	1.000	2.0000	1.500	2.0000	2.000	2.0000	2.500	2.0000	3.000	2.0000

Depth/Flow Relationship Manhole: DUMMY 16, DS/PN: 35.001, Volume (m³): 0.0

Invert Level (m) 76.856

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.6000	0.600	1.6000	1.100	1.6000	1.600	1.6000	2.100	1.6000	2.600	1.6000
0.200	1.6000	0.700	1.6000	1.200	1.6000	1.700	1.6000	2.200	1.6000	2.700	1.6000
0.300	1.6000	0.800	1.6000	1.300	1.6000	1.800	1.6000	2.300	1.6000	2.800	1.6000
0.400	1.6000	0.900	1.6000	1.400	1.6000	1.900	1.6000	2.400	1.6000	2.900	1.6000
0.500	1.6000	1.000	1.6000	1.500	1.6000	2.000	1.6000	2.500	1.6000	3.000	1.6000

Depth/Flow Relationship Manhole: DUMMY 18, DS/PN: 36.001, Volume (m³): 0.1

Invert Level (m) 76.864

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.8000	0.600	1.8000	1.100	1.8000	1.600	1.8000	2.100	1.8000	2.600	1.8000
0.200	1.8000	0.700	1.8000	1.200	1.8000	1.700	1.8000	2.200	1.8000	2.700	1.8000
0.300	1.8000	0.800	1.8000	1.300	1.8000	1.800	1.8000	2.300	1.8000	2.800	1.8000
0.400	1.8000	0.900	1.8000	1.400	1.8000	1.900	1.8000	2.400	1.8000	2.900	1.8000
0.500	1.8000	1.000	1.8000	1.500	1.8000	2.000	1.8000	2.500	1.8000	3.000	1.8000

Depth/Flow Relationship Manhole: DUMMY 20, DS/PN: 37.001, Volume (m³): 0.0

Invert Level (m) 77.216

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.7000	0.600	0.7000	1.100	0.7000	1.600	0.7000	2.100	0.7000	2.600	0.7000
0.200	0.7000	0.700	0.7000	1.200	0.7000	1.700	0.7000	2.200	0.7000	2.700	0.7000
0.300	0.7000	0.800	0.7000	1.300	0.7000	1.800	0.7000	2.300	0.7000	2.800	0.7000
0.400	0.7000	0.900	0.7000	1.400	0.7000	1.900	0.7000	2.400	0.7000	2.900	0.7000
0.500	0.7000	1.000	0.7000	1.500	0.7000	2.000	0.7000	2.500	0.7000	3.000	0.7000

Depth/Flow Relationship Manhole: DUMMY 42, DS/PN: 38.001, Volume (m³): 0.1

Invert Level (m) 78.074

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: DUMMY 44, DS/PN: 39.001, Volume (m³): 0.0

Invert Level (m) 76.435

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.300	0.2000	0.500	0.2000	0.700	0.2000	0.900	0.2000	1.100	0.2000
0.200	0.2000	0.400	0.2000	0.600	0.2000	0.800	0.2000	1.000	0.2000	1.200	0.2000

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Depth/Flow Relationship Manhole: DUMMY 44, DS/PN: 39.001, Volume (m³): 0.0

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
1.300	0.2000	1.600	0.2000	1.900	0.2000	2.200	0.2000	2.500	0.2000	2.800	0.2000
1.400	0.2000	1.700	0.2000	2.000	0.2000	2.300	0.2000	2.600	0.2000	2.900	0.2000
1.500	0.2000	1.800	0.2000	2.100	0.2000	2.400	0.2000	2.700	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: DUMMY 46, DS/PN: 40.001, Volume (m³): 0.1

Invert Level (m) 76.211

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: DUMMY 48, DS/PN: 41.001, Volume (m³): 0.0

Invert Level (m) 76.936

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: DUMMY 50, DS/PN: 42.001, Volume (m³): 0.1

Invert Level (m) 76.793

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: DUMMY 52, DS/PN: 43.001, Volume (m³): 0.1

Invert Level (m) 75.661

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

Depth/Flow Relationship Manhole: DUMMY 54, DS/PN: 44.001, Volume (m³): 0.1

Invert Level (m) 74.816

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.2000	0.600	0.2000	1.100	0.2000	1.600	0.2000	2.100	0.2000	2.600	0.2000
0.200	0.2000	0.700	0.2000	1.200	0.2000	1.700	0.2000	2.200	0.2000	2.700	0.2000
0.300	0.2000	0.800	0.2000	1.300	0.2000	1.800	0.2000	2.300	0.2000	2.800	0.2000
0.400	0.2000	0.900	0.2000	1.400	0.2000	1.900	0.2000	2.400	0.2000	2.900	0.2000
0.500	0.2000	1.000	0.2000	1.500	0.2000	2.000	0.2000	2.500	0.2000	3.000	0.2000

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Storage Structures for Storm

Tank or Pond Manhole: NW3-8c Pond DS, DS/PN: 38.012

Invert Level (m) 72.355

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	90.0	0.958	212.6	1.258	261.7

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 27 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH D3 (1km) 0.233
FEH Rainfall Version 1999 E (1km) 0.299
Site Location GB 438400 279200 SP 38400 79200 F (1km) 2.381
C (1km) -0.025 Cv (Summer) 0.900
D1 (1km) 0.382 Cv (Winter) 0.900
D2 (1km) 0.332

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 1
Climate Change (%) 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
18.000	DUMMY 21	1440 Summer	1	+20%					81.870	0.000	0.000	0.00	
18.001	DUMMY 22	1440 Summer	1	+20%					81.866	0.000	0.000	0.00	
18.002	EX-NW3-37	15 Summer	1	+20%					80.870	-0.150	0.000	0.00	
19.000	DUMMY 23	1440 Summer	1	+20%					79.680	0.000	0.000	0.00	
19.001	DUMMY 24	1440 Summer	1	+20%					79.674	0.000	0.000	0.00	
18.003	EX-NW3-38	600 Summer	1	+20%	1/15 Summer				79.209	0.379	0.000	0.01	
20.000	DUMMY 25	15 Summer	1	+20%					78.830	0.000	0.000	2.06	
20.001	DUMMY 26	15 Summer	1	+20%	1/15 Summer				78.823	0.525	0.000	1.40	
18.004	EX-NW3-39	600 Summer	1	+20%	1/15 Summer	1/15 Summer			79.209	1.229	28.784	2.39	
21.000	DUMMY 27	15 Summer	1	+20%					78.110	0.000	0.000	0.57	
21.001	DUMMY 28	15 Summer	1	+20%					78.103	0.000	0.000	0.33	
18.005	NW3-40	960 Summer	1	+20%	1/15 Summer	1/15 Summer			78.483	0.630	22.912	2.80	
22.000	DUMMY 29	15 Summer	1	+20%					78.110	0.000	0.000	1.07	
22.001	DUMMY 30	15 Summer	1	+20%					78.104	0.000	0.000	0.82	
18.006	EX-NW3-41	960 Winter	1	+20%					77.618	-0.142	0.000	0.54	
23.000	DUMMY 31	15 Summer	1	+20%					79.390	0.000	0.000	0.46	
23.001	DUMMY 32	15 Summer	1	+20%					79.386	0.000	0.000	0.23	
18.007	EX-NW3-42	720 Summer	1	+20%					77.287	-0.143	0.000	0.54	
24.000	DUMMY 33	15 Summer	1	+20%					78.550	0.000	0.000	0.57	
24.001	DUMMY 34	15 Summer	1	+20%					78.545	0.000	0.000	0.33	
18.008	EX-NW3-43	720 Summer	1	+20%					76.934	-0.196	0.000	0.26	
25.000	DUMMY 35	15 Summer	1	+20%					76.990	0.000	0.000	1.02	
25.001	DUMMY 36	15 Summer	1	+20%					76.986	0.000	0.000	0.77	
18.009	EX-NW3-44	600 Summer	1	+20%	1/15 Summer				75.573	0.103	0.000	0.97	
26.000	DUMMY 37	15 Summer	1	+20%					75.870	0.000	0.000	1.55	
26.001	DUMMY 38	15 Summer	1	+20%					75.865	0.000	0.000	1.29	
18.010	NW3-45	600 Summer	1	+20%	1/15 Summer				75.432	0.111	0.000	1.33	
27.000	DUMMY 39	15 Summer	1	+20%					75.870	0.000	0.000	0.38	
27.001	DUMMY 40	15 Summer	1	+20%					75.865	0.000	0.000	0.17	
18.011	NW3-46	720 Summer	1	+20%	1/15 Summer				75.201	0.011	0.000	1.06	
18.012	NW3-47	720 Summer	1	+20%					74.701	-0.289	0.000	0.12	
28.000	DUMMY 1	15 Summer	1	+20%					78.950	0.000	0.000	0.06	
28.001	DUMMY 2	15 Summer	1	+20%					78.945	0.000	0.000	0.01	
28.002	NW3-49	240 Winter	1	+20%					77.807	-0.143	0.000	0.01	
29.000	DUMMY 3	15 Summer	1	+20%					78.930	0.000	0.000	0.15	
29.001	DUMMY 4	15 Summer	1	+20%					78.925	0.000	0.000	0.04	
28.003	NW3-50	360 Summer	1	+20%					77.766	-0.129	0.000	0.05	
30.000	DUMMY 5	15 Summer	1	+20%					78.900	0.000	0.000	0.28	
30.001	DUMMY 6	15 Summer	1	+20%					78.894	0.000	0.000	0.11	
28.004	NW3-51	960 Summer	1	+20%					77.717	-0.116	0.000	0.12	
31.000	DUMMY 7	15 Summer	1	+20%					78.700	0.000	0.000	0.17	
31.001	DUMMY 8	15 Summer	1	+20%					78.693	0.000	0.000	0.04	
28.005	NW3-52	180 Summer	1	+20%					77.574	-0.122	0.000	0.08	
32.000	DUMMY 9	15 Summer	1	+20%					78.135	0.000	0.000	0.17	
32.001	DUMMY 10	15 Summer	1	+20%					78.127	0.000	0.000	0.04	
28.006	NW3-53	720 Winter	1	+20%					77.012	-0.117	0.000	0.11	
33.000	DUMMY 11	15 Summer	1	+20%					77.785	0.000	0.000	0.42	
33.001	DUMMY 12	15 Summer	1	+20%					77.779	0.000	0.000	0.23	
28.007	NW3-54	1440 Summer	1	+20%					76.582	-0.177	0.000	0.10	
34.000	DUMMY 13	15 Summer	1	+20%					77.240	0.000	0.000	0.37	
34.001	DUMMY 14	15 Summer	1	+20%					77.235	0.000	0.000	0.18	
28.008	NW3-55	1440 Summer	1	+20%					75.939	-0.169	0.000	0.14	
35.000	DUMMY 15	15 Summer	1	+20%					77.010	0.000	0.000	0.32	
35.001	DUMMY 16	15 Summer	1	+20%					77.006	0.000	0.000	0.15	
28.009	NW3-56	480 Summer	1	+20%					75.435	-0.161	0.000	0.18	
36.000	DUMMY 17	15 Summer	1	+20%					77.020	0.000	0.000	0.34	
36.001	DUMMY 18	15 Summer	1	+20%					77.014	0.000	0.000	0.17	
28.010	NW3-57	480 Summer	1	+20%					75.130	-0.155	0.000	0.21	
37.000	DUMMY 19	15 Summer	1	+20%					77.370	0.000	0.000	0.21	
37.001	DUMMY 20	15 Summer	1	+20%					77.366	0.000	0.000	0.06	

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
18.000	DUMMY 21		0.0	SURCHARGED*	
18.001	DUMMY 22		0.0	SURCHARGED*	
18.002	EX-NW3-37		0.0	OK	
19.000	DUMMY 23		0.0	SURCHARGED*	
19.001	DUMMY 24		0.0	SURCHARGED*	
18.003	EX-NW3-38		0.2	SURCHARGED	
20.000	DUMMY 25		22.3	SURCHARGED*	
20.001	DUMMY 26		15.2	SURCHARGED*	
18.004	EX-NW3-39		13.1	FLOOD	23
21.000	DUMMY 27		6.2	SURCHARGED*	
21.001	DUMMY 28		3.6	SURCHARGED*	
18.005	NW3-40		15.3	FLOOD	23
22.000	DUMMY 29		11.7	SURCHARGED*	
22.001	DUMMY 30		8.9	SURCHARGED*	
18.006	EX-NW3-41		24.0	OK	
23.000	DUMMY 31		5.0	SURCHARGED*	
23.001	DUMMY 32		2.5	SURCHARGED*	
18.007	EX-NW3-42		26.6	OK	
24.000	DUMMY 33		6.2	SURCHARGED*	
24.001	DUMMY 34		3.6	SURCHARGED*	
18.008	EX-NW3-43		30.2	OK	
25.000	DUMMY 35		11.0	SURCHARGED*	
25.001	DUMMY 36		8.4	SURCHARGED*	
18.009	EX-NW3-44		38.6	SURCHARGED	
26.000	DUMMY 37		16.8	SURCHARGED*	
26.001	DUMMY 38		14.0	SURCHARGED*	
18.010	NW3-45		52.6	SURCHARGED	
27.000	DUMMY 39		4.2	SURCHARGED*	
27.001	DUMMY 40		1.8	SURCHARGED*	
18.011	NW3-46		54.4	SURCHARGED	
18.012	NW3-47		54.4	OK	
28.000	DUMMY 1		0.6	FLOOD RISK*	
28.001	DUMMY 2		0.1	FLOOD RISK*	
28.002	NW3-49		0.1	OK	
29.000	DUMMY 3		1.6	FLOOD RISK*	
29.001	DUMMY 4		0.4	FLOOD RISK*	
28.003	NW3-50		0.5	OK	
30.000	DUMMY 5		3.0	FLOOD RISK*	
30.001	DUMMY 6		1.2	FLOOD RISK*	
28.004	NW3-51		1.7	OK	
31.000	DUMMY 7		1.8	FLOOD RISK*	
31.001	DUMMY 8		0.4	FLOOD RISK*	
28.005	NW3-52		2.1	OK	
32.000	DUMMY 9		1.8	FLOOD RISK*	
32.001	DUMMY 10		0.4	FLOOD RISK*	
28.006	NW3-53		2.5	OK	
33.000	DUMMY 11		4.5	FLOOD RISK*	
33.001	DUMMY 12		2.5	FLOOD RISK*	
28.007	NW3-54		4.8	OK	
34.000	DUMMY 13		4.0	FLOOD RISK*	
34.001	DUMMY 14		2.0	FLOOD RISK*	
28.008	NW3-55		6.8	OK	
35.000	DUMMY 15		3.5	FLOOD RISK*	
35.001	DUMMY 16		1.6	FLOOD RISK*	
28.009	NW3-56		8.6	OK	
36.000	DUMMY 17		3.7	FLOOD RISK*	
36.001	DUMMY 18		1.8	FLOOD RISK*	
28.010	NW3-57		10.4	OK	
37.000	DUMMY 19		2.2	FLOOD RISK*	
37.001	DUMMY 20		0.7	FLOOD RISK*	

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
28.011	NW3-58	480 Winter	1	+20%					74.683	-0.169	0.000	0.14	
28.012	NW3-59	480 Summer	1	+20%					73.763	-0.166	0.000	0.16	
18.013	NW3-48	600 Summer	1	+20%					73.221	-0.455	0.000	0.13	
18.014	NW3-9	120 Summer	1	+20%					72.730	-0.370	0.000	0.19	
18.015	NW3-9a	120 Summer	1	+20%					72.685	-0.285	0.000	0.20	
18.016	NW3-9b	120 Summer	1	+20%					72.681	-0.149	0.000	0.24	
38.000	DUMMY 41	15 Summer	1	+20%					78.240	0.000	0.000	0.25	
38.001	DUMMY 42	15 Summer	1	+20%					78.224	0.000	0.000	0.05	
38.002	EX-NW3-1	120 Summer	1	+20%					77.252	-0.138	0.000	0.02	
39.000	DUMMY 43	15 Summer	1	+20%					76.590	0.000	0.000	0.12	
39.001	DUMMY 44	15 Summer	1	+20%					76.585	0.000	0.000	0.02	
38.003	EX-NW3-2	720 Summer	1	+20%					75.721	-0.129	0.000	0.05	
40.000	DUMMY 45	15 Summer	1	+20%					76.370	0.000	0.000	0.11	
40.001	DUMMY 46	15 Summer	1	+20%					76.361	0.000	0.000	0.02	
38.004	EX-NW3-3	240 Winter	1	+20%					75.172	-0.128	0.000	0.05	
41.000	DUMMY 47	15 Summer	1	+20%					77.090	0.000	0.000	0.06	
41.001	DUMMY 48	15 Summer	1	+20%					77.086	0.000	0.000	0.01	
38.005	EX-NW3-4	360 Summer	1	+20%					74.031	-0.119	0.000	0.10	
42.000	DUMMY 49	15 Summer	1	+20%					76.950	0.000	0.000	0.18	
42.001	DUMMY 50	15 Summer	1	+20%					76.943	0.000	0.000	0.03	
38.006	EX-NW3-5	960 Summer	1	+20%					73.788	-0.112	0.000	0.15	
43.000	DUMMY 51	15 Summer	1	+20%					75.820	0.000	0.000	0.14	
43.001	DUMMY 52	15 Summer	1	+20%					75.811	0.000	0.000	0.02	
38.007	EX-NW3-6	240 Summer	1	+20%					73.535	-0.115	0.000	0.12	
44.000	DUMMY 53	15 Summer	1	+20%					74.980	0.000	0.000	0.16	
44.001	DUMMY 54	15 Summer	1	+20%					74.966	0.000	0.000	0.02	
38.008	EX-NW3-7	30 Summer	1	+20%					72.909	-0.141	0.000	0.07	
45.000	EX-NW3-10	15 Summer	1	+20%					74.497	-0.119	0.000	0.42	
46.000	NW3-19	15 Summer	1	+20%					74.808	-0.128	0.000	0.36	
47.000	EX-NW3-21	15 Summer	1	+20%					75.127	-0.103	0.000	0.20	
47.001	EX-NW3-29	15 Summer	1	+20%					74.526	-0.139	0.000	0.25	
46.001	NW3-20	15 Summer	1	+20%					74.502	-0.149	0.000	0.25	
45.001	EX-NW3-11	15 Summer	1	+20%					74.359	-0.202	0.000	0.41	
45.002	NW3-12	15 Summer	1	+20%					74.169	-0.209	0.000	0.39	
45.003	EX-NW3-13	15 Summer	1	+20%					74.042	-0.153	0.000	0.51	
48.000	NW3-22	15 Summer	1	+20%					74.689	-0.085	0.000	0.66	
48.001	NW3-X1	15 Summer	1	+20%					74.393	-0.091	0.000	0.64	
48.002	NW3-23	15 Summer	1	+20%					74.193	-0.127	0.000	0.63	
48.003	NW3-X2	15 Summer	1	+20%					74.151	-0.141	0.000	0.53	
49.000	EXCP68-DUMMY	15 Summer	1	+20%					74.793	-0.172	0.000	0.12	
49.001	NW3-30	15 Summer	1	+20%					74.567	-0.173	0.000	0.11	
49.002	EX-NW3-31	15 Summer	1	+20%					74.249	-0.156	0.000	0.20	
49.003	EX-NW3-32	15 Summer	1	+20%					74.026	-0.234	0.000	0.06	
48.004	NW3-24	15 Summer	1	+20%					74.017	-0.133	0.000	0.58	
45.004	EX-NW3-14	15 Summer	1	+20%					73.987	-0.088	0.000	0.86	
45.005	EX-NW3-15	30 Summer	1	+20%					73.742	-0.093	0.000	0.88	
50.000	EXCP62-DUMMY	15 Summer	1	+20%					74.516	-0.079	0.000	0.70	
50.001	NW3-X3	15 Summer	1	+20%					74.275	-0.089	0.000	0.65	
50.002	NW3-25	15 Summer	1	+20%					73.949	-0.166	0.000	0.40	
50.003	NW3-X4	15 Summer	1	+20%					73.697	-0.178	0.000	0.34	
51.000	EXCP70-DUMMY	15 Summer	1	+20%					74.405	-0.065	0.000	0.51	
51.001	EX-NW3-33	15 Summer	1	+20%					74.124	-0.056	0.000	0.67	
52.000	29-DUMMY	15 Summer	1	+20%					74.631	-0.109	0.000	0.17	
51.002	NW3-34	15 Summer	1	+20%					73.475	-0.115	0.000	0.32	
50.004	NW3-26	15 Summer	1	+20%					73.467	-0.098	0.000	0.79	
45.006	NW3-16	30 Summer	1	+20%					73.352	-0.173	0.000	0.67	
45.007	NW3-17	60 Summer	1	+20%					73.159	-0.176	0.000	0.67	
53.000	EXCP64-DUMMY	15 Summer	1	+20%					74.158	-0.097	0.000	0.59	
53.001	NW3-X5	15 Summer	1	+20%					73.914	-0.097	0.000	0.59	
53.002	NW3-27	15 Summer	1	+20%					73.708	-0.142	0.000	0.52	
53.003	NW3-X6	15 Summer	1	+20%					73.428	-0.146	0.000	0.51	
54.000	NW3-35	15 Summer	1	+20%					74.547	-0.118	0.000	0.10	
54.001	NW3-35A	15 Summer	1	+20%					74.269	-0.120	0.000	0.08	
54.002	NW3-36	15 Summer	1	+20%					73.311	-0.106	0.000	0.19	
53.004	NW3-28	15 Summer	1	+20%					73.182	-0.128	0.000	0.62	
45.008	NW3-18	30 Summer	1	+20%					72.951	-0.174	0.000	0.69	
38.009	NW3-8	30 Summer	1	+20%					72.903	-0.147	0.000	0.73	
38.010	NW3-8a	30 Summer	1	+20%					72.823	-0.127	0.000	0.86	
38.011	NW3-8b Pond US	120 Summer	1	+20%					72.748	-0.162	0.000	0.56	
38.012	NW3-8c Pond DS	120 Summer	1	+20%					72.702	-0.103	0.000	0.52	
18.017	NW3-8d	120 Summer	1	+20%					72.766	-0.014	0.000	1.06	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
28.011	NW3-58		11.1	OK	
28.012	NW3-59		11.1	OK	
18.013	NW3-48		65.5	OK	
18.014	NW3-9		65.8	OK	
18.015	NW3-9a		68.4	OK	
18.016	NW3-9b		76.1	OK	
38.000	DUMMY 41		1.6	SURCHARGED*	
38.001	DUMMY 42		0.3	SURCHARGED*	
38.002	EX-NW3-1		0.3	OK	

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
39.000	DUMMY 43		1.3	SURCHARGED*	
39.001	DUMMY 44		0.2	SURCHARGED*	
38.003	EX-NW3-2		0.5	OK	
40.000	DUMMY 45		1.2	SURCHARGED*	
40.001	DUMMY 46		0.2	SURCHARGED*	
38.004	EX-NW3-3		0.7	OK	
41.000	DUMMY 47		0.7	SURCHARGED*	
41.001	DUMMY 48		0.1	SURCHARGED*	
38.005	EX-NW3-4		0.8	OK	
42.000	DUMMY 49		1.7	SURCHARGED*	
42.001	DUMMY 50		0.3	SURCHARGED*	
38.006	EX-NW3-5		1.1	OK	
43.000	DUMMY 51		1.4	SURCHARGED*	
43.001	DUMMY 52		0.2	SURCHARGED*	
38.007	EX-NW3-6		1.3	OK	
44.000	DUMMY 53		1.2	SURCHARGED*	
44.001	DUMMY 54		0.2	SURCHARGED*	
38.008	EX-NW3-7		1.5	OK	
45.000	EX-NW3-10		9.2	OK	
46.000	NW3-19		9.4	OK	
47.000	EX-NW3-21		2.6	OK	
47.001	EX-NW3-29		2.6	OK	
46.001	NW3-20		12.0	OK	
45.001	EX-NW3-11		33.6	OK	
45.002	NW3-12		31.8	OK	
45.003	EX-NW3-13		33.5	OK	
48.000	NW3-22		18.0	OK	
48.001	NW3-X1		17.3	OK	
48.002	NW3-23		23.8	OK	
48.003	NW3-X2		23.1	OK	
49.000	EXCP68-DUMMY		3.3	OK*	
49.001	NW3-30		3.0	OK	
49.002	EX-NW3-31		4.1	OK	
49.003	EX-NW3-32		4.0	OK	
48.004	NW3-24		26.5	OK	
45.004	EX-NW3-14		58.9	OK	
45.005	EX-NW3-15		60.2	OK	
50.000	EXCP62-DUMMY		17.5	OK*	
50.001	NW3-X3		16.5	OK	
50.002	NW3-25		28.5	OK	
50.003	NW3-X4		28.2	OK	
51.000	EXCP70-DUMMY		3.4	OK*	
51.001	EX-NW3-33		6.4	OK	
52.000	29-DUMMY		3.2	OK*	
51.002	NW3-34		9.0	OK	
50.004	NW3-26		36.4	OK	
45.006	NW3-16		88.4	OK	
45.007	NW3-17		92.6	OK	
53.000	EXCP64-DUMMY		21.3	OK*	
53.001	NW3-X5		20.2	OK	
53.002	NW3-27		40.5	OK	
53.003	NW3-X6		39.7	OK	
54.000	NW3-35		1.3	OK	
54.001	NW3-35A		2.2	OK	
54.002	NW3-36		2.2	OK	
53.004	NW3-28		41.7	OK	
45.008	NW3-18		116.9	OK	
38.009	NW3-8		116.8	OK	
38.010	NW3-8a		116.8	OK	
38.011	NW3-8b Pond US		102.1	OK*	
38.012	NW3-8c Pond DS		88.5	OK*	
18.017	NW3-8d		156.9	OK	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes A46 pipe Manhole Sizes A46 manholes

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	19.300	Add Flow / Climate Change (%)	25
Ratio R	0.400	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	300	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	0.75
Volumetric Runoff Coeff.	0.900	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
18.000	1.917	0.004	479.3	0.002	5.00	0.0	1.500	o	150	Pipe/Conduit	
18.001	1.735	0.003	578.3	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.002	13.548	2.190	6.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
19.000	3.108	0.006	500.1	0.002	5.00	0.0	1.500	o	150	Pipe/Conduit	
19.001	2.376	0.005	475.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.003	13.068	0.850	15.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
20.000	3.687	0.007	526.7	1.385	5.00	0.0	1.500	o	150	Pipe/Conduit	
20.001	3.026	0.006	504.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.004	64.283	0.127	506.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
21.000	3.624	0.007	517.6	0.326	5.00	0.0	1.500	o	150	Pipe/Conduit	
21.001	2.960	0.006	493.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.005	47.190	0.093	507.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
22.000	2.928	0.006	500.0	0.810	5.00	0.0	1.500	o	150	Pipe/Conduit	
22.001	3.026	0.006	499.9	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.006	100.088	0.330	303.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
23.000	1.908	0.004	476.9	0.228	5.00	0.0	1.500	o	150	Pipe/Conduit	
23.001	2.716	0.005	543.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.007	73.601	0.300	245.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
24.000	2.729	0.005	545.8	0.328	5.00	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
18.000	52.47	5.08	81.720	0.002	0.0	0.0	0.1	0.40	7.0	0.4
18.001	52.11	5.16	81.716	0.002	0.0	0.0	0.1	0.36	6.4	0.4
18.002	51.76	5.24	80.870	0.002	0.0	0.0	0.1	2.84	50.3	0.4
19.000	52.23	5.13	79.530	0.002	0.0	0.0	0.1	0.39	6.9	0.4
19.001	51.79	5.23	79.524	0.002	0.0	0.0	0.1	0.40	7.1	0.4
18.003	51.24	5.36	78.680	0.004	0.0	0.0	0.2	1.80	31.9	0.8
20.000	52.10	5.16	78.680	1.385	0.0	0.0	58.6	0.38	6.7«	293.1
20.001	51.53	5.29	78.148	1.385	0.0	0.0	58.6	0.39	6.8«	293.1
18.004	40.13	8.78	77.830	1.388	0.0	0.0	58.6	0.31	5.5«	293.1
21.000	52.12	5.16	77.960	0.326	0.0	0.0	13.8	0.38	6.8«	69.0
21.001	51.57	5.28	77.953	0.326	0.0	0.0	13.8	0.39	6.9«	69.0
18.005	35.06	11.30	77.703	1.714	0.0	0.0	58.6	0.31	5.5«	293.1
22.000	52.27	5.13	77.960	0.810	0.0	0.0	34.4	0.39	6.9«	172.0
22.001	51.69	5.26	77.954	0.810	0.0	0.0	34.4	0.39	6.9«	172.0
18.006	31.21	13.90	77.460	2.524	0.0	0.0	64.0	0.64	45.3«	320.0
23.000	52.47	5.08	79.240	0.228	0.0	0.0	9.7	0.40	7.0«	48.7
23.001	51.93	5.20	79.236	0.228	0.0	0.0	9.7	0.37	6.6«	48.7
18.007	29.16	15.63	77.130	2.753	0.0	0.0	65.2	0.71	50.4«	326.0
24.000	52.28	5.12	78.400	0.328	0.0	0.0	13.9	0.37	6.6«	69.6

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
24.001	2.872	0.006	478.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.008	75.913	1.660	45.7	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
25.000	1.871	0.004	499.9	0.769	5.00	0.0	1.500	o	150	Pipe/Conduit	
25.001	2.496	0.005	500.0	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.009	55.646	0.149	373.5	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
26.000	2.675	0.005	535.0	1.278	5.00	0.0	1.500	o	150	Pipe/Conduit	
26.001	3.319	0.007	474.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.010	48.737	0.131	372.0	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
27.000	2.669	0.005	533.7	0.169	5.00	0.0	1.500	o	150	Pipe/Conduit	
27.001	3.495	0.007	499.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.011	44.382	0.200	221.9	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
18.012	8.229	1.314	6.3	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
28.000	2.086	0.005	417.3	0.008	5.00	0.0	1.500	o	150	Pipe/Conduit	
28.001	2.703	0.005	540.6	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.002	12.146	0.055	220.8	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
29.000	2.489	0.005	497.9	0.033	5.00	0.0	1.500	o	150	Pipe/Conduit	
29.001	2.725	0.005	544.9	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.003	12.349	0.062	199.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
30.000	3.030	0.006	505.0	0.111	5.00	0.0	1.500	o	150	Pipe/Conduit	
30.001	3.264	0.007	466.3	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.004	13.753	0.137	100.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
31.000	3.601	0.007	514.4	0.040	5.00	0.0	1.500	o	150	Pipe/Conduit	
31.001	3.443	0.007	491.9	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.005	16.784	0.567	29.6	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
32.000	4.233	0.008	529.2	0.033	5.00	0.0	1.500	o	150	Pipe/Conduit	
32.001	4.057	0.008	507.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
24.001	51.75	5.24	78.395	0.328	0.0	0.0	13.9	0.40	7.0«	69.6
18.008	28.34	16.39	76.830	3.080	0.0	0.0	70.9	1.65	116.8«	354.6
25.000	52.47	5.08	76.840	0.769	0.0	0.0	32.8	0.39	6.9«	164.0
25.001	51.99	5.19	76.836	0.769	0.0	0.0	32.8	0.39	6.9«	164.0
18.009	26.79	18.00	75.170	3.849	0.0	0.0	83.8	0.58	40.8«	419.0
26.000	52.30	5.12	75.720	1.278	0.0	0.0	54.3	0.38	6.6«	271.4
26.001	51.68	5.26	75.715	1.278	0.0	0.0	54.3	0.40	7.1«	271.4
18.010	25.59	19.40	75.021	5.127	0.0	0.0	106.6	0.58	40.9«	533.0
27.000	52.30	5.12	75.720	0.169	0.0	0.0	7.2	0.38	6.6«	35.9
27.001	51.64	5.27	75.715	0.169	0.0	0.0	7.2	0.39	6.9«	35.9
18.011	24.82	20.39	74.890	5.296	0.0	0.0	106.8	0.75	53.0«	534.0
18.012	24.80	20.41	74.615	5.296	0.0	0.0	106.8	7.28	804.0	534.0
28.000	52.47	5.08	78.800	0.008	0.0	0.0	0.3	0.43	7.5	1.7
28.001	51.93	5.20	78.795	0.008	0.0	0.0	0.3	0.37	6.6	1.7
28.002	51.31	5.34	77.800	0.000	0.1	0.0	0.0	0.59	10.4	0.1
29.000	52.35	5.11	78.780	0.033	0.0	0.0	1.4	0.39	6.9«	6.9
29.001	51.81	5.23	78.775	0.033	0.0	0.0	1.4	0.37	6.6«	6.9
28.003	51.36	5.33	77.745	0.000	0.4	0.0	0.1	0.62	10.9	0.4
30.000	52.25	5.13	78.750	0.111	0.0	0.0	4.7	0.39	6.8«	23.5
30.001	51.65	5.27	78.744	0.111	0.0	0.0	4.7	0.40	7.1«	23.5
28.004	51.66	5.26	77.683	0.000	1.4	0.0	0.3	0.87	15.4	1.4
31.000	52.13	5.16	78.550	0.040	0.0	0.0	1.7	0.38	6.8«	8.5
31.001	51.48	5.30	78.543	0.040	0.0	0.0	1.7	0.39	6.9«	8.5
28.005	52.05	5.17	77.546	0.000	1.8	0.0	0.4	1.61	28.5	1.8
32.000	52.00	5.19	77.985	0.033	0.0	0.0	1.4	0.38	6.7«	7.1
32.001	51.23	5.36	77.977	0.033	0.0	0.0	1.4	0.39	6.8«	7.1

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
28.006	14.790	0.370	40.0	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
33.000	2.804	0.006	467.3	0.229	5.00	0.0	1.500	o	150	Pipe/Conduit	
33.001	2.466	0.005	493.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.007	52.061	0.651	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
34.000	2.437	0.005	487.4	0.184	5.00	0.0	1.500	o	150	Pipe/Conduit	
34.001	2.581	0.005	516.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.008	40.943	0.512	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
35.000	2.231	0.004	557.8	0.143	5.00	0.0	1.500	o	150	Pipe/Conduit	
35.001	2.688	0.005	537.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.009	24.890	0.311	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
36.000	2.989	0.006	498.1	0.160	5.00	0.0	1.500	o	150	Pipe/Conduit	
36.001	3.496	0.007	499.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.010	34.631	0.433	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
37.000	2.246	0.004	561.5	0.063	5.00	0.0	1.500	o	150	Pipe/Conduit	
37.001	2.478	0.005	495.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.011	27.694	0.923	30.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
28.012	7.434	0.253	29.4	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
18.013	51.355	0.576	89.2	0.000	0.00	0.0	6.200	o	600	Pipe/Conduit	
18.014	37.639	0.130	289.5	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
18.015	40.998	0.140	292.8	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
18.016	7.840	0.050	156.8	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
38.000	8.050	0.016	500.0	0.023	5.00	0.0	1.500	o	150	Pipe/Conduit	
38.001	8.042	0.016	500.0	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.002	75.053	1.540	48.7	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
39.000	2.328	0.005	465.6	0.020	5.00	0.0	1.500	o	150	Pipe/Conduit	
39.001	3.546	0.007	506.5	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
28.006	52.04	5.18	76.979	0.000	2.1	0.0	0.4	1.39	24.5	2.1
33.000	52.31	5.12	77.635	0.229	0.0	0.0	9.7	0.40	7.1«	48.7
33.001	51.84	5.22	77.629	0.229	0.0	0.0	9.7	0.39	6.9«	48.7
28.007	49.92	5.68	76.534	0.000	4.2	0.0	0.8	1.28	51.1	4.2
34.000	52.37	5.10	77.090	0.184	0.0	0.0	7.8	0.39	7.0«	39.2
34.001	51.87	5.22	77.085	0.184	0.0	0.0	7.8	0.38	6.8«	39.2
28.008	50.51	5.53	75.883	0.000	5.9	0.0	1.2	1.28	51.1	5.9
35.000	52.38	5.10	76.860	0.143	0.0	0.0	6.1	0.37	6.5«	30.5
35.001	51.85	5.22	76.856	0.143	0.0	0.0	6.1	0.37	6.6«	30.5
28.009	51.40	5.32	75.371	0.000	7.2	0.0	1.4	1.28	51.0	7.2
36.000	52.26	5.13	76.870	0.160	0.0	0.0	6.8	0.39	6.9«	34.0
36.001	51.60	5.28	76.864	0.160	0.0	0.0	6.8	0.39	6.9«	34.0
28.010	50.86	5.45	75.060	0.000	8.7	0.0	1.7	1.28	51.1	8.7
37.000	52.37	5.10	77.220	0.063	0.0	0.0	2.7	0.37	6.5«	13.3
37.001	51.90	5.21	77.216	0.063	0.0	0.0	2.7	0.39	6.9«	13.3
28.011	51.85	5.22	74.627	0.000	9.3	0.0	1.9	2.10	83.5	9.3
28.012	51.62	5.27	73.704	0.000	9.3	0.0	2.3	2.42	96.3	11.6
18.013	24.46	20.87	73.076	5.296	9.3	0.0	107.6	1.85	524.4«	537.9
18.014	24.15	21.31	72.500	5.296	9.3	0.0	107.6	1.43	403.2«	537.9
18.015	23.81	21.79	72.370	5.296	9.3	0.0	107.6	1.42	400.9«	537.9
18.016	23.77	21.86	72.230	5.296	9.3	0.0	107.6	1.94	549.2	537.9
38.000	51.30	5.34	78.090	0.023	0.0	0.0	1.0	0.39	6.9	4.9
38.001	49.87	5.69	78.074	0.023	0.0	0.0	1.0	0.39	6.9	4.9
38.002	45.39	6.93	77.240	0.023	0.0	0.0	1.0	1.01	17.9	4.9
39.000	52.40	5.10	76.440	0.020	0.0	0.0	0.9	0.40	7.1	4.3
39.001	51.72	5.25	76.435	0.020	0.0	0.0	0.9	0.39	6.8	4.3

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
38.003	76.397	0.550	138.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
40.000	4.584	0.009	509.4	0.016	5.00	0.0	1.500	o	150	Pipe/Conduit	
40.001	4.874	0.010	487.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.004	97.695	1.150	85.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
41.000	1.999	0.004	499.8	0.009	5.00	0.0	4.800	o	150	Pipe/Conduit	
41.001	2.330	0.005	466.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
38.005	54.754	0.250	219.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
42.000	3.503	0.007	500.4	0.031	5.00	0.0	4.800	o	150	Pipe/Conduit	
42.001	4.224	0.008	527.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
38.006	67.101	0.250	268.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
43.000	4.415	0.009	490.5	0.023	5.00	0.0	1.500	o	150	Pipe/Conduit	
43.001	4.479	0.009	497.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.007	80.902	0.600	134.8	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
44.000	6.883	0.014	491.6	0.015	5.00	0.0	1.500	o	150	Pipe/Conduit	
44.001	6.345	0.013	488.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.008	82.367	0.175	470.7	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
45.000	54.459	0.205	265.7	0.063	5.00	0.0	5.200	o	225	Pipe/Conduit	
46.000	53.186	0.285	186.6	0.064	5.00	0.0	5.200	o	225	Pipe/Conduit	
47.000	55.004	0.610	90.2	0.017	5.00	0.0	4.800	o	150	Pipe/Conduit	
47.001	11.235	0.014	802.5	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
46.001	11.729	0.240	48.9	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
45.001	51.063	0.183	279.0	0.120	0.00	0.0	5.700	o	375	Pipe/Conduit	
45.002	51.063	0.183	279.0	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit	
45.003	51.792	0.120	431.6	0.059	0.00	0.0	5.700	o	375	Pipe/Conduit	
48.000	50.000	0.290	172.6	0.122	5.00	0.0	5.200	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
38.003	39.49	9.05	75.700	0.044	0.0	0.0	1.4	0.60	10.6	7.0
40.000	51.94	5.20	76.220	0.016	0.0	0.0	0.7	0.39	6.8	3.3
40.001	51.05	5.40	76.211	0.016	0.0	0.0	0.7	0.39	7.0	3.3
38.004	35.27	11.18	75.150	0.059	0.0	0.0	1.7	0.77	13.5	8.5
41.000	52.36	5.11	76.940	0.009	0.0	0.0	0.4	0.31	5.6	2.0
41.001	51.83	5.22	76.936	0.009	0.0	0.0	0.4	0.33	5.8	2.0
38.005	32.30	13.09	74.000	0.069	0.0	0.0	1.8	0.48	8.4«	9.0
42.000	52.00	5.19	76.800	0.031	0.0	0.0	1.3	0.31	5.6«	6.5
42.001	51.00	5.42	76.793	0.031	0.0	0.0	1.3	0.31	5.4«	6.5
38.006	29.09	15.69	73.750	0.100	0.0	0.0	2.4	0.43	7.6«	11.8
43.000	51.99	5.19	75.670	0.023	0.0	0.0	1.0	0.39	6.9	4.8
43.001	51.16	5.38	75.661	0.023	0.0	0.0	1.0	0.39	6.9	4.8
38.007	26.87	17.91	73.500	0.122	0.0	0.0	2.7	0.61	10.7«	13.3
44.000	51.53	5.29	74.830	0.015	0.0	0.0	0.6	0.39	6.9	3.2
44.001	50.39	5.56	74.816	0.015	0.0	0.0	0.6	0.39	7.0	3.2
38.008	24.95	20.21	72.825	0.138	0.0	0.0	2.8	0.60	23.7	14.0
45.000	46.47	6.60	74.391	0.063	0.0	0.0	2.4	0.57	22.5	11.9
46.000	47.50	6.31	74.711	0.064	0.0	0.0	2.5	0.68	26.9	12.3
47.000	47.78	6.23	75.080	0.017	0.0	0.0	0.7	0.74	13.1	3.4
47.001	45.77	6.81	74.440	0.017	0.0	0.0	0.7	0.33	12.9	3.4
46.001	45.29	6.96	74.426	0.081	0.0	0.0	3.0	1.32	52.6	15.0
45.001	42.02	8.06	74.186	0.264	0.0	0.0	9.0	0.77	85.4	45.1
45.002	39.24	9.16	74.003	0.264	0.0	0.0	9.0	0.77	85.4	45.1
45.003	36.39	10.54	73.820	0.323	0.0	0.0	9.6	0.62	68.7	47.8
48.000	47.96	6.18	74.549	0.122	0.0	0.0	4.7	0.70	28.0	23.7

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
48.001	36.642	0.212	172.6	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
48.002	8.627	0.028	306.7	0.062	0.00	0.0	5.500	o	300	Pipe/Conduit	
48.003	43.520	0.142	306.7	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
49.000	40.824	0.225	181.4	0.022	5.00	0.0	5.200	o	225	Pipe/Conduit	
49.001	60.824	0.335	181.6	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
49.002	52.494	0.160	328.1	0.011	0.00	0.0	5.200	o	225	Pipe/Conduit	
49.003	11.571	0.122	94.8	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
48.004	11.816	0.050	236.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
45.004	99.866	0.240	416.1	0.115	0.00	0.0	5.700	o	375	Pipe/Conduit	
45.005	101.023	0.240	420.9	0.114	0.00	0.0	5.700	o	375	Pipe/Conduit	
50.000	49.729	0.232	214.5	0.118	5.00	0.0	5.200	o	225	Pipe/Conduit	
50.001	50.032	0.248	201.7	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
50.002	50.344	0.240	209.8	0.119	0.00	0.0	0.600	o	300	Pipe/Conduit	
50.003	50.344	0.310	162.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
51.000	100.466	0.300	334.9	0.026	5.00	0.0	4.800	o	150	Pipe/Conduit	
51.001	100.750	0.590	170.8	0.028	0.00	0.0	4.800	o	150	Pipe/Conduit	
52.000	97.740	1.150	85.0	0.021	5.00	0.0	0.600	o	150	Pipe/Conduit	
51.002	10.811	0.025	432.4	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
50.004	13.766	0.040	344.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
45.006	101.000	0.190	531.6	0.138	0.00	0.0	0.600	o	450	Pipe/Conduit	
45.007	102.259	0.210	486.9	0.189	0.00	0.0	0.600	o	450	Pipe/Conduit	
53.000	50.684	0.244	207.3	0.140	5.00	0.0	0.600	o	225	Pipe/Conduit	
53.001	48.809	0.236	206.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
53.002	49.994	0.276	181.3	0.184	0.00	0.0	0.600	o	300	Pipe/Conduit	
53.003	47.903	0.264	181.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
54.000	49.115	0.276	178.0	0.009	5.00	0.0	0.600	o	150	Pipe/Conduit	
54.001	44.463	0.972	45.7	0.007	0.00	0.0	0.600	o	150	Pipe/Conduit	
54.002	22.132	0.107	206.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
53.004	22.474	0.105	214.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
48.001	44.98	7.05	74.259	0.122	0.0	0.0	4.7	0.70	28.0	23.7
48.002	44.27	7.28	74.020	0.183	0.0	0.0	6.6	0.64	45.0	33.0
48.003	41.06	8.42	73.992	0.183	0.0	0.0	6.6	0.64	45.0	33.0
49.000	48.68	5.99	74.740	0.022	0.0	0.0	0.9	0.69	27.3	4.3
49.001	43.69	7.47	74.515	0.022	0.0	0.0	0.9	0.69	27.3	4.3
49.002	39.18	9.19	74.180	0.032	0.0	0.0	1.0	0.51	20.3	5.1
49.003	38.79	9.35	73.960	0.032	0.0	0.0	1.0	1.15	81.1	5.1
48.004	38.19	9.62	73.850	0.215	0.0	0.0	6.7	0.73	51.3	33.4
45.004	32.19	13.17	73.700	0.654	0.0	0.0	17.1	0.63	69.9«	85.5
45.005	28.91	15.85	73.460	0.768	0.0	0.0	18.0	0.63	69.5«	90.2
50.000	47.48	6.31	74.370	0.118	0.0	0.0	4.6	0.63	25.1	22.8
50.001	43.32	7.60	74.138	0.118	0.0	0.0	4.6	0.65	25.9	22.8
50.002	41.18	8.37	73.815	0.237	0.0	0.0	7.9	1.08	76.5	39.7
50.003	39.49	9.05	73.575	0.237	0.0	0.0	7.9	1.23	87.0	39.7
51.000	38.80	9.35	74.320	0.026	0.0	0.0	0.8	0.39	6.8	4.1
51.001	33.21	12.46	74.030	0.054	0.0	0.0	1.4	0.54	9.5	7.2
52.000	46.85	6.49	74.590	0.021	0.0	0.0	0.8	1.09	19.3	4.0
51.002	32.72	12.79	73.290	0.074	0.0	0.0	2.0	0.54	37.9	9.9
50.004	32.33	13.07	73.265	0.312	0.0	0.0	8.2	0.84	59.5	40.9
45.006	27.00	17.77	73.075	1.218	0.0	0.0	26.7	0.87	139.1	133.5
45.007	25.40	19.63	72.885	1.406	0.0	0.0	29.0	0.91	145.5	145.1
53.000	48.90	5.93	74.030	0.140	0.0	0.0	5.6	0.90	36.0	27.9
53.001	45.69	6.83	73.786	0.140	0.0	0.0	5.6	0.91	36.0	27.9
53.002	43.46	7.55	73.550	0.324	0.0	0.0	11.4	1.16	82.3	57.2
53.003	41.54	8.23	73.274	0.324	0.0	0.0	11.4	1.16	82.3	57.2
54.000	48.30	6.09	74.515	0.009	0.0	0.0	0.3	0.75	13.3	1.7
54.001	46.52	6.59	74.239	0.016	0.0	0.0	0.6	1.49	26.4	3.0
54.002	44.77	7.12	73.267	0.016	0.0	0.0	0.6	0.69	12.3	3.0
53.004	40.63	8.58	73.010	0.340	0.0	0.0	11.4	1.07	75.7	57.2

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
45.008	8.026	0.075	107.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.009	29.684	0.100	296.8	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.010	12.000	0.040	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.011	30.000	0.105	285.7	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.012	6.500	0.025	260.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
18.017	10.152	0.020	507.6	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
45.008	25.35	19.70	72.675	1.746	0.0	0.0	36.0	1.96	312.5	179.8
38.009	24.64	20.63	72.600	1.884	0.0	0.0	37.7	1.17	186.8«	188.5
38.010	24.51	20.80	72.500	1.884	0.0	0.0	37.7	1.17	185.8«	188.5
38.011	24.21	21.22	72.460	1.884	0.0	0.0	37.7	1.20	190.5	188.5
38.012	24.15	21.31	72.355	1.884	0.0	0.0	37.7	1.26	199.8	188.5
18.017	23.66	22.02	72.180	7.180	9.3	0.0	140.3	1.07	303.7«	701.7

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
DUMMY 21	82.220	0.500	Junction		18.000	81.720	150				
DUMMY 22	82.220	0.504	Junction		18.001	81.716	150	18.000	81.716	150	
EX-NW3-37	82.220	1.350	Open Manhole	1050	18.002	80.870	150	18.001	81.713	150	843
DUMMY 23	80.030	0.500	Junction		19.000	79.530	150				
DUMMY 24	80.030	0.506	Junction		19.001	79.524	150	19.000	79.524	150	
EX-NW3-38	80.030	1.350	Open Manhole	1050	18.003	78.680	150	18.002	78.680	150	
								19.001	79.519	150	839
DUMMY 25	79.180	0.500	Junction		20.000	78.680	150				
DUMMY 26	79.180	1.032	Junction		20.001	78.148	150	20.000	78.673	150	525
EX-NW3-39	79.180	1.350	Open Manhole	1050	18.004	77.830	150	18.003	77.830	150	
								20.001	78.142	150	312
DUMMY 27	78.460	0.500	Junction		21.000	77.960	150				
DUMMY 28	78.460	0.507	Junction		21.001	77.953	150	21.000	77.953	150	
NW3-40	78.460	0.757	Open Manhole	1050	18.005	77.703	150	18.004	77.703	150	
								21.001	77.947	150	244
DUMMY 29	78.460	0.500	Junction		22.000	77.960	150				
DUMMY 30	78.460	0.506	Junction		22.001	77.954	150	22.000	77.954	150	
EX-NW3-41	78.460	1.000	Open Manhole	1050	18.006	77.460	300	18.005	77.610	150	
								22.001	77.948	150	338
DUMMY 31	79.740	0.500	Junction		23.000	79.240	150				
DUMMY 32	79.740	0.504	Junction		23.001	79.236	150	23.000	79.236	150	
EX-NW3-42	79.740	2.610	Open Manhole	1050	18.007	77.130	300	18.006	77.130	300	
								23.001	79.231	150	1951
DUMMY 33	78.900	0.500	Junction		24.000	78.400	150				
DUMMY 34	78.900	0.505	Junction		24.001	78.395	150	24.000	78.395	150	
EX-NW3-43	78.900	2.070	Open Manhole	1050	18.008	76.830	300	18.007	76.830	300	
								24.001	78.389	150	1409
DUMMY 35	77.340	0.500	Junction		25.000	76.840	150				
DUMMY 36	77.340	0.504	Junction		25.001	76.836	150	25.000	76.836	150	
EX-NW3-44	77.340	2.170	Open Manhole	1050	18.009	75.170	300	18.008	75.170	300	
								25.001	76.831	150	1511
DUMMY 37	76.220	0.500	Junction		26.000	75.720	150				
DUMMY 38	76.220	0.505	Junction		26.001	75.715	150	26.000	75.715	150	
NW3-45	76.220	1.199	Open Manhole	1050	18.010	75.021	300	18.009	75.021	300	
								26.001	75.708	150	537
DUMMY 39	76.220	0.500	Junction		27.000	75.720	150				
DUMMY 40	76.220	0.505	Junction		27.001	75.715	150	27.000	75.715	150	
NW3-46	76.220	1.330	Open Manhole	1050	18.011	74.890	300	18.010	74.890	300	
								27.001	75.708	150	668
NW3-47	76.480	1.865	Open Manhole	1050	18.012	74.615	375	18.011	74.690	300	
DUMMY 1	79.200	0.400	Junction		28.000	78.800	150				
DUMMY 2	79.200	0.405	Junction		28.001	78.795	150	28.000	78.795	150	
NW3-49	79.200	1.400	Open Manhole	1050	28.002	77.800	150	28.001	78.790	150	990
DUMMY 3	79.180	0.400	Junction		29.000	78.780	150				
DUMMY 4	79.180	0.405	Junction		29.001	78.775	150	29.000	78.775	150	
NW3-50	79.180	1.435	Open Manhole	1050	28.003	77.745	150	28.002	77.745	150	
								29.001	78.770	150	1025
DUMMY 5	79.150	0.400	Junction		30.000	78.750	150				
DUMMY 6	79.150	0.406	Junction		30.001	78.744	150	30.000	78.744	150	
NW3-51	79.150	1.467	Open Manhole	1050	28.004	77.683	150	28.003	77.683	150	
								30.001	78.737	150	1054
DUMMY 7	78.950	0.400	Junction		31.000	78.550	150				
DUMMY 8	78.950	0.407	Junction		31.001	78.543	150	31.000	78.543	150	
NW3-52	78.950	1.404	Open Manhole	1050	28.005	77.546	150	28.004	77.546	150	
								31.001	78.536	150	990
DUMMY 9	78.385	0.400	Junction		32.000	77.985	150				
DUMMY 10	78.385	0.408	Junction		32.001	77.977	150	32.000	77.977	150	
NW3-53	78.385	1.406	Open Manhole	1050	28.006	76.979	150	28.005	76.979	150	
								32.001	77.969	150	990
DUMMY 11	78.035	0.400	Junction		33.000	77.635	150				
DUMMY 12	78.035	0.406	Junction		33.001	77.629	150	33.000	77.629	150	
NW3-54	78.035	1.501	Open Manhole	1050	28.007	76.534	225	28.006	76.609	150	
								33.001	77.624	150	1015
DUMMY 13	77.490	0.400	Junction		34.000	77.090	150				
DUMMY 14	77.490	0.405	Junction		34.001	77.085	150	34.000	77.085	150	
NW3-55	77.490	1.607	Open Manhole	1050	28.008	75.883	225	28.007	75.883	225	
								34.001	77.080	150	1122

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
DUMMY 15	77.260	0.400	Junction		35.000	76.860	150				
DUMMY 16	77.260	0.404	Junction		35.001	76.856	150	35.000	76.856	150	
NW3-56	77.260	1.889	Open Manhole	1050	28.009	75.371	225	28.008	75.371	225	
								35.001	76.851	150	1405
DUMMY 17	77.270	0.400	Junction		36.000	76.870	150				
DUMMY 18	77.270	0.406	Junction		36.001	76.864	150	36.000	76.864	150	
NW3-57	77.270	2.210	Open Manhole	1050	28.010	75.060	225	28.009	75.060	225	
								36.001	76.857	150	1722
DUMMY 19	77.620	0.400	Junction		37.000	77.220	150				
DUMMY 20	77.620	0.404	Junction		37.001	77.216	150	37.000	77.216	150	
NW3-58	77.620	2.993	Open Manhole	1050	28.011	74.627	225	28.010	74.627	225	
								37.001	77.211	150	2509
NW3-59	77.270	3.566	Open Manhole	1050	28.012	73.704	225	28.011	73.704	225	
NW3-48	76.180	3.104	Open Manhole	1500	18.013	73.076	600	18.012	73.301	375	
								28.012	73.451	225	
NW3-9	74.800	2.300	Open Manhole	1500	18.014	72.500	600	18.013	72.500	600	
NW3-9a	74.856	2.486	Open Manhole	1500	18.015	72.370	600	18.014	72.370	600	
NW3-9b	73.687	1.457	Open Manhole	1500	18.016	72.230	600	18.015	72.230	600	
DUMMY 41	78.590	0.500	Junction		38.000	78.090	150				
DUMMY 42	78.590	0.516	Junction		38.001	78.074	150	38.000	78.074	150	
EX-NW3-1	78.590	1.350	Open Manhole	1050	38.002	77.240	150	38.001	78.058	150	818
DUMMY 43	76.940	0.500	Junction		39.000	76.440	150				
DUMMY 44	76.940	0.505	Junction		39.001	76.435	150	39.000	76.435	150	
EX-NW3-2	76.940	1.240	Open Manhole	1050	38.003	75.700	150	38.002	75.700	150	
								39.001	76.428	150	728
DUMMY 45	76.720	0.500	Junction		40.000	76.220	150				
DUMMY 46	76.720	0.509	Junction		40.001	76.211	150	40.000	76.211	150	
EX-NW3-3	76.720	1.570	Open Manhole	1050	38.004	75.150	150	38.003	75.150	150	
								40.001	76.201	150	1051
DUMMY 47	77.440	0.500	Junction		41.000	76.940	150				
DUMMY 48	77.440	0.504	Junction		41.001	76.936	150	41.000	76.936	150	
EX-NW3-4	77.440	3.440	Open Manhole	1050	38.005	74.000	150	38.004	74.000	150	
								41.001	76.931	150	2931
DUMMY 49	77.300	0.500	Junction		42.000	76.800	150				
DUMMY 50	77.300	0.507	Junction		42.001	76.793	150	42.000	76.793	150	
EX-NW3-5	77.300	3.550	Open Manhole	1050	38.006	73.750	150	38.005	73.750	150	
								42.001	76.785	150	3035
DUMMY 51	76.170	0.500	Junction		43.000	75.670	150				
DUMMY 52	76.170	0.509	Junction		43.001	75.661	150	43.000	75.661	150	
EX-NW3-6	76.170	2.670	Open Manhole	1050	38.007	73.500	150	38.006	73.500	150	
								43.001	75.652	150	2152
DUMMY 53	75.330	0.500	Junction		44.000	74.830	150				
DUMMY 54	75.330	0.514	Junction		44.001	74.816	150	44.000	74.816	150	
EX-NW3-7	75.330	2.505	Open Manhole	1050	38.008	72.825	225	38.007	72.900	150	
								44.001	74.803	150	1903
EX-NW3-10	76.250	1.859	Open Manhole	1050	45.000	74.391	225				
NW3-19	76.400	1.689	Open Manhole	1050	46.000	74.711	225				
EX-NW3-21	76.700	1.620	Open Manhole	1050	47.000	75.080	150				
EX-NW3-29	76.620	2.180	Open Manhole	1050	47.001	74.440	225	47.000	74.470	150	
NW3-20	76.320	1.894	Open Manhole	1050	46.001	74.426	225	46.000	74.426	225	
								47.001	74.426	225	
EX-NW3-11	76.200	2.014	Open Manhole	1050	45.001	74.186	375	45.000	74.186	225	
								46.001	74.186	225	
NW3-12	76.118	2.115	Open Manhole	1050	45.002	74.003	375	45.001	74.003	375	
EX-NW3-13	75.980	2.160	Open Manhole	1050	45.003	73.820	375	45.002	73.820	375	
NW3-22	76.320	1.771	Open Manhole	1050	48.000	74.549	225				
NW3-X1	76.219	1.960	Open Manhole	1050	48.001	74.259	225	48.000	74.259	225	
NW3-23	76.150	2.130	Open Manhole	1050	48.002	74.020	300	48.001	74.047	225	
NW3-X2	76.120	2.128	Open Manhole	1050	48.003	73.992	300	48.002	73.992	300	
EXCP68-DUMMY	76.620	1.880	Junction		49.000	74.740	225				
NW3-30	76.522	2.007	Open Manhole	1050	49.001	74.515	225	49.000	74.515	225	
EX-NW3-31	76.470	2.290	Open Manhole	1050	49.002	74.180	225	49.001	74.180	225	
EX-NW3-32	76.360	2.400	Open Manhole	1050	49.003	73.960	300	49.002	74.020	225	
NW3-24	76.080	2.242	Open Manhole	1050	48.004	73.850	300	48.003	73.850	300	
								49.003	73.838	300	
EX-NW3-14	75.830	2.130	Open Manhole	1050	45.004	73.700	375	45.003	73.700	375	
								48.004	73.800	300	25

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MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
EX-NW3-15	75.770	2.310	Open Manhole	1050	45.005	73.460	375	45.004	73.460	375	
EXCP62-DUMMY	76.080	1.710	Junction		50.000	74.370	225				
NW3-X3	75.966	1.828	Open Manhole	1050	50.001	74.138	225	50.000	74.138	225	
NW3-25	75.910	2.095	Open Manhole	1050	50.002	73.815	300	50.001	73.890	225	
NW3-X4	75.797	2.222	Open Manhole	1050	50.003	73.575	300	50.002	73.575	300	
EXCP70-DUMMY	76.360	2.040	Junction		51.000	74.320	150				
EX-NW3-33	76.130	2.110	Open Manhole	1050	51.001	74.030	150	51.000	74.020	150	
29-DUMMY	75.940	1.350	Junction		52.000	74.590	150				
NW3-34	75.960	2.670	Open Manhole	1050	51.002	73.290	300	51.001	73.440	150	
								52.000	73.440	150	
NW3-26	75.760	2.495	Open Manhole	1050	50.004	73.265	300	50.003	73.265	300	
								51.002	73.265	300	
NW3-16	75.780	2.705	Open Manhole	1050	45.006	73.075	450	45.005	73.220	375	70
								50.004	73.225	300	
NW3-17	75.280	2.395	Open Manhole	1500	45.007	72.885	450	45.006	72.885	450	
EXCP64-DUMMY	75.760	1.730	Junction		53.000	74.030	225				
NW3-X5	75.703	1.917	Open Manhole	1050	53.001	73.786	225	53.000	73.786	225	
NW3-27	75.580	2.030	Open Manhole	1050	53.002	73.550	300	53.001	73.550	225	
NW3-X6	75.489	2.215	Open Manhole	1050	53.003	73.274	300	53.002	73.274	300	
NW3-35	75.940	1.425	Open Manhole	1050	54.000	74.515	150				
NW3-35A	75.980	1.741	Open Manhole	1050	54.001	74.239	150	54.000	74.239	150	
NW3-36	76.130	2.863	Open Manhole	1050	54.002	73.267	150	54.001	73.267	150	
NW3-28	75.420	2.410	Open Manhole	1050	53.004	73.010	300	53.003	73.010	300	
								54.002	73.160	150	
NW3-18	75.050	2.375	Open Manhole	1500	45.008	72.675	450	45.007	72.675	450	
								53.004	72.905	300	80
NW3-8	74.700	2.100	Open Manhole	1500	38.009	72.600	450	38.008	72.650	225	
								45.008	72.600	450	
NW3-8a	74.868	2.368	Open Manhole	1500	38.010	72.500	450	38.009	72.500	450	
NW3-8b Pond US	74.568	2.108	Junction		38.011	72.460	450	38.010	72.460	450	
NW3-8c Pond DS	73.694	1.339	Junction		38.012	72.355	450	38.011	72.355	450	
NW3-8d	73.538	1.358	Open Manhole	1500	18.017	72.180	600	18.016	72.180	600	
								38.012	72.330	450	
EX-NW3-Outfall	73.378	1.218	Open Manhole	0		OUTFALL		18.017	72.160	600	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
DUMMY 21	439032.522	280684.639			No Entry	
DUMMY 22	439030.638	280684.287			No Entry	
EX-NW3-37	439029.020	280683.660	439029.020	280683.660	Required	
DUMMY 23	439024.627	280675.401			No Entry	
DUMMY 24	439021.542	280675.021			No Entry	
EX-NW3-38	439019.307	280674.214	439019.307	280674.214	Required	
DUMMY 25	439021.498	280663.454			No Entry	
DUMMY 26	439017.859	280662.859			No Entry	
EX-NW3-39	439014.996	280661.878	439014.996	280661.878	Required	
DUMMY 27	439000.207	280603.537			No Entry	
DUMMY 28	438996.759	280602.425			No Entry	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW3-40	438994.122	280601.079	438994.122	280601.079	Required	
DUMMY 29	438983.069	280560.561			No Entry	
DUMMY 30	438980.785	280558.729			No Entry	
EX-NW3-41	438978.799	280556.447	438978.799	280556.447	Required	
DUMMY 31	438956.496	280462.625			No Entry	
DUMMY 32	438954.896	280461.587			No Entry	
EX-NW3-42	438952.873	280459.775	438952.873	280459.775	Required	
DUMMY 33	438932.060	280394.296			No Entry	
DUMMY 34	438929.852	280392.693			No Entry	
EX-NW3-43	438927.988	280390.508	438927.988	280390.508	Required	
DUMMY 35	438905.443	280321.906			No Entry	
DUMMY 36	438903.876	280320.885			No Entry	
EX-NW3-44	438902.077	280319.154	438902.077	280319.154	Required	
DUMMY 37	438891.957	280268.236			No Entry	
DUMMY 38	438889.537	280267.095			No Entry	
NW3-45	438886.513	280265.729	438886.513	280265.729	Required	
DUMMY 39	438877.249	280223.174			No Entry	
DUMMY 40	438875.029	280221.694			No Entry	
NW3-46	438872.880	280218.937	438872.880	280218.937	Required	
NW3-47	438864.381	280175.377	438864.381	280175.377	Required	
DUMMY 1	438872.681	279930.122			No Entry	
DUMMY 2	438870.639	279930.551			No Entry	
NW3-49	438867.937	279930.605	438867.937	279930.605	Required	
DUMMY 3	438873.211	279941.035			No Entry	
DUMMY 4	438870.813	279941.705			No Entry	
NW3-50	438868.296	279942.745	438868.296	279942.745	Required	
DUMMY 5	438873.432	279953.618			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
DUMMY 6	438870.437	279954.077			No Entry	
NW3-51	438867.324	279955.056	438867.324	279955.056	Required	
DUMMY 7	438869.234	279966.990			No Entry	
DUMMY 8	438865.649	279967.334			No Entry	
NW3-52	438862.243	279967.836	438862.243	279967.836	Required	
DUMMY 9	438860.692	279980.629			No Entry	
DUMMY 10	438856.475	279981.004			No Entry	
NW3-53	438852.445	279981.464	438852.445	279981.464	Required	
DUMMY 11	438852.085	279994.235			No Entry	
DUMMY 12	438849.299	279994.554			No Entry	
NW3-54	438846.914	279995.181	438846.914	279995.181	Required	
DUMMY 13	438843.242	280044.161			No Entry	
DUMMY 14	438841.157	280045.423			No Entry	
NW3-55	438838.868	280046.616	438838.868	280046.616	Required	
DUMMY 15	438843.738	280084.170			No Entry	
DUMMY 16	438842.121	280085.708			No Entry	
NW3-56	438840.153	280087.539	438840.153	280087.539	Required	
DUMMY 17	438848.673	280106.083			No Entry	
DUMMY 18	438847.386	280108.781			No Entry	
NW3-57	438845.649	280111.814	438845.649	280111.814	Required	
DUMMY 19	438859.723	280140.618			No Entry	
DUMMY 20	438858.459	280142.474			No Entry	
NW3-58	438857.051	280144.514	438857.051	280144.514	Required	
NW3-59	438863.441	280171.461	438863.441	280171.461	Required	
NW3-48	438856.336	280173.648	438856.336	280173.648	Required	
NW3-9	438805.029	280175.882	438805.029	280175.882	Required	
NW3-9a	438780.937	280146.963	438780.937	280146.963	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW3-9b	438739.950	280147.885	438739.950	280147.885	Required	
DUMMY 41	438959.776	280700.410			No Entry	
DUMMY 42	438965.353	280694.604			No Entry	
EX-NW3-1	438970.202	280688.189	438970.202	280688.189	Required	
DUMMY 43	438944.757	280620.827			No Entry	
DUMMY 44	438946.441	280619.219			No Entry	
EX-NW3-2	438948.510	280616.340	438948.510	280616.340	Required	
DUMMY 45	438921.260	280550.716			No Entry	
DUMMY 46	438924.085	280547.105			No Entry	
EX-NW3-3	438926.837	280543.082	438926.837	280543.082	Required	
DUMMY 47	438898.681	280452.379			No Entry	
DUMMY 48	438899.718	280450.670			No Entry	
EX-NW3-4	438901.142	280448.826	438901.142	280448.826	Required	
DUMMY 49	438876.877	280404.284			No Entry	
DUMMY 50	438878.866	280401.401			No Entry	
EX-NW3-5	438881.154	280397.851	438881.154	280397.851	Required	
DUMMY 51	438852.220	280342.446			No Entry	
DUMMY 52	438854.545	280338.692			No Entry	
EX-NW3-6	438857.276	280335.143	438857.276	280335.143	Required	
DUMMY 53	438823.166	280269.833			No Entry	
DUMMY 54	438827.102	280264.187			No Entry	
EX-NW3-7	438830.471	280258.810	438830.471	280258.810	Required	
EX-NW3-10	439007.784	280760.452	439007.784	280760.452	Required	
NW3-19	439019.522	280757.055	439019.522	280757.055	Required	
EX-NW3-21	439029.912	280754.057	439029.912	280754.057	Required	
EX-NW3-29	439013.806	280701.464	439013.806	280701.464	Required	
NW3-20	439003.660	280706.289	439003.660	280706.289	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EX-NW3-11	438992.105	280708.299	438992.105	280708.299	Required	
NW3-12	438976.971	280659.530	438976.971	280659.530	Required	
EX-NW3-13	438961.838	280610.762	438961.838	280610.762	Required	
NW3-22	438998.898	280690.307	438998.898	280690.307	Required	
NW3-X1	438984.145	280642.534	438984.145	280642.534	Required	
NW3-23	438973.333	280607.523	438973.333	280607.523	Required	
NW3-X2	438970.755	280599.290	438970.755	280599.290	Required	
EXCP68-DUMMY	439013.787	280701.402			No Entry	
NW3-30	439001.887	280662.350	439001.887	280662.350	Required	
EX-NW3-31	438984.158	280604.168	438984.158	280604.168	Required	
EX-NW3-32	438968.694	280554.003	438968.694	280554.003	Required	
NW3-24	438957.750	280557.758	438957.750	280557.758	Required	
EX-NW3-14	438946.477	280561.301	438946.477	280561.301	Required	
EX-NW3-15	438916.754	280465.960	438916.754	280465.960	Required	
EXCP62-DUMMY	438957.667	280557.496			No Entry	
NW3-X3	438942.727	280510.063	438942.727	280510.063	Required	
NW3-25	438927.696	280462.342	438927.696	280462.342	Required	
NW3-X4	438912.545	280414.332	438912.545	280414.332	Required	
EXCP70-DUMMY	438968.647	280553.852			No Entry	
EX-NW3-33	438938.359	280458.060	438938.359	280458.060	Required	
29-DUMMY	438882.362	280267.707			No Entry	
NW3-34	438907.383	280362.190	438907.383	280362.190	Required	
NW3-26	438897.394	280366.323	438897.394	280366.323	Required	
NW3-16	438884.221	280370.319	438884.221	280370.319	Required	
NW3-17	438851.170	280274.880	438851.170	280274.880	Required	
EXCP64-DUMMY	438897.350	280366.188			No Entry	
NW3-X5	438881.711	280317.977	438881.711	280317.977	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW3-27	438866.619	280271.560	438866.619	280271.560	Required	
NW3-X6	438851.167	280224.015	438851.167	280224.015	Required	
NW3-35	438882.076	280267.030	438882.076	280267.030	Required	
NW3-35A	438869.461	280219.563	438869.461	280219.563	Required	
NW3-36	438858.405	280176.496	438858.405	280176.496	Required	
NW3-28	438836.360	280178.457	438836.360	280178.457	Required	
NW3-18	438813.917	280179.648	438813.917	280179.648	Required	
NW3-8	438805.910	280180.190	438805.910	280180.190	Required	
NW3-8a	438785.722	280158.428	438785.722	280158.428	Required	
NW3-8b Pond US	438773.756	280157.528			No Entry	
NW3-8c Pond DS	438743.841	280155.278			No Entry	
NW3-8d	438737.341	280155.278	438737.341	280155.278	Required	
EX-NW3-Outfall	438733.962	280164.851			No Entry	

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
18.000	Classification	Overland	40	0.005	0.002	0.002
18.001	-	-	100	0.000	0.000	0.000
18.002	-	-	100	0.000	0.000	0.000
19.000	Classification	Overland	40	0.005	0.002	0.002
19.001	-	-	100	0.000	0.000	0.000
18.003	-	-	100	0.000	0.000	0.000
20.000	Classification	Overland	40	3.461	1.385	1.385
20.001	-	-	100	0.000	0.000	0.000
18.004	-	-	100	0.000	0.000	0.000
21.000	Classification	Overland	40	0.815	0.326	0.326
21.001	-	-	100	0.000	0.000	0.000
18.005	-	-	100	0.000	0.000	0.000
22.000	Classification	Overland	40	2.025	0.810	0.810
22.001	-	-	100	0.000	0.000	0.000
18.006	-	-	100	0.000	0.000	0.000
23.000	Classification	Overland	40	0.571	0.228	0.228
23.001	-	-	100	0.000	0.000	0.000
18.007	-	-	100	0.000	0.000	0.000
24.000	Classification	Overland	40	0.819	0.328	0.328
24.001	-	-	100	0.000	0.000	0.000
18.008	-	-	100	0.000	0.000	0.000
25.000	Classification	Overland	40	1.924	0.769	0.769
25.001	-	-	100	0.000	0.000	0.000
18.009	-	-	100	0.000	0.000	0.000
26.000	Classification	Overland	40	3.194	1.278	1.278
26.001	-	-	100	0.000	0.000	0.000
18.010	-	-	100	0.000	0.000	0.000
27.000	Classification	Overland	40	0.423	0.169	0.169
27.001	-	-	100	0.000	0.000	0.000
18.011	-	-	100	0.000	0.000	0.000
18.012	-	-	100	0.000	0.000	0.000
28.000	Classification	Overland	40	0.020	0.008	0.008
28.001	-	-	100	0.000	0.000	0.000
28.002	-	-	100	0.000	0.000	0.000
29.000	Classification	Overland	40	0.082	0.033	0.033
29.001	-	-	100	0.000	0.000	0.000
28.003	-	-	100	0.000	0.000	0.000
30.000	Classification	Overland	40	0.276	0.111	0.111
30.001	-	-	100	0.000	0.000	0.000
28.004	-	-	100	0.000	0.000	0.000
31.000	Classification	Overland	40	0.100	0.040	0.040
31.001	-	-	100	0.000	0.000	0.000
28.005	-	-	100	0.000	0.000	0.000
32.000	Classification	Overland	40	0.084	0.033	0.033
32.001	-	-	100	0.000	0.000	0.000
28.006	-	-	100	0.000	0.000	0.000
33.000	Classification	Overland	40	0.573	0.229	0.229
33.001	-	-	100	0.000	0.000	0.000
28.007	-	-	100	0.000	0.000	0.000
34.000	Classification	Overland	40	0.460	0.184	0.184
34.001	-	-	100	0.000	0.000	0.000
28.008	-	-	100	0.000	0.000	0.000
35.000	Classification	Overland	40	0.359	0.143	0.143
35.001	-	-	100	0.000	0.000	0.000
28.009	-	-	100	0.000	0.000	0.000
36.000	Classification	Overland	40	0.401	0.160	0.160
36.001	-	-	100	0.000	0.000	0.000
28.010	-	-	100	0.000	0.000	0.000
37.000	Classification	Overland	40	0.157	0.063	0.063
37.001	-	-	100	0.000	0.000	0.000
28.011	-	-	100	0.000	0.000	0.000
28.012	-	-	100	0.000	0.000	0.000
18.013	-	-	100	0.000	0.000	0.000
18.014	-	-	100	0.000	0.000	0.000
18.015	-	-	100	0.000	0.000	0.000
18.016	-	-	100	0.000	0.000	0.000
38.000	Classification	Overland	40	0.058	0.023	0.023
38.001	-	-	100	0.000	0.000	0.000
38.002	-	-	100	0.000	0.000	0.000
39.000	Classification	Overland	40	0.051	0.020	0.020
39.001	-	-	100	0.000	0.000	0.000
38.003	-	-	100	0.000	0.000	0.000
40.000	Classification	Overland	40	0.039	0.016	0.016
40.001	-	-	100	0.000	0.000	0.000
38.004	-	-	100	0.000	0.000	0.000
41.000	Classification	Overland	40	0.023	0.009	0.009
41.001	-	-	100	0.000	0.000	0.000
38.005	-	-	100	0.000	0.000	0.000
42.000	Classification	Overland	40	0.077	0.031	0.031
42.001	-	-	100	0.000	0.000	0.000
38.006	-	-	100	0.000	0.000	0.000
43.000	Classification	Overland	40	0.057	0.023	0.023
43.001	-	-	100	0.000	0.000	0.000
38.007	-	-	100	0.000	0.000	0.000
44.000	Classification	Overland	40	0.039	0.015	0.015
44.001	-	-	100	0.000	0.000	0.000
38.008	-	-	100	0.000	0.000	0.000
45.000	Classification	Paved	100	0.049	0.049	0.049

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
	Classification	Verge	50	0.010	0.005	0.054
	Classification	EW (Cut)	20	0.043	0.009	0.063
46.000	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.050	0.050	0.064
47.000	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.068	0.014	0.017
47.001	-	-	100	0.000	0.000	0.000
46.001	-	-	100	0.000	0.000	0.000
45.001	Classification	EW (Cut)	20	0.065	0.013	0.013
	Classification	Verge	50	0.028	0.014	0.027
	Classification	Paved	100	0.093	0.093	0.120
45.002	-	-	100	0.000	0.000	0.000
45.003	Classification	Paved	100	0.047	0.047	0.047
	Classification	Verge	50	0.009	0.005	0.052
	Classification	EW (Cut)	20	0.034	0.007	0.059
48.000	Classification	Paved	100	0.095	0.095	0.095
	Classification	Paved	100	0.027	0.027	0.122
48.001	-	-	100	0.000	0.000	0.000
48.002	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.048	0.048	0.062
48.003	-	-	100	0.000	0.000	0.000
49.000	Classification	EW (Cut)	20	0.067	0.013	0.013
	Classification	Verge	50	0.016	0.008	0.022
49.001	-	-	100	0.000	0.000	0.000
49.002	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.033	0.007	0.011
49.003	-	-	100	0.000	0.000	0.000
48.004	-	-	100	0.000	0.000	0.000
45.004	Classification	EW (Cut)	20	0.066	0.013	0.013
	Classification	Verge	50	0.020	0.010	0.023
	Classification	Paved	100	0.092	0.092	0.115
45.005	Classification	Paved	100	0.092	0.092	0.092
	Classification	Verge	50	0.024	0.012	0.104
	Classification	EW (Cut)	20	0.048	0.010	0.114
50.000	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.092	0.092	0.118
50.001	-	-	100	0.000	0.000	0.000
50.002	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.093	0.093	0.119
50.003	-	-	100	0.000	0.000	0.000
51.000	Classification	Verge	50	0.015	0.008	0.008
	Classification	EW (Cut)	20	0.093	0.019	0.026
51.001	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.098	0.020	0.028
52.000	Classification	Verge	50	0.025	0.012	0.012
	Classification	EW (Cut)	20	0.043	0.009	0.021
51.002	-	-	100	0.000	0.000	0.000
50.004	-	-	100	0.000	0.000	0.000
45.006	Classification	EW (Cut)	20	0.032	0.006	0.006
	Classification	Verge	50	0.028	0.014	0.021
	Classification	Paved	100	0.117	0.117	0.138
45.007	Classification	Paved	100	0.167	0.167	0.167
	Classification	Verge	50	0.026	0.013	0.179
	Classification	EW (Cut)	20	0.046	0.009	0.189
53.000	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.115	0.115	0.140
53.001	-	-	100	0.000	0.000	0.000
53.002	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.159	0.159	0.184
53.003	-	-	100	0.000	0.000	0.000
54.000	Classification	Verge	50	0.012	0.006	0.006
	Classification	EW (Cut)	20	0.012	0.002	0.009
54.001	Classification	Verge	50	0.011	0.006	0.006
	Classification	EW (Cut)	20	0.009	0.002	0.007
54.002	-	-	100	0.000	0.000	0.000
53.004	-	-	100	0.000	0.000	0.000
45.008	-	-	100	0.000	0.000	0.000
38.009	-	-	100	0.000	0.000	0.000
38.010	-	-	100	0.000	0.000	0.000
38.011	-	-	100	0.000	0.000	0.000
38.012	-	-	100	0.000	0.000	0.000
18.017	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				18.575	8.184	8.184

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
18.017	EX-NW3-Outfall	73.378	72.160	0.000	0	0

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Online Controls for Storm

Depth/Flow Relationship Manhole: DUMMY 22, DS/PN: 18.001, Volume (m³): 0.0

Invert Level (m) 81.716

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: DUMMY 24, DS/PN: 19.001, Volume (m³): 0.1

Invert Level (m) 79.524

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.600	0.0000	1.100	0.0000	1.600	0.0000	2.100	0.0000	2.600	0.0000
0.200	0.0000	0.700	0.0000	1.200	0.0000	1.700	0.0000	2.200	0.0000	2.700	0.0000
0.300	0.0000	0.800	0.0000	1.300	0.0000	1.800	0.0000	2.300	0.0000	2.800	0.0000
0.400	0.0000	0.900	0.0000	1.400	0.0000	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.500	0.0000	1.000	0.0000	1.500	0.0000	2.000	0.0000	2.500	0.0000	3.000	0.0000

Depth/Flow Relationship Manhole: DUMMY 26, DS/PN: 20.001, Volume (m³): 0.1

Invert Level (m) 78.148

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	22.5000	0.600	22.5000	1.100	22.5000	1.600	22.5000	2.100	22.5000	2.600	22.5000
0.200	22.5000	0.700	22.5000	1.200	22.5000	1.700	22.5000	2.200	22.5000	2.700	22.5000
0.300	22.5000	0.800	22.5000	1.300	22.5000	1.800	22.5000	2.300	22.5000	2.800	22.5000
0.400	22.5000	0.900	22.5000	1.400	22.5000	1.900	22.5000	2.400	22.5000	2.900	22.5000
0.500	22.5000	1.000	22.5000	1.500	22.5000	2.000	22.5000	2.500	22.5000	3.000	22.5000

Depth/Flow Relationship Manhole: DUMMY 28, DS/PN: 21.001, Volume (m³): 0.1

Invert Level (m) 77.953

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.3000	0.600	5.3000	1.100	5.3000	1.600	5.3000	2.100	5.3000	2.600	5.3000
0.200	5.3000	0.700	5.3000	1.200	5.3000	1.700	5.3000	2.200	5.3000	2.700	5.3000
0.300	5.3000	0.800	5.3000	1.300	5.3000	1.800	5.3000	2.300	5.3000	2.800	5.3000
0.400	5.3000	0.900	5.3000	1.400	5.3000	1.900	5.3000	2.400	5.3000	2.900	5.3000
0.500	5.3000	1.000	5.3000	1.500	5.3000	2.000	5.3000	2.500	5.3000	3.000	5.3000

Depth/Flow Relationship Manhole: DUMMY 30, DS/PN: 22.001, Volume (m³): 0.1

Invert Level (m) 77.954

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	13.1000	0.600	13.1000	1.100	13.1000	1.600	13.1000	2.100	13.1000	2.600	13.1000
0.200	13.1000	0.700	13.1000	1.200	13.1000	1.700	13.1000	2.200	13.1000	2.700	13.1000
0.300	13.1000	0.800	13.1000	1.300	13.1000	1.800	13.1000	2.300	13.1000	2.800	13.1000
0.400	13.1000	0.900	13.1000	1.400	13.1000	1.900	13.1000	2.400	13.1000	2.900	13.1000
0.500	13.1000	1.000	13.1000	1.500	13.1000	2.000	13.1000	2.500	13.1000	3.000	13.1000

Depth/Flow Relationship Manhole: DUMMY 32, DS/PN: 23.001, Volume (m³): 0.0

Invert Level (m) 79.236

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.7000	0.600	3.7000	1.100	3.7000	1.600	3.7000	2.100	3.7000	2.600	3.7000
0.200	3.7000	0.700	3.7000	1.200	3.7000	1.700	3.7000	2.200	3.7000	2.700	3.7000
0.300	3.7000	0.800	3.7000	1.300	3.7000	1.800	3.7000	2.300	3.7000	2.800	3.7000
0.400	3.7000	0.900	3.7000	1.400	3.7000	1.900	3.7000	2.400	3.7000	2.900	3.7000
0.500	3.7000	1.000	3.7000	1.500	3.7000	2.000	3.7000	2.500	3.7000	3.000	3.7000

Depth/Flow Relationship Manhole: DUMMY 34, DS/PN: 24.001, Volume (m³): 0.0

Invert Level (m) 78.395

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.3000	0.600	5.3000	1.100	5.3000	1.600	5.3000	2.100	5.3000	2.600	5.3000
0.200	5.3000	0.700	5.3000	1.200	5.3000	1.700	5.3000	2.200	5.3000	2.700	5.3000
0.300	5.3000	0.800	5.3000	1.300	5.3000	1.800	5.3000	2.300	5.3000	2.800	5.3000
0.400	5.3000	0.900	5.3000	1.400	5.3000	1.900	5.3000	2.400	5.3000	2.900	5.3000
0.500	5.3000	1.000	5.3000	1.500	5.3000	2.000	5.3000	2.500	5.3000	3.000	5.3000

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Depth/Flow Relationship Manhole: DUMMY 36, DS/PN: 25.001, Volume (m³): 0.0

Invert Level (m) 76.836

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	12.5000	0.600	12.5000	1.100	12.5000	1.600	12.5000	2.100	12.5000	2.600	12.5000
0.200	12.5000	0.700	12.5000	1.200	12.5000	1.700	12.5000	2.200	12.5000	2.700	12.5000
0.300	12.5000	0.800	12.5000	1.300	12.5000	1.800	12.5000	2.300	12.5000	2.800	12.5000
0.400	12.5000	0.900	12.5000	1.400	12.5000	1.900	12.5000	2.400	12.5000	2.900	12.5000
0.500	12.5000	1.000	12.5000	1.500	12.5000	2.000	12.5000	2.500	12.5000	3.000	12.5000

Depth/Flow Relationship Manhole: DUMMY 38, DS/PN: 26.001, Volume (m³): 0.0

Invert Level (m) 75.715

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	20.7000	0.600	20.7000	1.100	20.7000	1.600	20.7000	2.100	20.7000	2.600	20.7000
0.200	20.7000	0.700	20.7000	1.200	20.7000	1.700	20.7000	2.200	20.7000	2.700	20.7000
0.300	20.7000	0.800	20.7000	1.300	20.7000	1.800	20.7000	2.300	20.7000	2.800	20.7000
0.400	20.7000	0.900	20.7000	1.400	20.7000	1.900	20.7000	2.400	20.7000	2.900	20.7000
0.500	20.7000	1.000	20.7000	1.500	20.7000	2.000	20.7000	2.500	20.7000	3.000	20.7000

Depth/Flow Relationship Manhole: DUMMY 40, DS/PN: 27.001, Volume (m³): 0.0

Invert Level (m) 75.715

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.7000	0.600	2.7000	1.100	2.7000	1.600	2.7000	2.100	2.7000	2.600	2.7000
0.200	2.7000	0.700	2.7000	1.200	2.7000	1.700	2.7000	2.200	2.7000	2.700	2.7000
0.300	2.7000	0.800	2.7000	1.300	2.7000	1.800	2.7000	2.300	2.7000	2.800	2.7000
0.400	2.7000	0.900	2.7000	1.400	2.7000	1.900	2.7000	2.400	2.7000	2.900	2.7000
0.500	2.7000	1.000	2.7000	1.500	2.7000	2.000	2.7000	2.500	2.7000	3.000	2.7000

Depth/Flow Relationship Manhole: DUMMY 2, DS/PN: 28.001, Volume (m³): 0.0

Invert Level (m) 78.795

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: DUMMY 4, DS/PN: 29.001, Volume (m³): 0.0

Invert Level (m) 78.775

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.5000	0.600	0.5000	1.100	0.5000	1.600	0.5000	2.100	0.5000	2.600	0.5000
0.200	0.5000	0.700	0.5000	1.200	0.5000	1.700	0.5000	2.200	0.5000	2.700	0.5000
0.300	0.5000	0.800	0.5000	1.300	0.5000	1.800	0.5000	2.300	0.5000	2.800	0.5000
0.400	0.5000	0.900	0.5000	1.400	0.5000	1.900	0.5000	2.400	0.5000	2.900	0.5000
0.500	0.5000	1.000	0.5000	1.500	0.5000	2.000	0.5000	2.500	0.5000	3.000	0.5000

Depth/Flow Relationship Manhole: DUMMY 6, DS/PN: 30.001, Volume (m³): 0.1

Invert Level (m) 78.744

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.8000	0.600	1.8000	1.100	1.8000	1.600	1.8000	2.100	1.8000	2.600	1.8000
0.200	1.8000	0.700	1.8000	1.200	1.8000	1.700	1.8000	2.200	1.8000	2.700	1.8000
0.300	1.8000	0.800	1.8000	1.300	1.8000	1.800	1.8000	2.300	1.8000	2.800	1.8000
0.400	1.8000	0.900	1.8000	1.400	1.8000	1.900	1.8000	2.400	1.8000	2.900	1.8000
0.500	1.8000	1.000	1.8000	1.500	1.8000	2.000	1.8000	2.500	1.8000	3.000	1.8000

Depth/Flow Relationship Manhole: DUMMY 8, DS/PN: 31.001, Volume (m³): 0.1

Invert Level (m) 78.543

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.6000	0.600	0.6000	1.100	0.6000	1.600	0.6000	2.100	0.6000	2.600	0.6000
0.200	0.6000	0.700	0.6000	1.200	0.6000	1.700	0.6000	2.200	0.6000	2.700	0.6000
0.300	0.6000	0.800	0.6000	1.300	0.6000	1.800	0.6000	2.300	0.6000	2.800	0.6000
0.400	0.6000	0.900	0.6000	1.400	0.6000	1.900	0.6000	2.400	0.6000	2.900	0.6000
0.500	0.6000	1.000	0.6000	1.500	0.6000	2.000	0.6000	2.500	0.6000	3.000	0.6000

Depth/Flow Relationship Manhole: DUMMY 10, DS/PN: 32.001, Volume (m³): 0.1

Invert Level (m) 77.977

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Depth/Flow Relationship Manhole: DUMMY 10, DS/PN: 32.001, Volume (m³): 0.1

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.5000	0.600	0.5000	1.100	0.5000	1.600	0.5000	2.100	0.5000	2.600	0.5000
0.200	0.5000	0.700	0.5000	1.200	0.5000	1.700	0.5000	2.200	0.5000	2.700	0.5000
0.300	0.5000	0.800	0.5000	1.300	0.5000	1.800	0.5000	2.300	0.5000	2.800	0.5000
0.400	0.5000	0.900	0.5000	1.400	0.5000	1.900	0.5000	2.400	0.5000	2.900	0.5000
0.500	0.5000	1.000	0.5000	1.500	0.5000	2.000	0.5000	2.500	0.5000	3.000	0.5000

Depth/Flow Relationship Manhole: DUMMY 12, DS/PN: 33.001, Volume (m³): 0.0

Invert Level (m) 77.629

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.7000	0.600	3.7000	1.100	3.7000	1.600	3.7000	2.100	3.7000	2.600	3.7000
0.200	3.7000	0.700	3.7000	1.200	3.7000	1.700	3.7000	2.200	3.7000	2.700	3.7000
0.300	3.7000	0.800	3.7000	1.300	3.7000	1.800	3.7000	2.300	3.7000	2.800	3.7000
0.400	3.7000	0.900	3.7000	1.400	3.7000	1.900	3.7000	2.400	3.7000	2.900	3.7000
0.500	3.7000	1.000	3.7000	1.500	3.7000	2.000	3.7000	2.500	3.7000	3.000	3.7000

Depth/Flow Relationship Manhole: DUMMY 14, DS/PN: 34.001, Volume (m³): 0.0

Invert Level (m) 77.085

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.0000	0.600	3.0000	1.100	3.0000	1.600	3.0000	2.100	3.0000	2.600	3.0000
0.200	3.0000	0.700	3.0000	1.200	3.0000	1.700	3.0000	2.200	3.0000	2.700	3.0000
0.300	3.0000	0.800	3.0000	1.300	3.0000	1.800	3.0000	2.300	3.0000	2.800	3.0000
0.400	3.0000	0.900	3.0000	1.400	3.0000	1.900	3.0000	2.400	3.0000	2.900	3.0000
0.500	3.0000	1.000	3.0000	1.500	3.0000	2.000	3.0000	2.500	3.0000	3.000	3.0000

Depth/Flow Relationship Manhole: DUMMY 16, DS/PN: 35.001, Volume (m³): 0.0

Invert Level (m) 76.856

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.3000	0.600	2.3000	1.100	2.3000	1.600	2.3000	2.100	2.3000	2.600	2.3000
0.200	2.3000	0.700	2.3000	1.200	2.3000	1.700	2.3000	2.200	2.3000	2.700	2.3000
0.300	2.3000	0.800	2.3000	1.300	2.3000	1.800	2.3000	2.300	2.3000	2.800	2.3000
0.400	2.3000	0.900	2.3000	1.400	2.3000	1.900	2.3000	2.400	2.3000	2.900	2.3000
0.500	2.3000	1.000	2.3000	1.500	2.3000	2.000	2.3000	2.500	2.3000	3.000	2.3000

Depth/Flow Relationship Manhole: DUMMY 18, DS/PN: 36.001, Volume (m³): 0.1

Invert Level (m) 76.864

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.6000	0.600	2.6000	1.100	2.6000	1.600	2.6000	2.100	2.6000	2.600	2.6000
0.200	2.6000	0.700	2.6000	1.200	2.6000	1.700	2.6000	2.200	2.6000	2.700	2.6000
0.300	2.6000	0.800	2.6000	1.300	2.6000	1.800	2.6000	2.300	2.6000	2.800	2.6000
0.400	2.6000	0.900	2.6000	1.400	2.6000	1.900	2.6000	2.400	2.6000	2.900	2.6000
0.500	2.6000	1.000	2.6000	1.500	2.6000	2.000	2.6000	2.500	2.6000	3.000	2.6000

Depth/Flow Relationship Manhole: DUMMY 20, DS/PN: 37.001, Volume (m³): 0.0

Invert Level (m) 77.216

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.0000	0.600	1.0000	1.100	1.0000	1.600	1.0000	2.100	1.0000	2.600	1.0000
0.200	1.0000	0.700	1.0000	1.200	1.0000	1.700	1.0000	2.200	1.0000	2.700	1.0000
0.300	1.0000	0.800	1.0000	1.300	1.0000	1.800	1.0000	2.300	1.0000	2.800	1.0000
0.400	1.0000	0.900	1.0000	1.400	1.0000	1.900	1.0000	2.400	1.0000	2.900	1.0000
0.500	1.0000	1.000	1.0000	1.500	1.0000	2.000	1.0000	2.500	1.0000	3.000	1.0000

Depth/Flow Relationship Manhole: DUMMY 42, DS/PN: 38.001, Volume (m³): 0.1

Invert Level (m) 78.074

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.4000	0.600	0.4000	1.100	0.4000	1.600	0.4000	2.100	0.4000	2.600	0.4000
0.200	0.4000	0.700	0.4000	1.200	0.4000	1.700	0.4000	2.200	0.4000	2.700	0.4000
0.300	0.4000	0.800	0.4000	1.300	0.4000	1.800	0.4000	2.300	0.4000	2.800	0.4000
0.400	0.4000	0.900	0.4000	1.400	0.4000	1.900	0.4000	2.400	0.4000	2.900	0.4000
0.500	0.4000	1.000	0.4000	1.500	0.4000	2.000	0.4000	2.500	0.4000	3.000	0.4000

Depth/Flow Relationship Manhole: DUMMY 44, DS/PN: 39.001, Volume (m³): 0.0

Invert Level (m) 76.435

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.300	0.3000	0.500	0.3000	0.700	0.3000	0.900	0.3000	1.100	0.3000
0.200	0.3000	0.400	0.3000	0.600	0.3000	0.800	0.3000	1.000	0.3000	1.200	0.3000

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Depth/Flow Relationship Manhole: DUMMY 44, DS/PN: 39.001, Volume (m³): 0.0

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
1.300	0.3000	1.600	0.3000	1.900	0.3000	2.200	0.3000	2.500	0.3000	2.800	0.3000
1.400	0.3000	1.700	0.3000	2.000	0.3000	2.300	0.3000	2.600	0.3000	2.900	0.3000
1.500	0.3000	1.800	0.3000	2.100	0.3000	2.400	0.3000	2.700	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: DUMMY 46, DS/PN: 40.001, Volume (m³): 0.1

Invert Level (m) 76.211

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: DUMMY 48, DS/PN: 41.001, Volume (m³): 0.0

Invert Level (m) 76.936

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: DUMMY 50, DS/PN: 42.001, Volume (m³): 0.1

Invert Level (m) 76.793

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.5000	0.600	0.5000	1.100	0.5000	1.600	0.5000	2.100	0.5000	2.600	0.5000
0.200	0.5000	0.700	0.5000	1.200	0.5000	1.700	0.5000	2.200	0.5000	2.700	0.5000
0.300	0.5000	0.800	0.5000	1.300	0.5000	1.800	0.5000	2.300	0.5000	2.800	0.5000
0.400	0.5000	0.900	0.5000	1.400	0.5000	1.900	0.5000	2.400	0.5000	2.900	0.5000
0.500	0.5000	1.000	0.5000	1.500	0.5000	2.000	0.5000	2.500	0.5000	3.000	0.5000

Depth/Flow Relationship Manhole: DUMMY 52, DS/PN: 43.001, Volume (m³): 0.1

Invert Level (m) 75.661

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.4000	0.600	0.4000	1.100	0.4000	1.600	0.4000	2.100	0.4000	2.600	0.4000
0.200	0.4000	0.700	0.4000	1.200	0.4000	1.700	0.4000	2.200	0.4000	2.700	0.4000
0.300	0.4000	0.800	0.4000	1.300	0.4000	1.800	0.4000	2.300	0.4000	2.800	0.4000
0.400	0.4000	0.900	0.4000	1.400	0.4000	1.900	0.4000	2.400	0.4000	2.900	0.4000
0.500	0.4000	1.000	0.4000	1.500	0.4000	2.000	0.4000	2.500	0.4000	3.000	0.4000

Depth/Flow Relationship Manhole: DUMMY 54, DS/PN: 44.001, Volume (m³): 0.1

Invert Level (m) 74.816

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

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Storage Structures for Storm

Tank or Pond Manhole: NW3-8c Pond DS, DS/PN: 38.012

Invert Level (m) 72.355

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	90.0	0.958	212.6	1.258	261.7

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 27 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.233
FEH Rainfall Version	1999	E (1km)	0.299
Site Location	GB 438400 279200 SP 38400 79200	F (1km)	2.381
C (1km)	-0.025	Cv (Summer)	0.900
D1 (1km)	0.382	Cv (Winter)	0.900
D2 (1km)	0.332		

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 5
Climate Change (%) 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
18.000	DUMMY 21	1440 Summer	5	+20%					81.870	0.000	0.000	0.00	
18.001	DUMMY 22	1440 Summer	5	+20%					81.866	0.000	0.000	0.00	
18.002	EX-NW3-37	15 Summer	5	+20%					80.870	-0.150	0.000	0.00	
19.000	DUMMY 23	1440 Summer	5	+20%					79.680	0.000	0.000	0.00	
19.001	DUMMY 24	1440 Summer	5	+20%					79.674	0.000	0.000	0.00	
18.003	EX-NW3-38	480 Winter	5	+20%	5/15 Summer				79.323	0.493	0.000	0.01	
20.000	DUMMY 25	15 Summer	5	+20%					78.830	0.000	0.000	2.68	
20.001	DUMMY 26	15 Summer	5	+20%	5/15 Summer				78.823	0.525	0.000	2.07	
18.004	EX-NW3-39	480 Winter	5	+20%	5/15 Summer	5/15 Summer			79.323	1.343	143.254	2.52	
21.000	DUMMY 27	15 Summer	5	+20%					78.110	0.000	0.000	0.89	
21.001	DUMMY 28	15 Summer	5	+20%					78.103	0.000	0.000	0.49	
18.005	NW3-40	480 Winter	5	+20%	5/15 Summer	5/15 Summer			78.524	0.671	64.189	2.88	
22.000	DUMMY 29	15 Summer	5	+20%					78.110	0.000	0.000	1.63	
22.001	DUMMY 30	15 Summer	5	+20%					78.104	0.000	0.000	1.21	
18.006	EX-NW3-41	480 Winter	5	+20%					77.636	-0.124	0.000	0.64	
23.000	DUMMY 31	15 Summer	5	+20%					79.390	0.000	0.000	0.73	
23.001	DUMMY 32	15 Summer	5	+20%					79.386	0.000	0.000	0.34	
18.007	EX-NW3-42	600 Summer	5	+20%					77.308	-0.122	0.000	0.66	
24.000	DUMMY 33	15 Summer	5	+20%					78.550	0.000	0.000	0.89	
24.001	DUMMY 34	15 Summer	5	+20%					78.545	0.000	0.000	0.49	
18.008	EX-NW3-43	600 Summer	5	+20%					76.948	-0.182	0.000	0.33	
25.000	DUMMY 35	15 Summer	5	+20%					76.990	0.000	0.000	1.57	
25.001	DUMMY 36	15 Summer	5	+20%					76.986	0.000	0.000	1.15	
18.009	EX-NW3-44	600 Summer	5	+20%	5/15 Summer				76.046	0.576	0.000	1.27	
26.000	DUMMY 37	15 Summer	5	+20%					75.870	0.000	0.000	2.34	
26.001	DUMMY 38	15 Summer	5	+20%					75.865	0.000	0.000	1.91	
18.010	NW3-45	600 Summer	5	+20%	5/15 Summer				75.807	0.486	0.000	1.79	
27.000	DUMMY 39	15 Summer	5	+20%					75.870	0.000	0.000	0.61	
27.001	DUMMY 40	15 Summer	5	+20%					75.865	0.000	0.000	0.25	
18.011	NW3-46	720 Summer	5	+20%	5/15 Summer				75.388	0.198	0.000	1.44	
18.012	NW3-47	600 Summer	5	+20%					74.716	-0.274	0.000	0.16	
28.000	DUMMY 1	15 Summer	5	+20%					78.950	0.000	0.000	0.09	
28.001	DUMMY 2	15 Summer	5	+20%					78.945	0.000	0.000	0.01	
28.002	NW3-49	1440 Summer	5	+20%					77.807	-0.143	0.000	0.01	
29.000	DUMMY 3	15 Summer	5	+20%					78.930	0.000	0.000	0.23	
29.001	DUMMY 4	15 Summer	5	+20%					78.925	0.000	0.000	0.05	
28.003	NW3-50	960 Winter	5	+20%					77.768	-0.127	0.000	0.06	
30.000	DUMMY 5	15 Summer	5	+20%					78.900	0.000	0.000	0.44	
30.001	DUMMY 6	15 Summer	5	+20%					78.894	0.000	0.000	0.17	
28.004	NW3-51	180 Winter	5	+20%					77.724	-0.109	0.000	0.17	
31.000	DUMMY 7	15 Summer	5	+20%					78.700	0.000	0.000	0.26	
31.001	DUMMY 8	15 Summer	5	+20%					78.693	0.000	0.000	0.06	
28.005	NW3-52	180 Winter	5	+20%					77.579	-0.117	0.000	0.11	
32.000	DUMMY 9	15 Summer	5	+20%					78.135	0.000	0.000	0.24	
32.001	DUMMY 10	15 Summer	5	+20%					78.127	0.000	0.000	0.05	
28.006	NW3-53	180 Winter	5	+20%					77.018	-0.111	0.000	0.15	
33.000	DUMMY 11	15 Summer	5	+20%					77.785	0.000	0.000	0.66	
33.001	DUMMY 12	15 Summer	5	+20%					77.779	0.000	0.000	0.34	
28.007	NW3-54	1440 Summer	5	+20%					76.591	-0.168	0.000	0.14	
34.000	DUMMY 13	15 Summer	5	+20%					77.240	0.000	0.000	0.58	
34.001	DUMMY 14	15 Summer	5	+20%					77.235	0.000	0.000	0.28	
28.008	NW3-55	960 Winter	5	+20%					75.952	-0.156	0.000	0.21	
35.000	DUMMY 15	15 Summer	5	+20%					77.010	0.000	0.000	0.50	
35.001	DUMMY 16	15 Summer	5	+20%					77.006	0.000	0.000	0.21	
28.009	NW3-56	480 Summer	5	+20%					75.449	-0.147	0.000	0.26	
36.000	DUMMY 17	15 Summer	5	+20%					77.020	0.000	0.000	0.54	
36.001	DUMMY 18	15 Summer	5	+20%					77.014	0.000	0.000	0.24	
28.010	NW3-57	480 Winter	5	+20%					75.146	-0.139	0.000	0.31	
37.000	DUMMY 19	15 Summer	5	+20%					77.370	0.000	0.000	0.33	
37.001	DUMMY 20	15 Summer	5	+20%					77.366	0.000	0.000	0.09	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
18.000	DUMMY 21		0.0	SURCHARGED*	
18.001	DUMMY 22		0.0	SURCHARGED*	
18.002	EX-NW3-37		0.0	OK	
19.000	DUMMY 23		0.0	SURCHARGED*	
19.001	DUMMY 24		0.0	SURCHARGED*	
18.003	EX-NW3-38		0.4	SURCHARGED	
20.000	DUMMY 25		29.1	SURCHARGED*	
20.001	DUMMY 26		22.5	SURCHARGED*	
18.004	EX-NW3-39		13.8	FLOOD	24
21.000	DUMMY 27		9.6	SURCHARGED*	
21.001	DUMMY 28		5.3	SURCHARGED*	
18.005	NW3-40		15.7	FLOOD	24
22.000	DUMMY 29		17.7	SURCHARGED*	
22.001	DUMMY 30		13.1	SURCHARGED*	
18.006	EX-NW3-41		28.7	OK	
23.000	DUMMY 31		7.9	SURCHARGED*	
23.001	DUMMY 32		3.7	SURCHARGED*	
18.007	EX-NW3-42		32.4	OK	
24.000	DUMMY 33		9.6	SURCHARGED*	
24.001	DUMMY 34		5.3	SURCHARGED*	
18.008	EX-NW3-43		37.7	OK	
25.000	DUMMY 35		17.1	SURCHARGED*	
25.001	DUMMY 36		12.5	SURCHARGED*	
18.009	EX-NW3-44		50.2	SURCHARGED	
26.000	DUMMY 37		25.4	SURCHARGED*	
26.001	DUMMY 38		20.7	SURCHARGED*	
18.010	NW3-45		70.9	SURCHARGED	
27.000	DUMMY 39		6.6	SURCHARGED*	
27.001	DUMMY 40		2.7	SURCHARGED*	
18.011	NW3-46		73.5	SURCHARGED	
18.012	NW3-47		73.5	OK	
28.000	DUMMY 1		1.0	FLOOD RISK*	
28.001	DUMMY 2		0.1	FLOOD RISK*	
28.002	NW3-49		0.1	OK	
29.000	DUMMY 3		2.5	FLOOD RISK*	
29.001	DUMMY 4		0.5	FLOOD RISK*	
28.003	NW3-50		0.6	OK	
30.000	DUMMY 5		4.8	FLOOD RISK*	
30.001	DUMMY 6		1.8	FLOOD RISK*	
28.004	NW3-51		2.4	OK	
31.000	DUMMY 7		2.8	FLOOD RISK*	
31.001	DUMMY 8		0.6	FLOOD RISK*	
28.005	NW3-52		3.0	OK	
32.000	DUMMY 9		2.5	FLOOD RISK*	
32.001	DUMMY 10		0.5	FLOOD RISK*	
28.006	NW3-53		3.5	OK	
33.000	DUMMY 11		7.1	FLOOD RISK*	
33.001	DUMMY 12		3.7	FLOOD RISK*	
28.007	NW3-54		6.9	OK	
34.000	DUMMY 13		6.3	FLOOD RISK*	
34.001	DUMMY 14		3.0	FLOOD RISK*	
28.008	NW3-55		10.2	OK	
35.000	DUMMY 15		5.5	FLOOD RISK*	
35.001	DUMMY 16		2.3	FLOOD RISK*	
28.009	NW3-56		12.5	OK	
36.000	DUMMY 17		5.8	FLOOD RISK*	
36.001	DUMMY 18		2.6	FLOOD RISK*	
28.010	NW3-57		15.1	OK	
37.000	DUMMY 19		3.6	FLOOD RISK*	
37.001	DUMMY 20		1.0	FLOOD RISK*	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
28.011	NW3-58	1440 Summer	5	+20%					74.696	-0.156	0.000	0.20
28.012	NW3-59	960 Summer	5	+20%					73.776	-0.153	0.000	0.23
18.013	NW3-48	600 Summer	5	+20%					73.248	-0.428	0.000	0.18
18.014	NW3-9	120 Winter	5	+20%					72.836	-0.264	0.000	0.27
18.015	NW3-9a	120 Winter	5	+20%					72.812	-0.158	0.000	0.29
18.016	NW3-9b	120 Winter	5	+20%					72.790	-0.040	0.000	0.35
38.000	DUMMY 41	15 Summer	5	+20%					78.240	0.000	0.000	0.34
38.001	DUMMY 42	15 Summer	5	+20%					78.224	0.000	0.000	0.06
38.002	EX-NW3-1	360 Winter	5	+20%					77.255	-0.135	0.000	0.02
39.000	DUMMY 43	15 Summer	5	+20%					76.590	0.000	0.000	0.18
39.001	DUMMY 44	15 Summer	5	+20%					76.585	0.000	0.000	0.03
38.003	EX-NW3-2	480 Summer	5	+20%					75.725	-0.125	0.000	0.07
40.000	DUMMY 45	15 Summer	5	+20%					76.370	0.000	0.000	0.18
40.001	DUMMY 46	15 Summer	5	+20%					76.361	0.000	0.000	0.03
38.004	EX-NW3-3	480 Winter	5	+20%					75.177	-0.123	0.000	0.07
41.000	DUMMY 47	15 Summer	5	+20%					77.090	0.000	0.000	0.10
41.001	DUMMY 48	15 Summer	5	+20%					77.086	0.000	0.000	0.01
38.005	EX-NW3-4	120 Summer	5	+20%					74.036	-0.114	0.000	0.13
42.000	DUMMY 49	15 Summer	5	+20%					76.950	0.000	0.000	0.28
42.001	DUMMY 50	15 Summer	5	+20%					76.943	0.000	0.000	0.06
38.006	EX-NW3-5	480 Winter	5	+20%					73.797	-0.103	0.000	0.21
43.000	DUMMY 51	15 Summer	5	+20%					75.820	0.000	0.000	0.21
43.001	DUMMY 52	15 Summer	5	+20%					75.811	0.000	0.000	0.04
38.007	EX-NW3-6	480 Winter	5	+20%					73.544	-0.106	0.000	0.19
44.000	DUMMY 53	15 Summer	5	+20%					74.980	0.000	0.000	0.24
44.001	DUMMY 54	15 Summer	5	+20%					74.966	0.000	0.000	0.04
38.008	EX-NW3-7	30 Summer	5	+20%	5/15 Summer				73.066	0.016	0.000	0.13
45.000	EX-NW3-10	15 Summer	5	+20%					74.536	-0.080	0.000	0.69
46.000	NW3-19	15 Summer	5	+20%					74.841	-0.095	0.000	0.59
47.000	EX-NW3-21	15 Summer	5	+20%					75.141	-0.089	0.000	0.33
47.001	EX-NW3-29	15 Summer	5	+20%					74.552	-0.113	0.000	0.41
46.001	NW3-20	15 Summer	5	+20%					74.526	-0.125	0.000	0.41
45.001	EX-NW3-11	15 Summer	5	+20%					74.423	-0.138	0.000	0.68
45.002	NW3-12	15 Summer	5	+20%					74.268	-0.110	0.000	0.61
45.003	EX-NW3-13	15 Summer	5	+20%	5/15 Summer				74.227	0.032	0.000	0.67
48.000	NW3-22	15 Summer	5	+20%	5/15 Summer				74.835	0.061	0.000	1.07
48.001	NW3-X1	15 Summer	5	+20%					74.478	-0.007	0.000	0.99
48.002	NW3-23	15 Summer	5	+20%					74.271	-0.049	0.000	0.97
48.003	NW3-X2	15 Summer	5	+20%					74.252	-0.040	0.000	0.82
49.000	EXCP68-DUMMY	15 Summer	5	+20%					74.809	-0.156	0.000	0.20
49.001	NW3-30	15 Summer	5	+20%					74.583	-0.157	0.000	0.18
49.002	EX-NW3-31	15 Summer	5	+20%					74.271	-0.134	0.000	0.34
49.003	EX-NW3-32	15 Summer	5	+20%					74.209	-0.051	0.000	0.10
48.004	NW3-24	15 Summer	5	+20%	5/15 Summer				74.204	0.054	0.000	0.67
45.004	EX-NW3-14	30 Summer	5	+20%	5/15 Summer				74.177	0.102	0.000	1.12
45.005	EX-NW3-15	30 Summer	5	+20%	5/15 Summer				73.896	0.061	0.000	1.13
50.000	EXCP62-DUMMY	15 Summer	5	+20%					74.595	0.000	0.000	1.13
50.001	NW3-X3	15 Summer	5	+20%					74.360	-0.003	0.000	0.99
50.002	NW3-25	15 Summer	5	+20%					73.993	-0.122	0.000	0.62
50.003	NW3-X4	15 Summer	5	+20%					73.734	-0.141	0.000	0.54
51.000	EXCP70-DUMMY	15 Summer	5	+20%					74.443	-0.027	0.000	0.84
51.001	EX-NW3-33	15 Summer	5	+20%	5/15 Summer				74.180	0.000	0.000	0.98
52.000	29-DUMMY	15 Summer	5	+20%					74.644	-0.096	0.000	0.27
51.002	NW3-34	15 Summer	5	+20%					73.577	-0.013	0.000	0.46
50.004	NW3-26	15 Winter	5	+20%	5/15 Winter				73.565	0.000	0.000	1.21
45.006	NW3-16	30 Summer	5	+20%					73.445	-0.080	0.000	0.94
45.007	NW3-17	30 Summer	5	+20%					73.286	-0.049	0.000	0.94
53.000	EXCP64-DUMMY	15 Summer	5	+20%					74.223	-0.032	0.000	0.97
53.001	NW3-X5	15 Summer	5	+20%					73.984	-0.027	0.000	0.95
53.002	NW3-27	15 Summer	5	+20%					73.768	-0.082	0.000	0.85
53.003	NW3-X6	15 Summer	5	+20%					73.486	-0.088	0.000	0.83
54.000	NW3-35	15 Summer	5	+20%					74.557	-0.108	0.000	0.16
54.001	NW3-35A	15 Summer	5	+20%					74.277	-0.112	0.000	0.14
54.002	NW3-36	15 Summer	5	+20%					73.324	-0.093	0.000	0.31
53.004	NW3-28	15 Summer	5	+20%					73.251	-0.059	0.000	1.00
45.008	NW3-18	30 Summer	5	+20%					73.107	-0.018	0.000	0.97
38.009	NW3-8	30 Summer	5	+20%	5/30 Summer				73.058	0.008	0.000	1.03
38.010	NW3-8a	15 Winter	5	+20%					72.950	0.000	0.000	1.12
38.011	NW3-8b Pond US	60 Summer	5	+20%					72.871	-0.039	0.000	0.88
38.012	NW3-8c Pond DS	60 Summer	5	+20%					72.799	-0.006	0.000	0.93
18.017	NW3-8d	240 Summer	5	+20%	5/240 Summer				72.788	0.008	0.000	1.41

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
28.011	NW3-58			15.4	OK	
28.012	NW3-59			16.1	OK	
18.013	NW3-48			89.6	OK	
18.014	NW3-9			91.9	OK	
18.015	NW3-9a			99.3	OK	
18.016	NW3-9b			110.4	OK	
38.000	DUMMY 41			2.2	SURCHARGED*	
38.001	DUMMY 42			0.4	SURCHARGED*	
38.002	EX-NW3-1			0.4	OK	

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
39.000	DUMMY 43			2.0	SURCHARGED*	
39.001	DUMMY 44			0.3	SURCHARGED*	
38.003	EX-NW3-2			0.7	OK	
40.000	DUMMY 45			1.8	SURCHARGED*	
40.001	DUMMY 46			0.3	SURCHARGED*	
38.004	EX-NW3-3			1.0	OK	
41.000	DUMMY 47			1.1	SURCHARGED*	
41.001	DUMMY 48			0.1	SURCHARGED*	
38.005	EX-NW3-4			1.1	OK	
42.000	DUMMY 49			2.6	SURCHARGED*	
42.001	DUMMY 50			0.5	SURCHARGED*	
38.006	EX-NW3-5			1.6	OK	
43.000	DUMMY 51			2.2	SURCHARGED*	
43.001	DUMMY 52			0.4	SURCHARGED*	
38.007	EX-NW3-6			2.0	OK	
44.000	DUMMY 53			1.9	SURCHARGED*	
44.001	DUMMY 54			0.3	SURCHARGED*	
38.008	EX-NW3-7			3.0	SURCHARGED	
45.000	EX-NW3-10			15.3	OK	
46.000	NW3-19			15.6	OK	
47.000	EX-NW3-21			4.2	OK	
47.001	EX-NW3-29			4.2	OK	
46.001	NW3-20			19.7	OK	
45.001	EX-NW3-11			55.5	OK	
45.002	NW3-12			50.5	OK	
45.003	EX-NW3-13			44.0	SURCHARGED	
48.000	NW3-22			29.3	SURCHARGED	
48.001	NW3-X1			26.9	OK	
48.002	NW3-23			36.9	OK	
48.003	NW3-X2			35.7	OK	
49.000	EXCP68-DUMMY			5.4	OK*	
49.001	NW3-30			4.9	OK	
49.002	EX-NW3-31			6.7	OK	
49.003	EX-NW3-32			7.0	OK	
48.004	NW3-24			30.6	SURCHARGED	
45.004	EX-NW3-14			76.5	SURCHARGED	
45.005	EX-NW3-15			76.7	SURCHARGED	
50.000	EXCP62-DUMMY			28.3	SURCHARGED*	
50.001	NW3-X3			25.1	OK	
50.002	NW3-25			45.0	OK	
50.003	NW3-X4			44.3	OK	
51.000	EXCP70-DUMMY			5.7	OK*	
51.001	EX-NW3-33			9.3	SURCHARGED	
52.000	29-DUMMY			5.2	OK*	
51.002	NW3-34			12.7	OK	
50.004	NW3-26			55.5	SURCHARGED	
45.006	NW3-16			124.1	OK	
45.007	NW3-17			130.2	OK	
53.000	EXCP64-DUMMY			34.9	OK*	
53.001	NW3-X5			32.9	OK	
53.002	NW3-27			65.6	OK	
53.003	NW3-X6			64.2	OK	
54.000	NW3-35			2.1	OK	
54.001	NW3-35A			3.6	OK	
54.002	NW3-36			3.6	OK	
53.004	NW3-28			66.6	OK	
45.008	NW3-18			164.6	OK	
38.009	NW3-8			165.9	SURCHARGED	
38.010	NW3-8a			152.1	OK	
38.011	NW3-8b Pond US			160.9	OK*	
38.012	NW3-8c Pond DS			157.7	OK*	
18.017	NW3-8d			208.6	SURCHARGED	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes A46 pipe Manhole Sizes A46 manholes

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	19.300	Add Flow / Climate Change (%)	25
Ratio R	0.400	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	300	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	0.75
Volumetric Runoff Coeff.	0.900	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
18.000	1.917	0.004	479.3	0.002	5.00	0.0	1.500	o	150	Pipe/Conduit	
18.001	1.735	0.003	578.3	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.002	13.548	2.190	6.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
19.000	3.108	0.006	500.1	0.002	5.00	0.0	1.500	o	150	Pipe/Conduit	
19.001	2.376	0.005	475.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.003	13.068	0.850	15.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
20.000	3.687	0.007	526.7	1.385	5.00	0.0	1.500	o	150	Pipe/Conduit	
20.001	3.026	0.006	504.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.004	64.283	0.127	506.2	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
21.000	3.624	0.007	517.6	0.326	5.00	0.0	1.500	o	150	Pipe/Conduit	
21.001	2.960	0.006	493.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.005	47.190	0.093	507.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
22.000	2.928	0.006	500.0	0.810	5.00	0.0	1.500	o	150	Pipe/Conduit	
22.001	3.026	0.006	499.9	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.006	100.088	0.330	303.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
23.000	1.908	0.004	476.9	0.228	5.00	0.0	1.500	o	150	Pipe/Conduit	
23.001	2.716	0.005	543.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.007	73.601	0.300	245.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
24.000	2.729	0.005	545.8	0.328	5.00	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
18.000	52.47	5.08	81.720	0.002	0.0	0.0	0.1	0.40	7.0	0.4
18.001	52.11	5.16	81.716	0.002	0.0	0.0	0.1	0.36	6.4	0.4
18.002	51.76	5.24	80.870	0.002	0.0	0.0	0.1	2.84	50.3	0.4
19.000	52.23	5.13	79.530	0.002	0.0	0.0	0.1	0.39	6.9	0.4
19.001	51.79	5.23	79.524	0.002	0.0	0.0	0.1	0.40	7.1	0.4
18.003	51.24	5.36	78.680	0.004	0.0	0.0	0.2	1.80	31.9	0.8
20.000	52.10	5.16	78.680	1.385	0.0	0.0	58.6	0.38	6.7«	293.1
20.001	51.53	5.29	78.148	1.385	0.0	0.0	58.6	0.39	6.8«	293.1
18.004	40.13	8.78	77.830	1.388	0.0	0.0	58.6	0.31	5.5«	293.1
21.000	52.12	5.16	77.960	0.326	0.0	0.0	13.8	0.38	6.8«	69.0
21.001	51.57	5.28	77.953	0.326	0.0	0.0	13.8	0.39	6.9«	69.0
18.005	35.06	11.30	77.703	1.714	0.0	0.0	58.6	0.31	5.5«	293.1
22.000	52.27	5.13	77.960	0.810	0.0	0.0	34.4	0.39	6.9«	172.0
22.001	51.69	5.26	77.954	0.810	0.0	0.0	34.4	0.39	6.9«	172.0
18.006	31.21	13.90	77.460	2.524	0.0	0.0	64.0	0.64	45.3«	320.0
23.000	52.47	5.08	79.240	0.228	0.0	0.0	9.7	0.40	7.0«	48.7
23.001	51.93	5.20	79.236	0.228	0.0	0.0	9.7	0.37	6.6«	48.7
18.007	29.16	15.63	77.130	2.753	0.0	0.0	65.2	0.71	50.4«	326.0
24.000	52.28	5.12	78.400	0.328	0.0	0.0	13.9	0.37	6.6«	69.6

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
24.001	2.872	0.006	478.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.008	75.913	1.660	45.7	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
25.000	1.871	0.004	499.9	0.769	5.00	0.0	1.500	o	150	Pipe/Conduit	
25.001	2.496	0.005	500.0	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.009	55.646	0.149	373.5	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
26.000	2.675	0.005	535.0	1.278	5.00	0.0	1.500	o	150	Pipe/Conduit	
26.001	3.319	0.007	474.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.010	48.737	0.131	372.0	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
27.000	2.669	0.005	533.7	0.169	5.00	0.0	1.500	o	150	Pipe/Conduit	
27.001	3.495	0.007	499.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
18.011	44.382	0.200	221.9	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
18.012	8.229	1.314	6.3	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
28.000	2.086	0.005	417.3	0.008	5.00	0.0	1.500	o	150	Pipe/Conduit	
28.001	2.703	0.005	540.6	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.002	12.146	0.055	220.8	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
29.000	2.489	0.005	497.9	0.033	5.00	0.0	1.500	o	150	Pipe/Conduit	
29.001	2.725	0.005	544.9	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.003	12.349	0.062	199.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
30.000	3.030	0.006	505.0	0.111	5.00	0.0	1.500	o	150	Pipe/Conduit	
30.001	3.264	0.007	466.3	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.004	13.753	0.137	100.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
31.000	3.601	0.007	514.4	0.040	5.00	0.0	1.500	o	150	Pipe/Conduit	
31.001	3.443	0.007	491.9	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.005	16.784	0.567	29.6	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
32.000	4.233	0.008	529.2	0.033	5.00	0.0	1.500	o	150	Pipe/Conduit	
32.001	4.057	0.008	507.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
24.001	51.75	5.24	78.395	0.328	0.0	0.0	13.9	0.40	7.0«	69.6
18.008	28.34	16.39	76.830	3.080	0.0	0.0	70.9	1.65	116.8«	354.6
25.000	52.47	5.08	76.840	0.769	0.0	0.0	32.8	0.39	6.9«	164.0
25.001	51.99	5.19	76.836	0.769	0.0	0.0	32.8	0.39	6.9«	164.0
18.009	26.79	18.00	75.170	3.849	0.0	0.0	83.8	0.58	40.8«	419.0
26.000	52.30	5.12	75.720	1.278	0.0	0.0	54.3	0.38	6.6«	271.4
26.001	51.68	5.26	75.715	1.278	0.0	0.0	54.3	0.40	7.1«	271.4
18.010	25.59	19.40	75.021	5.127	0.0	0.0	106.6	0.58	40.9«	533.0
27.000	52.30	5.12	75.720	0.169	0.0	0.0	7.2	0.38	6.6«	35.9
27.001	51.64	5.27	75.715	0.169	0.0	0.0	7.2	0.39	6.9«	35.9
18.011	24.82	20.39	74.890	5.296	0.0	0.0	106.8	0.75	53.0«	534.0
18.012	24.80	20.41	74.615	5.296	0.0	0.0	106.8	7.28	804.0	534.0
28.000	52.47	5.08	78.800	0.008	0.0	0.0	0.3	0.43	7.5	1.7
28.001	51.93	5.20	78.795	0.008	0.0	0.0	0.3	0.37	6.6	1.7
28.002	51.31	5.34	77.800	0.000	0.1	0.0	0.0	0.59	10.4	0.1
29.000	52.35	5.11	78.780	0.033	0.0	0.0	1.4	0.39	6.9«	6.9
29.001	51.81	5.23	78.775	0.033	0.0	0.0	1.4	0.37	6.6«	6.9
28.003	51.36	5.33	77.745	0.000	0.4	0.0	0.1	0.62	10.9	0.4
30.000	52.25	5.13	78.750	0.111	0.0	0.0	4.7	0.39	6.8«	23.5
30.001	51.65	5.27	78.744	0.111	0.0	0.0	4.7	0.40	7.1«	23.5
28.004	51.66	5.26	77.683	0.000	1.4	0.0	0.3	0.87	15.4	1.4
31.000	52.13	5.16	78.550	0.040	0.0	0.0	1.7	0.38	6.8«	8.5
31.001	51.48	5.30	78.543	0.040	0.0	0.0	1.7	0.39	6.9«	8.5
28.005	52.05	5.17	77.546	0.000	1.8	0.0	0.4	1.61	28.5	1.8
32.000	52.00	5.19	77.985	0.033	0.0	0.0	1.4	0.38	6.7«	7.1
32.001	51.23	5.36	77.977	0.033	0.0	0.0	1.4	0.39	6.8«	7.1

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
28.006	14.790	0.370	40.0	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
33.000	2.804	0.006	467.3	0.229	5.00	0.0	1.500	o	150	Pipe/Conduit	
33.001	2.466	0.005	493.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.007	52.061	0.651	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
34.000	2.437	0.005	487.4	0.184	5.00	0.0	1.500	o	150	Pipe/Conduit	
34.001	2.581	0.005	516.2	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.008	40.943	0.512	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
35.000	2.231	0.004	557.8	0.143	5.00	0.0	1.500	o	150	Pipe/Conduit	
35.001	2.688	0.005	537.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.009	24.890	0.311	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
36.000	2.989	0.006	498.1	0.160	5.00	0.0	1.500	o	150	Pipe/Conduit	
36.001	3.496	0.007	499.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.010	34.631	0.433	80.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
37.000	2.246	0.004	561.5	0.063	5.00	0.0	1.500	o	150	Pipe/Conduit	
37.001	2.478	0.005	495.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
28.011	27.694	0.923	30.0	0.000	0.00	0.0	1.500	o	225	Pipe/Conduit	
28.012	7.434	0.253	29.4	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
18.013	51.355	0.576	89.2	0.000	0.00	0.0	6.200	o	600	Pipe/Conduit	
18.014	37.639	0.130	289.5	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
18.015	40.998	0.140	292.8	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
18.016	7.840	0.050	156.8	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
38.000	8.050	0.016	500.0	0.023	5.00	0.0	1.500	o	150	Pipe/Conduit	
38.001	8.042	0.016	500.0	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.002	75.053	1.540	48.7	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
39.000	2.328	0.005	465.6	0.020	5.00	0.0	1.500	o	150	Pipe/Conduit	
39.001	3.546	0.007	506.5	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
28.006	52.04	5.18	76.979	0.000	2.1	0.0	0.4	1.39	24.5	2.1
33.000	52.31	5.12	77.635	0.229	0.0	0.0	9.7	0.40	7.1«	48.7
33.001	51.84	5.22	77.629	0.229	0.0	0.0	9.7	0.39	6.9«	48.7
28.007	49.92	5.68	76.534	0.000	4.2	0.0	0.8	1.28	51.1	4.2
34.000	52.37	5.10	77.090	0.184	0.0	0.0	7.8	0.39	7.0«	39.2
34.001	51.87	5.22	77.085	0.184	0.0	0.0	7.8	0.38	6.8«	39.2
28.008	50.51	5.53	75.883	0.000	5.9	0.0	1.2	1.28	51.1	5.9
35.000	52.38	5.10	76.860	0.143	0.0	0.0	6.1	0.37	6.5«	30.5
35.001	51.85	5.22	76.856	0.143	0.0	0.0	6.1	0.37	6.6«	30.5
28.009	51.40	5.32	75.371	0.000	7.2	0.0	1.4	1.28	51.0	7.2
36.000	52.26	5.13	76.870	0.160	0.0	0.0	6.8	0.39	6.9«	34.0
36.001	51.60	5.28	76.864	0.160	0.0	0.0	6.8	0.39	6.9«	34.0
28.010	50.86	5.45	75.060	0.000	8.7	0.0	1.7	1.28	51.1	8.7
37.000	52.37	5.10	77.220	0.063	0.0	0.0	2.7	0.37	6.5«	13.3
37.001	51.90	5.21	77.216	0.063	0.0	0.0	2.7	0.39	6.9«	13.3
28.011	51.85	5.22	74.627	0.000	9.3	0.0	1.9	2.10	83.5	9.3
28.012	51.62	5.27	73.704	0.000	9.3	0.0	2.3	2.42	96.3	11.6
18.013	24.46	20.87	73.076	5.296	9.3	0.0	107.6	1.85	524.4«	537.9
18.014	24.15	21.31	72.500	5.296	9.3	0.0	107.6	1.43	403.2«	537.9
18.015	23.81	21.79	72.370	5.296	9.3	0.0	107.6	1.42	400.9«	537.9
18.016	23.77	21.86	72.230	5.296	9.3	0.0	107.6	1.94	549.2	537.9
38.000	51.30	5.34	78.090	0.023	0.0	0.0	1.0	0.39	6.9	4.9
38.001	49.87	5.69	78.074	0.023	0.0	0.0	1.0	0.39	6.9	4.9
38.002	45.39	6.93	77.240	0.023	0.0	0.0	1.0	1.01	17.9	4.9
39.000	52.40	5.10	76.440	0.020	0.0	0.0	0.9	0.40	7.1	4.3
39.001	51.72	5.25	76.435	0.020	0.0	0.0	0.9	0.39	6.8	4.3

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
38.003	76.397	0.550	138.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
40.000	4.584	0.009	509.4	0.016	5.00	0.0	1.500	o	150	Pipe/Conduit	
40.001	4.874	0.010	487.4	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.004	97.695	1.150	85.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
41.000	1.999	0.004	499.8	0.009	5.00	0.0	4.800	o	150	Pipe/Conduit	
41.001	2.330	0.005	466.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
38.005	54.754	0.250	219.0	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
42.000	3.503	0.007	500.4	0.031	5.00	0.0	4.800	o	150	Pipe/Conduit	
42.001	4.224	0.008	527.9	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
38.006	67.101	0.250	268.4	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
43.000	4.415	0.009	490.5	0.023	5.00	0.0	1.500	o	150	Pipe/Conduit	
43.001	4.479	0.009	497.7	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.007	80.902	0.600	134.8	0.000	0.00	0.0	4.800	o	150	Pipe/Conduit	
44.000	6.883	0.014	491.6	0.015	5.00	0.0	1.500	o	150	Pipe/Conduit	
44.001	6.345	0.013	488.1	0.000	0.00	0.0	1.500	o	150	Pipe/Conduit	
38.008	82.367	0.175	470.7	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
45.000	54.459	0.205	265.7	0.063	5.00	0.0	5.200	o	225	Pipe/Conduit	
46.000	53.186	0.285	186.6	0.064	5.00	0.0	5.200	o	225	Pipe/Conduit	
47.000	55.004	0.610	90.2	0.017	5.00	0.0	4.800	o	150	Pipe/Conduit	
47.001	11.235	0.014	802.5	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
46.001	11.729	0.240	48.9	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
45.001	51.063	0.183	279.0	0.120	0.00	0.0	5.700	o	375	Pipe/Conduit	
45.002	51.063	0.183	279.0	0.000	0.00	0.0	5.700	o	375	Pipe/Conduit	
45.003	51.792	0.120	431.6	0.059	0.00	0.0	5.700	o	375	Pipe/Conduit	
48.000	50.000	0.290	172.6	0.122	5.00	0.0	5.200	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
38.003	39.49	9.05	75.700	0.044	0.0	0.0	1.4	0.60	10.6	7.0
40.000	51.94	5.20	76.220	0.016	0.0	0.0	0.7	0.39	6.8	3.3
40.001	51.05	5.40	76.211	0.016	0.0	0.0	0.7	0.39	7.0	3.3
38.004	35.27	11.18	75.150	0.059	0.0	0.0	1.7	0.77	13.5	8.5
41.000	52.36	5.11	76.940	0.009	0.0	0.0	0.4	0.31	5.6	2.0
41.001	51.83	5.22	76.936	0.009	0.0	0.0	0.4	0.33	5.8	2.0
38.005	32.30	13.09	74.000	0.069	0.0	0.0	1.8	0.48	8.4«	9.0
42.000	52.00	5.19	76.800	0.031	0.0	0.0	1.3	0.31	5.6«	6.5
42.001	51.00	5.42	76.793	0.031	0.0	0.0	1.3	0.31	5.4«	6.5
38.006	29.09	15.69	73.750	0.100	0.0	0.0	2.4	0.43	7.6«	11.8
43.000	51.99	5.19	75.670	0.023	0.0	0.0	1.0	0.39	6.9	4.8
43.001	51.16	5.38	75.661	0.023	0.0	0.0	1.0	0.39	6.9	4.8
38.007	26.87	17.91	73.500	0.122	0.0	0.0	2.7	0.61	10.7«	13.3
44.000	51.53	5.29	74.830	0.015	0.0	0.0	0.6	0.39	6.9	3.2
44.001	50.39	5.56	74.816	0.015	0.0	0.0	0.6	0.39	7.0	3.2
38.008	24.95	20.21	72.825	0.138	0.0	0.0	2.8	0.60	23.7	14.0
45.000	46.47	6.60	74.391	0.063	0.0	0.0	2.4	0.57	22.5	11.9
46.000	47.50	6.31	74.711	0.064	0.0	0.0	2.5	0.68	26.9	12.3
47.000	47.78	6.23	75.080	0.017	0.0	0.0	0.7	0.74	13.1	3.4
47.001	45.77	6.81	74.440	0.017	0.0	0.0	0.7	0.33	12.9	3.4
46.001	45.29	6.96	74.426	0.081	0.0	0.0	3.0	1.32	52.6	15.0
45.001	42.02	8.06	74.186	0.264	0.0	0.0	9.0	0.77	85.4	45.1
45.002	39.24	9.16	74.003	0.264	0.0	0.0	9.0	0.77	85.4	45.1
45.003	36.39	10.54	73.820	0.323	0.0	0.0	9.6	0.62	68.7	47.8
48.000	47.96	6.18	74.549	0.122	0.0	0.0	4.7	0.70	28.0	23.7

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
48.001	36.642	0.212	172.6	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
48.002	8.627	0.028	306.7	0.062	0.00	0.0	5.500	o	300	Pipe/Conduit	
48.003	43.520	0.142	306.7	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
49.000	40.824	0.225	181.4	0.022	5.00	0.0	5.200	o	225	Pipe/Conduit	
49.001	60.824	0.335	181.6	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
49.002	52.494	0.160	328.1	0.011	0.00	0.0	5.200	o	225	Pipe/Conduit	
49.003	11.571	0.122	94.8	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
48.004	11.816	0.050	236.3	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
45.004	99.866	0.240	416.1	0.115	0.00	0.0	5.700	o	375	Pipe/Conduit	
45.005	101.023	0.240	420.9	0.114	0.00	0.0	5.700	o	375	Pipe/Conduit	
50.000	49.729	0.232	214.5	0.118	5.00	0.0	5.200	o	225	Pipe/Conduit	
50.001	50.032	0.248	201.7	0.000	0.00	0.0	5.200	o	225	Pipe/Conduit	
50.002	50.344	0.240	209.8	0.119	0.00	0.0	0.600	o	300	Pipe/Conduit	
50.003	50.344	0.310	162.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
51.000	100.466	0.300	334.9	0.026	5.00	0.0	4.800	o	150	Pipe/Conduit	
51.001	100.750	0.590	170.8	0.028	0.00	0.0	4.800	o	150	Pipe/Conduit	
52.000	97.740	1.150	85.0	0.021	5.00	0.0	0.600	o	150	Pipe/Conduit	
51.002	10.811	0.025	432.4	0.000	0.00	0.0	5.500	o	300	Pipe/Conduit	
50.004	13.766	0.040	344.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
45.006	101.000	0.190	531.6	0.138	0.00	0.0	0.600	o	450	Pipe/Conduit	
45.007	102.259	0.210	486.9	0.189	0.00	0.0	0.600	o	450	Pipe/Conduit	
53.000	50.684	0.244	207.3	0.140	5.00	0.0	0.600	o	225	Pipe/Conduit	
53.001	48.809	0.236	206.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
53.002	49.994	0.276	181.3	0.184	0.00	0.0	0.600	o	300	Pipe/Conduit	
53.003	47.903	0.264	181.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
54.000	49.115	0.276	178.0	0.009	5.00	0.0	0.600	o	150	Pipe/Conduit	
54.001	44.463	0.972	45.7	0.007	0.00	0.0	0.600	o	150	Pipe/Conduit	
54.002	22.132	0.107	206.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
53.004	22.474	0.105	214.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
48.001	44.98	7.05	74.259	0.122	0.0	0.0	4.7	0.70	28.0	23.7
48.002	44.27	7.28	74.020	0.183	0.0	0.0	6.6	0.64	45.0	33.0
48.003	41.06	8.42	73.992	0.183	0.0	0.0	6.6	0.64	45.0	33.0
49.000	48.68	5.99	74.740	0.022	0.0	0.0	0.9	0.69	27.3	4.3
49.001	43.69	7.47	74.515	0.022	0.0	0.0	0.9	0.69	27.3	4.3
49.002	39.18	9.19	74.180	0.032	0.0	0.0	1.0	0.51	20.3	5.1
49.003	38.79	9.35	73.960	0.032	0.0	0.0	1.0	1.15	81.1	5.1
48.004	38.19	9.62	73.850	0.215	0.0	0.0	6.7	0.73	51.3	33.4
45.004	32.19	13.17	73.700	0.654	0.0	0.0	17.1	0.63	69.9«	85.5
45.005	28.91	15.85	73.460	0.768	0.0	0.0	18.0	0.63	69.5«	90.2
50.000	47.48	6.31	74.370	0.118	0.0	0.0	4.6	0.63	25.1	22.8
50.001	43.32	7.60	74.138	0.118	0.0	0.0	4.6	0.65	25.9	22.8
50.002	41.18	8.37	73.815	0.237	0.0	0.0	7.9	1.08	76.5	39.7
50.003	39.49	9.05	73.575	0.237	0.0	0.0	7.9	1.23	87.0	39.7
51.000	38.80	9.35	74.320	0.026	0.0	0.0	0.8	0.39	6.8	4.1
51.001	33.21	12.46	74.030	0.054	0.0	0.0	1.4	0.54	9.5	7.2
52.000	46.85	6.49	74.590	0.021	0.0	0.0	0.8	1.09	19.3	4.0
51.002	32.72	12.79	73.290	0.074	0.0	0.0	2.0	0.54	37.9	9.9
50.004	32.33	13.07	73.265	0.312	0.0	0.0	8.2	0.84	59.5	40.9
45.006	27.00	17.77	73.075	1.218	0.0	0.0	26.7	0.87	139.1	133.5
45.007	25.40	19.63	72.885	1.406	0.0	0.0	29.0	0.91	145.5	145.1
53.000	48.90	5.93	74.030	0.140	0.0	0.0	5.6	0.90	36.0	27.9
53.001	45.69	6.83	73.786	0.140	0.0	0.0	5.6	0.91	36.0	27.9
53.002	43.46	7.55	73.550	0.324	0.0	0.0	11.4	1.16	82.3	57.2
53.003	41.54	8.23	73.274	0.324	0.0	0.0	11.4	1.16	82.3	57.2
54.000	48.30	6.09	74.515	0.009	0.0	0.0	0.3	0.75	13.3	1.7
54.001	46.52	6.59	74.239	0.016	0.0	0.0	0.6	1.49	26.4	3.0
54.002	44.77	7.12	73.267	0.016	0.0	0.0	0.6	0.69	12.3	3.0
53.004	40.63	8.58	73.010	0.340	0.0	0.0	11.4	1.07	75.7	57.2

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
45.008	8.026	0.075	107.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.009	29.684	0.100	296.8	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.010	12.000	0.040	300.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.011	30.000	0.105	285.7	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
38.012	6.500	0.025	260.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
18.017	10.152	0.020	507.6	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
45.008	25.35	19.70	72.675	1.746	0.0	0.0	36.0	1.96	312.5	179.8
38.009	24.64	20.63	72.600	1.884	0.0	0.0	37.7	1.17	186.8«	188.5
38.010	24.51	20.80	72.500	1.884	0.0	0.0	37.7	1.17	185.8«	188.5
38.011	24.21	21.22	72.460	1.884	0.0	0.0	37.7	1.20	190.5	188.5
38.012	24.15	21.31	72.355	1.884	0.0	0.0	37.7	1.26	199.8	188.5
18.017	23.66	22.02	72.180	7.180	9.3	0.0	140.3	1.07	303.7«	701.7

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
DUMMY 21	82.220	0.500	Junction		18.000	81.720	150				
DUMMY 22	82.220	0.504	Junction		18.001	81.716	150	18.000	81.716	150	
EX-NW3-37	82.220	1.350	Open Manhole	1050	18.002	80.870	150	18.001	81.713	150	843
DUMMY 23	80.030	0.500	Junction		19.000	79.530	150				
DUMMY 24	80.030	0.506	Junction		19.001	79.524	150	19.000	79.524	150	
EX-NW3-38	80.030	1.350	Open Manhole	1050	18.003	78.680	150	18.002	78.680	150	
								19.001	79.519	150	839
DUMMY 25	79.180	0.500	Junction		20.000	78.680	150				
DUMMY 26	79.180	1.032	Junction		20.001	78.148	150	20.000	78.673	150	525
EX-NW3-39	79.180	1.350	Open Manhole	1050	18.004	77.830	150	18.003	77.830	150	
								20.001	78.142	150	312
DUMMY 27	78.460	0.500	Junction		21.000	77.960	150				
DUMMY 28	78.460	0.507	Junction		21.001	77.953	150	21.000	77.953	150	
NW3-40	78.460	0.757	Open Manhole	1050	18.005	77.703	150	18.004	77.703	150	
								21.001	77.947	150	244
DUMMY 29	78.460	0.500	Junction		22.000	77.960	150				
DUMMY 30	78.460	0.506	Junction		22.001	77.954	150	22.000	77.954	150	
EX-NW3-41	78.460	1.000	Open Manhole	1050	18.006	77.460	300	18.005	77.610	150	
								22.001	77.948	150	338
DUMMY 31	79.740	0.500	Junction		23.000	79.240	150				
DUMMY 32	79.740	0.504	Junction		23.001	79.236	150	23.000	79.236	150	
EX-NW3-42	79.740	2.610	Open Manhole	1050	18.007	77.130	300	18.006	77.130	300	
								23.001	79.231	150	1951
DUMMY 33	78.900	0.500	Junction		24.000	78.400	150				
DUMMY 34	78.900	0.505	Junction		24.001	78.395	150	24.000	78.395	150	
EX-NW3-43	78.900	2.070	Open Manhole	1050	18.008	76.830	300	18.007	76.830	300	
								24.001	78.389	150	1409
DUMMY 35	77.340	0.500	Junction		25.000	76.840	150				
DUMMY 36	77.340	0.504	Junction		25.001	76.836	150	25.000	76.836	150	
EX-NW3-44	77.340	2.170	Open Manhole	1050	18.009	75.170	300	18.008	75.170	300	
								25.001	76.831	150	1511
DUMMY 37	76.220	0.500	Junction		26.000	75.720	150				
DUMMY 38	76.220	0.505	Junction		26.001	75.715	150	26.000	75.715	150	
NW3-45	76.220	1.199	Open Manhole	1050	18.010	75.021	300	18.009	75.021	300	
								26.001	75.708	150	537
DUMMY 39	76.220	0.500	Junction		27.000	75.720	150				
DUMMY 40	76.220	0.505	Junction		27.001	75.715	150	27.000	75.715	150	
NW3-46	76.220	1.330	Open Manhole	1050	18.011	74.890	300	18.010	74.890	300	
								27.001	75.708	150	668
NW3-47	76.480	1.865	Open Manhole	1050	18.012	74.615	375	18.011	74.690	300	
DUMMY 1	79.200	0.400	Junction		28.000	78.800	150				
DUMMY 2	79.200	0.405	Junction		28.001	78.795	150	28.000	78.795	150	
NW3-49	79.200	1.400	Open Manhole	1050	28.002	77.800	150	28.001	78.790	150	990
DUMMY 3	79.180	0.400	Junction		29.000	78.780	150				
DUMMY 4	79.180	0.405	Junction		29.001	78.775	150	29.000	78.775	150	
NW3-50	79.180	1.435	Open Manhole	1050	28.003	77.745	150	28.002	77.745	150	
								29.001	78.770	150	1025
DUMMY 5	79.150	0.400	Junction		30.000	78.750	150				
DUMMY 6	79.150	0.406	Junction		30.001	78.744	150	30.000	78.744	150	
NW3-51	79.150	1.467	Open Manhole	1050	28.004	77.683	150	28.003	77.683	150	
								30.001	78.737	150	1054
DUMMY 7	78.950	0.400	Junction		31.000	78.550	150				
DUMMY 8	78.950	0.407	Junction		31.001	78.543	150	31.000	78.543	150	
NW3-52	78.950	1.404	Open Manhole	1050	28.005	77.546	150	28.004	77.546	150	
								31.001	78.536	150	990
DUMMY 9	78.385	0.400	Junction		32.000	77.985	150				
DUMMY 10	78.385	0.408	Junction		32.001	77.977	150	32.000	77.977	150	
NW3-53	78.385	1.406	Open Manhole	1050	28.006	76.979	150	28.005	76.979	150	
								32.001	77.969	150	990
DUMMY 11	78.035	0.400	Junction		33.000	77.635	150				
DUMMY 12	78.035	0.406	Junction		33.001	77.629	150	33.000	77.629	150	
NW3-54	78.035	1.501	Open Manhole	1050	28.007	76.534	225	28.006	76.609	150	
								33.001	77.624	150	1015
DUMMY 13	77.490	0.400	Junction		34.000	77.090	150				
DUMMY 14	77.490	0.405	Junction		34.001	77.085	150	34.000	77.085	150	
NW3-55	77.490	1.607	Open Manhole	1050	28.008	75.883	225	28.007	75.883	225	
								34.001	77.080	150	1122

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
DUMMY 15	77.260	0.400	Junction		35.000	76.860	150				
DUMMY 16	77.260	0.404	Junction		35.001	76.856	150	35.000	76.856	150	
NW3-56	77.260	1.889	Open Manhole	1050	28.009	75.371	225	28.008	75.371	225	
								35.001	76.851	150	1405
DUMMY 17	77.270	0.400	Junction		36.000	76.870	150				
DUMMY 18	77.270	0.406	Junction		36.001	76.864	150	36.000	76.864	150	
NW3-57	77.270	2.210	Open Manhole	1050	28.010	75.060	225	28.009	75.060	225	
								36.001	76.857	150	1722
DUMMY 19	77.620	0.400	Junction		37.000	77.220	150				
DUMMY 20	77.620	0.404	Junction		37.001	77.216	150	37.000	77.216	150	
NW3-58	77.620	2.993	Open Manhole	1050	28.011	74.627	225	28.010	74.627	225	
								37.001	77.211	150	2509
NW3-59	77.270	3.566	Open Manhole	1050	28.012	73.704	225	28.011	73.704	225	
NW3-48	76.180	3.104	Open Manhole	1500	18.013	73.076	600	18.012	73.301	375	
								28.012	73.451	225	
NW3-9	74.800	2.300	Open Manhole	1500	18.014	72.500	600	18.013	72.500	600	
NW3-9a	74.856	2.486	Open Manhole	1500	18.015	72.370	600	18.014	72.370	600	
NW3-9b	73.687	1.457	Open Manhole	1500	18.016	72.230	600	18.015	72.230	600	
DUMMY 41	78.590	0.500	Junction		38.000	78.090	150				
DUMMY 42	78.590	0.516	Junction		38.001	78.074	150	38.000	78.074	150	
EX-NW3-1	78.590	1.350	Open Manhole	1050	38.002	77.240	150	38.001	78.058	150	818
DUMMY 43	76.940	0.500	Junction		39.000	76.440	150				
DUMMY 44	76.940	0.505	Junction		39.001	76.435	150	39.000	76.435	150	
EX-NW3-2	76.940	1.240	Open Manhole	1050	38.003	75.700	150	38.002	75.700	150	
								39.001	76.428	150	728
DUMMY 45	76.720	0.500	Junction		40.000	76.220	150				
DUMMY 46	76.720	0.509	Junction		40.001	76.211	150	40.000	76.211	150	
EX-NW3-3	76.720	1.570	Open Manhole	1050	38.004	75.150	150	38.003	75.150	150	
								40.001	76.201	150	1051
DUMMY 47	77.440	0.500	Junction		41.000	76.940	150				
DUMMY 48	77.440	0.504	Junction		41.001	76.936	150	41.000	76.936	150	
EX-NW3-4	77.440	3.440	Open Manhole	1050	38.005	74.000	150	38.004	74.000	150	
								41.001	76.931	150	2931
DUMMY 49	77.300	0.500	Junction		42.000	76.800	150				
DUMMY 50	77.300	0.507	Junction		42.001	76.793	150	42.000	76.793	150	
EX-NW3-5	77.300	3.550	Open Manhole	1050	38.006	73.750	150	38.005	73.750	150	
								42.001	76.785	150	3035
DUMMY 51	76.170	0.500	Junction		43.000	75.670	150				
DUMMY 52	76.170	0.509	Junction		43.001	75.661	150	43.000	75.661	150	
EX-NW3-6	76.170	2.670	Open Manhole	1050	38.007	73.500	150	38.006	73.500	150	
								43.001	75.652	150	2152
DUMMY 53	75.330	0.500	Junction		44.000	74.830	150				
DUMMY 54	75.330	0.514	Junction		44.001	74.816	150	44.000	74.816	150	
EX-NW3-7	75.330	2.505	Open Manhole	1050	38.008	72.825	225	38.007	72.900	150	
								44.001	74.803	150	1903
EX-NW3-10	76.250	1.859	Open Manhole	1050	45.000	74.391	225				
NW3-19	76.400	1.689	Open Manhole	1050	46.000	74.711	225				
EX-NW3-21	76.700	1.620	Open Manhole	1050	47.000	75.080	150				
EX-NW3-29	76.620	2.180	Open Manhole	1050	47.001	74.440	225	47.000	74.470	150	
NW3-20	76.320	1.894	Open Manhole	1050	46.001	74.426	225	46.000	74.426	225	
								47.001	74.426	225	
EX-NW3-11	76.200	2.014	Open Manhole	1050	45.001	74.186	375	45.000	74.186	225	
								46.001	74.186	225	
NW3-12	76.118	2.115	Open Manhole	1050	45.002	74.003	375	45.001	74.003	375	
EX-NW3-13	75.980	2.160	Open Manhole	1050	45.003	73.820	375	45.002	73.820	375	
NW3-22	76.320	1.771	Open Manhole	1050	48.000	74.549	225				
NW3-X1	76.219	1.960	Open Manhole	1050	48.001	74.259	225	48.000	74.259	225	
NW3-23	76.150	2.130	Open Manhole	1050	48.002	74.020	300	48.001	74.047	225	
NW3-X2	76.120	2.128	Open Manhole	1050	48.003	73.992	300	48.002	73.992	300	
EXCP68-DUMMY	76.620	1.880	Junction		49.000	74.740	225				
NW3-30	76.522	2.007	Open Manhole	1050	49.001	74.515	225	49.000	74.515	225	
EX-NW3-31	76.470	2.290	Open Manhole	1050	49.002	74.180	225	49.001	74.180	225	
EX-NW3-32	76.360	2.400	Open Manhole	1050	49.003	73.960	300	49.002	74.020	225	
NW3-24	76.080	2.242	Open Manhole	1050	48.004	73.850	300	48.003	73.850	300	
								49.003	73.838	300	
EX-NW3-14	75.830	2.130	Open Manhole	1050	45.004	73.700	375	45.003	73.700	375	
								48.004	73.800	300	25

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (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)	Backdrop (mm)
EX-NW3-15	75.770	2.310	Open Manhole	1050	45.005	73.460	375	45.004	73.460	375	
EXCP62-DUMMY	76.080	1.710	Junction		50.000	74.370	225				
NW3-X3	75.966	1.828	Open Manhole	1050	50.001	74.138	225	50.000	74.138	225	
NW3-25	75.910	2.095	Open Manhole	1050	50.002	73.815	300	50.001	73.890	225	
NW3-X4	75.797	2.222	Open Manhole	1050	50.003	73.575	300	50.002	73.575	300	
EXCP70-DUMMY	76.360	2.040	Junction		51.000	74.320	150				
EX-NW3-33	76.130	2.110	Open Manhole	1050	51.001	74.030	150	51.000	74.020	150	
29-DUMMY	75.940	1.350	Junction		52.000	74.590	150				
NW3-34	75.960	2.670	Open Manhole	1050	51.002	73.290	300	51.001	73.440	150	
								52.000	73.440	150	
NW3-26	75.760	2.495	Open Manhole	1050	50.004	73.265	300	50.003	73.265	300	
								51.002	73.265	300	
NW3-16	75.780	2.705	Open Manhole	1050	45.006	73.075	450	45.005	73.220	375	70
								50.004	73.225	300	
NW3-17	75.280	2.395	Open Manhole	1500	45.007	72.885	450	45.006	72.885	450	
EXCP64-DUMMY	75.760	1.730	Junction		53.000	74.030	225				
NW3-X5	75.703	1.917	Open Manhole	1050	53.001	73.786	225	53.000	73.786	225	
NW3-27	75.580	2.030	Open Manhole	1050	53.002	73.550	300	53.001	73.550	225	
NW3-X6	75.489	2.215	Open Manhole	1050	53.003	73.274	300	53.002	73.274	300	
NW3-35	75.940	1.425	Open Manhole	1050	54.000	74.515	150				
NW3-35A	75.980	1.741	Open Manhole	1050	54.001	74.239	150	54.000	74.239	150	
NW3-36	76.130	2.863	Open Manhole	1050	54.002	73.267	150	54.001	73.267	150	
NW3-28	75.420	2.410	Open Manhole	1050	53.004	73.010	300	53.003	73.010	300	
								54.002	73.160	150	
NW3-18	75.050	2.375	Open Manhole	1500	45.008	72.675	450	45.007	72.675	450	
								53.004	72.905	300	80
NW3-8	74.700	2.100	Open Manhole	1500	38.009	72.600	450	38.008	72.650	225	
								45.008	72.600	450	
NW3-8a	74.868	2.368	Open Manhole	1500	38.010	72.500	450	38.009	72.500	450	
NW3-8b Pond US	74.568	2.108	Junction		38.011	72.460	450	38.010	72.460	450	
NW3-8c Pond DS	73.694	1.339	Junction		38.012	72.355	450	38.011	72.355	450	
NW3-8d	73.538	1.358	Open Manhole	1500	18.017	72.180	600	18.016	72.180	600	
								38.012	72.330	450	
EX-NW3-Outfall	73.378	1.218	Open Manhole	0		OUTFALL		18.017	72.160	600	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
DUMMY 21	439032.522	280684.639			No Entry	
DUMMY 22	439030.638	280684.287			No Entry	
EX-NW3-37	439029.020	280683.660	439029.020	280683.660	Required	
DUMMY 23	439024.627	280675.401			No Entry	
DUMMY 24	439021.542	280675.021			No Entry	
EX-NW3-38	439019.307	280674.214	439019.307	280674.214	Required	
DUMMY 25	439021.498	280663.454			No Entry	
DUMMY 26	439017.859	280662.859			No Entry	
EX-NW3-39	439014.996	280661.878	439014.996	280661.878	Required	
DUMMY 27	439000.207	280603.537			No Entry	
DUMMY 28	438996.759	280602.425			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW3-40	438994.122	280601.079	438994.122	280601.079	Required	
DUMMY 29	438983.069	280560.561			No Entry	
DUMMY 30	438980.785	280558.729			No Entry	
EX-NW3-41	438978.799	280556.447	438978.799	280556.447	Required	
DUMMY 31	438956.496	280462.625			No Entry	
DUMMY 32	438954.896	280461.587			No Entry	
EX-NW3-42	438952.873	280459.775	438952.873	280459.775	Required	
DUMMY 33	438932.060	280394.296			No Entry	
DUMMY 34	438929.852	280392.693			No Entry	
EX-NW3-43	438927.988	280390.508	438927.988	280390.508	Required	
DUMMY 35	438905.443	280321.906			No Entry	
DUMMY 36	438903.876	280320.885			No Entry	
EX-NW3-44	438902.077	280319.154	438902.077	280319.154	Required	
DUMMY 37	438891.957	280268.236			No Entry	
DUMMY 38	438889.537	280267.095			No Entry	
NW3-45	438886.513	280265.729	438886.513	280265.729	Required	
DUMMY 39	438877.249	280223.174			No Entry	
DUMMY 40	438875.029	280221.694			No Entry	
NW3-46	438872.880	280218.937	438872.880	280218.937	Required	
NW3-47	438864.381	280175.377	438864.381	280175.377	Required	
DUMMY 1	438872.681	279930.122			No Entry	
DUMMY 2	438870.639	279930.551			No Entry	
NW3-49	438867.937	279930.605	438867.937	279930.605	Required	
DUMMY 3	438873.211	279941.035			No Entry	
DUMMY 4	438870.813	279941.705			No Entry	
NW3-50	438868.296	279942.745	438868.296	279942.745	Required	
DUMMY 5	438873.432	279953.618			No Entry	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
DUMMY 6	438870.437	279954.077			No Entry	
NW3-51	438867.324	279955.056	438867.324	279955.056	Required	
DUMMY 7	438869.234	279966.990			No Entry	
DUMMY 8	438865.649	279967.334			No Entry	
NW3-52	438862.243	279967.836	438862.243	279967.836	Required	
DUMMY 9	438860.692	279980.629			No Entry	
DUMMY 10	438856.475	279981.004			No Entry	
NW3-53	438852.445	279981.464	438852.445	279981.464	Required	
DUMMY 11	438852.085	279994.235			No Entry	
DUMMY 12	438849.299	279994.554			No Entry	
NW3-54	438846.914	279995.181	438846.914	279995.181	Required	
DUMMY 13	438843.242	280044.161			No Entry	
DUMMY 14	438841.157	280045.423			No Entry	
NW3-55	438838.868	280046.616	438838.868	280046.616	Required	
DUMMY 15	438843.738	280084.170			No Entry	
DUMMY 16	438842.121	280085.708			No Entry	
NW3-56	438840.153	280087.539	438840.153	280087.539	Required	
DUMMY 17	438848.673	280106.083			No Entry	
DUMMY 18	438847.386	280108.781			No Entry	
NW3-57	438845.649	280111.814	438845.649	280111.814	Required	
DUMMY 19	438859.723	280140.618			No Entry	
DUMMY 20	438858.459	280142.474			No Entry	
NW3-58	438857.051	280144.514	438857.051	280144.514	Required	
NW3-59	438863.441	280171.461	438863.441	280171.461	Required	
NW3-48	438856.336	280173.648	438856.336	280173.648	Required	
NW3-9	438805.029	280175.882	438805.029	280175.882	Required	
NW3-9a	438780.937	280146.963	438780.937	280146.963	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW3-9b	438739.950	280147.885	438739.950	280147.885	Required	
DUMMY 41	438959.776	280700.410			No Entry	
DUMMY 42	438965.353	280694.604			No Entry	
EX-NW3-1	438970.202	280688.189	438970.202	280688.189	Required	
DUMMY 43	438944.757	280620.827			No Entry	
DUMMY 44	438946.441	280619.219			No Entry	
EX-NW3-2	438948.510	280616.340	438948.510	280616.340	Required	
DUMMY 45	438921.260	280550.716			No Entry	
DUMMY 46	438924.085	280547.105			No Entry	
EX-NW3-3	438926.837	280543.082	438926.837	280543.082	Required	
DUMMY 47	438898.681	280452.379			No Entry	
DUMMY 48	438899.718	280450.670			No Entry	
EX-NW3-4	438901.142	280448.826	438901.142	280448.826	Required	
DUMMY 49	438876.877	280404.284			No Entry	
DUMMY 50	438878.866	280401.401			No Entry	
EX-NW3-5	438881.154	280397.851	438881.154	280397.851	Required	
DUMMY 51	438852.220	280342.446			No Entry	
DUMMY 52	438854.545	280338.692			No Entry	
EX-NW3-6	438857.276	280335.143	438857.276	280335.143	Required	
DUMMY 53	438823.166	280269.833			No Entry	
DUMMY 54	438827.102	280264.187			No Entry	
EX-NW3-7	438830.471	280258.810	438830.471	280258.810	Required	
EX-NW3-10	439007.784	280760.452	439007.784	280760.452	Required	
NW3-19	439019.522	280757.055	439019.522	280757.055	Required	
EX-NW3-21	439029.912	280754.057	439029.912	280754.057	Required	
EX-NW3-29	439013.806	280701.464	439013.806	280701.464	Required	
NW3-20	439003.660	280706.289	439003.660	280706.289	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
EX-NW3-11	438992.105	280708.299	438992.105	280708.299	Required	
NW3-12	438976.971	280659.530	438976.971	280659.530	Required	
EX-NW3-13	438961.838	280610.762	438961.838	280610.762	Required	
NW3-22	438998.898	280690.307	438998.898	280690.307	Required	
NW3-X1	438984.145	280642.534	438984.145	280642.534	Required	
NW3-23	438973.333	280607.523	438973.333	280607.523	Required	
NW3-X2	438970.755	280599.290	438970.755	280599.290	Required	
EXCP68-DUMMY	439013.787	280701.402			No Entry	
NW3-30	439001.887	280662.350	439001.887	280662.350	Required	
EX-NW3-31	438984.158	280604.168	438984.158	280604.168	Required	
EX-NW3-32	438968.694	280554.003	438968.694	280554.003	Required	
NW3-24	438957.750	280557.758	438957.750	280557.758	Required	
EX-NW3-14	438946.477	280561.301	438946.477	280561.301	Required	
EX-NW3-15	438916.754	280465.960	438916.754	280465.960	Required	
EXCP62-DUMMY	438957.667	280557.496			No Entry	
NW3-X3	438942.727	280510.063	438942.727	280510.063	Required	
NW3-25	438927.696	280462.342	438927.696	280462.342	Required	
NW3-X4	438912.545	280414.332	438912.545	280414.332	Required	
EXCP70-DUMMY	438968.647	280553.852			No Entry	
EX-NW3-33	438938.359	280458.060	438938.359	280458.060	Required	
29-DUMMY	438882.362	280267.707			No Entry	
NW3-34	438907.383	280362.190	438907.383	280362.190	Required	
NW3-26	438897.394	280366.323	438897.394	280366.323	Required	
NW3-16	438884.221	280370.319	438884.221	280370.319	Required	
NW3-17	438851.170	280274.880	438851.170	280274.880	Required	
EXCP64-DUMMY	438897.350	280366.188			No Entry	
NW3-X5	438881.711	280317.977	438881.711	280317.977	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
NW3-27	438866.619	280271.560	438866.619	280271.560	Required	
NW3-X6	438851.167	280224.015	438851.167	280224.015	Required	
NW3-35	438882.076	280267.030	438882.076	280267.030	Required	
NW3-35A	438869.461	280219.563	438869.461	280219.563	Required	
NW3-36	438858.405	280176.496	438858.405	280176.496	Required	
NW3-28	438836.360	280178.457	438836.360	280178.457	Required	
NW3-18	438813.917	280179.648	438813.917	280179.648	Required	
NW3-8	438805.910	280180.190	438805.910	280180.190	Required	
NW3-8a	438785.722	280158.428	438785.722	280158.428	Required	
NW3-8b Pond US	438773.756	280157.528			No Entry	
NW3-8c Pond DS	438743.841	280155.278			No Entry	
NW3-8d	438737.341	280155.278	438737.341	280155.278	Required	
EX-NW3-Outfall	438733.962	280164.851			No Entry	



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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
18.000	Classification	Overland	40	0.005	0.002	0.002
18.001	-	-	100	0.000	0.000	0.000
18.002	-	-	100	0.000	0.000	0.000
19.000	Classification	Overland	40	0.005	0.002	0.002
19.001	-	-	100	0.000	0.000	0.000
18.003	-	-	100	0.000	0.000	0.000
20.000	Classification	Overland	40	3.461	1.385	1.385
20.001	-	-	100	0.000	0.000	0.000
18.004	-	-	100	0.000	0.000	0.000
21.000	Classification	Overland	40	0.815	0.326	0.326
21.001	-	-	100	0.000	0.000	0.000
18.005	-	-	100	0.000	0.000	0.000
22.000	Classification	Overland	40	2.025	0.810	0.810
22.001	-	-	100	0.000	0.000	0.000
18.006	-	-	100	0.000	0.000	0.000
23.000	Classification	Overland	40	0.571	0.228	0.228
23.001	-	-	100	0.000	0.000	0.000
18.007	-	-	100	0.000	0.000	0.000
24.000	Classification	Overland	40	0.819	0.328	0.328
24.001	-	-	100	0.000	0.000	0.000
18.008	-	-	100	0.000	0.000	0.000
25.000	Classification	Overland	40	1.924	0.769	0.769
25.001	-	-	100	0.000	0.000	0.000
18.009	-	-	100	0.000	0.000	0.000
26.000	Classification	Overland	40	3.194	1.278	1.278
26.001	-	-	100	0.000	0.000	0.000
18.010	-	-	100	0.000	0.000	0.000
27.000	Classification	Overland	40	0.423	0.169	0.169
27.001	-	-	100	0.000	0.000	0.000
18.011	-	-	100	0.000	0.000	0.000
18.012	-	-	100	0.000	0.000	0.000
28.000	Classification	Overland	40	0.020	0.008	0.008
28.001	-	-	100	0.000	0.000	0.000
28.002	-	-	100	0.000	0.000	0.000
29.000	Classification	Overland	40	0.082	0.033	0.033
29.001	-	-	100	0.000	0.000	0.000
28.003	-	-	100	0.000	0.000	0.000
30.000	Classification	Overland	40	0.276	0.111	0.111
30.001	-	-	100	0.000	0.000	0.000
28.004	-	-	100	0.000	0.000	0.000
31.000	Classification	Overland	40	0.100	0.040	0.040
31.001	-	-	100	0.000	0.000	0.000
28.005	-	-	100	0.000	0.000	0.000
32.000	Classification	Overland	40	0.084	0.033	0.033
32.001	-	-	100	0.000	0.000	0.000
28.006	-	-	100	0.000	0.000	0.000
33.000	Classification	Overland	40	0.573	0.229	0.229
33.001	-	-	100	0.000	0.000	0.000
28.007	-	-	100	0.000	0.000	0.000
34.000	Classification	Overland	40	0.460	0.184	0.184
34.001	-	-	100	0.000	0.000	0.000
28.008	-	-	100	0.000	0.000	0.000
35.000	Classification	Overland	40	0.359	0.143	0.143
35.001	-	-	100	0.000	0.000	0.000
28.009	-	-	100	0.000	0.000	0.000
36.000	Classification	Overland	40	0.401	0.160	0.160
36.001	-	-	100	0.000	0.000	0.000
28.010	-	-	100	0.000	0.000	0.000
37.000	Classification	Overland	40	0.157	0.063	0.063
37.001	-	-	100	0.000	0.000	0.000
28.011	-	-	100	0.000	0.000	0.000
28.012	-	-	100	0.000	0.000	0.000
18.013	-	-	100	0.000	0.000	0.000
18.014	-	-	100	0.000	0.000	0.000
18.015	-	-	100	0.000	0.000	0.000
18.016	-	-	100	0.000	0.000	0.000
38.000	Classification	Overland	40	0.058	0.023	0.023
38.001	-	-	100	0.000	0.000	0.000
38.002	-	-	100	0.000	0.000	0.000
39.000	Classification	Overland	40	0.051	0.020	0.020
39.001	-	-	100	0.000	0.000	0.000
38.003	-	-	100	0.000	0.000	0.000
40.000	Classification	Overland	40	0.039	0.016	0.016
40.001	-	-	100	0.000	0.000	0.000
38.004	-	-	100	0.000	0.000	0.000
41.000	Classification	Overland	40	0.023	0.009	0.009
41.001	-	-	100	0.000	0.000	0.000
38.005	-	-	100	0.000	0.000	0.000
42.000	Classification	Overland	40	0.077	0.031	0.031
42.001	-	-	100	0.000	0.000	0.000
38.006	-	-	100	0.000	0.000	0.000
43.000	Classification	Overland	40	0.057	0.023	0.023
43.001	-	-	100	0.000	0.000	0.000
38.007	-	-	100	0.000	0.000	0.000
44.000	Classification	Overland	40	0.039	0.015	0.015
44.001	-	-	100	0.000	0.000	0.000
38.008	-	-	100	0.000	0.000	0.000
45.000	Classification	Paved	100	0.049	0.049	0.049

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
	Classification	Verge	50	0.010	0.005	0.054
	Classification	EW (Cut)	20	0.043	0.009	0.063
46.000	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.050	0.050	0.064
47.000	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.068	0.014	0.017
47.001	-	-	100	0.000	0.000	0.000
46.001	-	-	100	0.000	0.000	0.000
45.001	Classification	EW (Cut)	20	0.065	0.013	0.013
	Classification	Verge	50	0.028	0.014	0.027
	Classification	Paved	100	0.093	0.093	0.120
45.002	-	-	100	0.000	0.000	0.000
45.003	Classification	Paved	100	0.047	0.047	0.047
	Classification	Verge	50	0.009	0.005	0.052
	Classification	EW (Cut)	20	0.034	0.007	0.059
48.000	Classification	Paved	100	0.095	0.095	0.095
	Classification	Paved	100	0.027	0.027	0.122
48.001	-	-	100	0.000	0.000	0.000
48.002	Classification	Paved	100	0.014	0.014	0.014
	Classification	Paved	100	0.048	0.048	0.062
48.003	-	-	100	0.000	0.000	0.000
49.000	Classification	EW (Cut)	20	0.067	0.013	0.013
	Classification	Verge	50	0.016	0.008	0.022
49.001	-	-	100	0.000	0.000	0.000
49.002	Classification	Verge	50	0.008	0.004	0.004
	Classification	EW (Cut)	20	0.033	0.007	0.011
49.003	-	-	100	0.000	0.000	0.000
48.004	-	-	100	0.000	0.000	0.000
45.004	Classification	EW (Cut)	20	0.066	0.013	0.013
	Classification	Verge	50	0.020	0.010	0.023
	Classification	Paved	100	0.092	0.092	0.115
45.005	Classification	Paved	100	0.092	0.092	0.092
	Classification	Verge	50	0.024	0.012	0.104
	Classification	EW (Cut)	20	0.048	0.010	0.114
50.000	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.092	0.092	0.118
50.001	-	-	100	0.000	0.000	0.000
50.002	Classification	Paved	100	0.026	0.026	0.026
	Classification	Paved	100	0.093	0.093	0.119
50.003	-	-	100	0.000	0.000	0.000
51.000	Classification	Verge	50	0.015	0.008	0.008
	Classification	EW (Cut)	20	0.093	0.019	0.026
51.001	Classification	Verge	50	0.016	0.008	0.008
	Classification	EW (Cut)	20	0.098	0.020	0.028
52.000	Classification	Verge	50	0.025	0.012	0.012
	Classification	EW (Cut)	20	0.043	0.009	0.021
51.002	-	-	100	0.000	0.000	0.000
50.004	-	-	100	0.000	0.000	0.000
45.006	Classification	EW (Cut)	20	0.032	0.006	0.006
	Classification	Verge	50	0.028	0.014	0.021
	Classification	Paved	100	0.117	0.117	0.138
45.007	Classification	Paved	100	0.167	0.167	0.167
	Classification	Verge	50	0.026	0.013	0.179
	Classification	EW (Cut)	20	0.046	0.009	0.189
53.000	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.115	0.115	0.140
53.001	-	-	100	0.000	0.000	0.000
53.002	Classification	Paved	100	0.025	0.025	0.025
	Classification	Paved	100	0.159	0.159	0.184
53.003	-	-	100	0.000	0.000	0.000
54.000	Classification	Verge	50	0.012	0.006	0.006
	Classification	EW (Cut)	20	0.012	0.002	0.009
54.001	Classification	Verge	50	0.011	0.006	0.006
	Classification	EW (Cut)	20	0.009	0.002	0.007
54.002	-	-	100	0.000	0.000	0.000
53.004	-	-	100	0.000	0.000	0.000
45.008	-	-	100	0.000	0.000	0.000
38.009	-	-	100	0.000	0.000	0.000
38.010	-	-	100	0.000	0.000	0.000
38.011	-	-	100	0.000	0.000	0.000
38.012	-	-	100	0.000	0.000	0.000
18.017	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				18.575	8.184	8.184

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
18.017	EX-NW3-Outfall	73.378	72.160	0.000	0	0

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Online Controls for Storm

Depth/Flow Relationship Manhole: DUMMY 22, DS/PN: 18.001, Volume (m³): 0.0

Invert Level (m) 81.716

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: DUMMY 24, DS/PN: 19.001, Volume (m³): 0.1

Invert Level (m) 79.524

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.1000	0.600	0.1000	1.100	0.1000	1.600	0.1000	2.100	0.1000	2.600	0.1000
0.200	0.1000	0.700	0.1000	1.200	0.1000	1.700	0.1000	2.200	0.1000	2.700	0.1000
0.300	0.1000	0.800	0.1000	1.300	0.1000	1.800	0.1000	2.300	0.1000	2.800	0.1000
0.400	0.1000	0.900	0.1000	1.400	0.1000	1.900	0.1000	2.400	0.1000	2.900	0.1000
0.500	0.1000	1.000	0.1000	1.500	0.1000	2.000	0.1000	2.500	0.1000	3.000	0.1000

Depth/Flow Relationship Manhole: DUMMY 26, DS/PN: 20.001, Volume (m³): 0.1

Invert Level (m) 78.148

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	54.8000	0.600	54.8000	1.100	54.8000	1.600	54.8000	2.100	54.8000	2.600	54.8000
0.200	54.8000	0.700	54.8000	1.200	54.8000	1.700	54.8000	2.200	54.8000	2.700	54.8000
0.300	54.8000	0.800	54.8000	1.300	54.8000	1.800	54.8000	2.300	54.8000	2.800	54.8000
0.400	54.8000	0.900	54.8000	1.400	54.8000	1.900	54.8000	2.400	54.8000	2.900	54.8000
0.500	54.8000	1.000	54.8000	1.500	54.8000	2.000	54.8000	2.500	54.8000	3.000	54.8000

Depth/Flow Relationship Manhole: DUMMY 28, DS/PN: 21.001, Volume (m³): 0.1

Invert Level (m) 77.953

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	12.9000	0.600	12.9000	1.100	12.9000	1.600	12.9000	2.100	12.9000	2.600	12.9000
0.200	12.9000	0.700	12.9000	1.200	12.9000	1.700	12.9000	2.200	12.9000	2.700	12.9000
0.300	12.9000	0.800	12.9000	1.300	12.9000	1.800	12.9000	2.300	12.9000	2.800	12.9000
0.400	12.9000	0.900	12.9000	1.400	12.9000	1.900	12.9000	2.400	12.9000	2.900	12.9000
0.500	12.9000	1.000	12.9000	1.500	12.9000	2.000	12.9000	2.500	12.9000	3.000	12.9000

Depth/Flow Relationship Manhole: DUMMY 30, DS/PN: 22.001, Volume (m³): 0.1

Invert Level (m) 77.954

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	32.0000	0.600	32.0000	1.100	32.0000	1.600	32.0000	2.100	32.0000	2.600	32.0000
0.200	32.0000	0.700	32.0000	1.200	32.0000	1.700	32.0000	2.200	32.0000	2.700	32.0000
0.300	32.0000	0.800	32.0000	1.300	32.0000	1.800	32.0000	2.300	32.0000	2.800	32.0000
0.400	32.0000	0.900	32.0000	1.400	32.0000	1.900	32.0000	2.400	32.0000	2.900	32.0000
0.500	32.0000	1.000	32.0000	1.500	32.0000	2.000	32.0000	2.500	32.0000	3.000	32.0000

Depth/Flow Relationship Manhole: DUMMY 32, DS/PN: 23.001, Volume (m³): 0.0

Invert Level (m) 79.236

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	9.0000	0.600	9.0000	1.100	9.0000	1.600	9.0000	2.100	9.0000	2.600	9.0000
0.200	9.0000	0.700	9.0000	1.200	9.0000	1.700	9.0000	2.200	9.0000	2.700	9.0000
0.300	9.0000	0.800	9.0000	1.300	9.0000	1.800	9.0000	2.300	9.0000	2.800	9.0000
0.400	9.0000	0.900	9.0000	1.400	9.0000	1.900	9.0000	2.400	9.0000	2.900	9.0000
0.500	9.0000	1.000	9.0000	1.500	9.0000	2.000	9.0000	2.500	9.0000	3.000	9.0000

Depth/Flow Relationship Manhole: DUMMY 34, DS/PN: 24.001, Volume (m³): 0.0

Invert Level (m) 78.395

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	12.9000	0.600	12.9000	1.100	12.9000	1.600	12.9000	2.100	12.9000	2.600	12.9000
0.200	12.9000	0.700	12.9000	1.200	12.9000	1.700	12.9000	2.200	12.9000	2.700	12.9000
0.300	12.9000	0.800	12.9000	1.300	12.9000	1.800	12.9000	2.300	12.9000	2.800	12.9000
0.400	12.9000	0.900	12.9000	1.400	12.9000	1.900	12.9000	2.400	12.9000	2.900	12.9000
0.500	12.9000	1.000	12.9000	1.500	12.9000	2.000	12.9000	2.500	12.9000	3.000	12.9000

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Depth/Flow Relationship Manhole: DUMMY 36, DS/PN: 25.001, Volume (m³): 0.0

Invert Level (m) 76.836

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	30.4000	0.600	30.4000	1.100	30.4000	1.600	30.4000	2.100	30.4000	2.600	30.4000
0.200	30.4000	0.700	30.4000	1.200	30.4000	1.700	30.4000	2.200	30.4000	2.700	30.4000
0.300	30.4000	0.800	30.4000	1.300	30.4000	1.800	30.4000	2.300	30.4000	2.800	30.4000
0.400	30.4000	0.900	30.4000	1.400	30.4000	1.900	30.4000	2.400	30.4000	2.900	30.4000
0.500	30.4000	1.000	30.4000	1.500	30.4000	2.000	30.4000	2.500	30.4000	3.000	30.4000

Depth/Flow Relationship Manhole: DUMMY 38, DS/PN: 26.001, Volume (m³): 0.0

Invert Level (m) 75.715

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	50.5000	0.600	50.5000	1.100	50.5000	1.600	50.5000	2.100	50.5000	2.600	50.5000
0.200	50.5000	0.700	50.5000	1.200	50.5000	1.700	50.5000	2.200	50.5000	2.700	50.5000
0.300	50.5000	0.800	50.5000	1.300	50.5000	1.800	50.5000	2.300	50.5000	2.800	50.5000
0.400	50.5000	0.900	50.5000	1.400	50.5000	1.900	50.5000	2.400	50.5000	2.900	50.5000
0.500	50.5000	1.000	50.5000	1.500	50.5000	2.000	50.5000	2.500	50.5000	3.000	50.5000

Depth/Flow Relationship Manhole: DUMMY 40, DS/PN: 27.001, Volume (m³): 0.0

Invert Level (m) 75.715

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.7000	0.600	6.7000	1.100	6.7000	1.600	6.7000	2.100	6.7000	2.600	6.7000
0.200	6.7000	0.700	6.7000	1.200	6.7000	1.700	6.7000	2.200	6.7000	2.700	6.7000
0.300	6.7000	0.800	6.7000	1.300	6.7000	1.800	6.7000	2.300	6.7000	2.800	6.7000
0.400	6.7000	0.900	6.7000	1.400	6.7000	1.900	6.7000	2.400	6.7000	2.900	6.7000
0.500	6.7000	1.000	6.7000	1.500	6.7000	2.000	6.7000	2.500	6.7000	3.000	6.7000

Depth/Flow Relationship Manhole: DUMMY 2, DS/PN: 28.001, Volume (m³): 0.0

Invert Level (m) 78.795

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.3000	0.600	0.3000	1.100	0.3000	1.600	0.3000	2.100	0.3000	2.600	0.3000
0.200	0.3000	0.700	0.3000	1.200	0.3000	1.700	0.3000	2.200	0.3000	2.700	0.3000
0.300	0.3000	0.800	0.3000	1.300	0.3000	1.800	0.3000	2.300	0.3000	2.800	0.3000
0.400	0.3000	0.900	0.3000	1.400	0.3000	1.900	0.3000	2.400	0.3000	2.900	0.3000
0.500	0.3000	1.000	0.3000	1.500	0.3000	2.000	0.3000	2.500	0.3000	3.000	0.3000

Depth/Flow Relationship Manhole: DUMMY 4, DS/PN: 29.001, Volume (m³): 0.0

Invert Level (m) 78.775

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.3000	0.600	1.3000	1.100	1.3000	1.600	1.3000	2.100	1.3000	2.600	1.3000
0.200	1.3000	0.700	1.3000	1.200	1.3000	1.700	1.3000	2.200	1.3000	2.700	1.3000
0.300	1.3000	0.800	1.3000	1.300	1.3000	1.800	1.3000	2.300	1.3000	2.800	1.3000
0.400	1.3000	0.900	1.3000	1.400	1.3000	1.900	1.3000	2.400	1.3000	2.900	1.3000
0.500	1.3000	1.000	1.3000	1.500	1.3000	2.000	1.3000	2.500	1.3000	3.000	1.3000

Depth/Flow Relationship Manhole: DUMMY 6, DS/PN: 30.001, Volume (m³): 0.1

Invert Level (m) 78.744

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.4000	0.600	4.4000	1.100	4.4000	1.600	4.4000	2.100	4.4000	2.600	4.4000
0.200	4.4000	0.700	4.4000	1.200	4.4000	1.700	4.4000	2.200	4.4000	2.700	4.4000
0.300	4.4000	0.800	4.4000	1.300	4.4000	1.800	4.4000	2.300	4.4000	2.800	4.4000
0.400	4.4000	0.900	4.4000	1.400	4.4000	1.900	4.4000	2.400	4.4000	2.900	4.4000
0.500	4.4000	1.000	4.4000	1.500	4.4000	2.000	4.4000	2.500	4.4000	3.000	4.4000

Depth/Flow Relationship Manhole: DUMMY 8, DS/PN: 31.001, Volume (m³): 0.1

Invert Level (m) 78.543

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.6000	0.600	1.6000	1.100	1.6000	1.600	1.6000	2.100	1.6000	2.600	1.6000
0.200	1.6000	0.700	1.6000	1.200	1.6000	1.700	1.6000	2.200	1.6000	2.700	1.6000
0.300	1.6000	0.800	1.6000	1.300	1.6000	1.800	1.6000	2.300	1.6000	2.800	1.6000
0.400	1.6000	0.900	1.6000	1.400	1.6000	1.900	1.6000	2.400	1.6000	2.900	1.6000
0.500	1.6000	1.000	1.6000	1.500	1.6000	2.000	1.6000	2.500	1.6000	3.000	1.6000

Depth/Flow Relationship Manhole: DUMMY 10, DS/PN: 32.001, Volume (m³): 0.1

Invert Level (m) 77.977

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Depth/Flow Relationship Manhole: DUMMY 10, DS/PN: 32.001, Volume (m³): 0.1

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.3000	0.600	1.3000	1.100	1.3000	1.600	1.3000	2.100	1.3000	2.600	1.3000
0.200	1.3000	0.700	1.3000	1.200	1.3000	1.700	1.3000	2.200	1.3000	2.700	1.3000
0.300	1.3000	0.800	1.3000	1.300	1.3000	1.800	1.3000	2.300	1.3000	2.800	1.3000
0.400	1.3000	0.900	1.3000	1.400	1.3000	1.900	1.3000	2.400	1.3000	2.900	1.3000
0.500	1.3000	1.000	1.3000	1.500	1.3000	2.000	1.3000	2.500	1.3000	3.000	1.3000

Depth/Flow Relationship Manhole: DUMMY 12, DS/PN: 33.001, Volume (m³): 0.0

Invert Level (m) 77.629

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	9.1000	0.600	9.1000	1.100	9.1000	1.600	9.1000	2.100	9.1000	2.600	9.1000
0.200	9.1000	0.700	9.1000	1.200	9.1000	1.700	9.1000	2.200	9.1000	2.700	9.1000
0.300	9.1000	0.800	9.1000	1.300	9.1000	1.800	9.1000	2.300	9.1000	2.800	9.1000
0.400	9.1000	0.900	9.1000	1.400	9.1000	1.900	9.1000	2.400	9.1000	2.900	9.1000
0.500	9.1000	1.000	9.1000	1.500	9.1000	2.000	9.1000	2.500	9.1000	3.000	9.1000

Depth/Flow Relationship Manhole: DUMMY 14, DS/PN: 34.001, Volume (m³): 0.0

Invert Level (m) 77.085

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	7.3000	0.600	7.3000	1.100	7.3000	1.600	7.3000	2.100	7.3000	2.600	7.3000
0.200	7.3000	0.700	7.3000	1.200	7.3000	1.700	7.3000	2.200	7.3000	2.700	7.3000
0.300	7.3000	0.800	7.3000	1.300	7.3000	1.800	7.3000	2.300	7.3000	2.800	7.3000
0.400	7.3000	0.900	7.3000	1.400	7.3000	1.900	7.3000	2.400	7.3000	2.900	7.3000
0.500	7.3000	1.000	7.3000	1.500	7.3000	2.000	7.3000	2.500	7.3000	3.000	7.3000

Depth/Flow Relationship Manhole: DUMMY 16, DS/PN: 35.001, Volume (m³): 0.0

Invert Level (m) 76.856

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.7000	0.600	5.7000	1.100	5.7000	1.600	5.7000	2.100	5.7000	2.600	5.7000
0.200	5.7000	0.700	5.7000	1.200	5.7000	1.700	5.7000	2.200	5.7000	2.700	5.7000
0.300	5.7000	0.800	5.7000	1.300	5.7000	1.800	5.7000	2.300	5.7000	2.800	5.7000
0.400	5.7000	0.900	5.7000	1.400	5.7000	1.900	5.7000	2.400	5.7000	2.900	5.7000
0.500	5.7000	1.000	5.7000	1.500	5.7000	2.000	5.7000	2.500	5.7000	3.000	5.7000

Depth/Flow Relationship Manhole: DUMMY 18, DS/PN: 36.001, Volume (m³): 0.1

Invert Level (m) 76.864

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	6.3000	0.600	6.3000	1.100	6.3000	1.600	6.3000	2.100	6.3000	2.600	6.3000
0.200	6.3000	0.700	6.3000	1.200	6.3000	1.700	6.3000	2.200	6.3000	2.700	6.3000
0.300	6.3000	0.800	6.3000	1.300	6.3000	1.800	6.3000	2.300	6.3000	2.800	6.3000
0.400	6.3000	0.900	6.3000	1.400	6.3000	1.900	6.3000	2.400	6.3000	2.900	6.3000
0.500	6.3000	1.000	6.3000	1.500	6.3000	2.000	6.3000	2.500	6.3000	3.000	6.3000

Depth/Flow Relationship Manhole: DUMMY 20, DS/PN: 37.001, Volume (m³): 0.0

Invert Level (m) 77.216

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.5000	0.600	2.5000	1.100	2.5000	1.600	2.5000	2.100	2.5000	2.600	2.5000
0.200	2.5000	0.700	2.5000	1.200	2.5000	1.700	2.5000	2.200	2.5000	2.700	2.5000
0.300	2.5000	0.800	2.5000	1.300	2.5000	1.800	2.5000	2.300	2.5000	2.800	2.5000
0.400	2.5000	0.900	2.5000	1.400	2.5000	1.900	2.5000	2.400	2.5000	2.900	2.5000
0.500	2.5000	1.000	2.5000	1.500	2.5000	2.000	2.5000	2.500	2.5000	3.000	2.5000

Depth/Flow Relationship Manhole: DUMMY 42, DS/PN: 38.001, Volume (m³): 0.1

Invert Level (m) 78.074

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.9000	0.600	0.9000	1.100	0.9000	1.600	0.9000	2.100	0.9000	2.600	0.9000
0.200	0.9000	0.700	0.9000	1.200	0.9000	1.700	0.9000	2.200	0.9000	2.700	0.9000
0.300	0.9000	0.800	0.9000	1.300	0.9000	1.800	0.9000	2.300	0.9000	2.800	0.9000
0.400	0.9000	0.900	0.9000	1.400	0.9000	1.900	0.9000	2.400	0.9000	2.900	0.9000
0.500	0.9000	1.000	0.9000	1.500	0.9000	2.000	0.9000	2.500	0.9000	3.000	0.9000

Depth/Flow Relationship Manhole: DUMMY 44, DS/PN: 39.001, Volume (m³): 0.0

Invert Level (m) 76.435

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.8000	0.300	0.8000	0.500	0.8000	0.700	0.8000	0.900	0.8000	1.100	0.8000
0.200	0.8000	0.400	0.8000	0.600	0.8000	0.800	0.8000	1.000	0.8000	1.200	0.8000

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Depth/Flow Relationship Manhole: DUMMY 44, DS/PN: 39.001, Volume (m³): 0.0

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
1.300	0.8000	1.600	0.8000	1.900	0.8000	2.200	0.8000	2.500	0.8000	2.800	0.8000
1.400	0.8000	1.700	0.8000	2.000	0.8000	2.300	0.8000	2.600	0.8000	2.900	0.8000
1.500	0.8000	1.800	0.8000	2.100	0.8000	2.400	0.8000	2.700	0.8000	3.000	0.8000

Depth/Flow Relationship Manhole: DUMMY 46, DS/PN: 40.001, Volume (m³): 0.1

Invert Level (m) 76.211

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.6000	0.600	0.6000	1.100	0.6000	1.600	0.6000	2.100	0.6000	2.600	0.6000
0.200	0.6000	0.700	0.6000	1.200	0.6000	1.700	0.6000	2.200	0.6000	2.700	0.6000
0.300	0.6000	0.800	0.6000	1.300	0.6000	1.800	0.6000	2.300	0.6000	2.800	0.6000
0.400	0.6000	0.900	0.6000	1.400	0.6000	1.900	0.6000	2.400	0.6000	2.900	0.6000
0.500	0.6000	1.000	0.6000	1.500	0.6000	2.000	0.6000	2.500	0.6000	3.000	0.6000

Depth/Flow Relationship Manhole: DUMMY 48, DS/PN: 41.001, Volume (m³): 0.0

Invert Level (m) 76.936

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.4000	0.600	0.4000	1.100	0.4000	1.600	0.4000	2.100	0.4000	2.600	0.4000
0.200	0.4000	0.700	0.4000	1.200	0.4000	1.700	0.4000	2.200	0.4000	2.700	0.4000
0.300	0.4000	0.800	0.4000	1.300	0.4000	1.800	0.4000	2.300	0.4000	2.800	0.4000
0.400	0.4000	0.900	0.4000	1.400	0.4000	1.900	0.4000	2.400	0.4000	2.900	0.4000
0.500	0.4000	1.000	0.4000	1.500	0.4000	2.000	0.4000	2.500	0.4000	3.000	0.4000

Depth/Flow Relationship Manhole: DUMMY 50, DS/PN: 42.001, Volume (m³): 0.1

Invert Level (m) 76.793

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.2000	0.600	1.2000	1.100	1.2000	1.600	1.2000	2.100	1.2000	2.600	1.2000
0.200	1.2000	0.700	1.2000	1.200	1.2000	1.700	1.2000	2.200	1.2000	2.700	1.2000
0.300	1.2000	0.800	1.2000	1.300	1.2000	1.800	1.2000	2.300	1.2000	2.800	1.2000
0.400	1.2000	0.900	1.2000	1.400	1.2000	1.900	1.2000	2.400	1.2000	2.900	1.2000
0.500	1.2000	1.000	1.2000	1.500	1.2000	2.000	1.2000	2.500	1.2000	3.000	1.2000

Depth/Flow Relationship Manhole: DUMMY 52, DS/PN: 43.001, Volume (m³): 0.1

Invert Level (m) 75.661

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.9000	0.600	0.9000	1.100	0.9000	1.600	0.9000	2.100	0.9000	2.600	0.9000
0.200	0.9000	0.700	0.9000	1.200	0.9000	1.700	0.9000	2.200	0.9000	2.700	0.9000
0.300	0.9000	0.800	0.9000	1.300	0.9000	1.800	0.9000	2.300	0.9000	2.800	0.9000
0.400	0.9000	0.900	0.9000	1.400	0.9000	1.900	0.9000	2.400	0.9000	2.900	0.9000
0.500	0.9000	1.000	0.9000	1.500	0.9000	2.000	0.9000	2.500	0.9000	3.000	0.9000

Depth/Flow Relationship Manhole: DUMMY 54, DS/PN: 44.001, Volume (m³): 0.1

Invert Level (m) 74.816

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.6000	0.600	0.6000	1.100	0.6000	1.600	0.6000	2.100	0.6000	2.600	0.6000
0.200	0.6000	0.700	0.6000	1.200	0.6000	1.700	0.6000	2.200	0.6000	2.700	0.6000
0.300	0.6000	0.800	0.6000	1.300	0.6000	1.800	0.6000	2.300	0.6000	2.800	0.6000
0.400	0.6000	0.900	0.6000	1.400	0.6000	1.900	0.6000	2.400	0.6000	2.900	0.6000
0.500	0.6000	1.000	0.6000	1.500	0.6000	2.000	0.6000	2.500	0.6000	3.000	0.6000

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Storage Structures for Storm

Tank or Pond Manhole: NW3-8c Pond DS, DS/PN: 38.012

Invert Level (m) 72.355

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	90.0	0.958	212.6	1.258	261.7

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 27 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH D3 (1km) 0.233
FEH Rainfall Version 1999 E (1km) 0.299
Site Location GB 438400 279200 SP 38400 79200 F (1km) 2.381
C (1km) -0.025 Cv (Summer) 0.900
D1 (1km) 0.382 Cv (Winter) 0.900
D2 (1km) 0.332

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years) 100
Climate Change (%) 20

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
18.000	DUMMY 21	15 Summer	100	+20%					81.870	0.000	0.000	0.07
18.001	DUMMY 22	15 Summer	100	+20%					81.866	0.000	0.000	0.01
18.002	EX-NW3-37	120 Summer	100	+20%					80.871	-0.149	0.000	0.00
19.000	DUMMY 23	15 Summer	100	+20%					79.680	0.000	0.000	0.07
19.001	DUMMY 24	15 Summer	100	+20%					79.674	0.000	0.000	0.01
18.003	EX-NW3-38	480 Winter	100	+20%	100/15 Summer				79.828	0.998	0.000	0.00
20.000	DUMMY 25	15 Summer	100	+20%					78.830	0.000	0.000	6.27
20.001	DUMMY 26	15 Summer	100	+20%	100/15 Summer				78.823	0.525	0.000	5.05
18.004	EX-NW3-39	480 Winter	100	+20%	100/15 Summer	100/15 Summer			79.828	1.848	648.260	2.89
21.000	DUMMY 27	15 Summer	100	+20%					78.110	0.000	0.000	2.31
21.001	DUMMY 28	15 Summer	100	+20%					78.103	0.000	0.000	1.19
18.005	NW3-40	480 Winter	100	+20%	100/15 Summer	100/15 Summer			78.764	0.911	303.834	3.30
22.000	DUMMY 29	15 Summer	100	+20%					78.110	0.000	0.000	4.15
22.001	DUMMY 30	15 Summer	100	+20%					78.104	0.000	0.000	2.95
18.006	EX-NW3-41	360 Winter	100	+20%	100/15 Summer	100/180 Winter			78.462	0.702	1.667	0.97
23.000	DUMMY 31	15 Summer	100	+20%					79.390	0.000	0.000	1.90
23.001	DUMMY 32	15 Summer	100	+20%					79.386	0.000	0.000	0.83
18.007	EX-NW3-42	360 Winter	100	+20%	100/15 Summer				78.195	0.765	0.000	1.02
24.000	DUMMY 33	15 Summer	100	+20%					78.550	0.000	0.000	2.31
24.001	DUMMY 34	15 Summer	100	+20%					78.545	0.000	0.000	1.19
18.008	EX-NW3-43	360 Winter	100	+20%	100/15 Summer				77.898	0.768	0.000	0.55
25.000	DUMMY 35	15 Summer	100	+20%					76.990	0.000	0.000	4.00
25.001	DUMMY 36	15 Summer	100	+20%					76.986	0.000	0.000	2.80
18.009	EX-NW3-44	360 Winter	100	+20%	100/15 Summer	100/120 Summer			77.413	1.943	73.636	2.35
26.000	DUMMY 37	15 Summer	100	+20%					75.870	0.000	0.000	5.87
26.001	DUMMY 38	15 Summer	100	+20%					75.865	0.000	0.000	4.66
18.010	NW3-45	360 Winter	100	+20%	100/15 Summer	100/15 Summer			76.825	1.504	605.401	2.69
27.000	DUMMY 39	15 Summer	100	+20%					75.870	0.000	0.000	1.64
27.001	DUMMY 40	15 Summer	100	+20%					75.865	0.000	0.000	0.62
18.011	NW3-46	360 Winter	100	+20%	100/15 Summer				75.917	0.727	0.000	2.17
18.012	NW3-47	360 Winter	100	+20%					74.741	-0.249	0.000	0.25
28.000	DUMMY 1	15 Summer	100	+20%					78.950	0.000	0.000	0.23
28.001	DUMMY 2	15 Summer	100	+20%					78.945	0.000	0.000	0.03
28.002	NW3-49	360 Summer	100	+20%					77.817	-0.133	0.000	0.03
29.000	DUMMY 3	15 Summer	100	+20%					78.930	0.000	0.000	0.63
29.001	DUMMY 4	15 Summer	100	+20%					78.925	0.000	0.000	0.12
28.003	NW3-50	360 Summer	100	+20%					77.784	-0.111	0.000	0.16
30.000	DUMMY 5	15 Summer	100	+20%					78.900	0.000	0.000	1.19
30.001	DUMMY 6	15 Summer	100	+20%					78.894	0.000	0.000	0.41
28.004	NW3-51	1440 Summer	100	+20%					77.750	-0.083	0.000	0.41
31.000	DUMMY 7	15 Summer	100	+20%					78.700	0.000	0.000	0.71
31.001	DUMMY 8	15 Summer	100	+20%					78.693	0.000	0.000	0.15
28.005	NW3-52	480 Summer	100	+20%					77.600	-0.096	0.000	0.28
32.000	DUMMY 9	15 Summer	100	+20%					78.135	0.000	0.000	0.66
32.001	DUMMY 10	15 Summer	100	+20%					78.127	0.000	0.000	0.12
28.006	NW3-53	480 Summer	100	+20%					77.044	-0.085	0.000	0.39
33.000	DUMMY 11	15 Summer	100	+20%					77.785	0.000	0.000	1.72
33.001	DUMMY 12	15 Summer	100	+20%					77.779	0.000	0.000	0.84
28.007	NW3-54	1440 Summer	100	+20%					76.628	-0.131	0.000	0.35
34.000	DUMMY 13	15 Summer	100	+20%					77.240	0.000	0.000	1.53
34.001	DUMMY 14	15 Summer	100	+20%					77.235	0.000	0.000	0.67
28.008	NW3-55	480 Summer	100	+20%					75.997	-0.111	0.000	0.51
35.000	DUMMY 15	15 Summer	100	+20%					77.010	0.000	0.000	1.35
35.001	DUMMY 16	15 Summer	100	+20%					77.006	0.000	0.000	0.52
28.009	NW3-56	480 Winter	100	+20%					75.503	-0.093	0.000	0.65
36.000	DUMMY 17	15 Summer	100	+20%					77.020	0.000	0.000	1.42
36.001	DUMMY 18	15 Summer	100	+20%					77.014	0.000	0.000	0.58
28.010	NW3-57	480 Winter	100	+20%					75.208	-0.077	0.000	0.76
37.000	DUMMY 19	15 Summer	100	+20%					77.370	0.000	0.000	0.90
37.001	DUMMY 20	15 Summer	100	+20%					77.366	0.000	0.000	0.23

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
18.000	DUMMY 21			0.8	SURCHARGED*	
18.001	DUMMY 22			0.1	SURCHARGED*	
18.002	EX-NW3-37			0.1	OK	
19.000	DUMMY 23			0.8	SURCHARGED*	
19.001	DUMMY 24			0.1	SURCHARGED*	
18.003	EX-NW3-38			0.1	FLOOD RISK	
20.000	DUMMY 25			68.0	SURCHARGED*	
20.001	DUMMY 26			54.8	SURCHARGED*	
18.004	EX-NW3-39			15.9	FLOOD	24
21.000	DUMMY 27			25.1	SURCHARGED*	
21.001	DUMMY 28			12.9	SURCHARGED*	
18.005	NW3-40			18.0	FLOOD	24
22.000	DUMMY 29			45.0	SURCHARGED*	
22.001	DUMMY 30			32.0	SURCHARGED*	
18.006	EX-NW3-41			43.3	FLOOD	10
23.000	DUMMY 31			20.6	SURCHARGED*	
23.001	DUMMY 32			9.0	SURCHARGED*	
18.007	EX-NW3-42			50.3	SURCHARGED	
24.000	DUMMY 33			25.1	SURCHARGED*	
24.001	DUMMY 34			12.9	SURCHARGED*	
18.008	EX-NW3-43			63.2	SURCHARGED	
25.000	DUMMY 35			43.4	SURCHARGED*	
25.001	DUMMY 36			30.4	SURCHARGED*	
18.009	EX-NW3-44			93.4	FLOOD	15
26.000	DUMMY 37			63.6	SURCHARGED*	
26.001	DUMMY 38			50.5	SURCHARGED*	
18.010	NW3-45			106.7	FLOOD	24
27.000	DUMMY 39			17.7	SURCHARGED*	
27.001	DUMMY 40			6.7	SURCHARGED*	
18.011	NW3-46			111.0	SURCHARGED	
18.012	NW3-47			111.0	OK	
28.000	DUMMY 1			2.5	FLOOD RISK*	
28.001	DUMMY 2			0.3	FLOOD RISK*	
28.002	NW3-49			0.3	OK	
29.000	DUMMY 3			6.9	FLOOD RISK*	
29.001	DUMMY 4			1.3	FLOOD RISK*	
28.003	NW3-50			1.6	OK	
30.000	DUMMY 5			12.9	FLOOD RISK*	
30.001	DUMMY 6			4.4	FLOOD RISK*	
28.004	NW3-51			6.0	OK	
31.000	DUMMY 7			7.7	FLOOD RISK*	
31.001	DUMMY 8			1.6	FLOOD RISK*	
28.005	NW3-52			7.6	OK	
32.000	DUMMY 9			7.0	FLOOD RISK*	
32.001	DUMMY 10			1.3	FLOOD RISK*	
28.006	NW3-53			8.9	OK	
33.000	DUMMY 11			18.7	FLOOD RISK*	
33.001	DUMMY 12			9.1	FLOOD RISK*	
28.007	NW3-54			17.5	OK	
34.000	DUMMY 13			16.6	FLOOD RISK*	
34.001	DUMMY 14			7.3	FLOOD RISK*	
28.008	NW3-55			25.3	OK	
35.000	DUMMY 15			14.6	FLOOD RISK*	
35.001	DUMMY 16			5.7	FLOOD RISK*	
28.009	NW3-56			30.9	OK	
36.000	DUMMY 17			15.4	FLOOD RISK*	
36.001	DUMMY 18			6.3	FLOOD RISK*	
28.010	NW3-57			37.2	OK	
37.000	DUMMY 19			9.8	FLOOD RISK*	
37.001	DUMMY 20			2.5	FLOOD RISK*	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
28.011	NW3-58	480 Winter	100	+20%					74.740	-0.112	0.000	0.50
28.012	NW3-59	480 Winter	100	+20%					73.824	-0.105	0.000	0.56
18.013	NW3-48	360 Summer	100	+20%					73.303	-0.373	0.000	0.31
18.014	NW3-9	60 Summer	100	+20%					72.968	-0.132	0.000	0.42
18.015	NW3-9a	60 Summer	100	+20%					72.936	-0.034	0.000	0.42
18.016	NW3-9b	120 Summer	100	+20%	100/15 Summer				72.905	0.075	0.000	0.48
38.000	DUMMY 41	15 Summer	100	+20%					78.240	0.000	0.000	0.91
38.001	DUMMY 42	15 Summer	100	+20%					78.224	0.000	0.000	0.14
38.002	EX-NW3-1	600 Summer	100	+20%					77.262	-0.128	0.000	0.05
39.000	DUMMY 43	15 Summer	100	+20%					76.590	0.000	0.000	0.51
39.001	DUMMY 44	15 Summer	100	+20%					76.585	0.000	0.000	0.07
38.003	EX-NW3-2	480 Winter	100	+20%					75.740	-0.110	0.000	0.16
40.000	DUMMY 45	15 Summer	100	+20%					76.370	0.000	0.000	0.44
40.001	DUMMY 46	15 Summer	100	+20%					76.361	0.000	0.000	0.06
38.004	EX-NW3-3	480 Winter	100	+20%					75.191	-0.109	0.000	0.17
41.000	DUMMY 47	15 Summer	100	+20%					77.090	0.000	0.000	0.28
41.001	DUMMY 48	15 Summer	100	+20%					77.086	0.000	0.000	0.04
38.005	EX-NW3-4	30 Winter	100	+20%	100/30 Winter				74.157	0.007	0.000	0.39
42.000	DUMMY 49	15 Summer	100	+20%					76.950	0.000	0.000	0.77
42.001	DUMMY 50	15 Summer	100	+20%					76.943	0.000	0.000	0.14
38.006	EX-NW3-5	30 Winter	100	+20%	100/15 Summer				74.121	0.221	0.000	0.75
43.000	DUMMY 51	15 Summer	100	+20%					75.820	0.000	0.000	0.57
43.001	DUMMY 52	15 Summer	100	+20%					75.811	0.000	0.000	0.09
38.007	EX-NW3-6	30 Winter	100	+20%	100/15 Summer				74.082	0.432	0.000	0.76
44.000	DUMMY 53	15 Summer	100	+20%					74.980	0.000	0.000	0.58
44.001	DUMMY 54	15 Summer	100	+20%					74.966	0.000	0.000	0.07
38.008	EX-NW3-7	30 Winter	100	+20%	100/15 Summer				74.074	1.024	0.000	0.43
45.000	EX-NW3-10	15 Summer	100	+20%	100/15 Summer	100/15 Summer			76.255	1.639	4.649	1.18
46.000	NW3-19	15 Summer	100	+20%	100/15 Summer	100/15 Summer			76.403	1.467	2.873	1.07
47.000	EX-NW3-21	15 Summer	100	+20%	100/15 Summer				76.582	1.352	0.000	0.67
47.001	EX-NW3-29	15 Summer	100	+20%	100/15 Summer				76.288	1.623	0.000	1.05
46.001	NW3-20	15 Summer	100	+20%	100/15 Summer				76.274	1.623	0.000	0.53
45.001	EX-NW3-11	15 Summer	100	+20%	100/15 Summer	100/15 Summer			76.206	1.645	5.588	1.06
45.002	NW3-12	15 Summer	100	+20%	100/15 Summer	100/15 Summer			76.118	1.740	0.180	0.80
45.003	EX-NW3-13	30 Summer	100	+20%	100/15 Summer	100/15 Summer			75.984	1.789	4.224	1.06
48.000	NW3-22	15 Summer	100	+20%	100/15 Summer	100/15 Summer			76.333	1.559	12.597	1.72
48.001	NW3-X1	15 Summer	100	+20%	100/15 Summer	100/15 Summer			76.220	1.736	1.324	1.00
48.002	NW3-23	15 Summer	100	+20%	100/15 Summer	100/15 Summer			76.150	1.830	0.417	1.44
48.003	NW3-X2	30 Summer	100	+20%	100/15 Summer				76.099	1.807	0.000	1.11
49.000	EXCP68-DUMMY	15 Summer	100	+20%					74.965	0.000	0.000	0.53
49.001	NW3-30	30 Winter	100	+20%	100/15 Summer				75.976	1.236	0.000	0.44
49.002	EX-NW3-31	30 Winter	100	+20%	100/15 Summer				75.946	1.541	0.000	0.82
49.003	EX-NW3-32	30 Winter	100	+20%	100/15 Summer				75.911	1.651	0.000	0.26
48.004	NW3-24	30 Summer	100	+20%	100/15 Summer				75.905	1.755	0.000	0.99
45.004	EX-NW3-14	30 Winter	100	+20%	100/15 Summer	100/15 Summer			75.873	1.798	42.584	1.89
45.005	EX-NW3-15	30 Summer	100	+20%	100/15 Summer	100/15 Winter			75.771	1.936	1.459	1.86
50.000	EXCP62-DUMMY	15 Summer	100	+20%					74.595	0.000	0.000	2.36
50.001	NW3-X3	15 Summer	100	+20%	100/15 Summer	100/15 Summer			75.973	1.610	6.812	1.83
50.002	NW3-25	30 Summer	100	+20%	100/15 Summer				75.906	1.791	0.000	1.13
50.003	NW3-X4	30 Summer	100	+20%	100/15 Summer				75.741	1.865	0.000	0.86
51.000	EXCP70-DUMMY	15 Summer	100	+20%					74.470	0.000	0.000	1.20
51.001	EX-NW3-33	30 Summer	100	+20%	100/15 Summer	100/15 Summer			76.131	1.951	0.759	1.26
52.000	29-DUMMY	15 Summer	100	+20%					74.740	0.000	0.000	0.65
51.002	NW3-34	30 Summer	100	+20%	100/15 Summer				75.599	2.009	0.000	0.64
50.004	NW3-26	30 Summer	100	+20%	100/15 Summer				75.586	2.021	0.000	1.72
45.006	NW3-16	30 Summer	100	+20%	100/15 Summer				75.491	1.966	0.000	1.57
45.007	NW3-17	30 Winter	100	+20%	100/15 Summer				75.039	1.704	0.000	1.74
53.000	EXCP64-DUMMY	15 Summer	100	+20%					74.255	0.000	0.000	2.21
53.001	NW3-X5	15 Summer	100	+20%	100/15 Summer	100/15 Summer			75.712	1.701	8.838	1.83
53.002	NW3-27	15 Summer	100	+20%	100/15 Summer	100/15 Summer			75.580	1.730	0.400	1.94
53.003	NW3-X6	30 Summer	100	+20%	100/15 Summer				75.002	1.428	0.000	1.58
54.000	NW3-35	30 Winter	100	+20%					74.640	-0.025	0.000	0.32
54.001	NW3-35A	30 Winter	100	+20%	100/15 Summer				74.626	0.237	0.000	0.30
54.002	NW3-36	30 Winter	100	+20%	100/15 Summer				74.604	1.187	0.000	0.69
53.004	NW3-28	30 Winter	100	+20%	100/15 Summer				74.601	1.292	0.000	1.56
45.008	NW3-18	30 Winter	100	+20%	100/15 Summer				74.412	1.287	0.000	1.98
38.009	NW3-8	30 Winter	100	+20%	100/15 Summer				74.077	1.027	0.000	2.05
38.010	NW3-8a	30 Winter	100	+20%	100/15 Summer				73.675	0.725	0.000	2.43
38.011	NW3-8b Pond US	15 Summer	100	+20%					72.910	0.000	0.000	1.76
38.012	NW3-8c Pond DS	60 Summer	100	+20%	100/15 Summer				73.112	0.307	0.000	1.57
18.017	NW3-8d	120 Summer	100	+20%	100/15 Summer				72.894	0.114	0.000	2.61

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
28.011	NW3-58			39.7	OK	
28.012	NW3-59			39.7	OK	
18.013	NW3-48			150.2	OK	
18.014	NW3-9			141.7	OK	
18.015	NW3-9a			143.5	OK	
18.016	NW3-9b			154.5	SURCHARGED	
38.000	DUMMY 41			6.0	SURCHARGED*	
38.001	DUMMY 42			0.9	SURCHARGED*	
38.002	EX-NW3-1			0.9	OK	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
39.000	DUMMY 43			5.5	SURCHARGED*	
39.001	DUMMY 44			0.8	SURCHARGED*	
38.003	EX-NW3-2			1.7	OK	
40.000	DUMMY 45			4.5	SURCHARGED*	
40.001	DUMMY 46			0.6	SURCHARGED*	
38.004	EX-NW3-3			2.3	OK	
41.000	DUMMY 47			3.0	SURCHARGED*	
41.001	DUMMY 48			0.4	SURCHARGED*	
38.005	EX-NW3-4			3.2	SURCHARGED	
42.000	DUMMY 49			7.2	SURCHARGED*	
42.001	DUMMY 50			1.2	SURCHARGED*	
38.006	EX-NW3-5			5.6	SURCHARGED	
43.000	DUMMY 51			5.9	SURCHARGED*	
43.001	DUMMY 52			0.9	SURCHARGED*	
38.007	EX-NW3-6			8.1	SURCHARGED	
44.000	DUMMY 53			4.5	SURCHARGED*	
44.001	DUMMY 54			0.6	SURCHARGED*	
38.008	EX-NW3-7			9.9	SURCHARGED	
45.000	EX-NW3-10			26.1	FLOOD	6
46.000	NW3-19			28.2	FLOOD	5
47.000	EX-NW3-21			8.7	FLOOD RISK	
47.001	EX-NW3-29			10.9	SURCHARGED	
46.001	NW3-20			25.6	FLOOD RISK	
45.001	EX-NW3-11			86.8	FLOOD	5
45.002	NW3-12			65.4	FLOOD	2
45.003	EX-NW3-13			70.1	FLOOD	6
48.000	NW3-22			47.2	FLOOD	7
48.001	NW3-X1			27.1	FLOOD	5
48.002	NW3-23			55.0	FLOOD	3
48.003	NW3-X2			48.3	FLOOD RISK	
49.000	EXCP68-DUMMY			14.4	SURCHARGED*	
49.001	NW3-30			11.8	SURCHARGED	
49.002	EX-NW3-31			16.4	SURCHARGED	
49.003	EX-NW3-32			19.0	SURCHARGED	
48.004	NW3-24			45.1	FLOOD RISK	
45.004	EX-NW3-14			129.5	FLOOD	7
45.005	EX-NW3-15			126.7	FLOOD	4
50.000	EXCP62-DUMMY			59.3	SURCHARGED*	
50.001	NW3-X3			46.4	FLOOD	5
50.002	NW3-25			81.1	FLOOD RISK	
50.003	NW3-X4			70.3	FLOOD RISK	
51.000	EXCP70-DUMMY			8.1	SURCHARGED*	
51.001	EX-NW3-33			11.9	FLOOD	4
52.000	29-DUMMY			12.5	SURCHARGED*	
51.002	NW3-34			17.8	SURCHARGED	
50.004	NW3-26			79.3	FLOOD RISK	
45.006	NW3-16			208.0	FLOOD RISK	
45.007	NW3-17			240.6	FLOOD RISK	
53.000	EXCP64-DUMMY			79.3	SURCHARGED*	
53.001	NW3-X5			63.2	FLOOD	4
53.002	NW3-27			150.5	FLOOD	1
53.003	NW3-X6			122.2	SURCHARGED	
54.000	NW3-35			4.1	OK	
54.001	NW3-35A			7.6	SURCHARGED	
54.002	NW3-36			8.0	SURCHARGED	
53.004	NW3-28			104.6	SURCHARGED	
45.008	NW3-18			334.7	SURCHARGED	
38.009	NW3-8			329.7	SURCHARGED	
38.010	NW3-8a			329.0	SURCHARGED	
38.011	NW3-8b Pond US			321.4	SURCHARGED*	
38.012	NW3-8c Pond DS			266.1	SURCHARGED*	
18.017	NW3-8d			384.7	SURCHARGED	

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Appendix B. Drainage schedule

Schedule for MD Model : HE604820-OIL-HDG-XX-M3-CD-35002														
USMH	USMH Dia (mm)	USCL (m)	US MH IL (m)	US MH Depth (m)	DSMH	DSMH Dia (mm)	DSCL (m)	DSIL (m)	DS MH Depth (m)	PN	Dia (mm)	Length (m)	Fall (m)	Slope (1:X)
EX-NW4-1	1050	71.950	69.660	2.290	EX-NW4-2	1050	71.823	69.100	2.873	1.000	150	55.828	0.560	99.7
EX-NW4-2	1050	71.823	68.950	2.873	EX-NW4-3	1050	71.676	68.940	2.736	1.001	300	4.885	0.010	488.5
EX-NW4-5	1050	72.337	70.987	1.350	EX-NW4-3	1050	71.676	69.090	2.736	2.000	150	41.145	1.897	21.7
NW4-10	1050	81.763	80.413	1.350	NW4-11	1050	80.989	79.639	1.350	3.000	300	55.171	0.774	71.3
NW4-11	1050	80.989	79.639	1.350	NW4-12	1050	80.627	79.088	1.539	3.001	300	52.351	0.551	95.0
NW4-12	1050	80.627	79.088	1.539	NW4-13	1050	80.300	78.748	1.552	3.002	300	57.255	0.340	168.2
NW4-13	1050	80.300	78.748	1.552	NW4-14	1050	79.876	78.339	1.612	3.003	300	68.797	0.409	168.2
NW4-14	1050	79.876	78.264	1.612	NW4-15	1050	79.013	77.589	1.424	3.004	375	90.000	0.675	133.3
NW4-15	1050	79.013	77.589	1.424	NW4-16	1050	78.588	77.164	1.424	3.005	375	99.429	0.425	233.9
NW4-16	1050	78.588	77.164	1.424	NW4-17	1050	78.314	76.890	1.424	3.006	375	52.606	0.274	192.0
NW4-17	1050	78.314	76.890	1.424	NW4-18	1050	77.365	75.941	1.424	3.007	375	54.946	0.949	57.9
NW4-18	1050	77.365	75.941	1.424	NW4-19	1050	75.618	74.194	1.424	3.008	375	89.327	1.747	51.1
NW4-19	1050	75.618	74.194	1.424	NW4-20	1050	73.568	72.144	1.424	3.009	375	86.827	2.050	42.4
NW4-20	1050	73.568	72.144	1.424	NW4-21	1500	72.291	70.867	1.649	3.010	375	82.074	1.277	64.3
NW4-21	1500	72.291	70.642	1.649	NW4-22	1500	72.057	70.408	1.649	3.011	600	65.879	0.234	281.5
NW4-22	1500	72.057	70.408	1.649	POND DUMMY		72.600	70.095	2.505	3.012	600	45.601	0.313	145.7
POND DUMMY 1		72.600	70.095	2.505	POND DUMMY		72.600	70.094	2.506	3.013	600	42.060	0.001	42060.0
POND DUMMY 2		72.600	70.094	2.506	EX-NW4-23	1050	71.810	70.010	1.800	3.014	375	19.227	0.084	228.9
EX-NW4-23	1050	71.810	70.010	1.800	EX-NW4-24	1050	71.205	69.855	1.350	3.015	150	55.416	0.155	357.5
EX-NW4-24	1050	71.205	69.855	1.350	EX-NW4-3	1050	71.676	69.090	2.736	3.016	150	24.128	0.765	31.5
EX-NW4-3	1050	71.676	68.940	2.736	EX-NW4-4	1050	71.278	68.428	2.850	1.002	300	21.926	0.512	42.8
EX-NW4-6	1050	71.200	69.850	1.350	EX-NW4-4	1050	71.278	68.578	2.850	4.000	150	42.687	1.272	33.6
EX-NW4-4	1050	71.278	68.428	2.850	EX-NW4-HW1	0	70.000	68.168	1.832	1.003	300	62.256	0.260	239.4
EX-NW4-7	1050	71.870	70.445	1.425	EX-NW4-8	1050	71.760	70.323	1.437	5.000	225	47.403	0.122	388.5
EX-NW4-8	1050	71.760	70.323	1.437	EX-NW4-9	1050	71.450	70.025	1.425	5.001	225	4.962	0.298	16.7
EX-NW4-9	1050	71.450	70.025	1.425	EX-NW4-HW2	0	70.000	69.625	0.375	5.002	225	42.053	0.400	105.1

Schedule for MD Model : HE604820-OIL-HDG-XX-M3-CD-35004														
USMH	USMH Dia (mm)	USCL (m)	US MH IL (m)	US MH Depth (m)	DSMH	DSMH Dia (mm)	DSCL (m)	DSIL (m)	DS MH Depth (m)	PN	Dia (mm)	Length (m)	Fall (m)	Slope (1:X)
NW1-1	1050	83.230	81.880	1.350	NW1-2	1050	82.900	81.550	1.350	1.000	150	90.000	0.330	272.7
NW1-2	1050	82.900	81.550	1.350	NW1-3	1050	81.374	80.024	1.350	1.001	150	90.000	1.526	59.0
NW1-3	1050	81.374	80.024	1.350	NW1-4	1050	80.260	78.910	1.350	1.002	150	45.021	1.114	40.4
NW1-4	1050	80.260	78.910	1.350	NW1-5	1050	79.130	77.780	1.350	1.003	150	45.015	1.130	39.8
NW1-5	1050	79.130	77.780	1.350	NW1-6	1050	78.050	76.700	1.350	1.004	150	45.040	1.080	41.7
NW1-6	1050	78.050	76.700	1.350	NW1-7	1050	77.040	75.690	1.350	1.005	150	45.017	1.010	44.6
NW1-7	1050	77.040	75.690	1.350	NW1-20	1050	76.080	73.298	3.007	1.006	150	44.331	2.392	18.5
NW1-8	1050	83.020	81.595	1.425	NW1-9	1050	82.670	81.245	1.425	2.000	225	90.000	0.350	257.1
NW1-9	1050	82.670	81.245	1.425	NW1-10	1050	81.052	79.627	1.575	2.001	225	89.908	1.618	55.6
NW1-10	1050	81.052	79.477	1.575	NW1-11	1800	78.780	77.205	1.950	2.002	375	89.885	2.272	39.6
NW1-11	1800	78.780	76.830	1.950	NW1-12	1800	76.510	74.860	1.650	2.003	750	89.832	1.970	45.6
NW1-12	1800	76.510	74.860	1.650	NW1-19	1500	75.550	73.202	2.348	2.004	450	40.610	1.658	24.5
NW1-13	1050	82.756	81.331	1.425	NW1-14	1050	82.365	80.940	1.425	3.000	225	90.000	0.391	230.2
NW1-14	1050	82.365	80.940	1.425	NW1-15	1050	80.629	79.204	1.500	3.001	225	90.000	1.736	51.8
NW1-15	1050	80.629	79.129	1.500	NW1-16	1800	78.250	76.750	1.950	3.002	300	90.000	2.379	37.8
NW1-16	1800	78.250	76.300	1.950	NW1-17	1800	75.804	74.154	1.650	3.003	750	90.000	2.146	41.9
NW1-17	1800	75.804	74.154	1.650	NW1-18	1050	74.867	73.367	1.500	3.004	300	34.417	0.787	43.7
NW1-18	1050	74.867	73.367	1.500	NW1-19	1500	75.550	73.277	2.348	3.005	300	19.010	0.090	211.3
NW1-19	1500	75.550	73.202	2.348	NW1-20	1050	76.080	73.073	3.007	2.005	375	12.017	0.129	93.2
NW1-20	1050	76.080	73.073	3.007	NW1-23	1050	71.380	69.375	2.005	1.007	375	34.656	3.698	9.4
NW1-21	900	76.930	75.070	1.860	NW1-22	900	73.010	71.660	1.350	4.000	150	82.678	3.410	24.2
NW1-22	900	73.010	71.660	1.350	NW1-23	1050	71.380	69.760	2.005	4.001	150	83.965	1.900	44.2
NW1-23	1050	71.380	69.375	2.005	EX-HW3	0	69.580	69.105	0.475	1.008	375	4.644	0.270	17.2

Schedule for MD Model : HE604820-OIL-HDG-XX-M3-CD-35006

USMH	USMH Dia (mm)	USCL (m)	US MH IL (m)	US MH Depth (m)	DSMH	DSMH Dia (mm)	DSCL (m)	DSIL (m)	DS MH Depth (m)	PN	Dia (mm)	Length (m)	Fall (m)	Slope (1:X)
SNW2A-1	1200	75.257	73.010	2.247	SNW2A-2	1050	74.415	72.730	1.685	S8.000	300	44.520	0.280	159.0
SNW2A-2	1050	74.415	72.730	1.685	SNW2A-3	1050	73.950	72.450	1.575	S8.001	300	44.203	0.280	157.9
SNW2A-3	1050	73.950	72.375	1.575	SNW2A-4	1200	73.905	71.910	1.995	S8.002	375	47.586	0.465	102.3
SNW2A-4	1200	73.905	71.910	1.995	SNW2A-26	1500	73.860	71.445	2.490	S8.003	375	42.068	0.465	90.5
SNW2A-5	1050	74.443	72.965	1.478	SNW2A-6	1050	73.639	72.300	1.339	S9.000	375	44.988	0.665	67.7
SNW2A-6	1050	73.639	72.300	1.339	SNW2A-7	1500	73.210	71.635	1.650	S9.001	375	44.312	0.665	66.6
SNW2A-7	1500	73.210	71.560	1.650	SNW2A-16	1500	73.240	71.415	1.825	S9.002	450	72.018	0.145	496.7
SNW2A-8	1050	75.540	74.115	1.425	SNW2A-9	1050	75.090	73.665	1.500	S10.000	225	39.345	0.450	87.4
SNW2A-9	1050	75.090	73.590	1.500	SNW2A-10	1050	74.709	73.209	1.500	S10.001	300	90.000	0.381	236.2
SNW2A-10	1050	74.709	73.209	1.500	SNW2A-11	1050	74.709	73.116	1.593	S10.002	300	46.521	0.093	499.9
SNW2A-11	1050	74.709	73.116	1.593	SNW2A-12	1050	74.770	72.975	1.795	S10.003	300	70.709	0.141	500.0
SNW2A-12	1050	74.770	72.975	1.795	SNW2A-13	1200	74.750	72.877	1.873	S10.004	300	48.706	0.097	500.6
SNW2A-13	1200	74.750	72.877	1.873	SNW2A-14	1200	74.620	72.787	1.833	S10.005	300	45.022	0.090	499.9
SNW2A-14	1200	74.620	72.787	1.833	SNW2A-15	1050	74.010	72.510	1.500	S10.006	300	61.757	0.277	222.9
SNW2A-15	1050	74.010	72.510	1.500	SNW2A-16	1500	73.240	71.565	1.825	S10.007	300	90.993	0.945	96.3
SNW2A-16	1500	73.240	71.415	1.825	SNW2A-26	1500	73.860	71.370	2.490	S9.003	450	14.490	0.045	322.0
SNW2A-17	1050	74.940	73.145	1.795	SNW2A-18	1050	74.836	73.044	1.792	S11.000	375	50.282	0.101	497.8
SNW2A-18	1050	74.836	73.044	1.792	SNW2A-19	1050	74.730	72.943	1.787	S11.001	375	50.282	0.101	497.8
SNW2A-19	1050	74.730	72.943	1.787	SNW2A-20	1050	74.616	72.844	1.772	S11.002	375	50.000	0.100	500.0
SNW2A-20	1050	74.616	72.844	1.772	SNW2A-21	1050	74.430	72.794	1.636	S11.003	375	25.074	0.050	501.5
SNW2A-21	1050	74.430	72.794	1.636	SNW2A-22	1050	74.320	72.653	1.667	S11.004	375	70.214	0.140	500.0
SNW2A-22	1050	74.320	72.653	1.667	SNW2A-23	1050	74.250	72.528	1.722	S11.005	375	62.261	0.125	497.6
SNW2A-23	1050	74.250	72.528	1.722	SNW2A-24	1050	74.150	72.438	1.712	S11.006	375	45.380	0.090	504.2
SNW2A-24	1050	74.150	72.438	1.712	SNW2A-25	1050	74.050	72.348	1.702	S11.007	375	45.309	0.090	503.4
SNW2A-25	1050	74.050	72.348	1.702	SNW2A-26	1500	73.860	71.445	2.490	S11.008	375	90.044	0.903	99.7
SNW2A-26	1500	73.860	71.370	2.490	SNW2A-33	1500	74.130	71.292	2.988	S8.004	450	12.912	0.078	165.5
SNW2A-27	1050	75.430	74.005	1.425	SNW2A-28	1050	74.185	72.760	1.575	S12.000	225	58.295	1.245	46.8
SNW2A-28	1050	74.185	72.610	1.575	SNW2A-29	1050	74.100	72.430	1.670	S12.001	375	89.927	0.180	499.6
SNW2A-29	1050	74.100	72.430	1.670	SNW2A-30	1050	74.140	72.302	1.838	S12.002	375	63.924	0.128	500.0
SNW2A-30	1050	74.140	72.302	1.838	SNW2A-31	1500	73.750	72.122	1.703	S12.003	375	89.953	0.180	500.0
SNW2A-31	1500	73.750	72.047	1.703	SNW2A-32	1500	73.590	71.867	1.723	S12.004	450	90.049	0.180	500.3
SNW2A-32	1500	73.590	71.867	1.723	SNW2A-33	1500	74.130	71.292	2.988	S12.005	450	89.934	0.575	156.4
SNW2A-33	1500	74.130	71.142	2.988	SNW2A-34	1500	74.292	71.088	3.204	S8.005	600	27.228	0.054	500.0
SNW2A-34	1500	74.292	71.088	3.204	SNW2A-35	1500	74.396	71.033	3.363	S8.006	600	27.620	0.055	502.2
SNW2A-35	1500	74.396	71.033	3.363	SNW2A-36	1500	74.498	70.978	3.520	S8.007	600	27.606	0.055	501.9
SNW2A-36	1500	74.498	70.978	3.520	SNW2A-37	1500	74.700	70.920	3.780	S8.008	600	29.058	0.058	501.0
SNW2A-37	1500	74.700	70.920	3.780	SNW2A-38	1500	74.863	70.891	3.972	S8.009	600	14.250	0.029	491.4
SNW2A-38	1500	74.863	70.891	3.972	SNW2A-39	1500	74.227	70.842	3.385	S8.010	600	24.317	0.049	496.3
SNW2A-39	1500	74.227	70.842	3.385	SNW2A-40	1500	73.860	70.799	3.061	S8.011	600	21.309	0.043	495.5
SNW2A-40	1500	73.860	70.799	3.061	SEX-MH136		71.230	70.028	1.202	S8.012	600	41.849	0.771	54.3
SEX-MH136		71.230	70.028	1.202	S	0	71.230	70.020	1.210	S8.013	400	3.806	0.008	475.7

Schedule for MD Model : HE604820-OIL-HDG-XX-M3-CD-35007

USMH	USMH Dia (mm)	USCL (m)	US MH IL (m)	US MH Depth (m)	DSMH	DSMH Dia (mm)	DSCL (m)	DSIL (m)	DS MH Depth (m)	PN	Dia (mm)	Length (m)	Fall (m)	Slope (1:X)
SNW2B-72		74.670	74.170	0.500	SNW2B-Pond-		75.110	72.730	2.380	S23.000	500	48.799	1.440	33.9
SNW2B-Pond-HW-		75.110	72.730	2.380	SNW2B-Centr	1500	75.230	72.729	2.501	S23.001	300	85.232	0.001	85231.9
SNW2B-1	1050	82.287	80.823	1.464	SNW2B-2	1050	81.645	80.351	1.294	S24.000	150	18.573	0.472	39.3
SNW2B-2	1050	81.645	80.351	1.294	SNW2B-3	1050	81.770	77.971	3.799	S24.001	150	43.042	2.380	18.1
SNW2B-3	1050	81.770	77.971	3.799	SNW2B-4	1050	81.770	75.591	6.179	S24.002	150	43.224	2.380	18.2
SNW2B-4	1050	81.770	75.591	6.179	SNW2B-5	1500	75.430	73.295	2.585	S24.003	150	35.984	2.296	15.7
SNW2B-6	1050	82.418	80.895	1.523	SNW2B-7	1050	82.470	80.836	1.634	S25.000	225	29.489	0.059	499.8
SNW2B-7	1050	82.470	80.836	1.634	SNW2B-8	1050	82.230	80.705	1.525	S25.001	225	13.139	0.131	100.3
SNW2B-8	1050	82.230	80.705	1.525	SNW2B-9	1050	81.880	80.291	1.664	S25.002	225	13.393	0.414	32.4
SNW2B-21	1050	82.010	80.660	1.350	SNW2B-22	1050	82.100	80.532	1.718	S26.000	150	19.677	0.128	153.7
SNW2B-27	1050	82.470	81.120	1.350	SNW2B-28	1050	82.260	80.835	1.500	S27.000	150	36.594	0.285	128.4
SNW2B-29	1050	82.460	81.110	1.350	SNW2B-28	1050	82.260	80.760	1.500	S28.000	225	34.730	0.350	99.2
SNW2B-28	1050	82.260	80.760	1.500	SNW2B-22	1050	82.100	80.457	1.718	S27.001	225	15.812	0.303	52.2
SNW2B-22	1050	82.100	80.382	1.718	SNW2B-23	1050	82.140	80.350	1.790	S26.001	300	16.474	0.032	515.3
SNW2B-23	1050	82.140	80.350	1.790	SNW2B-24	1050	82.200	80.320	1.880	S26.002	300	15.014	0.030	496.5
SNW2B-24	1050	82.200	80.320	1.880	SNW2B-25	1050	82.260	80.289	1.971	S26.003	300	15.195	0.031	497.7
SNW2B-25	1050	82.260	80.289	1.971	SNW2B-26	1050	82.250	80.253	1.997	S26.004	300	18.010	0.036	500.0
SNW2B-26	1050	82.250	80.253	1.997	SNW2B-9	1050	81.880	80.216	1.664	S26.005	300	20.064	0.038	532.1
SNW2B-9	1050	81.880	80.216	1.664	SNW2B-10	1050	80.070	78.406	1.664	S25.003	300	44.545	1.810	24.6
SNW2B-10	1050	80.070	78.406	1.664	SNW2B-11	1050	77.690	76.115	1.575	S25.004	300	45.481	2.291	19.9
SNW2B-11	1050	77.690	76.115	1.575	SNW2B-12	1500	75.840	74.035	2.105	S25.005	300	45.512	2.080	21.9
SNW2B-12	1500	75.840	73.735	2.105	SNW2B-13	1500	75.125	73.647	1.479	S25.006	600	36.792	0.088	416.8
SNW2B-13	1500	75.125	73.646	1.479	SNW2B-14	1500	75.303	73.627	1.676	S25.007	600	9.741	0.019	512.7
SNW2B-14	1500	75.303	73.627	1.676	SNW2B-15	1500	75.000	73.436	1.564	S25.008	600	88.604	0.191	463.9
SNW2B-15	1500	75.000	73.436	1.564	SNW2B-16	1500	74.923	73.336	1.587	S25.009	600	50.064	0.100	500.6
SNW2B-16	1500	74.923	73.336	1.587	SNW2B-17	1500	74.850	73.236	1.614	S25.010	600	50.064	0.100	500.6
SNW2B-30	1050	75.420	74.220	1.200	SNW2B-X1	1050	75.322	74.108	1.214	S29.000	300	52.516	0.112	467.7
SNW2B-X1	1050	75.322	74.108	1.214	SNW2B-31	1050	75.250	74.015	1.235	S29.001	300	43.361	0.093	467.7
SNW2B-31	1050	75.250	74.015	1.235	SNW2B-X2	1050	75.131	73.774	1.357	S29.002	300	50.095	0.241	207.7
SNW2B-X2	1050	75.131	73.774	1.357	SNW2B-32	1050	75.111	73.532	1.654	S29.003	300	50.219	0.242	207.7
SNW2B-32	1050	75.111	73.457	1.654	SNW2B-17	1500	74.850	73.433	1.614	S29.004	375	11.810	0.024	492.1
SNW2B-17	1500	74.850	73.236	1.614	SNW2B-18	1500	74.720	73.058	1.662	S25.011	600	90.000	0.178	505.6
SNW2B-18	1500	74.720	73.058	1.662	SNW2B-19	1500	74.605	72.920	1.685	S25.012	600	78.999	0.138	572.5
SNW2B-19	1500	74.605	72.920	1.685	SNW2B-20	1500	74.490	72.868	1.622	S25.013	600	30.928	0.052	594.8
SNW2B-33	1050	75.050	73.735	1.315	SNW2B-X3	1050	74.975	73.638	1.337	S30.000	375	48.741	0.097	501.4
SNW2B-X3	1050	74.975	73.638	1.337	SNW2B-34	1050	74.900	73.540	1.361	S30.001	375	49.238	0.098	502.4
SNW2B-34	1050	74.900	73.539	1.361	SNW2B-X4	1050	74.801	73.439	1.362	S30.002	375	50.027	0.100	498.7
SNW2B-X4	1050	74.801	73.439	1.362	SNW2B-35	1500	74.720	73.339	1.456	S30.003	375	50.027	0.100	498.7
SNW2B-36	1050	82.533	81.183	1.350	SNW2B-37	1050	82.598	81.073	1.525	S31.000	150	19.536	0.110	177.6
SNW2B-37	1050	82.598	81.073	1.525	SNW2B-38	1050	82.575	81.020	1.555	S31.001	150	9.424	0.053	177.8
SNW2B-38	1050	82.575	81.020	1.555	SNW2B-39	1050	82.173	80.823	1.350	S31.002	150	16.373	0.197	83.1
SNW2B-39	1050	82.173	80.823	1.350	SNW2B-40	1050	82.005	80.655	1.350	S31.003	150	10.400	0.168	61.9
SNW2B-40	1050	82.005	80.655	1.350	SNW2B-41	1050	80.455	79.105	1.350	S31.004	150	33.615	1.550	21.7
SNW2B-41	1050	80.455	79.105	1.350	SNW2B-42	1050	78.865	77.515	1.350	S31.005	150	33.849	1.590	21.3

Schedule for MD Model : HE604820-OIL-HDG-XX-M3-CD-35007

USMH	USMH Dia (mm)	USCL (m)	US MH IL (m)	US MH Depth (m)	DSMH	DSMH Dia (mm)	DSCL (m)	DSIL (m)	DS MH Depth (m)	PN	Dia (mm)	Length (m)	Fall (m)	Slope (1:X)
SNW2B-42	1050	78.865	77.515	1.350	SNW2B-43	1050	77.615	76.265	1.425	S31.006	150	33.811	1.250	27.0
SNW2B-43	1050	77.615	76.190	1.425	SNW2B-44	1050	76.260	74.835	1.425	S31.007	225	82.683	1.355	61.0
SNW2B-44	1050	76.260	74.835	1.425	SNW2B-45	1050	76.020	74.595	1.500	S31.008	225	9.822	0.240	40.9
SNW2B-45	1050	76.020	74.520	1.500	SNW2B-46	1050	75.690	74.190	1.500	S31.009	300	99.013	0.330	300.0
SNW2B-46	1050	75.690	74.190	1.500	SNW2B-47	1050	75.500	73.988	1.587	S31.010	300	100.895	0.202	500.0
SNW2B-47	1050	75.500	73.913	1.587	SNW2B-48	1050	75.280	73.705	1.575	S31.011	375	99.988	0.208	480.7
SNW2B-48	1050	75.280	73.705	1.575	SNW2B-49	1050	75.300	73.503	1.797	S31.012	375	101.179	0.202	500.0
SNW2B-50	1050	82.591	81.291	1.300	SNW2B-51	1050	82.547	81.210	1.337	S32.000	225	14.556	0.081	180.1
SNW2B-51	1050	82.547	81.210	1.337	SNW2B-52	1050	82.513	81.124	1.389	S32.001	225	15.037	0.086	175.5
SNW2B-52	1050	82.513	81.124	1.389	SNW2B-53	1050	82.503	80.940	1.563	S32.002	225	10.841	0.184	58.9
SNW2B-60	1050	82.710	81.285	1.425	SNW2B-61	1050	82.570	81.145	1.425	S33.000	225	21.707	0.140	155.0
SNW2B-62	1050	82.705	81.280	1.425	SNW2B-61	1050	82.570	81.145	1.425	S34.000	225	22.095	0.135	163.7
SNW2B-61	1050	82.570	81.145	1.425	SNW2B-53	1050	82.503	80.940	1.563	S33.001	225	14.630	0.205	71.4
SNW2B-53	1050	82.503	80.940	1.563	SNW2B-54	1050	82.510	80.823	1.687	S32.003	225	11.918	0.117	101.8
SNW2B-54	1050	82.510	80.823	1.687	SNW2B-55	1050	82.420	80.624	1.796	S32.004	225	20.308	0.199	102.3
SNW2B-55	1050	82.420	80.624	1.796	SNW2B-56	1050	81.792	80.290	1.502	S32.005	225	18.076	0.334	54.1
SNW2B-56	1050	81.792	80.290	1.502	SNW2B-57	1050	79.795	77.999	1.796	S32.006	225	45.502	2.292	19.9
SNW2B-57	1050	79.795	77.999	1.796	SNW2B-58	1050	77.132	75.707	1.425	S32.007	225	45.031	2.292	19.6
SNW2B-58	1050	77.132	75.707	1.425	SNW2B-59	1050	75.540	74.115	1.575	S32.008	225	50.708	1.592	31.9
SNW2B-59	1050	75.540	73.965	1.575	SNW2B-49	1050	75.300	73.503	1.797	S32.009	375	10.070	0.462	21.8
SNW2B-49	1050	75.300	73.503	1.797	SNW2B-35	1500	74.720	73.339	1.456	S31.013	375	11.672	0.164	71.2
SNW2B-35	1500	74.720	73.264	1.456	SNW2B-20	1500	74.490	73.033	1.622	S30.004	450	12.730	0.231	55.1
SNW2B-20	1500	74.490	72.868	1.622	SNW2B-5	1500	75.430	72.845	2.585	S25.014	600	14.080	0.023	612.2
SNW2B-5	1500	75.430	72.845	2.585	SNW2B-Pond-	1500	75.470	72.730	2.740	S24.004	600	22.481	0.115	195.5
SNW2B-Pond-HW-	1500	75.470	72.730	2.740	SNW2B-Centr	1500	75.230	72.729	2.501	S24.005	600	56.069	0.001	56069.4
SNW2B-Central-Pc	1500	75.230	72.729	2.501	SNW2B-Pond-	1500	75.230	72.729	2.501	S23.002	600	5.000	0.001	5000.1
SNW2B-Pond-HW-	1500	75.230	72.729	2.501	SNW2B-65F	1500	75.641	72.674	2.967	S23.003	675	27.916	0.056	498.5
SDUMMY 9		79.390	79.190	0.200	SDUMMY 10		79.390	79.181	0.209	S35.000	150	4.543	0.009	504.7
SDUMMY 10		79.390	79.181	0.209	SNW2B-67	1050	79.390	79.172	1.350	S35.001	150	4.546	0.009	505.2
SNW2B-67	1050	79.390	78.040	1.350	SNW2B-68	1050	78.030	76.680	1.425	S35.002	150	60.939	1.360	44.8
SDUMMY 11		78.030	77.830	0.200	SDUMMY 12		78.030	77.821	0.209	S36.000	150	4.379	0.009	486.5
SDUMMY 12		78.030	77.821	0.209	SNW2B-68	1050	78.030	77.813	1.425	S36.001	150	3.893	0.008	486.6
SNW2B-68	1050	78.030	76.605	1.425	SNW2B-65C	1050	77.598	73.905	3.768	S35.003	225	87.363	2.700	32.4
SDUMMY 7		77.141	76.941	0.200	SDUMMY 8		77.141	76.930	0.211	S37.000	150	5.719	0.011	519.9
SDUMMY 8		77.141	76.930	0.211	SNW2B-65A	1050	77.141	76.919	1.276	S37.001	150	5.699	0.011	518.1
SDUMMY 1		79.448	79.248	0.200	SDUMMY 2		79.448	79.236	0.212	S38.000	150	5.268	0.012	439.0
SDUMMY 2		79.448	79.236	0.212	SNW2B-63	1050	79.448	79.225	1.248	S38.001	150	4.798	0.011	436.2
SNW2B-63	1050	79.448	78.200	1.248	SNW2B-64	1050	79.057	77.850	1.207	S38.002	150	26.447	0.350	75.6
SDUMMY 3		79.057	78.857	0.200	SDUMMY 4		79.057	78.846	0.211	S39.000	150	5.552	0.011	504.7
SDUMMY 4		79.057	78.846	0.211	SNW2B-64	1050	79.057	78.835	1.207	S39.001	150	5.298	0.011	481.6
SNW2B-64	1050	79.057	77.850	1.207	SNW2B-65	1050	77.771	76.570	1.276	S38.003	150	43.665	1.280	34.1
SDUMMY 5		77.771	77.571	0.200	SDUMMY 6		77.771	77.562	0.209	S40.000	150	4.592	0.009	510.2
SDUMMY 6		77.771	77.562	0.209	SNW2B-65	1050	77.771	77.552	1.276	S40.001	150	5.073	0.010	507.3
SNW2B-65	1050	77.771	76.495	1.276	SNW2B-65A	1050	77.141	75.865	1.276	S38.004	225	76.231	0.630	121.0

Schedule for MD Model : HE604820-OIL-HDG-XX-M3-CD-35007														
USMH	USMH Dia (mm)	USCL (m)	US MH IL (m)	US MH Depth (m)	DSMH	DSMH Dia (mm)	DSCL (m)	DSIL (m)	DS MH Depth (m)	PN	Dia (mm)	Length (m)	Fall (m)	Slope (1:X)
SNW2B-65A	1050	77.141	75.865	1.276	SNW2B-65B	1050	77.312	75.747	1.783	S37.002	225	59.094	0.118	500.8
SDUMMY 13		75.750	75.550	0.200	SDUMMY 14		75.750	75.540	0.210	S41.000	150	5.118	0.010	511.8
SDUMMY 14		75.750	75.540	0.210	SNW2B-65B	1050	77.312	75.529	1.783	S41.001	150	5.304	0.011	482.2
SNW2B-65B	1050	77.312	75.529	1.783	SNW2B-65C	1050	77.598	73.905	3.768	S37.003	225	87.986	1.842	47.8
SNW2B-65C	1050	77.598	73.830	3.768	SNW2B-65D	1050	75.165	73.475	1.690	S35.004	300	48.257	0.355	135.9
SNW2B-70	1050	78.730	77.380	1.350	SNW2B-70A	1050	77.440	76.090	1.350	S42.000	150	110.228	1.290	85.4
SNW2B-70A	1050	77.440	76.090	1.350	SNW2B-65D	1050	75.165	73.625	1.690	S42.001	150	33.213	2.465	13.5
SNW2B-77	1050	75.130	73.780	1.350	SNW2B-65D	1050	75.165	73.625	1.690	S43.000	150	76.950	0.155	496.5
SNW2B-65D	1050	75.165	73.475	1.690	SNW2B-65E	1050	76.278	73.385	2.893	S35.005	300	44.921	0.090	499.1
SNW2B-65E	1050	76.278	73.385	2.893	SNW2B-65F	1500	75.641	73.049	2.967	S35.006	300	38.520	0.336	114.6
SNW2B-65F	1500	75.641	72.674	2.967	SNW2B-73		74.400	72.575	1.860	S23.004	675	48.901	0.099	494.0
SNW2B-73		74.400	72.540	1.860	SNW2B-74		74.090	72.480	1.610	S23.005	500	30.147	0.060	502.4
SNW2B-74		74.090	72.480	1.610	SNW2B-75		73.790	72.405	1.385	S23.006	500	37.360	0.075	500.0
SNW2B-75		73.790	72.405	1.385	SNW2B-76		73.706	72.359	1.347	S23.007	500	23.001	0.046	500.0
SNW2B-76		73.706	72.359	1.347	SEX-NW2B-Ou	0	73.622	72.324	1.298	S23.008	500	17.619	0.035	500.0

Schedule for MD Model : HE604820-OIL-HDG-XX-M3-CD-35009

USMH	USMH Dia (mm)	USCL (m)	US MH IL (m)	US MH Depth (m)	DSMH	DSMH Dia (mm)	DSCL (m)	DSIL (m)	DS MH Depth (m)	PN	Dia (mm)	Length (m)	Fall (m)	Slope (1:X)
DUMMY 21		82.220	81.720	0.500	DUMMY 22		82.220	81.716	0.504	18.000	150	1.917	0.004	479.3
DUMMY 22		82.220	81.716	0.504	EX-NW3-37	1050	82.220	81.713	1.350	18.001	150	1.735	0.003	578.3
EX-NW3-37	1050	82.220	80.870	1.350	EX-NW3-38	1050	80.030	78.680	1.350	18.002	150	13.548	2.190	6.2
DUMMY 23		80.030	79.530	0.500	DUMMY 24		80.030	79.524	0.506	19.000	150	3.108	0.006	500.1
DUMMY 24		80.030	79.524	0.506	EX-NW3-38	1050	80.030	79.519	1.350	19.001	150	2.376	0.005	475.1
EX-NW3-38	1050	80.030	78.680	1.350	EX-NW3-39	1050	79.180	77.830	1.350	18.003	150	13.068	0.850	15.4
DUMMY 25		79.180	78.680	0.500	DUMMY 26		79.180	78.673	1.032	20.000	150	3.687	0.007	526.7
DUMMY 26		79.180	78.148	1.032	EX-NW3-39	1050	79.180	78.142	1.350	20.001	150	3.026	0.006	504.4
EX-NW3-39	1050	79.180	77.830	1.350	NW3-40	1050	78.460	77.703	0.757	18.004	150	64.283	0.127	506.2
DUMMY 27		78.460	77.960	0.500	DUMMY 28		78.460	77.953	0.507	21.000	150	3.624	0.007	517.6
DUMMY 28		78.460	77.953	0.507	NW3-40	1050	78.460	77.947	0.757	21.001	150	2.960	0.006	493.4
NW3-40	1050	78.460	77.703	0.757	EX-NW3-41	1050	78.460	77.610	1.000	18.005	150	47.190	0.093	507.4
DUMMY 29		78.460	77.960	0.500	DUMMY 30		78.460	77.954	0.506	22.000	150	2.928	0.006	500.0
DUMMY 30		78.460	77.954	0.506	EX-NW3-41	1050	78.460	77.948	1.000	22.001	150	3.026	0.006	499.9
EX-NW3-41	1050	78.460	77.460	1.000	EX-NW3-42	1050	79.740	77.130	2.610	18.006	300	100.088	0.330	303.3
DUMMY 31		79.740	79.240	0.500	DUMMY 32		79.740	79.236	0.504	23.000	150	1.908	0.004	476.9
DUMMY 32		79.740	79.236	0.504	EX-NW3-42	1050	79.740	79.231	2.610	23.001	150	2.716	0.005	543.2
EX-NW3-42	1050	79.740	77.130	2.610	EX-NW3-43	1050	78.900	76.830	2.070	18.007	300	73.601	0.300	245.3
DUMMY 33		78.900	78.400	0.500	DUMMY 34		78.900	78.395	0.505	24.000	150	2.729	0.005	545.8
DUMMY 34		78.900	78.395	0.505	EX-NW3-43	1050	78.900	78.389	2.070	24.001	150	2.872	0.006	478.7
EX-NW3-43	1050	78.900	76.830	2.070	EX-NW3-44	1050	77.340	75.170	2.170	18.008	300	75.913	1.660	45.7
DUMMY 35		77.340	76.840	0.500	DUMMY 36		77.340	76.836	0.504	25.000	150	1.871	0.004	499.9
DUMMY 36		77.340	76.836	0.504	EX-NW3-44	1050	77.340	76.831	2.170	25.001	150	2.496	0.005	500.0
EX-NW3-44	1050	77.340	75.170	2.170	NW3-45	1050	76.220	75.021	1.199	18.009	300	55.646	0.149	373.5
DUMMY 37		76.220	75.720	0.500	DUMMY 38		76.220	75.715	0.505	26.000	150	2.675	0.005	535.0
DUMMY 38		76.220	75.715	0.505	NW3-45	1050	76.220	75.708	1.199	26.001	150	3.319	0.007	474.1
NW3-45	1050	76.220	75.021	1.199	NW3-46	1050	76.220	74.890	1.330	18.010	300	48.737	0.131	372.0
DUMMY 39		76.220	75.720	0.500	DUMMY 40		76.220	75.715	0.505	27.000	150	2.669	0.005	533.7
DUMMY 40		76.220	75.715	0.505	NW3-46	1050	76.220	75.708	1.330	27.001	150	3.495	0.007	499.2
NW3-46	1050	76.220	74.890	1.330	NW3-47	1050	76.480	74.690	1.865	18.011	300	44.382	0.200	221.9
NW3-47	1050	76.480	74.615	1.865	NW3-48	1500	76.180	73.301	3.104	18.012	375	8.229	1.314	6.3
DUMMY 1		79.200	78.800	0.400	DUMMY 2		79.200	78.795	0.405	28.000	150	2.086	0.005	417.3
DUMMY 2		79.200	78.795	0.405	NW3-49	1050	79.200	78.790	1.400	28.001	150	2.703	0.005	540.6
NW3-49	1050	79.200	77.800	1.400	NW3-50	1050	79.180	77.745	1.435	28.002	150	12.146	0.055	220.8
DUMMY 3		79.180	78.780	0.400	DUMMY 4		79.180	78.775	0.405	29.000	150	2.489	0.005	497.9
DUMMY 4		79.180	78.775	0.405	NW3-50	1050	79.180	78.770	1.435	29.001	150	2.725	0.005	544.9
NW3-50	1050	79.180	77.745	1.435	NW3-51	1050	79.150	77.683	1.467	28.003	150	12.349	0.062	199.2
DUMMY 5		79.150	78.750	0.400	DUMMY 6		79.150	78.744	0.406	30.000	150	3.030	0.006	505.0
DUMMY 6		79.150	78.744	0.406	NW3-51	1050	79.150	78.737	1.467	30.001	150	3.264	0.007	466.3
NW3-51	1050	79.150	77.683	1.467	NW3-52	1050	78.950	77.546	1.404	28.004	150	13.753	0.137	100.4
DUMMY 7		78.950	78.550	0.400	DUMMY 8		78.950	78.543	0.407	31.000	150	3.601	0.007	514.4
DUMMY 8		78.950	78.543	0.407	NW3-52	1050	78.950	78.536	1.404	31.001	150	3.443	0.007	491.9
NW3-52	1050	78.950	77.546	1.404	NW3-53	1050	78.385	76.979	1.406	28.005	150	16.784	0.567	29.6
DUMMY 9		78.385	77.985	0.400	DUMMY 10		78.385	77.977	0.408	32.000	150	4.233	0.008	529.2

Schedule for MD Model : HE604820-OIL-HDG-XX-M3-CD-35009

USMH	USMH Dia (mm)	USCL (m)	US MH IL (m)	US MH Depth (m)	DSMH	DSMH Dia (mm)	DSCL (m)	DSIL (m)	DS MH Depth (m)	PN	Dia (mm)	Length (m)	Fall (m)	Slope (1:X)
DUMMY 10		78.385	77.977	0.408	NW3-53	1050	78.385	77.969	1.406	32.001	150	4.057	0.008	507.1
NW3-53	1050	78.385	76.979	1.406	NW3-54	1050	78.035	76.609	1.501	28.006	150	14.790	0.370	40.0
DUMMY 11		78.035	77.635	0.400	DUMMY 12		78.035	77.629	0.406	33.000	150	2.804	0.006	467.3
DUMMY 12		78.035	77.629	0.406	NW3-54	1050	78.035	77.624	1.501	33.001	150	2.466	0.005	493.2
NW3-54	1050	78.035	76.534	1.501	NW3-55	1050	77.490	75.883	1.607	28.007	225	52.061	0.651	80.0
DUMMY 13		77.490	77.090	0.400	DUMMY 14		77.490	77.085	0.405	34.000	150	2.437	0.005	487.4
DUMMY 14		77.490	77.085	0.405	NW3-55	1050	77.490	77.080	1.607	34.001	150	2.581	0.005	516.2
NW3-55	1050	77.490	75.883	1.607	NW3-56	1050	77.260	75.371	1.889	28.008	225	40.943	0.512	80.0
DUMMY 15		77.260	76.860	0.400	DUMMY 16		77.260	76.856	0.404	35.000	150	2.231	0.004	557.8
DUMMY 16		77.260	76.856	0.404	NW3-56	1050	77.260	76.851	1.889	35.001	150	2.688	0.005	537.7
NW3-56	1050	77.260	75.371	1.889	NW3-57	1050	77.270	75.060	2.210	28.009	225	24.890	0.311	80.0
DUMMY 17		77.270	76.870	0.400	DUMMY 18		77.270	76.864	0.406	36.000	150	2.989	0.006	498.1
DUMMY 18		77.270	76.864	0.406	NW3-57	1050	77.270	76.857	2.210	36.001	150	3.496	0.007	499.4
NW3-57	1050	77.270	75.060	2.210	NW3-58	1050	77.620	74.627	2.993	28.010	225	34.631	0.433	80.0
DUMMY 19		77.620	77.220	0.400	DUMMY 20		77.620	77.216	0.404	37.000	150	2.246	0.004	561.5
DUMMY 20		77.620	77.216	0.404	NW3-58	1050	77.620	77.211	2.993	37.001	150	2.478	0.005	495.7
NW3-58	1050	77.620	74.627	2.993	NW3-59	1050	77.270	73.704	3.566	28.011	225	27.694	0.923	30.0
NW3-59	1050	77.270	73.704	3.566	NW3-48	1500	76.180	73.451	3.104	28.012	225	7.434	0.253	29.4
NW3-48	1500	76.180	73.076	3.104	NW3-9	1500	74.800	72.500	2.300	18.013	600	51.355	0.576	89.2
NW3-9	1500	74.800	72.500	2.300	NW3-9a	1500	74.856	72.370	2.486	18.014	600	37.639	0.130	289.5
NW3-9a	1500	74.856	72.370	2.486	NW3-9b	1500	73.687	72.230	1.457	18.015	600	40.998	0.140	292.8
NW3-9b	1500	73.687	72.230	1.457	NW3-8d	1500	73.538	72.180	1.358	18.016	600	7.840	0.050	156.8
DUMMY 41		78.590	78.090	0.500	DUMMY 42		78.590	78.074	0.516	38.000	150	8.050	0.016	500.0
DUMMY 42		78.590	78.074	0.516	EX-NW3-1	1050	78.590	78.058	1.350	38.001	150	8.042	0.016	500.0
EX-NW3-1	1050	78.590	77.240	1.350	EX-NW3-2	1050	76.940	75.700	1.240	38.002	150	75.053	1.540	48.7
DUMMY 43		76.940	76.440	0.500	DUMMY 44		76.940	76.435	0.505	39.000	150	2.328	0.005	465.6
DUMMY 44		76.940	76.435	0.505	EX-NW3-2	1050	76.940	76.428	1.240	39.001	150	3.546	0.007	506.5
EX-NW3-2	1050	76.940	75.700	1.240	EX-NW3-3	1050	76.720	75.150	1.570	38.003	150	76.397	0.550	138.9
DUMMY 45		76.720	76.220	0.500	DUMMY 46		76.720	76.211	0.509	40.000	150	4.584	0.009	509.4
DUMMY 46		76.720	76.211	0.509	EX-NW3-3	1050	76.720	76.201	1.570	40.001	150	4.874	0.010	487.4
EX-NW3-3	1050	76.720	75.150	1.570	EX-NW3-4	1050	77.440	74.000	3.440	38.004	150	97.695	1.150	85.0
DUMMY 47		77.440	76.940	0.500	DUMMY 48		77.440	76.936	0.504	41.000	150	1.999	0.004	499.8
DUMMY 48		77.440	76.936	0.504	EX-NW3-4	1050	77.440	76.931	3.440	41.001	150	2.330	0.005	466.0
EX-NW3-4	1050	77.440	74.000	3.440	EX-NW3-5	1050	77.300	73.750	3.550	38.005	150	54.754	0.250	219.0
DUMMY 49		77.300	76.800	0.500	DUMMY 50		77.300	76.793	0.507	42.000	150	3.503	0.007	500.4
DUMMY 50		77.300	76.793	0.507	EX-NW3-5	1050	77.300	76.785	3.550	42.001	150	4.224	0.008	527.9
EX-NW3-5	1050	77.300	73.750	3.550	EX-NW3-6	1050	76.170	73.500	2.670	38.006	150	67.101	0.250	268.4
DUMMY 51		76.170	75.670	0.500	DUMMY 52		76.170	75.661	0.509	43.000	150	4.415	0.009	490.5
DUMMY 52		76.170	75.661	0.509	EX-NW3-6	1050	76.170	75.652	2.670	43.001	150	4.479	0.009	497.7
EX-NW3-6	1050	76.170	73.500	2.670	EX-NW3-7	1050	75.330	72.900	2.505	38.007	150	80.902	0.600	134.8
DUMMY 53		75.330	74.830	0.500	DUMMY 54		75.330	74.816	0.514	44.000	150	6.883	0.014	491.6
DUMMY 54		75.330	74.816	0.514	EX-NW3-7	1050	75.330	74.803	2.505	44.001	150	6.345	0.013	488.1
EX-NW3-7	1050	75.330	72.825	2.505	NW3-8	1500	74.700	72.650	2.100	38.008	225	82.367	0.175	470.7
EX-NW3-10	1050	76.250	74.391	1.859	EX-NW3-11	1050	76.200	74.186	2.014	45.000	225	54.459	0.205	265.7

Schedule for MD Model : HE604820-OIL-HDG-XX-M3-CD-35009														
USMH	USMH Dia (mm)	USCL (m)	US MH IL (m)	US MH Depth (m)	DSMH	DSMH Dia (mm)	DSCL (m)	DSIL (m)	DS MH Depth (m)	PN	Dia (mm)	Length (m)	Fall (m)	Slope (1:X)
NW3-19	1050	76.400	74.711	1.689	NW3-20	1050	76.320	74.426	1.894	46.000	225	53.186	0.285	186.6
EX-NW3-21	1050	76.700	75.080	1.620	EX-NW3-29	1050	76.620	74.470	2.180	47.000	150	55.004	0.610	90.2
EX-NW3-29	1050	76.620	74.440	2.180	NW3-20	1050	76.320	74.426	1.894	47.001	225	11.235	0.014	802.5
NW3-20	1050	76.320	74.426	1.894	EX-NW3-11	1050	76.200	74.186	2.014	46.001	225	11.729	0.240	48.9
EX-NW3-11	1050	76.200	74.186	2.014	NW3-12	1050	76.118	74.003	2.115	45.001	375	51.063	0.183	279.0
NW3-12	1050	76.118	74.003	2.115	EX-NW3-13	1050	75.980	73.820	2.160	45.002	375	51.063	0.183	279.0
EX-NW3-13	1050	75.980	73.820	2.160	EX-NW3-14	1050	75.830	73.700	2.130	45.003	375	51.792	0.120	431.6
NW3-22	1050	76.320	74.549	1.771	NW3-X1	1050	76.219	74.259	1.960	48.000	225	50.000	0.290	172.6
NW3-X1	1050	76.219	74.259	1.960	NW3-23	1050	76.150	74.047	2.130	48.001	225	36.642	0.212	172.6
NW3-23	1050	76.150	74.020	2.130	NW3-X2	1050	76.120	73.992	2.128	48.002	300	8.627	0.028	306.7
NW3-X2	1050	76.120	73.992	2.128	NW3-24	1050	76.080	73.850	2.242	48.003	300	43.520	0.142	306.7
EXCP68-DUMMY		76.620	74.740	1.880	NW3-30	1050	76.522	74.515	2.007	49.000	225	40.824	0.225	181.4
NW3-30	1050	76.522	74.515	2.007	EX-NW3-31	1050	76.470	74.180	2.290	49.001	225	60.824	0.335	181.6
EX-NW3-31	1050	76.470	74.180	2.290	EX-NW3-32	1050	76.360	74.020	2.400	49.002	225	52.494	0.160	328.1
EX-NW3-32	1050	76.360	73.960	2.400	NW3-24	1050	76.080	73.838	2.242	49.003	300	11.571	0.122	94.8
NW3-24	1050	76.080	73.838	2.242	EX-NW3-14	1050	75.830	73.800	2.130	48.004	300	11.816	0.050	236.3
EX-NW3-14	1050	75.830	73.700	2.130	EX-NW3-15	1050	75.770	73.460	2.310	45.004	375	99.866	0.240	416.1
EX-NW3-15	1050	75.770	73.460	2.310	NW3-16	1050	75.780	73.220	2.705	45.005	375	101.023	0.240	420.9
EXCP62-DUMMY		76.080	74.370	1.710	NW3-X3	1050	75.966	74.138	1.828	50.000	225	49.729	0.232	214.5
NW3-X3	1050	75.966	74.138	1.828	NW3-25	1050	75.910	73.890	2.095	50.001	225	50.032	0.248	201.7
NW3-25	1050	75.910	73.815	2.095	NW3-X4	1050	75.797	73.575	2.222	50.002	300	50.344	0.240	209.8
NW3-X4	1050	75.797	73.575	2.222	NW3-26	1050	75.760	73.265	2.495	50.003	300	50.344	0.310	162.4
EXCP70-DUMMY		76.360	74.320	2.040	EX-NW3-33	1050	76.130	74.020	2.110	51.000	150	100.466	0.300	334.9
EX-NW3-33	1050	76.130	74.020	2.110	NW3-34	1050	75.960	73.440	2.670	51.001	150	100.750	0.590	170.8
29-DUMMY		75.940	74.590	1.350	NW3-34	1050	75.960	73.440	2.670	52.000	150	97.740	1.150	85.0
NW3-34	1050	75.960	73.290	2.670	NW3-26	1050	75.760	73.265	2.495	51.002	300	10.811	0.025	432.4
NW3-26	1050	75.760	73.265	2.495	NW3-16	1050	75.780	73.225	2.705	50.004	300	13.766	0.040	344.1
NW3-16	1050	75.780	73.075	2.705	NW3-17	1500	75.280	72.885	2.395	45.006	450	101.000	0.190	531.6
NW3-17	1500	75.280	72.885	2.395	NW3-18	1500	75.050	72.675	2.375	45.007	450	102.259	0.210	486.9
EXCP64-DUMMY		75.760	74.030	1.730	NW3-X5	1050	75.703	73.786	1.917	53.000	225	50.684	0.244	207.3
NW3-X5	1050	75.703	73.786	1.917	NW3-27	1050	75.580	73.550	2.030	53.001	225	48.809	0.236	206.8
NW3-27	1050	75.580	73.550	2.030	NW3-X6	1050	75.489	73.274	2.215	53.002	300	49.994	0.276	181.3
NW3-X6	1050	75.489	73.274	2.215	NW3-28	1050	75.420	73.010	2.410	53.003	300	47.903	0.264	181.3
NW3-35	1050	75.940	74.515	1.425	NW3-35A	1050	75.980	74.239	1.741	54.000	150	49.115	0.276	178.0
NW3-35A	1050	75.980	74.239	1.741	NW3-36	1050	76.130	73.267	2.863	54.001	150	44.463	0.972	45.7
NW3-36	1050	76.130	73.267	2.863	NW3-28	1050	75.420	73.160	2.410	54.002	150	22.132	0.107	206.8
NW3-28	1050	75.420	73.010	2.410	NW3-18	1500	75.050	72.905	2.375	53.004	300	22.474	0.105	214.0
NW3-18	1500	75.050	72.675	2.375	NW3-8	1500	74.700	72.600	2.100	45.008	450	8.026	0.075	107.0
NW3-8	1500	74.700	72.600	2.100	NW3-8a	1500	74.868	72.500	2.368	38.009	450	29.684	0.100	296.8
NW3-8a	1500	74.868	72.500	2.368	NW3-8b Pond US		74.568	72.460	2.108	38.010	450	12.000	0.040	300.0
NW3-8b Pond US		74.568	72.460	2.108	NW3-8c Pond DS		73.694	72.355	1.339	38.011	450	30.000	0.105	285.7
NW3-8c Pond DS		73.694	72.355	1.339	NW3-8d	1500	73.538	72.330	1.358	38.012	450	6.500	0.025	260.0
NW3-8d	1500	73.538	72.180	1.358	EX-NW3-Outfall	0	73.378	72.160	1.218	18.017	600	10.152	0.020	507.6

Appendix C. Risk Assessment

Project: A46 COVENTRY JUNCTION UPGRADE (WALSGRAVE JUNCTION)
Job Ref: HE604820

Version Date: 11/03/2024
Version Ref: P01.07

Prepared By: AUMK **Date: 16/01/23**
Checked By: EMBS **Date:**
Approved by: **Date:**

UK-0002-3013.1 Designers Risk Management Tool

COWI

ELEMENT OF WORKS			HAZARD REGISTER			INITIAL RISK ASSESSMENT TIER 1					RISK MANAGEMENT BY DESIGNERS TIER 2				POTENTIAL FUTURE RISK MANAGEMENT BY OTHERS TIER 3 (CONTRACTOR)				POTENTIAL FUTURE RISK MANAGEMENT BY OTHERS TIER 4 (OPERATOR AND MAINTENANCE PERSONNEL)				REFERENCES and COMMENTS					
DESIGN DECISION LOG REFERENCE	**DESCRIPTION / LOCATION**	**Date**	**HAZARD REFERENCE**	**HAZARD DESCRIPTION**	**RISK NUMBER**	**RISK DESCRIPTION**	**HAZARD TYPE**	**L**	**S**	**R**	**DESIGNER RISK MITIGATION MEASURES - TAKEN AT CURRENT DESIGN STAGE (Potential options noted in red text)**	**L**	**S**	**R**	**POTENTIAL FUTURE RISK MITIGATION MEASURES (Options noted in red text) AND APPROPRIATE PARTIES (identified in Bold)**	**L**	**S**	**R**	**POTENTIAL FUTURE RISK MITIGATION MEASURES (Options noted in red text) AND APPROPRIATE PARTIES (identified in Bold)**	**L**	**S**	**R**	**Stage of Work**	**Is there a significant residual risk to be passed on (Y/N)**	**If answer to Column X is Yes, information flow: D:P:F**	**WARNING TRIANGLE Drawing Reference**	**ASSOCIATED REFERENCE DOCUMENTS**	**CLOSE OUT COMMENTS**
	Existing pressurised sewermain / Junction A46 northbound onslip	Sep-23	HAZ-3	Proximity to pressurised sewermain	R-3	Possible utility strike leading to fatalities of construction and maintenance personnels	O, C, F	5	4	20	GPR survey (in accordance with PAS-128) results to be cross-checked to ensure relevant clearance are met. Current designed fence around the pond is in close proximity with the sewermain. Potential for northern pond being designed out, the fencing will then be amended.	2	4	8	Contractors to work with Statutory Undertakers to develop a construction management plan.	2	4	8	Maintenance personnel to follow safe system of work in accordance with health and safety file.	2	4	8	Construction	Yes	P / F	TBC	TBC	Active
S-DD1, H-DD9, H-DD12, S-DD4	Retention of Smite Brook Culvert/ A46 Ch780	Sep-23	HAZ-7	Reinstatement of existing bund on A46 SB, may require extending the existing culvert. Design and construction disruption to existing culvert may lead to potential collapse of structure	R-7	Extension of culvert may lead to confined space working and work in close proximity to existing water courses. Potential collapse of structure, risk of flooding, fall from height and use of large plant (crane etc) during construction.	O, C, F	4	5	20	Designer to assess the interaction with VRS posts (based upon ground conditions). Consider alternative construction techniques such as socketed post foundation instead of driven pile foundation. The purpose of existing bunds is unknown and the structure is currently assumed not needing to be reinstated. Environment Specialists to confirm the purpose of the existing bunds and if they need to be reinstated. Structural assessment in RSRF details existing structure details to provide to contractor	2	5	10	Contractor to confirm buildability of proposed design solution and accordingly prepare construction phase plan.				Culvert inspections and maintenance to follow safe systems of work in accordance with the health and safety file.				Construction	Yes	P	TBC	TBC	Active
H-DD9	Existing water features and flood plains/ Coombe country park and pool, HHF fields	Sep-23	HAZ-37	Working on or near existing water courses. Working in a flood plain. Flooding to impact construction or maintenance work such as temporary works, site compounds etc.	R-37	Risk to workers due to proximity of bodies of water and flooding potential. Risk of drowning.	O, C, F	4	5	20	Flood risk assessment undertaken in Stage 3 to establish risk to construction and proposed road layout. In determination of flood protection being required optioneering of how to provide in the design for DCO by design teams. Early contractor involvement in creating buildability plan and phasing. Site compound situated outside of the flood plain.	3	5	15					N/A									Active
	Sediment discharge into existing water courses and stormwater network/ Schemewide	Sep-23	HAZ-39	Sediment discharge into existing watercourses	R-39	Unmanaged earthworks during construction may lead to water pollution and disapproval from Environment Agency / similar approving authority. Sediment discharge into existing stormwater network through gully openings, may lead to existing network blocking and affect capacity of downstream network. Contamination from construction phase spillage and/or flood events	O, C, F	5	5	25	Environment Specialists to advise and input into the earthworks management plan. Contractor to set the earthworks management plan for various phasing of works; include silt fences, existing gullies traps to avoid sediment draining into and clogging existing stormwater network.	2	5	10	Contractor to prepare earthworks management plan and gain approval by EA or similar approving authority before commencing the construction works.	1	5	5	Maintenance	1	5	5	Construction/Maintenace					Active
	Collapse of excavations, cuttings/embankments/ Scheme wide	Sep-23	HAZ-48	Extreme weather events or unstable ground may lead to unshielded excavations collapse	R-48	Collapse of excavation. Where specific H&S risks associated with particular excavations exist, these are assessed individually	O, C, F	4	5	20	GI undertaken at Stage 3, to inform H&S file and design to overcome instances of excavation instability. Reduce depth of excavations where practicable through design. E.g. VMS Gantry foundation designed with pile cap largely above ground	4	5	20	Install approved shoring in accordance with NH requirements and Guidelines. Do not surcharge through trench sides without specifically designed shoring in place. Use sheet piles for excavation stability as required for depths of excavation	1	5	5	N/A	1	5	5						Active

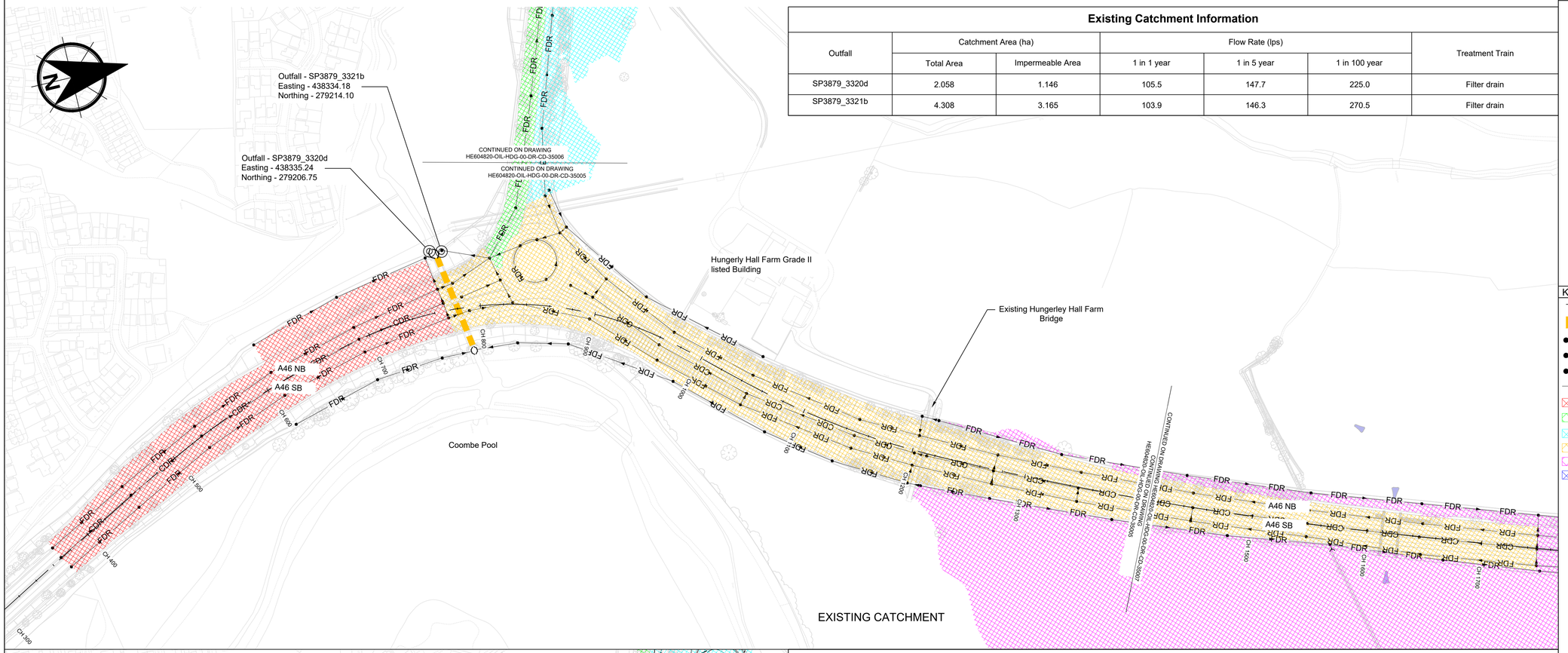
Key

Hazard Type		Risk Assessments	
Occupational Health	O	Likelihood	L
Construction	C	Severity	S
Functional	F	Assessed Risk Score	R

Appendix D. Proposed Drainage Drawings

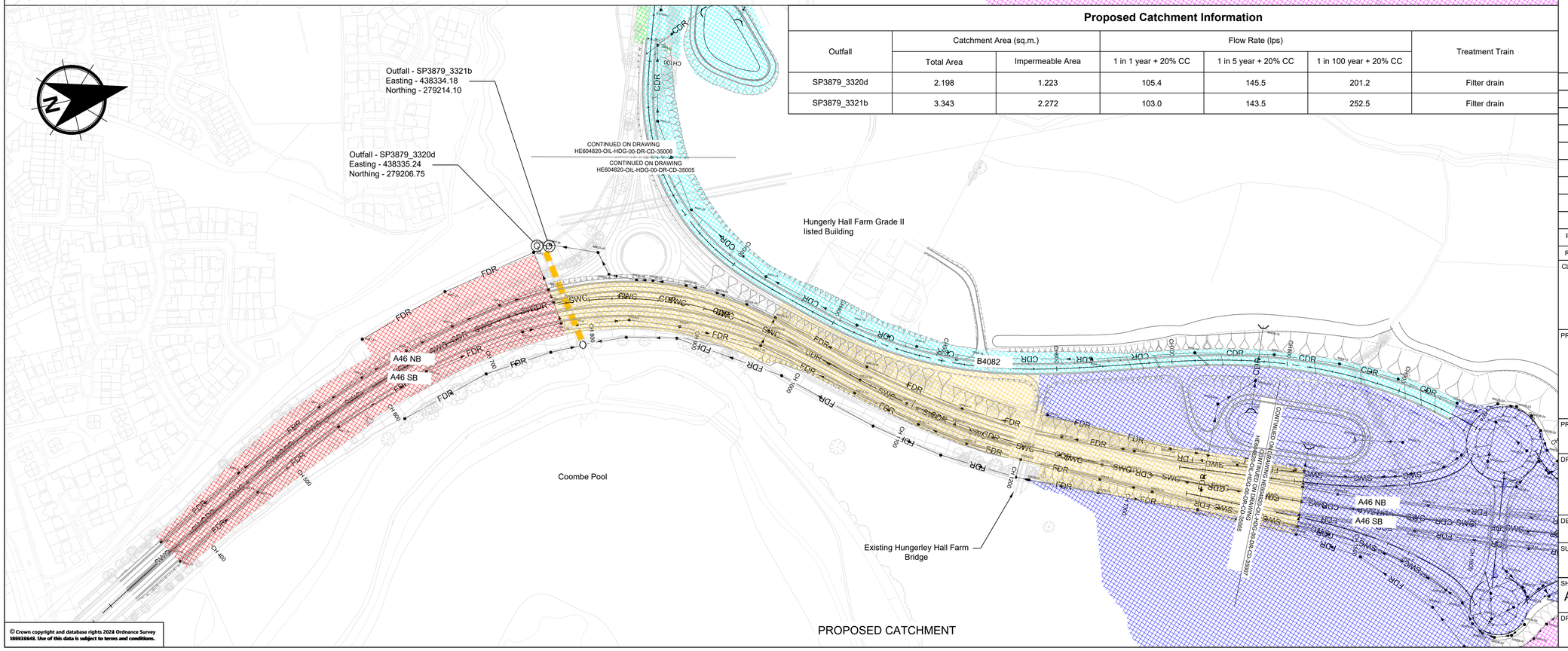
Existing Catchment Information

Outfall	Catchment Area (ha)		Flow Rate (lps)			Treatment Train
	Total Area	Impermeable Area	1 in 1 year	1 in 5 year	1 in 100 year	
SP3879_3320d	2.058	1.146	105.5	147.7	225.0	Filter drain
SP3879_3321b	4.308	3.165	103.9	146.3	270.5	Filter drain



Proposed Catchment Information

Outfall	Catchment Area (sq.m.)		Flow Rate (lps)			Treatment Train
	Total Area	Impermeable Area	1 in 1 year + 20% CC	1 in 5 year + 20% CC	1 in 100 year + 20% CC	
SP3879_3320d	2.198	1.223	105.4	145.5	201.2	Filter drain
SP3879_3321b	3.343	2.272	103.0	143.5	252.5	Filter drain



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5. Refer to Drainage Strategy Report for drainage schedules.

KEY TO SYMBOLS

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- Existing Culvert
- FDR — Filter Drain
- CDR — Channel Drain
- SWC — Surface Water Channel
- Ditch Outline
- Catchment Area 1
- Catchment Area 2
- Catchment Area 3
- Catchment Area 4
- Catchment Area 5
- Catchment Area 6

1:2000 0 100m 200m

REV	DATE	REVISION NOTE	ORG	CHK'D	APP'D
P01	12/03/24	For Information	SLon	DWo	EBa

CLIENT

national highways

PROJECT TITLE

A46 COVENTRY JUNCTIONS (WALSGRAVE)

PROJECT STAGE

DCO APPLICATION

DRAWING TITLE

CATCHMENT PLAN
SHEET 1 OF 3

DEVELOPMENT CONSENT ORDER (DCO) - APPLICATION NUMBER

TR010066/APP/6.3

SUITABILITY

FOR INFORMATION

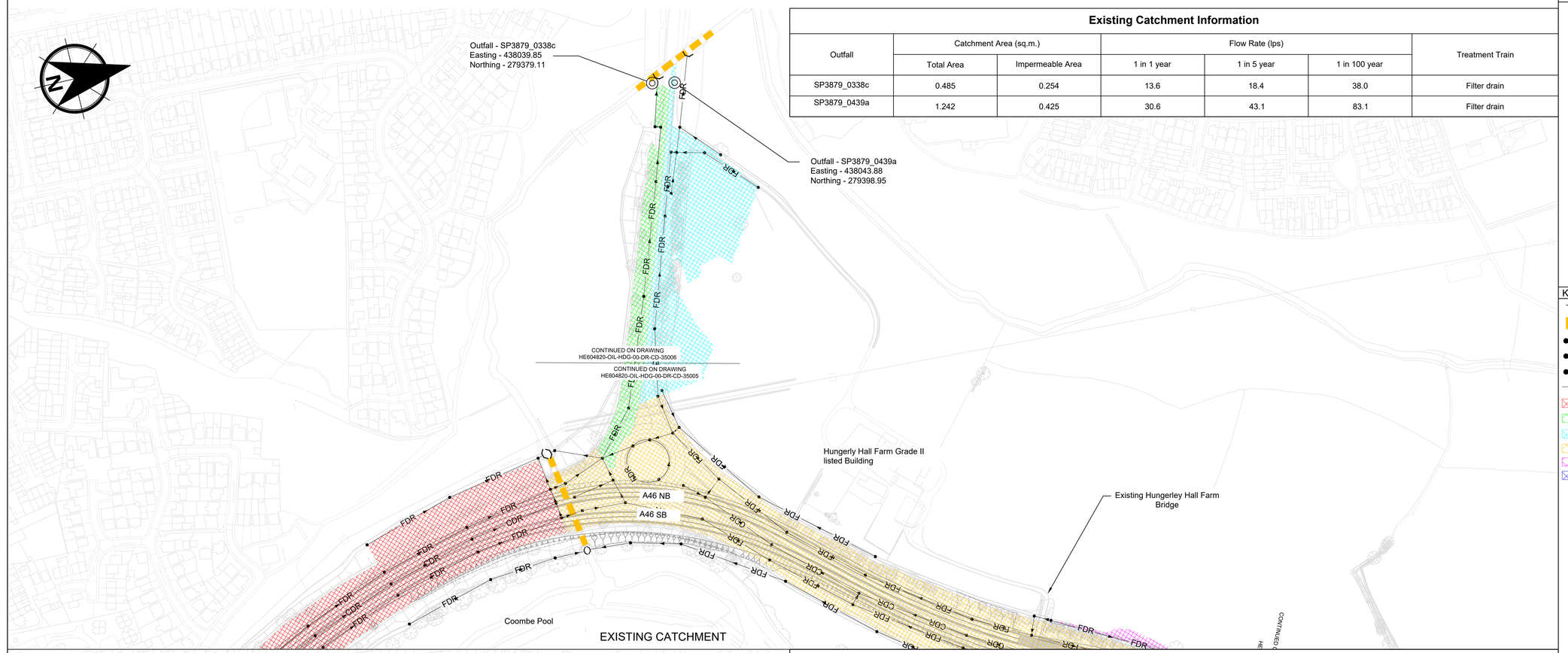
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DRAWING NUMBER

HE604820-OIL-HDG-00-DR-CD-35005

Existing Catchment Information

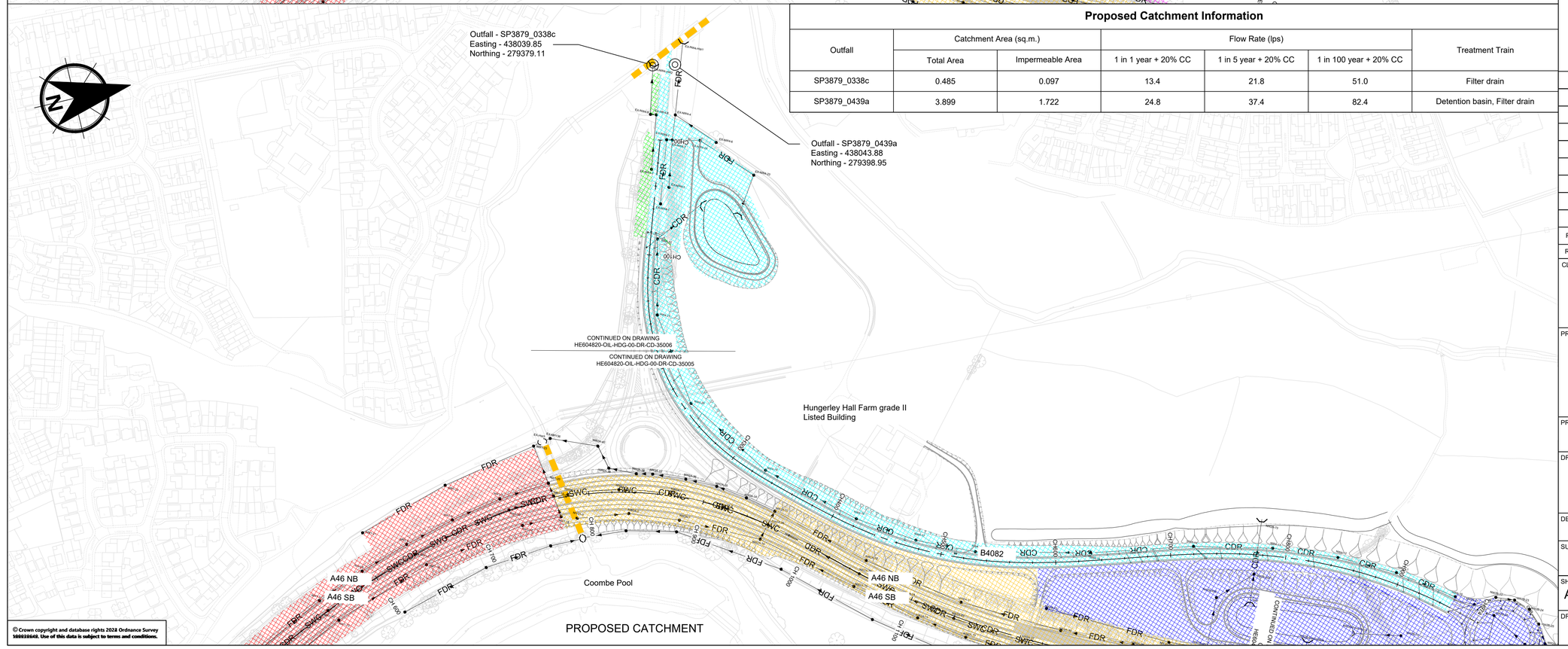
Outfall	Catchment Area (sq.m.)		Flow Rate (lps)			Treatment Train
	Total Area	Impermeable Area	1 in 1 year	1 in 5 year	1 in 100 year	
SP3879_0338c	0.485	0.254	13.6	18.4	38.0	Filter drain
SP3879_0439a	1.242	0.425	30.6	43.1	83.1	Filter drain



EXISTING CATCHMENT

Proposed Catchment Information

Outfall	Catchment Area (sq.m.)		Flow Rate (lps)			Treatment Train
	Total Area	Impermeable Area	1 in 1 year + 20% CC	1 in 5 year + 20% CC	1 in 100 year + 20% CC	
SP3879_0338c	0.485	0.097	13.4	21.8	51.0	Filter drain
SP3879_0439a	3.899	1.722	24.8	37.4	82.4	Detention basin, Filter drain



PROPOSED CATCHMENT

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- Catchment Area 4
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- Catchment Area 6

1:2000 0 100m 200m

REV	DATE	REVISION NOTE	ORG	CHK'D	APP'D
P01	12/03/24	For Information	SLon	DWo	EBa

CLIENT

national highways

PROJECT TITLE

A46 COVENTRY JUNCTIONS (WALSGRAVE)

PROJECT STAGE

DCO APPLICATION

DRAWING TITLE

CATCHMENT PLAN
SHEET 2 OF 3

DEVELOPMENT CONSENT ORDER (DCO) - APPLICATION NUMBER

TR010066/APP/6.3

SUITABILITY

FOR INFORMATION

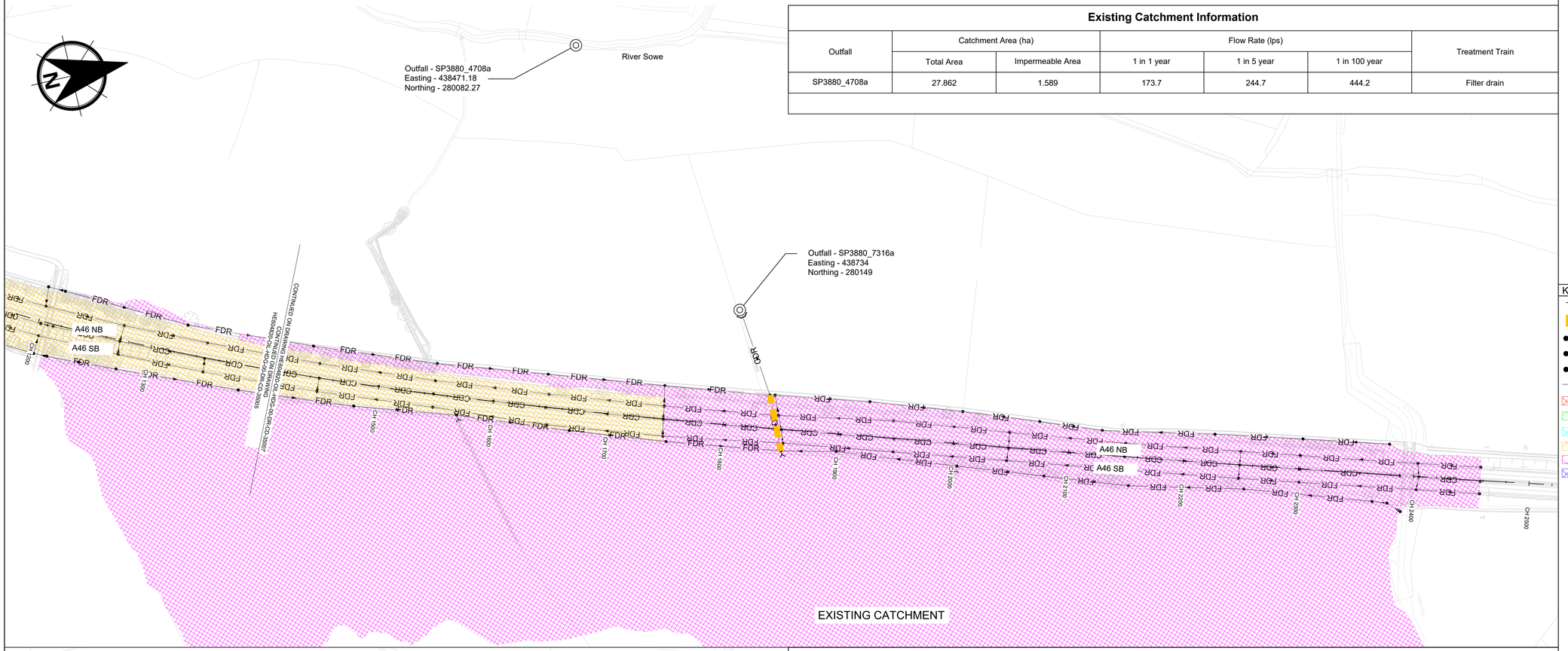
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DRAWING NUMBER

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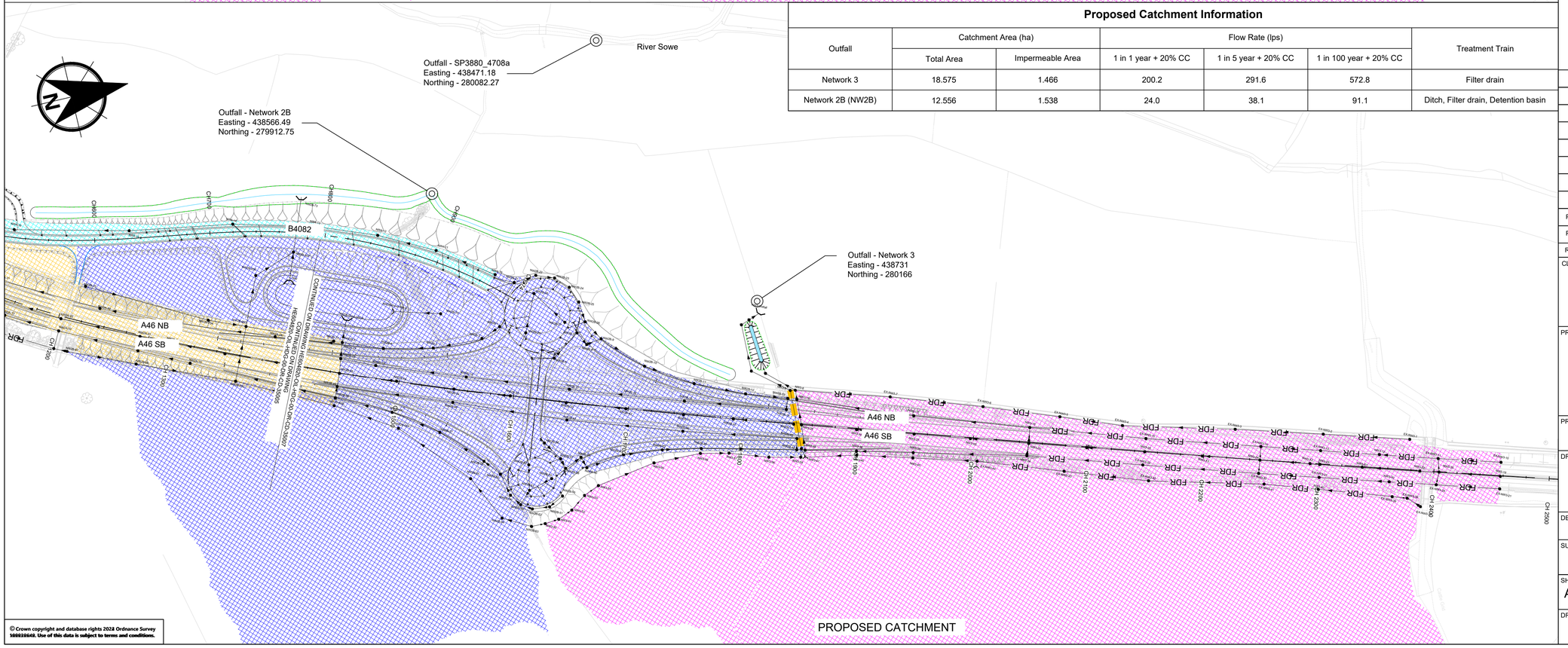
Existing Catchment Information

Outfall	Catchment Area (ha)		Flow Rate (lps)			Treatment Train
	Total Area	Impermeable Area	1 in 1 year	1 in 5 year	1 in 100 year	
SP3880_4708a	27.862	1.589	173.7	244.7	444.2	Filter drain



Proposed Catchment Information

Outfall	Catchment Area (ha)		Flow Rate (lps)			Treatment Train
	Total Area	Impermeable Area	1 in 1 year + 20% CC	1 in 5 year + 20% CC	1 in 100 year + 20% CC	
Network 3	18.575	1.466	200.2	291.6	572.8	Filter drain
Network 2B (NW2B)	12.556	1.538	24.0	38.1	91.1	Ditch, Filter drain, Detention basin



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1:2000 0 100m 200m

REV	DATE	REVISION NOTE	ORG	CHK'D	APP'D
P01	12/03/24	for information	SLon	DWo	EBa
P02	04/07/24	Catchment areas updated	RRos	DWo	JLas

CLIENT

national highways

PROJECT TITLE

A46 COVENTRY JUNCTIONS (WALSGRAVE)

PROJECT STAGE

DCO APPLICATION

DRAWING TITLE

CATCHMENT PLAN
SHEET 3 OF 3

DEVELOPMENT CONSENT ORDER (DCO) - APPLICATION NUMBER

TR010066/APP/6.3

SUITABILITY

FOR INFORMATION

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DRAWING NUMBER

HE604820-OIL-HDG-00-DR-CD-35007



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4. Refer to drawings HE604820-OIL-HDG-00-DR-CD 31001 to 31017.
5. Refer to HE604820-OIL-HDG-00-RP-CD-35001 - Drainage basis report for drainage schedules.

KEY TO SYMBOLS

- Ditch Outline
- Route Chainage
- Existing Culvert
- FDR — Existing Filter Drain
- FDR — Proposed Filter Drain
- CDR — Proposed Carrier Drain
- SWC — Proposed Channel
- Proposed Road Gully
- NW — Chamber Numbers

1:1000 0 50m 100m

REV	DATE	REVISION NOTE	ORG	CHK'D	APP'D
P01	12/03/24	for information	SLon	DWo	EBa

DESIGNER

CONTRACTOR

CLIENT

national highways

PROJECT TITLE

A46 COVENTRY JUNCTIONS (WALSGRAVE)

PROJECT STAGE

DCO SUBMISSION

DRAWING TITLE

PROPOSED DRAINAGE PLAN
SHEET 1 OF 4

SUITABILITY

FOR INFORMATION

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:1000	S2	P01

DRAWING NUMBER

HE604820-OIL-HDG-00-DR-CD-35001

Existing River Sowe culvert retained

Southern Basin
Top of Bank: 72.594m
Basin Base: 70.094m

Northern Basin
Top of Bank: 75.230m
Basin Base: 72.730m

Drainage Ditch

Hungerly Hall Farm Grade II listed Building

River Sowe

Existing Hungerley Hall Farm Bridge

A46 tie-in

Existing A46 cross section retained north of HHF bridge

Existing Smite Brook Culvert

Coombe Pool

CONTINUED ON DRAWING HE604820-OIL-HDG-00-DR-CD-35001 & HE604820-OIL-HDG-00-DR-CD-35002

CONTINUED ON DRAWING HE604820-OIL-HDG-00-DR-CD-35002

CONTINUED ON DRAWING HE604820-OIL-HDG-00-DR-CD-35003

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KEY TO SYMBOLS

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- FDR — Proposed Filter Drain
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- SWC — Proposed Channel
- Proposed Road Gully
- NW — Chamber Numbers

1:1000 0 50m 100m

REV	DATE	REVISION NOTE	ORG	CHK'D	APP'D
P01	12/03/24	for information	SLon	DWo	EBa

DESIGNER

CONTRACTOR

CLIENT

national highways

PROJECT TITLE

A46 COVENTRY JUNCTIONS (WALSGRAVE)

PROJECT STAGE

DCO SUBMISSION

DRAWING TITLE

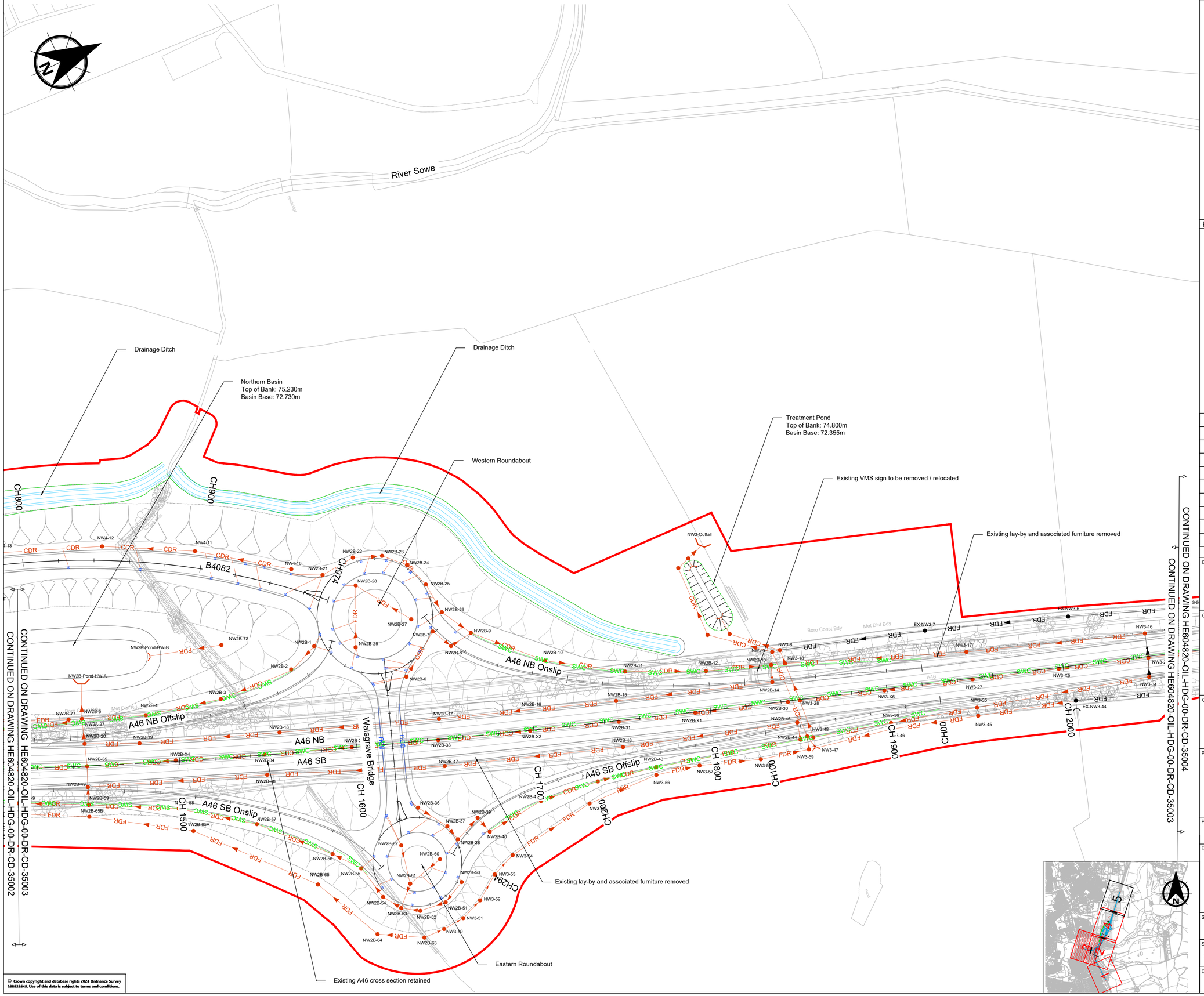
PROPOSED DRAINAGE PLAN
SHEET 2 OF 4

SUITABILITY

SHEET SIZE	SCALE	STATUS	REVISION
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DRAWING NUMBER

HE604820-OIL-HDG-00-DR-CD-35002



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4. Refer to drawings HE604820-OIL-HDG-00-DR-CD 31001 to 31017.
5. Refer to HE604820-OIL-HDG-00-RP-CD-35001 - Drainage basis report for drainage schedules.

KEY TO SYMBOLS

- Ditch Outline
- Route Chainage
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- FDR — Existing Filter Drain
- FDR — Proposed Filter Drain
- CDR — Proposed Carrier Drain
- SWC — Proposed Channel
- Proposed Road Gully
- NW — Chamber Numbers

1:1000 0 50m 100m

REV	DATE	REVISION NOTE	ORG	CHK'D	APP'D
P01	12/03/24	for information	SLon	DWo	EBa
P02	20/09/24	FOR INFORMATION	SLon	DWo	EBa

DESIGNER

CONTRACTOR

CLIENT

national highways

PROJECT TITLE

A46 COVENTRY JUNCTIONS (WALSGRAVE)

PROJECT STAGE

DCO SUBMISSION

DRAWING TITLE

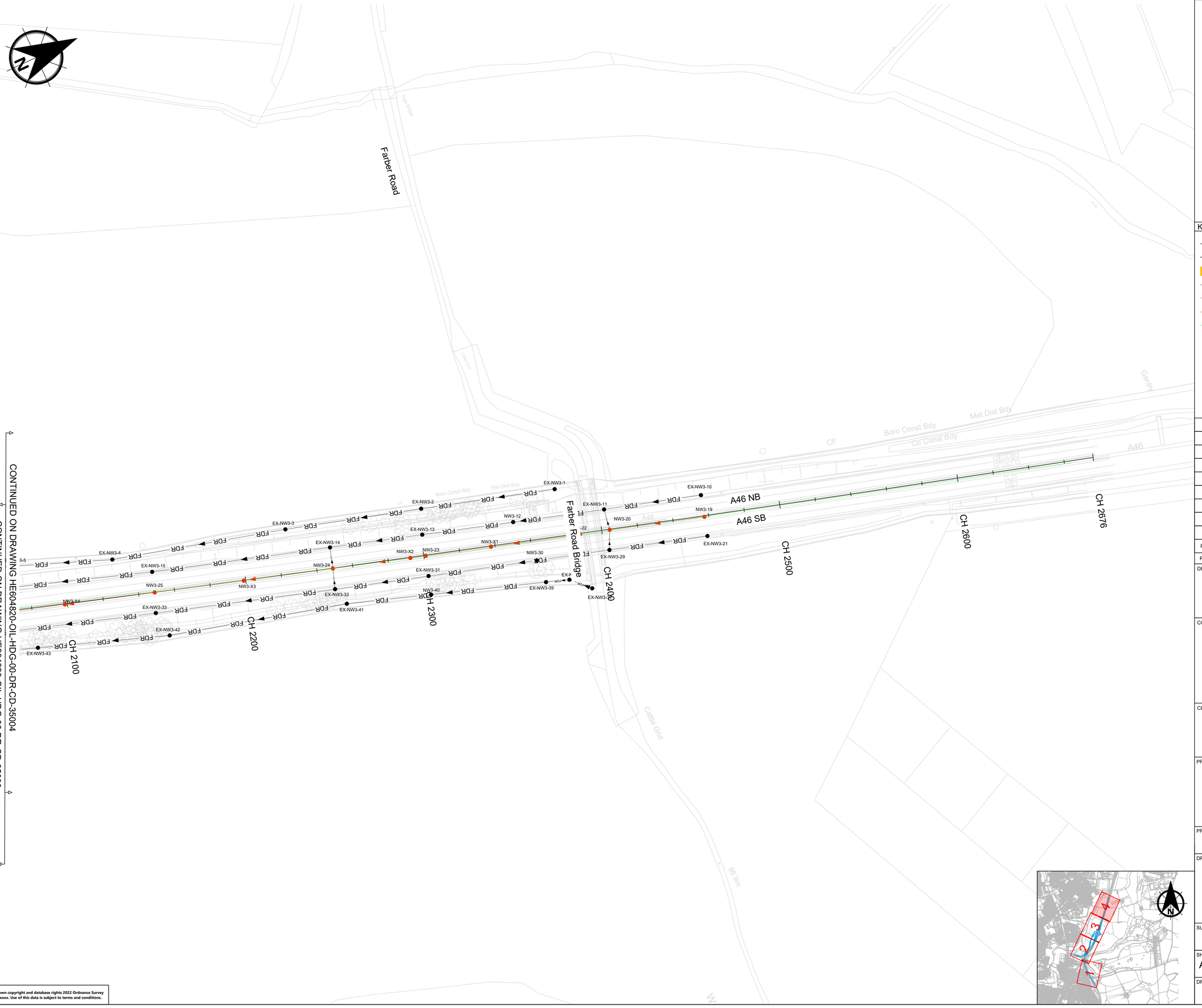
PROPOSED DRAINAGE PLAN
SHEET 3 OF 4

SUITABILITY

SHEET SIZE	SCALE	STATUS	REVISION
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DRAWING NUMBER

HE604820-OIL-HDG-00-DR-CD-35003



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5. Refer to HE604820-OIL-HDG-00-RP-CD-35001 - Drainage basis report for drainage schedules.

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- CDR — Proposed Carrier Drain
- SWC — Proposed Channel
- Proposed Road Gully
- NW — Chamber Numbers

1:1000 0 50m 100m

REV	DATE	REVISION NOTE	ORG	CHK'D	APP'D
P01	12/03/24	for information	SLon	DWo	EBa

DESIGNER

CONTRACTOR

CLIENT

national highways

PROJECT TITLE

A46 COVENTRY JUNCTIONS (WALSGRAVE)

PROJECT STAGE

DCO SUBMISSION

DRAWING TITLE

PROPOSED DRAINAGE PLAN
SHEET 4 OF 4

SUITABILITY

FOR INFORMATION

SHEET SIZE	SCALE	STATUS	REVISION
A1	1:1000	S2	P01

DRAWING NUMBER

HE604820-OIL-HDG-00-DR-CD-35004