

Land at Westwells Road, Rudloe, Corsham,

Surface Water Drainage Strategy Report

Prepared for:
Taylor Wimpey Bristol

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1 Introduction

This report has been produced by Stantec Limited on behalf of Taylor Wimpey Bristol to support the Reserved Matters application at Land at Westwells Road, Rudloe, Corsham.

The proposed development comprises of 167 residential units with associated infrastructure and landscaping works.

This site currently benefits from outline planning permission, reference 14/11354/OUT, of which this report addresses condition 12 provided below:

“No development shall commence on site until a scheme for the discharge of surface water from the site (including surface water from the access/driveway), incorporating sustainable drainage details (together with any required off-site works to prevent any increased risk of flooding to downstream properties and any required permissions for connections to private drainage systems/land drainage consents), has been submitted to and approved in writing by the Local Planning Authority. The scheme shall also include full details of potential ownership/maintenance liability and regime of the complete storm water disposal system.

The development shall not be first occupied until surface water drainage, including any off-site works, has been constructed in accordance with the approved scheme.”

The site has previously received Reserved Matters approval for a previous developer, reference 19/07339/REM with permission granted 11 June 2021.

This report should be read in conjunction with the approved the Flood Risk Assessment and Drainage Strategy Report (Ref: 132283-R1(1)-FRA) by RSK.

2 Existing Site Details

2.1 Location and Setting

The site is located to the south of Westwells Road, around 2.8km to Corsham and covers a gross area of 81.5ha. The site a former Ministry of Defence site and compromises of existing buildings, roads and private drainage networks.

The site is bounded to the immediate north by Westwells Road. The western edge of the site is bound by Bradford Road (B3109). To the south lies undeveloped farmland and a data centre to the east.

There is a live fire station (DFS Corsham) situated in the centre of the site, which is being retained.

2.2 Topography & Hydrology

Review of the topographical survey of the site confirms that the site falls from the northwest of the site towards the southeast.



2.3 Existing Sewers

There is an existing Wessex Water public foul sewer that follows Westwells Road southeast. There is also an existing Wessex Water Ø10inch water main that runs in Westwells Road.

There are multiple private sewers that run throughout the site. Wessex Water sewer records are provided in Appendix A.

3 Proposed Surface Water Drainage Strategy

3.1 Existing Drainage Arrangement

The existing site is brownfield and predominantly developed so the Modified Rational Method was used, as detailed within the FRA, to calculate the existing surface water runoff rates, which are provided below in Table 1.

Table 1 Discharge Rates

Event	Flow Rate (l/s)
1 in 1 Year	65.7
QBar	125.6
1 in 30 Year	280.7
1 in 100 Year	397.8

3.2 Surface Water Proposal Discharge Rate

The RSK drainage strategy was divided into two catchments with separate surface water outfalls into Westwells Road. The northern catchment discharged via gravity and the southern catchment required a pump station to discharge to Westwells Road due to the site levels.

Due to the sensitive nature of the surrounding infrastructure, the post-development discharge rate for was limited to greenfield rates, using the IOH 124 Method, provided in Table 2.

The limiting discharge rate for each catchment can be found in Table 3. However, where the limited discharge rate is less than 5l/s, it can be increased to no more than 5l/s to reduce the risk of blockage.

Table 2: Greenfield Runoff from site using the IOH124 Method.

Event	Flow Rate (l/s)
1 in 1 Year	3.3
QBar	4.3
1 in 30 Year	8.1
1 in 100 Year	10.3



Table 3 *Proposed Limited Discharge Rates*

Catchment	Equivalent Greenfield Qbar rate (l/s)	Limiting Discharge Rate (l/s)
North	3.0	5.0
South	7.3	7.3
Total	10.3	12.3

In accordance with the approved FRA, the proposed surface water drainage strategy has a maximum discharge of 12.3l/s in the critical 1:100 year + CC event.

Since the FRA has been approved, further investigations have been undertaken regarding the point of surface water discharge with the following issues:

- Surface water can not discharge to ground due to subterranean structures (including a box tunnel and MOD bunker)
- The surface water sewer within Westwells Road is a WW overflow from a reservoir, to which discharge has been refused
- Surface water discharge to the local foul network has been refused
- Riparian consent to discharge to the culverted watercourse to the south has been refused
- Requisition to the nearest watercourse is not possible due to crossing of MOD land
- Any drainage arrangements crossing MOD land has been refused due to security concerns.

As a result, it has been agreed with Wessex Water that a pumped connection to a manhole located to the north of the site in Bradford Road, as per the pre-development enquiry provided in Appendix B.

3.2.1 Impermeable Areas

The impermeable areas have been measured from the proposed site layout, and a 10% urban creep allowance has been applied to private roof areas to allow for future extensions of paved areas and dwellings, as provided in Table 4.

Table 4 *Urban Creep Calculation*

	Area (m²)
Highway Areas	12,704
Private Parking Areas	7,887
Plot Areas	10,955
Urban Creep (10%)	1,096
Total Impermeable Area including Urban Creep	32,642



3.2.2 Climate Change

The approved outline drainage strategy used 1 in 100 + 30% climate change (CC). However, this allowance has been increased in line with recent Environment Agency Guidance (May 2022) ¹ and climate change will be applied to the 1 in 30 and 1 in 100-year rainfall.

The site is located within the 'Avon Bristol and North Somerset Management Catchment' and is therefore subject to the climate change allowances shown in Table 4; these are based on the 'Upper end allowance' for the 2070s epoch.

Table 5 Climate change allowances, Environment Agency

Rainfall Event	Climate Change Allowance
1 in 30 year (3.3% annual exceedance rainfall event)	40%
1 in 100 year (1% annual exceedance rainfall event)	45%

3.2.3 Surface Water Drainage Strategy

The surface water drainage strategy, illustrated on drawing "10394-STN-XX-XX-DR-C-2200 Drainage Strategy", provided in Appendix C, has been designed in accordance with the approved Flood Risk Assessment and Drainage Strategy Report (Ref: 132283-R1(1)-FRA) by RSK.

Surface water flows generated by the development have been combined into 1 catchment, with a series of SuDS features provided throughout the site before ultimately discharging to an attenuation basin located in the south of the site. The surface water flows are then discharged via a pumping station at 12.3l/s into a manhole located on Bradford Road to the north of the site, subject to a Section 106 agreement with Wessex Water.

Attenuation has been provided through the site in the form of 2no. attenuation basins and 1no. geocellular attenuation tank. The basins have been designed with 1:3 side slopes and include a minimum 200mm freeboard, in the 1 in 100 year + 45% CC event. Due to the site constraints an attenuation tank is required, however all surface water flows are intercepted by above ground, vegetated SuDS within the network to improve water quality.

Rain gardens, swales, and permeable paving have also been provided within the site to intercept surface water runoff and improve water quality before discharging into the downstream network.

The surface water is proposed to discharge at a rate not exceeding the limiting discharge rate of 12.3l/s in all events. Copies of the Flow calculations for the 2-year, 30 year + 40% CC, and 100 year + 45% CC have been provided in Appendix C.

¹ <https://environment.data.gov.uk/hydrology/climate-change-allowances/rainfall>



3.2.4 Exceedance

In the event that rainfall which is in excess of the design standard is experienced, the site levels will be designed such that surface water flows will be routed away from properties and towards SuDS features or areas of open space. Double gullies will be provided at low spots to enable flows to re-enter the drainage network and minimise risk of blockage. This exceedance routing has been shown on drawing 10394-STN-XX-XX-DR-C-2250, provided in Appendix C.

3.3 Water Quality

Adequate mitigation measures will be put in place to offset any detrimental effects of the development on water quality in the receiving watercourse.

Roof runoff mainly involves solids and sediment contamination, which can be removed by catch pits as per the CIRIA The SuDS Manual. Roads and parking runoff that is vulnerable to sediment and hydrocarbon pollutants will be treated by the attenuation basin.

CIRIA C753 The SuDS Manual, chapter 26, recommends the use of the 'Simple Index Approach' for assessing the minimum water quality management requirements and this method has been used to check the suitability of the above proposals as follows;

- » Step 1 – Allocate suitable pollution hazard indices for the proposed land use.
- » Step 2 – Select SuDS with a total pollution mitigation index that equals or exceeds the pollution hazard index.

The pollution hazard indices for the proposed land uses are shown in Table 6: Pollution Hazard Indices for different land uses below.

Table 6 *Pollution Hazard indices for different land uses (based on Table 26.2 of CIRIA C753 The SuDS Manual)*

Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydrocarbons
Residential Roofs	Very Low	0.2	0.2	0.05
Private Driveway & low traffic roads	Low	0.5	0.4	0.4

The indicative pollution mitigation Indices for the proposed SuDS devices are shown in Table 7 below.

Table 7 *Indicative SuDS mitigation indices for discharge to surface water (based on Table 26.3 of CIRIA C753 The SuDS Manual)*

Land use	Total suspended solids (TSS)	Metals	Hydrocarbons
Bioretention System	0.8	0.8	0.8
Swale	0.5	0.6	0.6
Ponds	0.7	0.7	0.5
Permeable Paving	0.7	0.6	0.7



Land use	Total suspended solids (TSS)	Metals	Hydrocarbons
Total	0.95	0.95	0.95

From the above Table 6 and Table 7 it is shown that flows passing through the attenuation basins, swale, bioretention areas and permeable paving will provide mitigation in excess of the required values for trafficked areas. Where flows bypass the source control features provided, the mitigation indices show sufficient treatment provided by the online ponds only. Therefore, the proposed SuDS system will provide sufficient water quality treatment prior to its discharge into the surface watercourse.

3.4 Adoption & Maintenance

3.4.1 Adoption

The main sewer systems serving this development will be offered for adoption under Section 104 of the Water Act 1991. This may be to either the local water authority Wessex Water, or to an alternative adopting authority under an Inset Agreement.

Highway gullies and other drainage serving the adopted highway only will be adopted and maintainable by the local highway authority, subject to Section 38 approval.

Private plot drainage (designed in accordance with Part H Building Regulations) will be maintained by individual plot owners. No communal SuDS features have been proposed within a property's curtilage and therefore no individual homeowner will be responsible for the maintenance of any shared drainage features.

It should be noted that should Schedule 3 of the Flood and Water Management Act be implemented in the future, there is potential that the onsite SuDS will fall under the ownership of the SuDS Adoption Body (SAB), which may impact upon the adoption and maintenance detailed within this section.

3.4.2 Maintenance

The ponds will be subject to the operation and maintenance requirements as outlined in Table 9, as a minimum, which complies with The SuDS Manual.

Table 8 Operation and maintenance requirements for ponds.

Maintenance Schedule	Required action	Typical Frequency
Regular Maintenance	Remove litter and debris	Monthly or as required
	Cut grass – public areas	Monthly (During growing season)
	Cut meadow grass	Half yearly (spring - before nesting and autumn)
	Inspect marginal and bankside vegetation and remove nuisance plants (for first 3 years)	Monthly (at start, then as required)
	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly



Maintenance Schedule	Required action	Typical Frequency
	Inspect banksides, structures, pipework etc for evidence of physical damage	Monthly
	Inspect water body for signs of poor water quality	Monthly (May – October)
	Inspect silt accumulation rates in any forebay and in main body of the pond and establish appropriate removal frequencies; undertake contamination testing once some build-up has occurred, to inform management and disposal options	Half Yearly
	Check any mechanical devices, eg penstocks	Half Yearly
	Hand cut submerged and emergent aquatic plants (at minimum of 0.1m above pond base; include max 25% of pond surface)	Annually
	Remove 25% of bank vegetation from water's edge to a minimum of 1m above water level	Annually
	Tidy all dead growth (scrub clearance) before start of growing season	Annually
	Remove sediment from any forebay.	Every 1–5 years, or as required
	Remove sediment and planting from one quadrant of the main body of ponds without sediment forebays.	Every 5 years, or as required
	Remove sediment from the main body of big ponds when pool volume is reduced by 20%	With effective pre-treatment, this will only be required rarely, eg every 25–50 years
Occasional Maintenance		
Remedial Actions	Repair erosion or other damage by reseedling or re-turfing.	As Required
	Realignment of rip-rap.	As Required
	Replant, where necessary	As Required
	Aerate pond when signs of eutrophication are detected	As Required
	Repair, rehabilitate inlets, outlets and overflows.	As Required

Table 9 Operation and maintenance requirements for swales

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove litter and debris	Monthly, or as required
	Cut grass – to retain grass height within specified design range	



Maintenance Schedule	Required Action	Typical Frequency
Occasional Maintenance	Inspect inlets, outlets and overflows for blockages	As required or if bare soil is exposed over 10% or more of the swale treatment area
	Manage vegetation and remove nuisance plants	
	Reseed areas of poor vegetation growth, alter plan types to better suit conditions, if required	
Remedial Actions	Repair erosion or other damage by re-turfing or reseeding	As required
	REmove and dispose of oils or petrol residues using safe standard practives	
	Relevel uneven surfaces and reinstate design levels	

Table 10 Operation and maintenance requirements for flow control vortex

Maintenance Schedule	Required Action	Typical Frequency
Occasional Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Quarterly
	Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies.	Half Yearly

Table 11 Operation and maintenance requirements for bioretention systems

Maintenance Schedule	Required Action	Typical Frequency
Regular Inspections	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in underdrain (if appropriate) to determine if maintenance is necessary	Quarterly
	Check operation of underdrains by inspection of flows after rain	Annually
	Assess plants for disease infection, poor growth, invasive species etc and replace as necessary	Quarterly
Regular Maintenance	Inspect inlets and outlets for blockage	Quarterly
	Remove litter and surface debris and weeds	Quarterly (or more frequently for tidiness or aesthetic reasons)
	Replace any plants, to maintain planting density	As required
	Remove sediment, litter and debris build-up from around inlets or from forebays	Quarterly or biannually



Maintenance Schedule	Required Action	Typical Frequency
Occasional Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Quarterly
	Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies.	Half Yearly
Remedial Actions	Remove and replace filter medium and vegetation above	As required but likely to be > 20 years

Table 12: Operation and maintenance requirements for Permeable Paving

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site specific observations of clogging or manufacturers recommendations pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment aesthetic reasons)
	Replace any plants, to maintain planting density	As required
	Remove sediment, litter and debris build-up from around inlets or from forebays	Quarterly or biannually
Occasional Maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 5 mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation



Maintenance Schedule	Required Action	Typical Frequency
	Inspect for evidence of poor operation and/or weed growth if required, take remedial action	Three monthly, 48h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

4 Conclusion

This report details the drainage proposals to support the reserved matters application at Land at Westwells Road, Rudloe, Corsham. The drainage strategy has been designed in accordance with Flood Risk Assessment and Drainage Strategy Report (Ref: 132283-R1(1)-FRA) by RSK.

The surface water catchments are proposed to drain to attenuation basins located in the centre and south of the site, this has been shown to provide adequate water quality improvements. The basins have been sized to provide a minimum 200mm freeboard in the critical 1 in 100 year event with 45% climate change allowance, discharging at limited rate not exceeding Q_{bar} . Exceedance flows are to be routed along the onsite road towards the basins and other conveyance features.

The discharge of surface water shall be to the existing Wessex Water manhole.

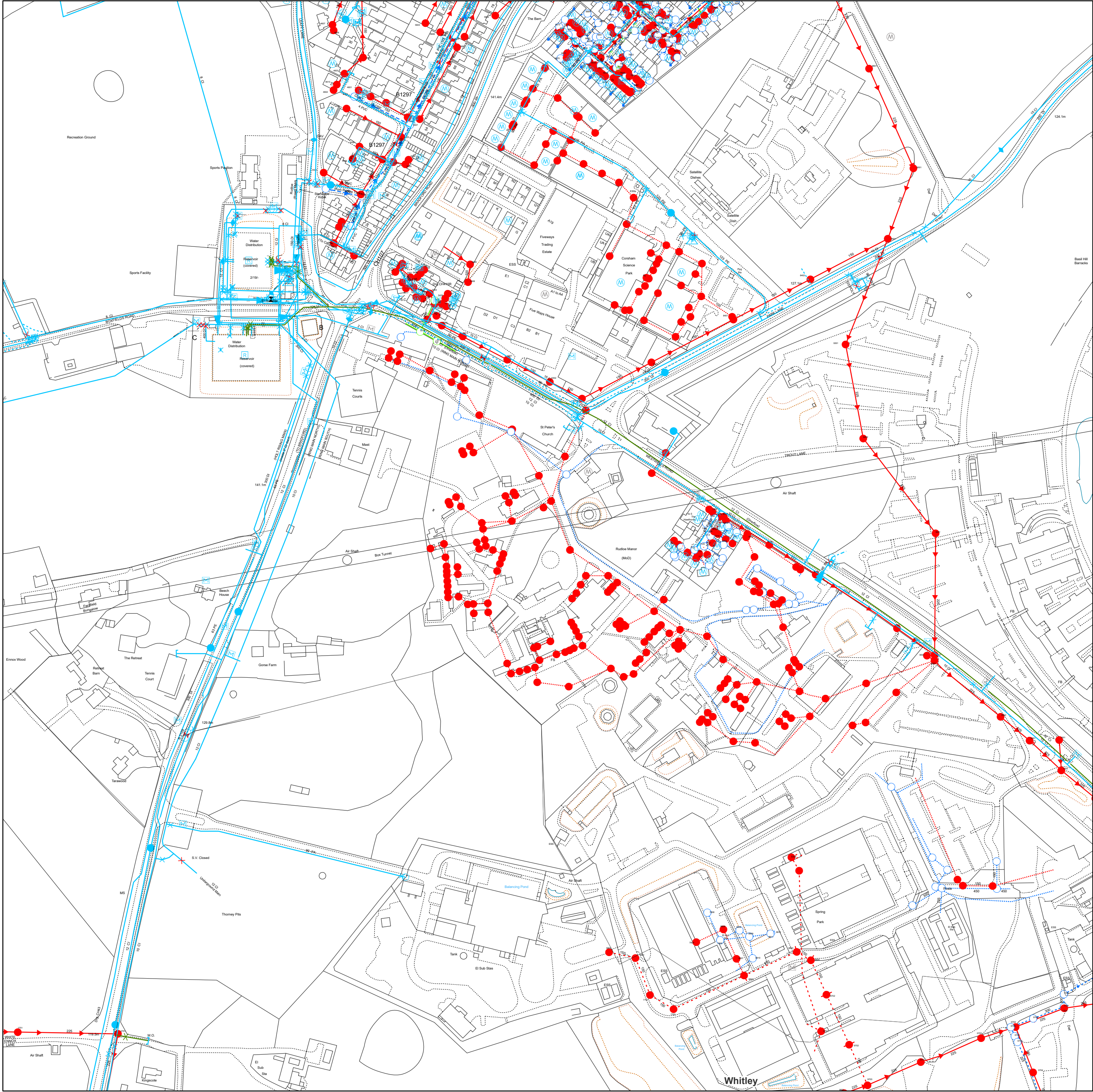


Appendix A Wessex Water Sewer Records

Severn Trent Water Sewer Records



ST86NW/ 127 ASSET MAP



Reproduced from the Ordnance Survey map with the permission of the Controller of His Majesty's Stationery Office. © Crown copyright and database rights (2026) OS AC0000848304

WATER MAINS

- Distribution Main
- Washout Main
- Raw Water Main
- Abandoned Main
- Private Main

SITES

- Collecting Tank
- Source (Header)
- Source (Other)
- Treatment Works
- Reservoir
- Pump

FITTINGS

- Valve - Open
- Valve - Closed
- Fire Hydrant
- Pressure Reducing Valve
- Meter

SEWERS

- Foul
- Surface
- Combined
- Abandoned

PUBLIC

PRIVATE

SECTION 104

OTHER WESSEX PIPES

- Rising Mains
- Standby Rising Mains
- Effluent Disposal
- Overflow
- Syphon

NON-WESSEX / UNKNOWN

- Private Rising Mains
- Culverted Watercourse
- Highway Drain
- Use Unknown
- Status Unknown

Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow) styles of line are shown on the key in sample/typical colours.

STRUCTURES

- Manhole - Foul
- Manhole - Surface
- Manhole - Combined
- Outfall
- Inlet
- Lamphole
- Bifurcation - Foul
- Bifurcation - Surface
- Bifurcation - Combined
- Combined Sewage Overflow
- Pumping Station - Surface
- Pumping Stn - Foul/Combined
- Gully
- Vent Column
- Rodding Eye
- Catchpit
- Flushing Chamber
- Soakaway
- Non Return Valve
- Washout
- Air Valve
- Hatch Box

OTHER STRUCTURES

- Attenuation Tank
- Storage Tank
- Chamber
- Tunnel
- Interceptor

Wessex Water

YTL GROUP

Date: 26/05/2026

Centre: 384640E, 169194N

Scale: 1:2,500

(when printed at A2 size)

Appendix B Wessex Water Pre-Development Enquiry



Response to: [REDACTED] (Developer Response)			
Planning Ref:	14/11354/OUT	Email:	[REDACTED]
Proposal:	Residential development, containing 170 plots	Our Ref:	ST86NW/ 127
Location:	Former MOD Rudloe No.2, Westwells Road, Corsham, Wiltshire, SN13 9RA	Date:	27 May 2026

Existing Services

The following Wessex Water assets are located along the northeast boundary with Westwells Road.

225mm public foul sewer, flowing northwest to northeast (serves Neston Gardens)

10" supply main

Note: There are numerous private foul sewers and surface water sewers within the site boundary, however, as this is former MOD property Wessex Water do not have any details of these assets.

Standoff Around Foul & Surface Water Sewers

Wessex Water requires access to undertake our statutory duties as set out in the Water Industry Act 1991 to maintain and repair our assets. Therefore, there must be no buildings within a minimum of 3m either side of the outer edge of the 225mm diameter public foul sewer and no tree planting within a minimum of 6m. This includes no surface water attenuation features and associated earthworks in the standoff strip, changes in ground levels resulting in additional loading or excavation can lead to instability in the pipe. The Surface water / foul sewer must not run through enclosed private rear gardens it must be within a 6m (3m either side of the outer edge) open access strip or roads. Wessex Water require unrestricted access to maintain and repair our apparatus.

Standoff Around Water Mains

Wessex Water requires access to undertake our statutory duties as set out in the Water Industry Act 1991 to maintain and repair our assets. Therefore, there must be no buildings within a minimum of 3m either side of the outer edge of the 10" diameter water supply main and no tree planting within a minimum of 6m. This includes no surface water attenuation features and associated earthworks in the standoff strip, changes in ground levels resulting in additional loading or excavation can lead to instability in the pressurised pipe which is carrying large volumes of water. The water main must not run through enclosed private rear gardens; it must be within a 6m (3m either side of the outer edge) open access strip or roads. Wessex Water require unrestricted access to maintain and repair our apparatus.

Measurements are given for a pipeline depth of between 900mm and 2000mm. The stand-off distance may increase for a strategic water main due to material, size, depth and pressure. Wessex Water reserves the right to change the requirements for specific sites or strategic mains.

Protection Measures

You will need to agree protection arrangements for the 225mm public foul sewer and the 10" supply main that run along the boundary (standoff details as given above). Any damage to our apparatus by third parties will result in a compensation claim.

All existing apparatus must be accurately located on site and marked on deposited drawings.

A map showing all known Wessex Water assets within the area of the proposed site is attached at the bottom of this response. Additional maps can be obtained from our website [Mapping enquiries \(wessexwater.co.uk\)](https://www.wessexwater.co.uk)

Note: Information in this map is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located.

Source Protection Zones

The site lies within a source protection area; SPZ2, this is a source protection zone protecting drinking water, careful consideration will need to be given when redeveloping the site.

Foul Drainage

Wessex Water will accommodate domestic type foul flows in the public foul sewer with connections made on a size for size basis, Developers fund the cost of connecting to the nearest 'size for size' sewer. The minimum diameter receiving sewer to meet size for size principles for a development of this magnitude is 150mm.

The nearest public foul sewer of suitable dimension or greater is the 225mm diameter located on Westwells Road, this would be your chargeable point of discharge and aligns with the indicative point of discharge as shown on DRAINAGE STRATEGY SHEET 2, drawing ref 333801886-STN-XX-XX-DR-CH-2601, Rev P02, dated 02/12/25 submitted in support of your application.

The point of connection to the public network is by application and agreement with Wessex Water.

Please Note: Wessex Water will not accept any surface water runoff, land drainage or ground water discharge to the public foul sewer network, either directly or indirectly.

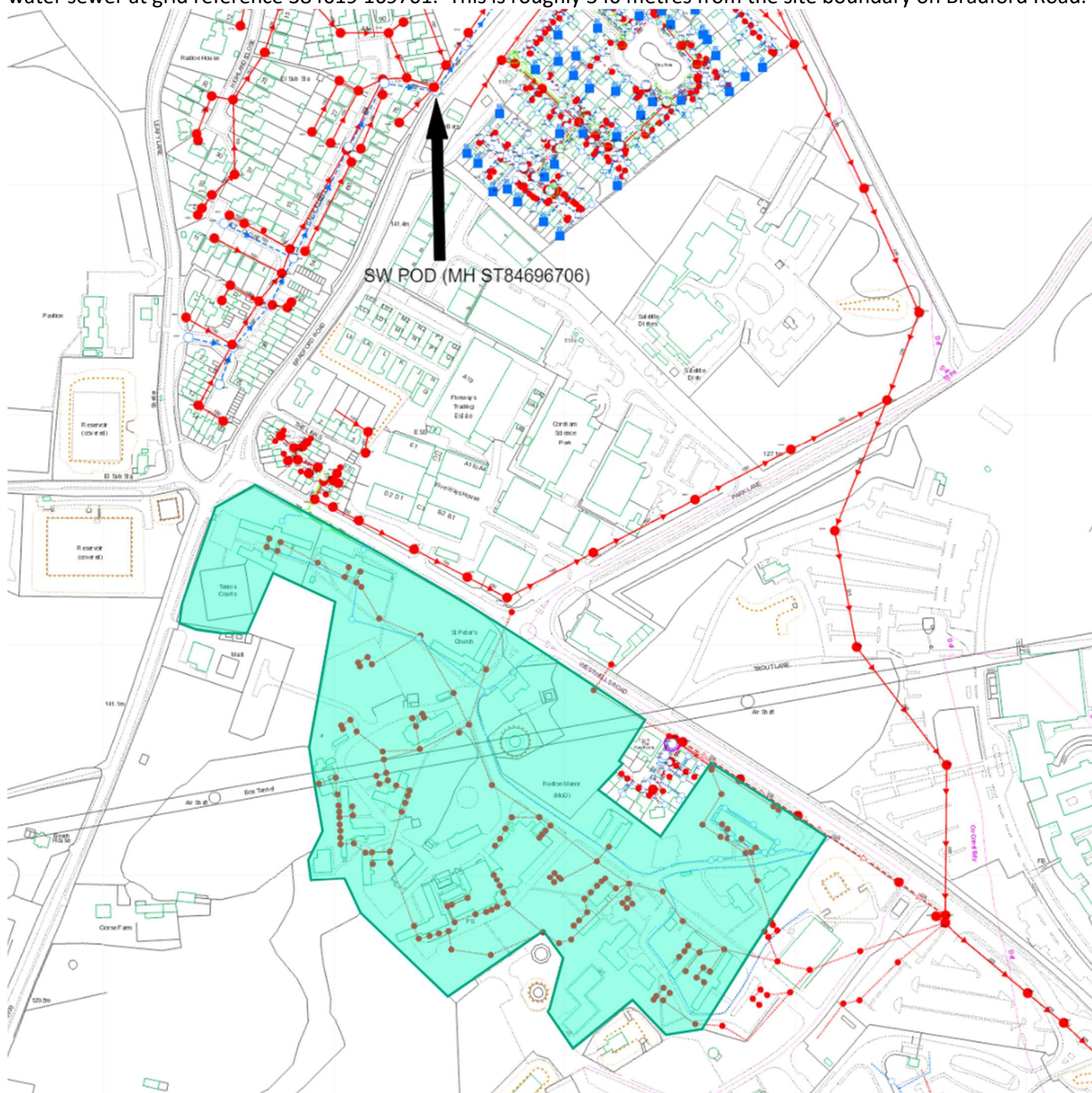
Surface Water Drainage (rainwater falling onto, and running off, impermeable surfaces)

For Info - The former MOD SW drainage arrangements in this area are complex and were previously investigated by a developer at the outline planning application, 18/09884/OUT for 81 houses. The private offsite sewer system between Westwells Road and Spring Lane had been surveyed by the applicant at that time and shown in parts to be in poor repair and in need of remediation. Details of the applicant's private survey of the off-site sewer which is available on the Wiltshire Planning Portal. Wessex Water does not verify this information, but I have made you aware of it and it would be for you investigate further if you choose.

In light of the above complexities, Wessex Water have previously confirmed that in this particular circumstance, for the Rudloe 2 site, we have previously advised we will consider a surface water pumping station.

It is understood that all surface water could be disposed of via a pumped connection to our surface water network to the north, as all other methods of disposal have proved unviable.

The point of discharge for surface water would be to manhole reference ST84696706, located on a 300mm surface water sewer at grid reference 384619 169701. This is roughly 340 metres from the site boundary on Bradford Road.



You will need to liaise with the LLFA to agree the surface water strategy for this site.

This aligns with the proposed surface water drainage strategy and layout as shown on DRAINAGE STRATEGY SHEET 1, drawing ref 333801886-STN-XX-XX-DR-CH-2600, Rev P02, dated 02/12/25 and DRAINAGE STRATEGY SHEET 2, drawing ref 333801886-STN-XX-XX-DR-CH-2601, Rev P02, dated 02/12/25 submitted in support of your application.

Please Note: Wessex Water will not accept any surface water runoff, land drainage or ground water discharge to the public foul sewer network, either directly or indirectly.

Water Infrastructure

Wessex Water will provide a point of connection for new water mains to be laid into the development site, either through a Section 41 agreement or a self-lay arrangement.

Developers may connect to our water network on a size for size basis at their cost and Wessex Water will undertake any network reinforcement that may be required to accommodate granted development, this is funded through our infrastructure charging arrangements. Upon grant of planning Wessex Water will undertake a modelling exercise to determine the impact on our network and manage any necessary improvements.

The minimum diameter supply main at point of connection, to meet size for size principles, for a development of this magnitude is 125mm.

The nearest public supply main of suitable diameter or greater is the 10" Trunk Main located on Westwells Road, in normal circumstances we would not permit a connection to a trunk, however, we have previously modelled proposed development here and can confirm this is the most appropriate point of connection, a meter will need to be installed to monitor demand flow.

Please note: On site private storage and pump systems will be required for buildings greater than 2 storeys high. No guarantee can be given on a specific pressure or to maintaining that pressure. Normally it will be no less than 10m head of water. (1 bar pressure at 9 litres a minute) on the property boundary.

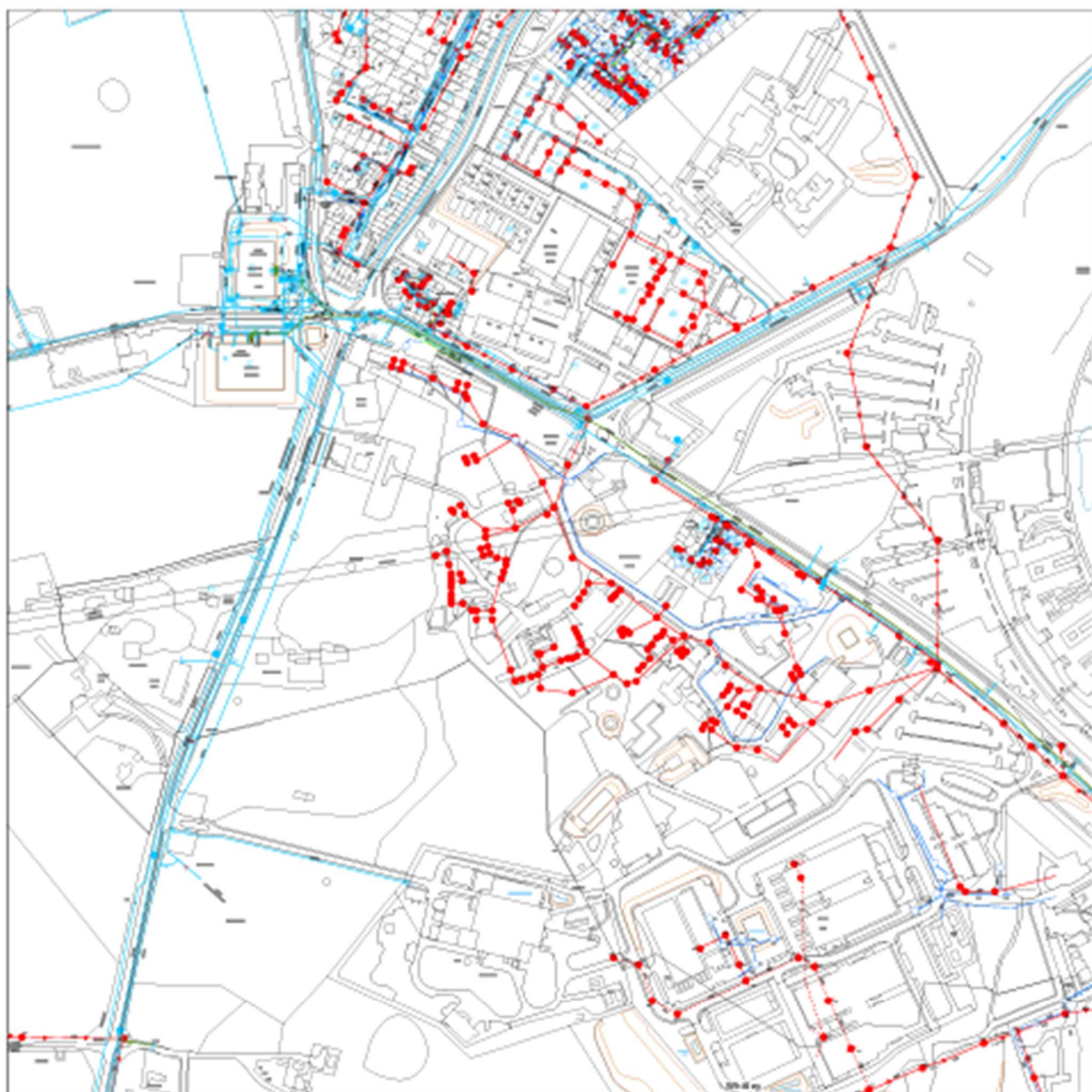
New Appointments and Variations (NAVs)

The NAV Market enables developers to choose their water and sewerage undertaker for a specific geographic area.

For developers wishing to consider an alternative supplier or seeking further information, a full list of appointees and further guidance can be found on the [Wessex Water](#) and [Ofwat website](#).

NOTE: These comments are based upon known circumstances prevailing at the time of writing. A review of the contents of this document is required where 18 months or more have elapsed since issue or in the light of significant changes likely to impact upon the response (e.g., changes in development numbers or phasing). Please email review requests to [REDACTED]

ST86NW/ 127 ASSET MAP

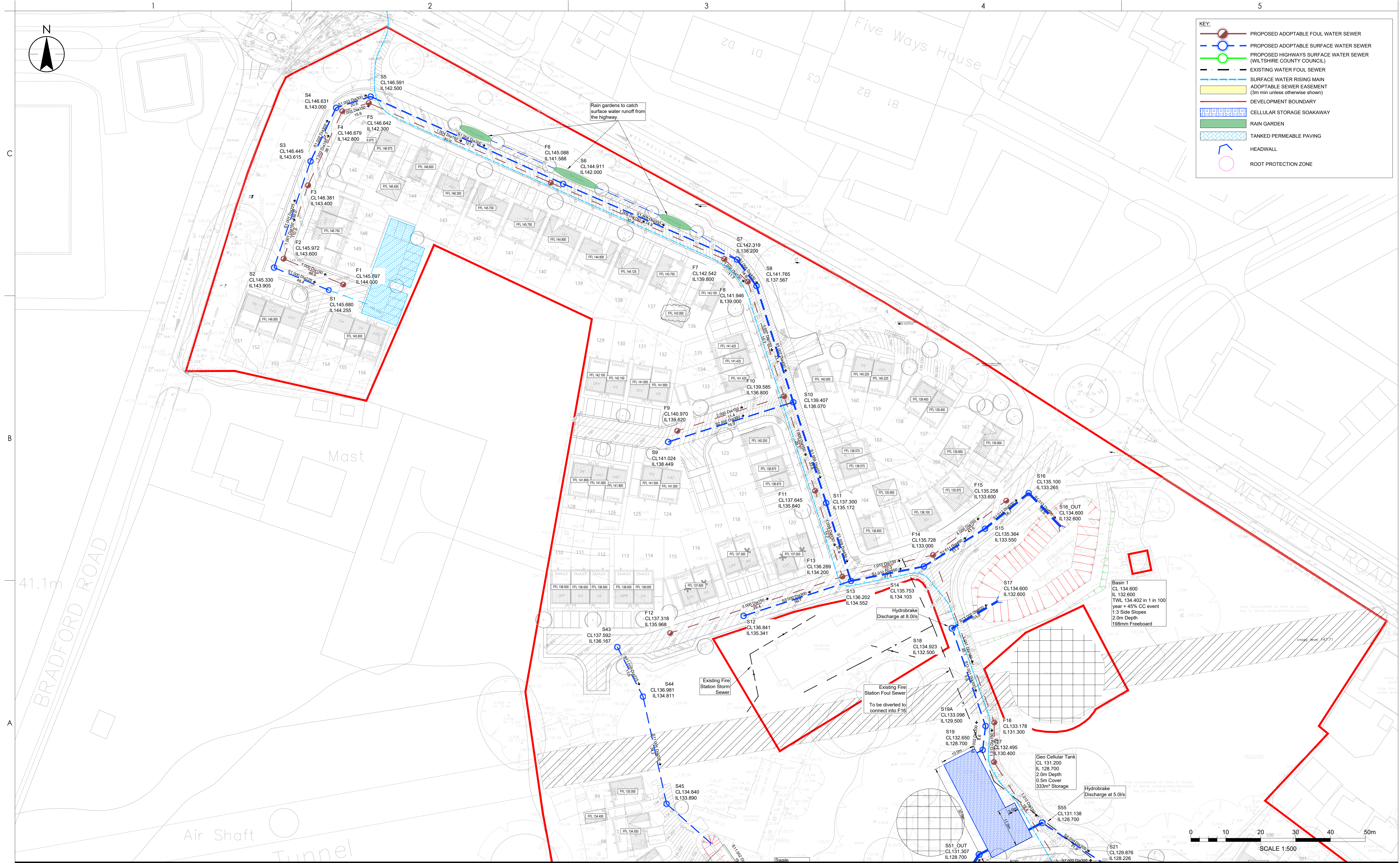


Appendix C Drainage Drawings

10394-STN-XX-XX-DR-C-2100 P01 Drainage Strategy
10394-STN-XX-XX-DR-C-2150 P01 Exceedance Plan



Project: 132283-R1(1)-FRA
Original: 132283-R1(1)-FRA
Sheet: 132283-R1(1)-FRA
Date: 19.06.2026
Author: J. Smith
Check: J. Smith
Issue: 132283-R1(1)-FRA



- Notes
- Drawing is to indicate strategy only and is subject to change following detailed design.
 - Drainage model based on FEH 2022 data
 - Discharge rates based on Qbar rate 4.3l/s/ha, taken from RSK Flood Risk Assessment & Drainage Strategy (November 2014) Reference: 132283-R1(1)-FRA.

DRAWING ISSUED FOR
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P02 Updated site layout	TO	OD	19.06.2026
P01 First Issue	DN	OD	05.06.2026
Issued/Revision	By	Appd	DD.MM.YYYY

Issue Status

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Client/Project:

TAYLOR WIMPEY BRISTOL

RUDLOE 2, CORSHAM

Title
DRAINAGE STRATEGY
SHEET 1 OF 3

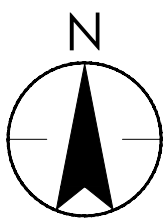
Project No.
331810394

Revision
P02

A1 Scale
2:1

Drawing No.

10394-STN-XX-XX-DR-C-2200



- Notes
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 - Drainage model based on FEH 2022 data
 - Discharge rates based on Qbar rate 4.3l/s/ha, taken from RSK Flood Risk Assessment & Drainage Strategy (November 2014)
Reference: 132283-R1(1)-FRA.

KEY:



PROPOSED ADOPTABLE FOUL WATER SEWER



PROPOSED ADOPTABLE SURFACE WATER SEWER



PROPOSED HIGHWAYS SURFACE WATER SEWER
(WILTSHIRE COUNTY COUNCIL)



EXISTING WATER FOUL SEWER



SURFACE WATER RISING MAIN



ADOPTABLE SEWER EASEMENT
(3m min unless otherwise shown)



DEVELOPMENT BOUNDARY



CELLULAR STORAGE SOAKAWAY



RAIN GARDEN



TANKED PERMEABLE PAVING



HEADWALL



ROOT PROTECTION ZONE



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Ordnance Survey ?????????

Rain gardens to catch surface water runoff from the highway

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Client/Project Logo:
TAYLOR WIMPEY BRISTOL

Project:
RUDLOE 2, CORSHAM

Title
DRAINAGE STRATEGY
SHEET 3 OF 3

Project No.
331810394

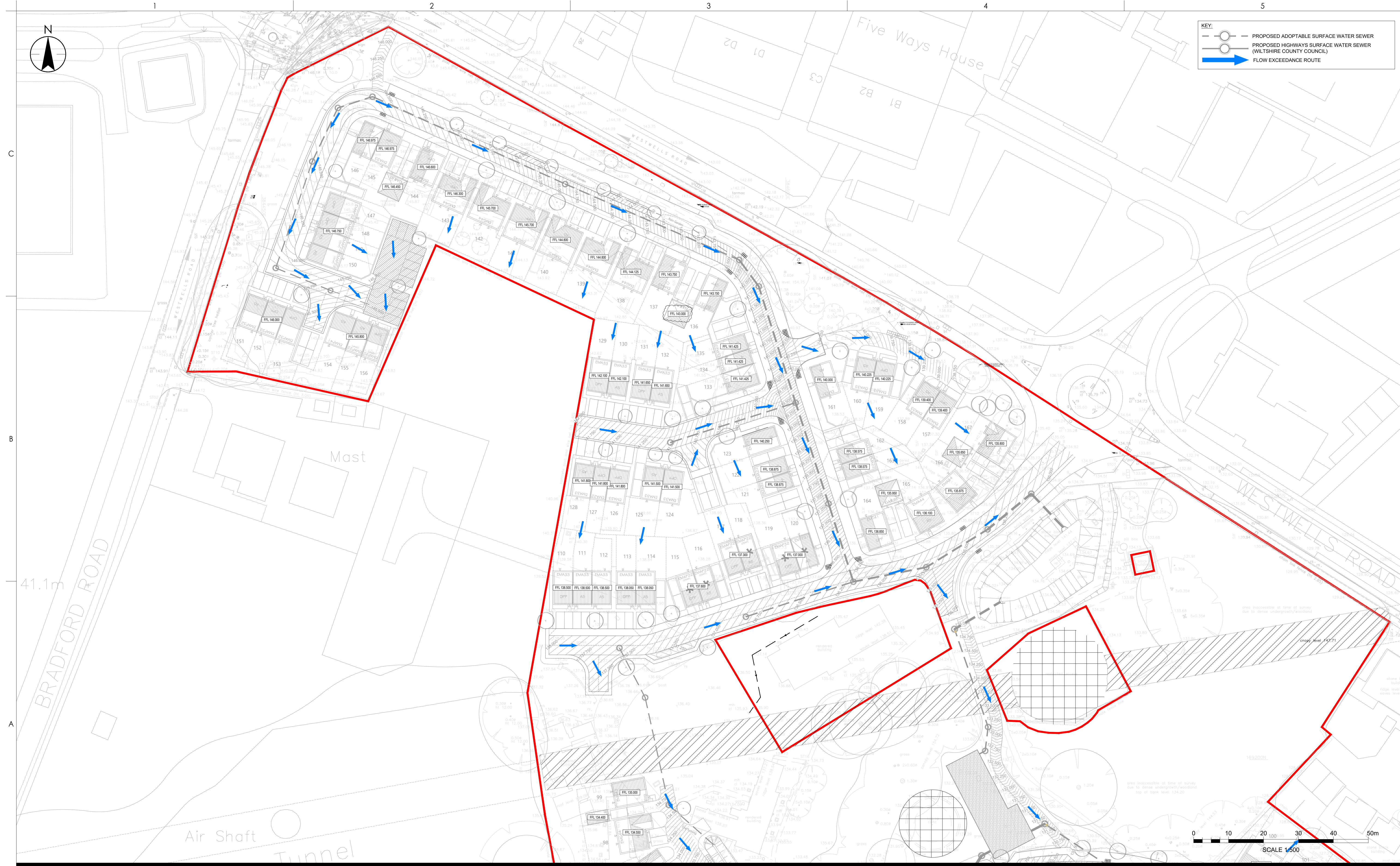
A1 Scale
2:1

Revision
P02

Drawing No.
10394-STN-XX-XX-DR-C-2202

P02 Updated site layout	TO	SM	19.06.2026
P01 First Issue	DN	OD	05.06.2026
Issued/Revision	By	Appd	DD.MM.YYYY

Project: 19.06.2026.2026.04.19 10:24:34 AM Rev: 001 - 001
Original: 19.06.2026.2026.04.19 10:24:34 AM Rev: 001 - 001
Original: 19.06.2026.2026.04.19 10:24:34 AM Rev: 001 - 001



- Notes
- Drawing is to indicate strategy only and is subject to change following detailed design.
 - Drainage model based on FEH 2022 data
 - Discharge rates based on Qbar rate 4.3l/s/ha, taken from RSK Flood Risk Assessment & Drainage Strategy (November 2014) Reference: 132283-R1(1)-FRA.

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P02 Updated site layout	TO	OD	19.06.2026
P01 First Issue	DN	OD	05.06.2026
Issued/Revision	By	Appd	DD.MM.YYYY

Issue Status

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TAYLOR WIMPEY BRISTOL

RUDLOE 2, CORSHAM

Title

FLOOD EXCEEDANCE PLAN
SHEET 1 OF 2

Project No.
331810394

Revision
P02

A1 Scale
2:1

Drawing No.

10394-STN-XX-XX-DR-C-2210

Appendix D Flow Calculations

Storm Calculations (2026.06.05)



Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.000
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.081	5.00	145.680	1200	384469.680	169334.355	1.425
2	0.049	5.00	145.330	1200	384453.996	169340.790	1.425
3	0.039	5.00	146.445	1200	384464.460	169371.290	2.830
4	0.008	5.00	146.631	1200	384471.795	169386.639	3.631
5	0.069	5.00	146.591	1200	384481.697	169389.849	4.091
6	0.142	5.00	144.911	1200	384536.861	169364.815	2.911
7	0.095	5.00	142.319	1350	384586.698	169343.107	4.119
8	0.037	5.00	141.765	1350	384592.301	169335.532	4.198
9	0.140	5.00	141.024	1200	384566.964	169290.816	2.575
10	0.126	5.00	139.407	1350	384602.845	169302.196	3.337
11	0.063	5.00	137.300	1350	384612.273	169273.303	2.128
12	0.106	5.00	136.841	1200	384588.607	169240.906	1.500
13	0.028	5.00	136.202	1350	384619.384	169250.937	1.650
14	0.026	5.00	135.753	1350	384640.273	169255.095	1.650
15	0.056	5.00	135.364	1500	384657.823	169265.922	1.814
16	0.044	5.00	135.100	1500	384670.339	169276.145	1.835
16_OUT			134.600	1500	384679.431	169266.556	2.000
17		5.00	134.600	1500	384661.425	169245.121	2.000
18	0.014	5.00	134.923	1500	384648.367	169237.358	2.423
19			132.650	1200	384657.136	169202.483	3.950
43	0.078	5.00	137.592	1200	384552.409	169231.972	1.425
44	0.000	5.00	136.981	1200	384559.777	169217.767	2.170
45	0.060	5.00	134.640	1200	384566.521	169187.013	0.750
46	0.055	5.00	132.539	1350	384586.051	169149.957	0.750
47	0.045	5.00	131.781	1200	384575.411	169108.191	1.500
48	0.038	5.00	131.943	1350	384576.517	169114.838	1.852
49	0.089	5.00	131.663	1800	384600.540	169131.200	1.968
50	0.029	5.00	131.408	1800	384623.745	169147.236	1.950
51	0.047	5.00	131.077	1800	384649.562	169162.225	2.077
51_OUT			131.307	1800	384656.127	169172.484	2.607
19A			133.098	1200	384657.965	169209.341	3.598
55		5.00	131.138	1200	384674.204	169181.594	2.438
20	0.060	5.00	130.645	1500	384670.022	169168.440	1.500
21	0.031	5.00	129.876	1350	384693.530	169168.783	1.650
22	0.124	5.00	128.971	1350	384720.112	169161.808	1.657
23	0.142	5.00	126.858	1350	384772.000	169129.227	1.650
24	0.039	5.00	124.663	1200	384845.084	169187.653	1.428
25	0.159	5.00	124.969	1350	384830.766	169165.407	2.115
26	0.098	5.00	125.433	1350	384808.774	169130.962	2.680
27	0.086	5.00	125.582	1350	384797.417	169113.139	2.881
28	0.061	5.00	123.743	1200	384832.863	169089.881	1.500
29	0.041	5.00	124.187	1350	384823.912	169095.294	2.137

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
30	0.067	5.00	123.910	1350	384812.923	169078.372	1.910
31A	0.040	5.00	130.431	1200	384634.816	169131.577	1.436
31	0.098	5.00	128.203	1200	384658.978	169097.566	1.425
32	0.150	5.00	128.232	1200	384628.872	169052.004	1.500
33	0.009	5.00	127.635	1200	384659.300	169073.466	1.500
34	0.042	5.00	127.271	1200	384669.280	169082.835	2.266
35	0.136	5.00	126.342	1200	384701.980	169104.475	1.612
36	0.058	5.00	126.048	1200	384758.874	169099.252	1.425
37	0.059	5.00	125.782	1200	384750.945	169087.277	1.503
38	0.070	5.00	125.229	1350	384727.096	169069.817	2.044
39			124.941	1350	384739.142	169052.963	1.807
40	0.069	5.00	124.494	1350	384761.281	169038.127	2.575
41	0.017	5.00	124.250	1500	384794.512	169044.654	2.981
42	0.046	5.00	123.635	1500	384804.615	169057.553	3.035
42_OUT			122.350	1500	384816.904	169049.779	2.450
52		5.00	122.350	1500	384825.366	169060.059	2.450
53			123.863	1500	384820.430	169074.946	4.063
urface Water Pumping Station			123.840	1200	384822.888	169077.150	4.060

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	1	2	16.953	0.600	144.255	143.905	0.350	48.4	225	5.15	46.9
1.001	2	3	32.245	0.600	143.905	143.690	0.215	150.0	225	5.65	45.2
1.002	3	4	17.012	0.600	143.615	143.000	0.615	27.7	300	5.75	44.9
1.003	4	5	10.410	0.600	143.000	142.500	0.500	20.8	300	5.80	44.7
1.004	5	6	60.582	0.600	142.500	142.000	0.500	121.2	300	6.51	42.5
1.005	6	7	54.361	0.600	142.000	138.350	3.650	14.9	300	6.73	41.8
1.006	7	8	9.422	0.600	138.200	137.567	0.633	14.9	450	6.76	41.7
1.007	8	10	34.964	0.600	137.567	136.070	1.497	23.4	450	6.90	41.3
2.000	9	10	37.642	0.600	138.449	136.220	2.229	16.9	300	5.16	46.8
1.008	10	11	30.392	0.600	136.070	135.172	0.898	33.8	450	7.04	40.9
1.009	11	13	23.469	0.600	135.172	134.552	0.620	37.9	450	7.16	40.6
3.000	12	13	32.370	0.600	135.341	134.702	0.639	50.7	300	5.24	46.6

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.884	74.9	10.3	1.200	1.200	0.081	0.0	56	1.327
1.001	1.065	42.3	15.9	1.200	2.530	0.130	0.0	95	0.990
1.002	3.000	212.1	20.6	2.530	3.331	0.169	0.0	62	1.920
1.003	3.460	244.6	21.5	3.331	3.791	0.177	0.0	59	2.154
1.004	1.427	100.9	28.3	3.791	2.611	0.246	0.0	109	1.232
1.005	4.094	289.4	44.0	2.611	3.669	0.388	0.0	79	2.990
1.006	5.290	841.3	54.6	3.669	3.748	0.483	0.0	77	3.041
1.007	4.220	671.2	58.2	3.748	2.887	0.520	0.0	88	2.628
2.000	3.844	271.7	17.8	2.275	2.887	0.140	0.0	51	2.194
1.008	3.504	557.3	87.1	2.887	1.678	0.786	0.0	119	2.578
1.009	3.311	526.6	93.4	1.678	1.200	0.849	0.0	127	2.521
3.000	2.214	156.5	13.4	1.200	1.200	0.106	0.0	59	1.369

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.010	13	14	21.299	0.600	134.552	134.103	0.449	47.4	450	7.28	40.3
1.011	14	15	20.621	0.600	134.103	133.700	0.403	51.2	450	7.40	39.9
1.012	15	16	16.160	0.600	133.550	133.265	0.285	56.7	600	7.48	39.7
1.013	16	16_OUT	13.214	0.600	133.265	132.600	0.665	19.9	600	7.52	39.6
4.000	31A	31	41.720	0.600	128.995	126.778	2.217	18.8	225	5.23	46.6
4.001	31	34	17.976	0.600	126.778	125.080	1.698	10.6	225	5.30	46.4
5.000	32	33	37.235	0.600	126.732	126.135	0.597	62.4	300	5.31	46.3
5.001	33	34	13.689	0.600	126.135	125.005	1.130	12.1	300	5.36	46.2
4.002	34	35	39.212	0.600	125.005	124.842	0.163	240.4	300	6.01	44.0
4.003	35	38	42.802	0.600	124.730	123.335	1.395	30.7	300	6.26	43.3
6.000	36	37	14.362	0.600	124.623	124.357	0.266	54.0	225	5.13	46.9
6.001	37	38	29.557	0.600	124.279	123.335	0.944	31.3	300	5.31	46.3
4.004	38	39	20.716	0.600	123.185	123.134	0.051	406.2	450	6.60	42.2
4.005	39	40	26.650	0.600	123.134	121.919	1.215	21.9	450	6.71	41.9
4.006	40	41	33.866	0.600	121.919	121.419	0.500	67.7	450	6.93	41.2
4.007	41	42	16.386	0.600	121.269	120.600	0.669	24.5	600	6.99	41.0
7.000	20	21	23.511	0.600	129.145	128.376	0.769	30.6	300	5.14	46.9
8.000	55	21	23.187	0.600	128.700	128.376	0.324	71.6	300	5.21	46.7
7.001	21	22	27.482	0.600	128.226	127.314	0.912	30.1	450	5.33	46.3
7.002	22	23	61.269	0.600	127.314	125.208	2.106	29.1	450	5.60	45.4
7.003	23	27	30.081	0.600	125.208	122.701	2.507	12.0	450	5.69	45.1
9.000	24	25	26.455	0.600	123.235	123.079	0.156	169.6	225	5.44	45.9
9.001	25	26	40.867	0.600	122.854	122.753	0.101	404.6	450	6.12	43.7
9.002	26	27	21.134	0.600	122.753	122.701	0.052	406.4	450	6.47	42.6

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.010	2.957	470.3	107.3	1.200	1.200	0.983	0.0	145	2.417
1.011	2.847	452.8	109.3	1.200	1.214	1.009	0.0	150	2.362
1.012	3.238	915.5	114.7	1.214	1.235	1.065	0.0	142	2.247
1.013	5.479	1549.0	119.1	1.235	1.400	1.109	0.0	111	3.312
4.000	3.030	120.5	5.1	1.211	1.200	0.040	0.0	31	1.513
4.001	4.044	160.8	17.3	1.200	1.966	0.138	0.0	50	2.669
5.000	1.994	140.9	18.8	1.200	1.200	0.150	0.0	74	1.399
5.001	4.540	320.9	19.9	1.200	1.966	0.159	0.0	50	2.557
4.002	1.009	71.3	40.5	1.966	1.200	0.339	0.0	162	1.040
4.003	2.848	201.3	55.7	1.312	1.594	0.475	0.0	108	2.447
6.000	1.784	70.9	7.4	1.200	1.200	0.058	0.0	49	1.163
6.001	2.819	199.3	14.7	1.203	1.594	0.117	0.0	55	1.672
4.004	1.002	159.4	75.7	1.594	1.357	0.662	0.0	218	0.990
4.005	4.355	692.6	75.2	1.357	2.125	0.662	0.0	99	2.892
4.006	2.473	393.3	81.6	2.125	2.381	0.731	0.0	138	1.969
4.007	4.933	1394.9	83.2	2.381	2.435	0.748	0.0	98	2.767
7.000	2.853	201.7	7.6	1.200	1.200	0.060	0.0	40	1.390
8.000	1.861	131.5	0.0	2.138	1.200	0.000	0.0	0	0.000
7.001	3.715	590.8	11.4	1.200	1.207	0.091	0.0	43	1.490
7.002	3.779	601.1	26.4	1.207	1.200	0.215	0.0	64	1.942
7.003	5.893	937.2	43.6	1.200	2.431	0.357	0.0	65	3.081
9.000	1.001	39.8	4.9	1.203	1.665	0.039	0.0	53	0.684
9.001	1.004	159.7	23.4	1.665	2.230	0.198	0.0	116	0.725
9.002	1.002	159.4	34.2	2.230	2.431	0.296	0.0	141	0.805

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
7.004	27	29	31.944	0.600	122.701	122.050	0.651	49.1	450	6.65	42.1
10.000	28	29	10.460	0.600	122.243	122.200	0.043	243.3	300	5.17	46.8
7.005	29	30	20.177	0.600	122.050	122.000	0.050	403.5	450	6.99	41.0
7.006	30	42	22.415	0.600	122.000	120.750	1.250	17.9	450	7.07	40.8
4.008	42	42_OUT	14.541	0.600	120.600	119.900	0.700	20.8	600	7.11	40.7
11.000	43	44	16.002	0.600	136.167	134.811	1.356	11.8	225	5.07	47.1
11.001	44	45	31.485	0.600	134.811	133.890	0.921	34.2	225	5.30	46.4
11.002	45	46	41.888	0.600	133.890	131.789	2.101	19.9	225	5.41	46.0
11.003	46	49	23.701	0.600	131.789	130.145	1.644	14.4	300	5.51	45.7
12.000	47	48	6.738	0.600	130.281	130.241	0.040	168.5	300	5.09	47.1
12.001	48	49	29.066	0.600	130.091	129.995	0.096	302.8	450	5.51	45.7
11.004	49	50	28.207	0.600	129.695	129.458	0.237	119.0	750	5.69	45.1
11.005	50	51	29.853	0.600	129.458	129.000	0.458	65.2	750	5.84	44.6
11.006	51	51_OUT	12.180	0.600	129.000	128.700	0.300	40.6	750	5.88	44.4
13.000	17	18	15.191	0.600	132.600	132.500	0.100	151.9	600	5.13	47.0
13.001	18	19A	29.615	0.600	132.500	129.500	3.000	9.9	300	5.23	46.6
13.002	19A	19	6.908	0.600	129.500	128.700	0.800	8.6	300	5.25	46.6
14.000	52	53	15.684	0.600	119.900	119.800	0.100	156.8	600	5.13	46.9
14.001	53	urface Water Pumping Station	3.301	0.600	119.800	119.780	0.020	165.1	225	5.19	46.7

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
7.004	2.907	462.4	84.2	2.431	1.687	0.739	0.0	129	2.230
10.000	1.003	70.9	7.7	1.200	1.687	0.061	0.0	67	0.663
7.005	1.006	159.9	93.6	1.687	1.460	0.841	0.0	247	1.043
7.006	4.818	766.3	100.5	1.460	2.435	0.908	0.0	109	3.386
4.008	5.358	1514.9	187.8	2.435	1.850	1.702	0.0	141	3.704
11.000	3.830	152.3	10.0	1.200	1.945	0.078	0.0	39	2.196
11.001	2.245	89.3	9.8	1.945	0.525	0.078	0.0	50	1.480
11.002	6.515	8318.7	17.2	0.525	0.525	0.138	0.0	6	0.630
11.003	4.161	294.1	23.9	0.450	1.218	0.193	0.0	57	2.532
12.000	1.208	85.4	5.7	1.200	1.402	0.045	0.0	52	0.695
12.001	1.163	184.9	10.3	1.402	1.218	0.083	0.0	72	0.637
11.004	2.564	1132.7	44.6	1.218	1.200	0.365	0.0	100	1.280
11.005	3.469	1532.6	47.6	1.200	1.327	0.394	0.0	89	1.617
11.006	4.399	1943.4	53.1	1.327	1.857	0.441	0.0	83	1.970
13.000	1.973	557.9	0.0	1.400	1.823	0.000	0.0	0	0.000
13.001	5.031	355.6	1.8	2.123	3.298	0.014	0.0	15	1.310
13.002	5.381	380.3	1.8	3.298	3.650	0.014	0.0	15	1.402
14.000	1.942	549.0	0.0	1.850	3.463	0.000	0.0	0	0.000
14.001	1.015	40.3	0.0	3.838	3.835	0.000	0.0	0	0.000

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	16.953	48.4	225	Circular	145.680	144.255	1.200	145.330	143.905	1.200
1.001	32.245	150.0	225	Circular	145.330	143.905	1.200	146.445	143.690	2.530
1.002	17.012	27.7	300	Circular	146.445	143.615	2.530	146.631	143.000	3.331
1.003	10.410	20.8	300	Circular	146.631	143.000	3.331	146.591	142.500	3.791
1.004	60.582	121.2	300	Circular	146.591	142.500	3.791	144.911	142.000	2.611
1.005	54.361	14.9	300	Circular	144.911	142.000	2.611	142.319	138.350	3.669
1.006	9.422	14.9	450	Circular	142.319	138.200	3.669	141.765	137.567	3.748
1.007	34.964	23.4	450	Circular	141.765	137.567	3.748	139.407	136.070	2.887
2.000	37.642	16.9	300	Circular	141.024	138.449	2.275	139.407	136.220	2.887
1.008	30.392	33.8	450	Circular	139.407	136.070	2.887	137.300	135.172	1.678
1.009	23.469	37.9	450	Circular	137.300	135.172	1.678	136.202	134.552	1.200
3.000	32.370	50.7	300	Circular	136.841	135.341	1.200	136.202	134.702	1.200
1.010	21.299	47.4	450	Circular	136.202	134.552	1.200	135.753	134.103	1.200
1.011	20.621	51.2	450	Circular	135.753	134.103	1.200	135.364	133.700	1.214
1.012	16.160	56.7	600	Circular	135.364	133.550	1.214	135.100	133.265	1.235
1.013	13.214	19.9	600	Circular	135.100	133.265	1.235	134.600	132.600	1.400
4.000	41.720	18.8	225	Circular	130.431	128.995	1.211	128.203	126.778	1.200
4.001	17.976	10.6	225	Circular	128.203	126.778	1.200	127.271	125.080	1.966
5.000	37.235	62.4	300	Circular	128.232	126.732	1.200	127.635	126.135	1.200
5.001	13.689	12.1	300	Circular	127.635	126.135	1.200	127.271	125.005	1.966
4.002	39.212	240.4	300	Circular	127.271	125.005	1.966	126.342	124.842	1.200
4.003	42.802	30.7	300	Circular	126.342	124.730	1.312	125.229	123.335	1.594
6.000	14.362	54.0	225	Circular	126.048	124.623	1.200	125.782	124.357	1.200
6.001	29.557	31.3	300	Circular	125.782	124.279	1.203	125.229	123.335	1.594
4.004	20.716	406.2	450	Circular	125.229	123.185	1.594	124.941	123.134	1.357

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	1200	Manhole	Adoptable	2	1200	Manhole	Adoptable
1.001	2	1200	Manhole	Adoptable	3	1200	Manhole	Adoptable
1.002	3	1200	Manhole	Adoptable	4	1200	Manhole	Adoptable
1.003	4	1200	Manhole	Adoptable	5	1200	Manhole	Adoptable
1.004	5	1200	Manhole	Adoptable	6	1200	Manhole	Adoptable
1.005	6	1200	Manhole	Adoptable	7	1350	Manhole	Adoptable
1.006	7	1350	Manhole	Adoptable	8	1350	Manhole	Adoptable
1.007	8	1350	Manhole	Adoptable	10	1350	Manhole	Adoptable
2.000	9	1200	Manhole	Adoptable	10	1350	Manhole	Adoptable
1.008	10	1350	Manhole	Adoptable	11	1350	Manhole	Adoptable
1.009	11	1350	Manhole	Adoptable	13	1350	Manhole	Adoptable
3.000	12	1200	Manhole	Adoptable	13	1350	Manhole	Adoptable
1.010	13	1350	Manhole	Adoptable	14	1350	Manhole	Adoptable
1.011	14	1350	Manhole	Adoptable	15	1500	Manhole	Adoptable
1.012	15	1500	Manhole	Adoptable	16	1500	Manhole	Adoptable
1.013	16	1500	Manhole	Adoptable	16_OUT	1500	Manhole	Adoptable
4.000	31A	1200	Manhole	Adoptable	31	1200	Manhole	Adoptable
4.001	31	1200	Manhole	Adoptable	34	1200	Manhole	Adoptable
5.000	32	1200	Manhole	Adoptable	33	1200	Manhole	Adoptable
5.001	33	1200	Manhole	Adoptable	34	1200	Manhole	Adoptable
4.002	34	1200	Manhole	Adoptable	35	1200	Manhole	Adoptable
4.003	35	1200	Manhole	Adoptable	38	1350	Manhole	Adoptable
6.000	36	1200	Manhole	Adoptable	37	1200	Manhole	Adoptable
6.001	37	1200	Manhole	Adoptable	38	1350	Manhole	Adoptable
4.004	38	1350	Manhole	Adoptable	39	1350	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
4.005	26.650	21.9	450	Circular	124.941	123.134	1.357	124.494	121.919	2.125
4.006	33.866	67.7	450	Circular	124.494	121.919	2.125	124.250	121.419	2.381
4.007	16.386	24.5	600	Circular	124.250	121.269	2.381	123.635	120.600	2.435
7.000	23.511	30.6	300	Circular	130.645	129.145	1.200	129.876	128.376	1.200
8.000	23.187	71.6	300	Circular	131.138	128.700	2.138	129.876	128.376	1.200
7.001	27.482	30.1	450	Circular	129.876	128.226	1.200	128.971	127.314	1.207
7.002	61.269	29.1	450	Circular	128.971	127.314	1.207	126.858	125.208	1.200
7.003	30.081	12.0	450	Circular	126.858	125.208	1.200	125.582	122.701	2.431
9.000	26.455	169.6	225	Circular	124.663	123.235	1.203	124.969	123.079	1.665
9.001	40.867	404.6	450	Circular	124.969	122.854	1.665	125.433	122.753	2.230
9.002	21.134	406.4	450	Circular	125.433	122.753	2.230	125.582	122.701	2.431
7.004	31.944	49.1	450	Circular	125.582	122.701	2.431	124.187	122.050	1.687
10.000	10.460	243.3	300	Circular	123.743	122.243	1.200	124.187	122.200	1.687
7.005	20.177	403.5	450	Circular	124.187	122.050	1.687	123.910	122.000	1.460
7.006	22.415	17.9	450	Circular	123.910	122.000	1.460	123.635	120.750	2.435
4.008	14.541	20.8	600	Circular	123.635	120.600	2.435	122.350	119.900	1.850
11.000	16.002	11.8	225	Circular	137.592	136.167	1.200	136.981	134.811	1.945
11.001	31.485	34.2	225	Circular	136.981	134.811	1.945	134.640	133.890	0.525
11.002	41.888	19.9	225	Swale	134.640	133.890	0.525	132.539	131.789	0.525
11.003	23.701	14.4	300	Circular	132.539	131.789	0.450	131.663	130.145	1.218
12.000	6.738	168.5	300	Circular	131.781	130.281	1.200	131.943	130.241	1.402
12.001	29.066	302.8	450	Circular	131.943	130.091	1.402	131.663	129.995	1.218
11.004	28.207	119.0	750	Circular	131.663	129.695	1.218	131.408	129.458	1.200
11.005	29.853	65.2	750	Circular	131.408	129.458	1.200	131.077	129.000	1.327
11.006	12.180	40.6	750	Circular	131.077	129.000	1.327	131.307	128.700	1.857

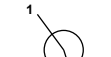
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.005	39	1350	Manhole	Adoptable	40	1350	Manhole	Adoptable
4.006	40	1350	Manhole	Adoptable	41	1500	Manhole	Adoptable
4.007	41	1500	Manhole	Adoptable	42	1500	Manhole	Adoptable
7.000	20	1500	Manhole	Adoptable	21	1350	Manhole	Adoptable
8.000	55	1200	Manhole	Adoptable	21	1350	Manhole	Adoptable
7.001	21	1350	Manhole	Adoptable	22	1350	Manhole	Adoptable
7.002	22	1350	Manhole	Adoptable	23	1350	Manhole	Adoptable
7.003	23	1350	Manhole	Adoptable	27	1350	Manhole	Adoptable
9.000	24	1200	Manhole	Adoptable	25	1350	Manhole	Adoptable
9.001	25	1350	Manhole	Adoptable	26	1350	Manhole	Adoptable
9.002	26	1350	Manhole	Adoptable	27	1350	Manhole	Adoptable
7.004	27	1350	Manhole	Adoptable	29	1350	Manhole	Adoptable
10.000	28	1200	Manhole	Adoptable	29	1350	Manhole	Adoptable
7.005	29	1350	Manhole	Adoptable	30	1350	Manhole	Adoptable
7.006	30	1350	Manhole	Adoptable	42	1500	Manhole	Adoptable
4.008	42	1500	Manhole	Adoptable	42_OUT	1500	Manhole	Adoptable
11.000	43	1200	Manhole	Adoptable	44	1200	Manhole	Adoptable
11.001	44	1200	Manhole	Adoptable	45	1200	Manhole	Adoptable
11.002	45	1200	Manhole	Adoptable	46	1350	Manhole	Adoptable
11.003	46	1350	Manhole	Adoptable	49	1800	Manhole	Adoptable
12.000	47	1200	Manhole	Adoptable	48	1350	Manhole	Adoptable
12.001	48	1350	Manhole	Adoptable	49	1800	Manhole	Adoptable
11.004	49	1800	Manhole	Adoptable	50	1800	Manhole	Adoptable
11.005	50	1800	Manhole	Adoptable	51	1800	Manhole	Adoptable
11.006	51	1800	Manhole	Adoptable	51_OUT	1800	Manhole	Adoptable

Pipeline Schedule

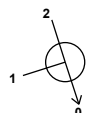
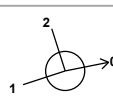
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
13.000	15.191	151.9	600	Circular	134.600	132.600	1.400	134.923	132.500	1.823
13.001	29.615	9.9	300	Circular	134.923	132.500	2.123	133.098	129.500	3.298
13.002	6.908	8.6	300	Circular	133.098	129.500	3.298	132.650	128.700	3.650
14.000	15.684	156.8	600	Circular	122.350	119.900	1.850	123.863	119.800	3.463
14.001	3.301	165.1	225	Circular	123.863	119.800	3.838	123.840	119.780	3.835

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
13.000	17	1500	Manhole	Adoptable	18	1500	Manhole	Adoptable
13.001	18	1500	Manhole	Adoptable	19A	1200	Manhole	Adoptable
13.002	19A	1200	Manhole	Adoptable	19	1200	Manhole	Adoptable
14.000	52	1500	Manhole	Adoptable	53	1500	Manhole	Adoptable
14.001	53	1500	Manhole	Adoptable	urface Water Pumping Station	1200	Manhole	Adoptable

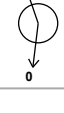
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
1	384469.680	169334.355	145.680	1.425	1200		0	1.000	144.255	225
2	384453.996	169340.790	145.330	1.425	1200		1	1.000	143.905	225
							0	1.001	143.905	225
3	384464.460	169371.290	146.445	2.830	1200		1	1.001	143.690	225
							0	1.002	143.615	300
4	384471.795	169386.639	146.631	3.631	1200		1	1.002	143.000	300
							0	1.003	143.000	300
5	384481.697	169389.849	146.591	4.091	1200		1	1.003	142.500	300
							0	1.004	142.500	300
6	384536.861	169364.815	144.911	2.911	1200		1	1.004	142.000	300
							0	1.005	142.000	300
7	384586.698	169343.107	142.319	4.119	1350		1	1.005	138.350	300
							0	1.006	138.200	450
8	384592.301	169335.532	141.765	4.198	1350		1	1.006	137.567	450
							0	1.007	137.567	450

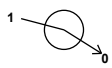
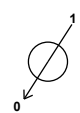
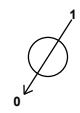
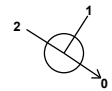
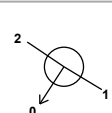
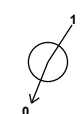
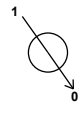
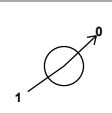
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
9	384566.964	169290.816	141.024	2.575	1200		0	2.000	138.449	300
10	384602.845	169302.196	139.407	3.337	1350		1 2 0	2.000 1.007	136.220 136.070	300 450
11	384612.273	169273.303	137.300	2.128	1350		1 0	1.008 1.008	136.070 135.172	450 450
12	384588.607	169240.906	136.841	1.500	1200		0	3.000	135.341	300
13	384619.384	169250.937	136.202	1.650	1350		1 2 0	3.000 1.009	134.702 134.552	300 450
14	384640.273	169255.095	135.753	1.650	1350		1 0	1.010 1.011	134.103 134.103	450 450
15	384657.823	169265.922	135.364	1.814	1500		1 0	1.011 1.012	133.700 133.550	450 600
16	384670.339	169276.145	135.100	1.835	1500		1 0	1.012 1.013	133.265 133.265	600 600
16_OUT	384679.431	169266.556	134.600	2.000	1500		1	1.013	132.600	600
17	384661.425	169245.121	134.600	2.000	1500		0	13.000	132.600	600
18	384648.367	169237.358	134.923	2.423	1500		1 0	13.000 13.001	132.500 132.500	600 300
19	384657.136	169202.483	132.650	3.950	1200		1	13.002	128.700	300
43	384552.409	169231.972	137.592	1.425	1200		0	11.000	136.167	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
44	384559.777	169217.767	136.981	2.170	1200		1 11.000	134.811	225
							0 11.001	134.811	225
45	384566.521	169187.013	134.640	0.750	1200		1 11.001	133.890	225
							0 11.002	133.890	225
46	384586.051	169149.957	132.539	0.750	1350		1 11.002	131.789	225
							0 11.003	131.789	300
47	384575.411	169108.191	131.781	1.500	1200				
							0 12.000	130.281	300
48	384576.517	169114.838	131.943	1.852	1350		1 12.000	130.241	300
							0 12.001	130.091	450
49	384600.540	169131.200	131.663	1.968	1800		1 12.001	129.995	450
							2 11.003	130.145	300
							0 11.004	129.695	750
50	384623.745	169147.236	131.408	1.950	1800		1 11.004	129.458	750
							0 11.005	129.458	750
51	384649.562	169162.225	131.077	2.077	1800		1 11.005	129.000	750
							0 11.006	129.000	750
51_OUT	384656.127	169172.484	131.307	2.607	1800		1 11.006	128.700	750
19A	384657.965	169209.341	133.098	3.598	1200		1 13.001	129.500	300
							0 13.002	129.500	300
55	384674.204	169181.594	131.138	2.438	1200				
							0 8.000	128.700	300
20	384670.022	169168.440	130.645	1.500	1500				
							0 7.000	129.145	300
21	384693.530	169168.783	129.876	1.650	1350		1 8.000	128.376	300
							2 7.000	128.376	300
							0 7.001	128.226	450

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
22	384720.112	169161.808	128.971	1.657	1350	 1	7.001	127.314	450
						0	7.002	127.314	450
23	384772.000	169129.227	126.858	1.650	1350	 1	7.002	125.208	450
						0	7.003	125.208	450
24	384845.084	169187.653	124.663	1.428	1200	 0	9.000	123.235	225
25	384830.766	169165.407	124.969	2.115	1350	 1	9.000	123.079	225
						0	9.001	122.854	450
26	384808.774	169130.962	125.433	2.680	1350	 1	9.001	122.753	450
						0	9.002	122.753	450
27	384797.417	169113.139	125.582	2.881	1350	 1	9.002	122.701	450
						2	7.003	122.701	450
						0	7.004	122.701	450
28	384832.863	169089.881	123.743	1.500	1200	 0	10.000	122.243	300
						0	10.000	122.200	300
29	384823.912	169095.294	124.187	2.137	1350	 2	7.004	122.050	450
						0	7.005	122.050	450
30	384812.923	169078.372	123.910	1.910	1350	 1	7.005	122.000	450
						0	7.006	122.000	450
31A	384634.816	169131.577	130.431	1.436	1200	 0	4.000	128.995	225
31	384658.978	169097.566	128.203	1.425	1200	 1	4.000	126.778	225
						0	4.001	126.778	225
32	384628.872	169052.004	128.232	1.500	1200	 0	5.000	126.732	300
33	384659.300	169073.466	127.635	1.500	1200	 1	5.000	126.135	300
						0	5.001	126.135	300

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
34	384669.280	169082.835	127.271	2.266	1200		1 5.001 2 4.001	125.005 125.080	300 225
35	384701.980	169104.475	126.342	1.612	1200		1 4.002 0 4.003	125.005 124.842	300 300
36	384758.874	169099.252	126.048	1.425	1200		0 6.000 1 6.000	124.623 124.357	225 225
37	384750.945	169087.277	125.782	1.503	1200		0 6.001 1 4.004	124.279 123.185	300 450
38	384727.096	169069.817	125.229	2.044	1350		1 6.001 2 4.003 0 4.004	123.335 123.335 123.134	300 300 450
39	384739.142	169052.963	124.941	1.807	1350		1 4.004 0 4.005	123.134 123.134	450 450
40	384761.281	169038.127	124.494	2.575	1350		1 4.005 0 4.006	121.919 121.919	450 450
41	384794.512	169044.654	124.250	2.981	1500		1 4.006 0 4.007	121.419 121.269	450 600
42	384804.615	169057.553	123.635	3.035	1500		1 7.006 2 4.007 0 4.008	120.750 120.600 120.600	450 600 600
42_OUT	384816.904	169049.779	122.350	2.450	1500		1 4.008 0 14.000	119.900 119.900	600 600
52	384825.366	169060.059	122.350	2.450	1500		0 14.000 1 14.001	119.900 119.800	600 600
53	384820.430	169074.946	123.863	4.063	1500		0 14.001 1 14.001	119.800 119.780	225 225
Surface Water Pumping Station	384822.888	169077.150	123.840	4.060	1200		1 14.001	119.780	225

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	20.0		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	0	0

Node 18 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	132.500	Product Number	CTL-SHE-0112-8000-2400-8000
Design Depth (m)	2.400	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	8.0	Min Node Diameter (mm)	1500

Node 53 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	119.800	Product Number	CTL-SHE-0145-1230-2000-1230
Design Depth (m)	2.000	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	12.3	Min Node Diameter (mm)	1500

Node 55 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	128.700	Product Number	CTL-SHE-0097-5000-1600-5000
Design Depth (m)	1.600	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.0	Min Node Diameter (mm)	1200

Node 46 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	131.789	Product Number	CTL-SHE-0087-2800-0500-2800
Design Depth (m)	0.500	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.8	Min Node Diameter (mm)	1200

Node 17 Pond Storage Structure

Invert Level (m)	132.600	Analyse flow through structure	x
Time to half empty (mins)			

Inlets

16_OUT

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	233.4	2.000	791.4

Node 52 Pond Storage Structure

Invert Level (m)	119.900	Analyse flow through structure	x
Time to half empty (mins)			

Inlets
42_OUT

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	243.8	2.450	1271.1

Node 55 Tank Storage Structure

Invert Level (m)	128.700	Analyse flow through structure	x
Time to half empty (mins)			

Inlets
19 | 51_OUT

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	333.0	2.000	333.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	144.310	0.055	9.9	0.1243	0.0000	OK
15 minute winter	2	11	144.001	0.096	15.8	0.1753	0.0000	OK
15 minute winter	3	11	143.680	0.065	20.0	0.0917	0.0000	OK
15 minute winter	4	11	143.059	0.059	20.9	0.0694	0.0000	OK
15 minute winter	5	11	142.617	0.117	29.0	0.1712	0.0000	OK
15 minute winter	6	11	142.082	0.082	45.6	0.1718	0.0000	OK
15 minute winter	7	11	138.284	0.084	56.6	0.1594	0.0000	OK
15 minute winter	8	11	137.657	0.090	60.9	0.1453	0.0000	OK
15 minute winter	9	10	138.500	0.051	17.2	0.1140	0.0000	OK
15 minute winter	10	11	136.197	0.127	92.0	0.2769	0.0000	OK
15 minute winter	11	11	135.309	0.137	99.5	0.2769	0.0000	OK
15 minute winter	12	10	135.400	0.059	13.0	0.1494	0.0000	OK
15 minute winter	13	11	134.715	0.163	115.5	0.2880	0.0000	OK
15 minute winter	14	11	134.274	0.171	118.7	0.2995	0.0000	OK
15 minute winter	15	11	133.716	0.166	125.0	0.3968	0.0000	OK
15 minute winter	16	10	133.398	0.133	129.8	0.2985	0.0000	OK
360 minute winter	16_OUT	280	133.027	0.427	27.0	0.0000	0.0000	OK
360 minute winter	17	280	133.020	0.420	23.0	125.3115	0.0000	OK
360 minute winter	18	296	133.027	0.527	23.6	0.9929	0.0000	SURCHARGED
1440 minute winter	19	1290	129.366	0.666	6.5	0.0000	0.0000	OK
15 minute winter	43	10	136.205	0.038	9.6	0.0848	0.0000	OK
15 minute winter	44	10	134.882	0.071	9.5	0.0802	0.0000	OK
15 minute winter	45	11	133.895	0.005	16.7	0.0145	0.0000	OK
240 minute winter	46	164	131.940	0.151	6.0	0.4372	0.0000	OK
15 minute winter	47	10	130.335	0.054	5.5	0.0936	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	2	9.8	0.855	0.131	0.1992	
15 minute winter	2	1.001	3	15.5	0.975	0.366	0.5122	
15 minute winter	3	1.002	4	20.0	1.908	0.095	0.1788	
15 minute winter	4	1.003	5	21.0	1.224	0.086	0.1826	
15 minute winter	5	1.004	6	29.2	1.440	0.289	1.2353	
15 minute winter	6	1.005	7	45.6	2.988	0.157	0.8291	
15 minute winter	7	1.006	8	56.6	2.627	0.067	0.2031	
15 minute winter	8	1.007	10	60.9	2.074	0.091	1.0343	
15 minute winter	9	2.000	10	16.9	2.142	0.062	0.2975	
15 minute winter	10	1.008	11	92.2	2.390	0.166	1.1735	
15 minute winter	11	1.009	13	99.7	2.164	0.189	1.0831	
15 minute winter	12	3.000	13	12.7	1.331	0.081	0.3089	
15 minute winter	13	1.010	14	115.7	2.164	0.246	1.1397	
15 minute winter	14	1.011	15	118.5	2.289	0.262	1.0679	
15 minute winter	15	1.012	16	124.7	2.332	0.136	0.8871	
15 minute winter	16	1.013	16_OUT	130.5	3.692	0.084	0.6524	
360 minute winter	17	13.000	18	23.3	0.396	0.042	3.5816	
360 minute winter	18	13.001	19A	6.7	2.004	0.019	0.0991	
15 minute winter	43	11.000	44	9.5	1.290	0.063	0.1211	
15 minute winter	44	11.001	45	9.3	2.106	0.104	0.1720	
15 minute winter	45	11.002	46	16.4	0.195	0.002	9.9292	
240 minute winter	46	11.003	49	2.8	1.317	0.009	0.0501	
15 minute winter	47	12.000	48	5.4	0.658	0.063	0.0555	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	48	11	130.163	0.072	10.1	0.1320	0.0000	OK
15 minute winter	49	11	129.767	0.072	20.8	0.2488	0.0000	OK
15 minute winter	50	11	129.523	0.065	24.4	0.1840	0.0000	OK
1440 minute winter	51	1320	129.362	0.362	12.3	1.0848	0.0000	OK
1440 minute winter	51_OUT	1320	129.362	0.662	11.3	0.0000	0.0000	OK
15 minute summer	19A	11	129.530	0.030	6.3	0.0337	0.0000	OK
1440 minute winter	55	1320	129.358	0.658	7.3	220.2022	0.0000	SURCHARGED
15 minute winter	20	10	129.184	0.039	7.4	0.1013	0.0000	OK
15 minute winter	21	10	128.268	0.042	11.0	0.0762	0.0000	OK
15 minute winter	22	10	127.377	0.063	26.1	0.1846	0.0000	OK
15 minute winter	23	11	125.272	0.064	42.9	0.2028	0.0000	OK
15 minute winter	24	11	123.287	0.052	4.8	0.0879	0.0000	OK
15 minute winter	25	11	122.968	0.114	24.0	0.3351	0.0000	OK
15 minute winter	26	11	122.901	0.148	35.2	0.3203	0.0000	OK
15 minute winter	27	11	122.832	0.131	87.3	0.2650	0.0000	OK
15 minute winter	28	10	122.312	0.069	7.5	0.1339	0.0000	OK
15 minute winter	29	11	122.280	0.230	99.5	0.4178	0.0000	OK
15 minute winter	30	11	122.120	0.120	107.3	0.2568	0.0000	OK
15 minute winter	31A	10	129.026	0.031	4.9	0.0518	0.0000	OK
15 minute winter	31	10	126.827	0.049	16.8	0.1221	0.0000	OK
15 minute winter	32	10	126.811	0.079	18.4	0.2462	0.0000	OK
15 minute winter	33	10	126.184	0.049	19.2	0.0616	0.0000	OK
15 minute winter	34	11	125.173	0.167	40.8	0.2515	0.0000	OK
15 minute winter	35	11	124.841	0.111	56.1	0.3137	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	48	12.001	49	9.9	0.645	0.054	0.4468	
15 minute winter	49	11.004	50	21.0	1.057	0.019	0.5605	
15 minute winter	50	11.005	51	24.3	1.169	0.016	0.6390	
1440 minute winter	51	11.006	51_OUT	11.3	0.616	0.006	3.7858	
15 minute summer	19A	13.002	19	6.2	2.600	0.016	0.1258	
1440 minute winter	55	8.000	21	4.7	0.881	0.036	0.1240	
15 minute winter	20	7.000	21	7.2	1.348	0.036	0.1262	
15 minute winter	21	7.001	22	10.9	1.059	0.018	0.2870	
15 minute winter	22	7.002	23	25.5	1.875	0.042	0.8364	
15 minute winter	23	7.003	27	42.3	1.710	0.045	0.7823	
15 minute winter	24	9.000	25	4.6	0.670	0.116	0.1828	
15 minute winter	25	9.001	26	23.4	0.614	0.146	1.5727	
15 minute winter	26	9.002	27	35.1	0.842	0.220	0.8828	
15 minute winter	27	7.004	29	87.6	1.476	0.189	1.9124	
15 minute winter	28	10.000	29	7.4	0.619	0.104	0.1411	
15 minute winter	29	7.005	30	99.6	1.744	0.623	1.1662	
15 minute winter	30	7.006	42	107.1	3.307	0.140	0.7261	
15 minute winter	31A	4.000	31	4.8	1.026	0.040	0.1992	
15 minute winter	31	4.001	34	16.6	2.170	0.103	0.1935	
15 minute winter	32	5.000	33	18.1	1.650	0.128	0.4138	
15 minute winter	33	5.001	34	19.0	0.861	0.059	0.3278	
15 minute winter	34	4.002	35	40.4	1.048	0.567	1.5135	
15 minute winter	35	4.003	38	56.2	2.420	0.279	0.9935	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	36	10	124.672	0.049	7.1	0.0959	0.0000	OK
15 minute winter	37	10	124.334	0.055	14.2	0.1048	0.0000	OK
15 minute winter	38	11	123.388	0.203	78.0	0.4303	0.0000	OK
15 minute winter	39	11	123.235	0.101	78.2	0.1441	0.0000	OK
15 minute winter	40	11	122.068	0.149	86.2	0.2934	0.0000	OK
15 minute winter	41	11	121.369	0.100	87.5	0.1880	0.0000	OK
15 minute winter	42	11	120.767	0.167	199.7	0.3466	0.0000	OK
600 minute winter	42_OUT	465	120.498	0.598	33.6	0.0000	0.0000	OK
600 minute winter	52	465	120.489	0.589	23.0	220.5024	0.0000	OK
600 minute winter	53	465	120.489	0.688	15.1	1.2166	0.0000	SURCHARGED
480 minute winter	urface Water Pumping Station	360	119.865	0.084	12.3	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	36	6.000	37	7.0	1.118	0.099	0.0898	
15 minute winter	37	6.001	38	13.9	1.620	0.070	0.2544	
15 minute winter	38	4.004	39	78.2	1.662	0.491	0.9939	
15 minute winter	39	4.005	40	78.2	2.181	0.113	0.9628	
15 minute winter	40	4.006	41	85.5	1.944	0.217	1.4894	
15 minute winter	41	4.007	42	87.3	1.951	0.063	0.7779	
15 minute winter	42	4.008	42_OUT	200.5	3.962	0.132	1.0335	
600 minute winter	52	14.000	53	15.1	0.164	0.028	4.4078	
600 minute winter	53	14.001	urface Water Pumping Station	12.3	0.834	0.305	0.0487	494.3

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	11	144.383	0.128	37.3	0.2907	0.0000	OK
15 minute winter	2	11	144.293	0.388	58.1	0.7066	0.0000	SURCHARGED
15 minute winter	3	11	143.747	0.132	73.4	0.1858	0.0000	OK
15 minute winter	4	11	143.125	0.125	77.0	0.1469	0.0000	OK
15 minute winter	5	12	142.824	0.324	106.8	0.4762	0.0000	SURCHARGED
15 minute winter	6	11	142.169	0.169	166.7	0.3568	0.0000	OK
15 minute winter	7	11	138.381	0.181	207.8	0.3421	0.0000	OK
15 minute winter	8	11	137.743	0.176	224.1	0.2837	0.0000	OK
15 minute winter	9	10	138.548	0.098	64.5	0.2184	0.0000	OK
15 minute winter	10	10	136.347	0.277	343.2	0.6050	0.0000	OK
15 minute winter	11	11	135.530	0.358	370.9	0.7242	0.0000	OK
15 minute winter	12	10	135.455	0.113	48.8	0.2887	0.0000	OK
15 minute winter	13	11	135.146	0.594	423.2	1.0518	0.0000	SURCHARGED
15 minute winter	14	11	134.612	0.509	425.3	0.8894	0.0000	SURCHARGED
720 minute winter	15	690	133.976	0.426	46.5	1.0161	0.0000	OK
960 minute winter	16	825	133.979	0.714	39.8	1.6049	0.0000	SURCHARGED
720 minute winter	16_OUT	690	133.974	1.374	144.0	0.0000	0.0000	OK
720 minute winter	17	705	133.966	1.365	32.0	586.2375	0.0000	SURCHARGED
720 minute winter	18	690	133.975	1.475	22.1	2.7768	0.0000	SURCHARGED
1440 minute winter	19	1680	130.267	1.567	8.1	0.0000	0.0000	OK
15 minute winter	43	10	136.241	0.074	35.9	0.1645	0.0000	OK
15 minute winter	44	10	134.973	0.162	35.8	0.1832	0.0000	OK
15 minute winter	45	10	133.902	0.012	62.7	0.0321	0.0000	OK
360 minute winter	46	288	132.343	0.554	13.8	1.6063	0.0000	FLOOD RISK
15 minute winter	47	10	130.391	0.110	20.7	0.1899	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	2	35.5	1.081	0.474	0.5350	
15 minute winter	2	1.001	3	56.5	1.427	1.335	1.2327	
15 minute winter	3	1.002	4	73.5	2.635	0.347	0.4903	
15 minute winter	4	1.003	5	76.9	1.532	0.315	0.5109	
15 minute winter	5	1.004	6	102.9	1.957	1.020	3.3731	
15 minute winter	6	1.005	7	166.6	4.182	0.576	2.1662	
15 minute winter	7	1.006	8	208.1	3.556	0.247	0.5516	
15 minute winter	8	1.007	10	224.7	2.817	0.335	2.7893	
15 minute winter	9	2.000	10	64.1	2.893	0.236	0.9102	
15 minute winter	10	1.008	11	343.6	2.998	0.617	3.6042	
15 minute winter	11	1.009	13	364.7	2.575	0.693	3.4461	
15 minute winter	12	3.000	13	48.4	1.597	0.309	1.5225	
15 minute winter	13	1.010	14	414.0	2.614	0.880	3.3747	
15 minute winter	14	1.011	15	424.4	2.961	0.937	2.9432	
720 minute winter	15	1.012	16	76.1	1.871	0.083	4.0051	
960 minute winter	16	1.013	16_OUT	125.6	1.714	0.081	3.7221	
720 minute winter	17	13.000	18	21.9	0.415	0.039	4.2790	
720 minute winter	18	13.001	19A	6.7	2.003	0.019	1.0900	
15 minute winter	43	11.000	44	35.8	1.715	0.235	0.3355	
15 minute winter	44	11.001	45	35.0	2.499	0.392	0.4940	
15 minute winter	45	11.002	46	61.7	0.257	0.007	39.5717	
360 minute winter	46	11.003	49	2.9	1.331	0.010	0.0513	
15 minute winter	47	12.000	48	20.5	0.941	0.240	0.1467	

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	48	1680	130.254	0.163	2.2	0.3002	0.0000	OK
1440 minute winter	49	1680	130.254	0.559	7.4	1.9279	0.0000	OK
1440 minute winter	50	1680	130.254	0.796	8.2	2.2622	0.0000	SURCHARGED
1440 minute winter	51	1680	130.254	1.254	25.6	3.7582	0.0000	SURCHARGED
1440 minute winter	51_OUT	1680	130.254	1.554	22.2	0.0000	0.0000	OK
1440 minute winter	19A	1680	130.267	0.767	6.7	0.8677	0.0000	SURCHARGED
1440 minute winter	55	1680	130.256	1.556	10.1	518.7783	0.0000	SURCHARGED
15 minute winter	20	10	129.222	0.077	27.7	0.1982	0.0000	OK
15 minute winter	21	10	128.306	0.080	42.2	0.1449	0.0000	OK
15 minute winter	22	10	127.438	0.124	99.0	0.3633	0.0000	OK
15 minute winter	23	10	125.333	0.125	163.0	0.3929	0.0000	OK
15 minute winter	24	10	123.343	0.108	18.0	0.1819	0.0000	OK
15 minute winter	25	11	123.148	0.294	90.7	0.8635	0.0000	OK
15 minute winter	26	11	123.117	0.364	131.1	0.7873	0.0000	OK
15 minute winter	27	11	123.067	0.366	322.5	0.7428	0.0000	OK
15 minute winter	28	11	122.738	0.494	28.1	0.9613	0.0000	SURCHARGED
15 minute winter	29	11	122.728	0.678	363.3	1.2297	0.0000	SURCHARGED
15 minute winter	30	11	122.263	0.263	391.7	0.5600	0.0000	OK
15 minute winter	31A	10	129.054	0.059	18.4	0.0996	0.0000	OK
15 minute winter	31	11	126.881	0.103	63.4	0.2583	0.0000	OK
15 minute winter	32	10	126.895	0.163	69.1	0.5116	0.0000	OK
15 minute winter	33	11	126.244	0.109	72.7	0.1358	0.0000	OK
15 minute winter	34	11	126.007	1.002	151.4	1.5049	0.0000	SURCHARGED
15 minute winter	35	11	125.233	0.503	205.8	1.4185	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	48	12.001	49	2.2	0.431	0.012	2.1244	
1440 minute winter	49	11.004	50	7.4	0.779	0.006	11.1715	
1440 minute winter	50	11.005	51	8.2	0.783	0.005	13.1389	
1440 minute winter	51	11.006	51_OUT	22.2	0.787	0.011	5.3607	
1440 minute winter	19A	13.002	19	8.1	1.702	0.021	0.4865	
1440 minute winter	55	8.000	21	4.9	0.891	0.037	0.1272	
15 minute winter	20	7.000	21	27.3	1.965	0.136	0.3272	
15 minute winter	21	7.001	22	41.9	1.555	0.071	0.7498	
15 minute winter	22	7.002	23	97.6	2.742	0.162	2.1817	
15 minute winter	23	7.003	27	161.5	2.154	0.172	2.6091	
15 minute winter	24	9.000	25	17.5	0.957	0.439	0.4853	
15 minute winter	25	9.001	26	85.9	0.759	0.538	5.0503	
15 minute winter	26	9.002	27	124.3	1.080	0.780	2.9118	
15 minute winter	27	7.004	29	319.2	2.045	0.690	4.7378	
15 minute winter	28	10.000	29	26.3	0.612	0.371	0.7366	
15 minute winter	29	7.005	30	362.6	2.547	2.267	2.5669	
15 minute winter	30	7.006	42	391.7	4.477	0.511	1.9607	
15 minute winter	31A	4.000	31	18.2	1.463	0.151	0.5375	
15 minute winter	31	4.001	34	61.7	2.202	0.384	0.5167	
15 minute winter	32	5.000	33	68.6	2.297	0.487	1.1180	
15 minute winter	33	5.001	34	70.2	1.298	0.219	0.6392	
15 minute winter	34	4.002	35	143.1	2.032	2.005	2.7613	
15 minute winter	35	4.003	38	199.9	2.952	0.993	3.0141	

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	36	10	124.725	0.102	26.7	0.1990	0.0000	OK
15 minute winter	37	10	124.384	0.105	53.6	0.2013	0.0000	OK
15 minute summer	38	11	123.653	0.468	279.3	0.9898	0.0000	SURCHARGED
15 minute summer	39	11	123.335	0.201	277.9	0.2880	0.0000	OK
15 minute winter	40	11	122.252	0.333	306.6	0.6553	0.0000	OK
1440 minute winter	41	1380	121.586	0.317	19.9	0.5959	0.0000	OK
1440 minute winter	42	1380	121.586	0.986	50.0	2.0406	0.0000	SURCHARGED
1440 minute winter	42_OUT	1380	121.586	1.686	49.0	0.0000	0.0000	OK
1440 minute winter	52	1380	121.575	1.675	35.8	1007.4780	0.0000	SURCHARGED
1440 minute winter	53	1290	121.595	1.794	25.6	3.1709	0.0000	SURCHARGED
15 minute summer	urface Water Pumping Station	204	119.865	0.084	12.3	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	36	6.000	37	26.4	1.584	0.372	0.2395	
15 minute winter	37	6.001	38	53.3	1.688	0.267	1.3655	
15 minute summer	38	4.004	39	277.9	2.319	1.744	2.3516	
15 minute summer	39	4.005	40	276.5	2.845	0.399	2.5815	
15 minute winter	40	4.006	41	307.6	2.614	0.782	3.9788	
1440 minute winter	41	4.007	42	19.9	1.231	0.014	3.5441	
1440 minute winter	42	4.008	42_OUT	49.0	1.488	0.032	4.0959	
1440 minute winter	52	14.000	53	25.6	0.166	0.047	4.4178	
1440 minute winter	53	14.001	urface Water Pumping Station	12.3	0.834	0.305	0.0487	1014.1

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	11	144.767	0.512	49.5	1.1601	0.0000	SURCHARGED
15 minute winter	2	11	144.601	0.696	73.0	1.2657	0.0000	SURCHARGED
15 minute winter	3	10	143.761	0.146	94.3	0.2056	0.0000	OK
15 minute winter	4	12	143.334	0.334	98.9	0.3921	0.0000	SURCHARGED
15 minute winter	5	12	143.210	0.710	131.7	1.0425	0.0000	SURCHARGED
15 minute winter	6	11	142.197	0.197	207.5	0.4149	0.0000	OK
15 minute winter	7	11	138.408	0.208	261.6	0.3942	0.0000	OK
15 minute winter	8	11	137.785	0.218	283.1	0.3498	0.0000	OK
15 minute winter	9	10	138.563	0.114	85.4	0.2536	0.0000	OK
15 minute winter	10	12	136.997	0.927	438.3	2.0269	0.0000	SURCHARGED
15 minute winter	11	12	136.344	1.173	438.0	2.3725	0.0000	SURCHARGED
15 minute winter	12	12	135.802	0.461	64.8	1.1720	0.0000	SURCHARGED
15 minute winter	13	12	135.714	1.162	503.9	2.0575	0.0000	SURCHARGED
15 minute winter	14	12	134.928	0.824	517.5	1.4403	0.0000	SURCHARGED
960 minute winter	15	930	134.410	0.860	52.2	2.0512	0.0000	SURCHARGED
960 minute winter	16	930	134.410	1.145	136.1	2.5729	0.0000	SURCHARGED
960 minute winter	16_OUT	930	134.410	1.810	74.9	0.0000	0.0000	OK
960 minute winter	17	930	134.400	1.800	33.1	882.2469	0.0000	FLOOD RISK
960 minute winter	18	900	134.409	1.909	21.6	3.5954	0.0000	SURCHARGED
1440 minute winter	19	1680	130.996	2.295	11.5	0.0000	0.0000	OK
15 minute winter	43	10	136.253	0.086	47.6	0.1910	0.0000	OK
15 minute winter	44	11	135.023	0.212	47.4	0.2396	0.0000	OK
15 minute winter	45	10	133.904	0.014	82.5	0.0379	0.0000	OK
480 minute winter	46	376	132.536	0.747	15.1	2.1651	0.0000	FLOOD RISK
1440 minute winter	47	1680	130.986	0.705	1.6	1.2210	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	2	44.9	1.128	0.599	0.6742	
15 minute winter	2	1.001	3	71.9	1.807	1.697	1.2639	
15 minute winter	3	1.002	4	94.3	2.587	0.445	0.8717	
15 minute winter	4	1.003	5	94.5	1.534	0.387	0.7331	
15 minute winter	5	1.004	6	128.4	2.006	1.273	3.6178	
15 minute winter	6	1.005	7	207.1	4.368	0.716	2.5765	
15 minute winter	7	1.006	8	261.8	3.690	0.311	0.6953	
15 minute winter	8	1.007	10	279.4	2.812	0.416	4.0963	
15 minute winter	9	2.000	10	85.0	2.914	0.313	1.7893	
15 minute winter	10	1.008	11	405.8	2.960	0.728	4.8154	
15 minute winter	11	1.009	13	437.8	2.763	0.831	3.7185	
15 minute winter	12	3.000	13	59.6	1.555	0.381	2.2795	
15 minute winter	13	1.010	14	505.1	3.188	1.074	3.3747	
15 minute winter	14	1.011	15	518.1	3.270	1.144	3.2672	
960 minute winter	15	1.012	16	109.0	1.819	0.119	4.5519	
960 minute winter	16	1.013	16_OUT	74.9	1.803	0.048	3.7221	
960 minute winter	17	13.000	18	21.4	0.358	0.038	4.2790	
960 minute winter	18	13.001	19A	7.1	2.004	0.020	1.0950	
15 minute winter	43	11.000	44	47.4	1.781	0.311	0.4202	
15 minute winter	44	11.001	45	46.1	2.523	0.516	0.6266	
15 minute winter	45	11.002	46	81.5	0.269	0.010	53.6960	
480 minute winter	46	11.003	49	3.3	1.389	0.011	0.0566	
1440 minute winter	47	12.000	48	1.6	0.465	0.019	0.4745	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	48	1680	130.986	0.895	3.0	1.6492	0.0000	SURCHARGED
1440 minute winter	49	1680	130.986	1.291	8.8	4.4539	0.0000	SURCHARGED
1440 minute winter	50	1680	130.986	1.528	9.9	4.3436	0.0000	SURCHARGED
1440 minute winter	51	1680	130.986	1.986	21.4	5.9531	0.0000	FLOOD RISK
1440 minute winter	51_OUT	1680	130.986	2.286	26.5	0.0000	0.0000	OK
1440 minute winter	19A	1680	130.996	1.496	7.1	1.6919	0.0000	SURCHARGED
1440 minute winter	55	1680	130.984	2.283	10.2	670.4355	0.0000	FLOOD RISK
15 minute winter	20	10	129.235	0.090	36.7	0.2305	0.0000	OK
15 minute winter	21	10	128.318	0.092	56.3	0.1668	0.0000	OK
15 minute winter	22	10	127.458	0.145	131.7	0.4233	0.0000	OK
15 minute winter	23	10	125.352	0.144	216.5	0.4552	0.0000	OK
15 minute winter	24	11	123.860	0.625	36.6	1.0485	0.0000	SURCHARGED
15 minute winter	25	11	123.803	0.948	112.0	2.7837	0.0000	SURCHARGED
15 minute winter	26	11	123.764	1.011	159.6	2.1872	0.0000	SURCHARGED
15 minute winter	27	11	123.697	0.996	414.7	2.0204	0.0000	SURCHARGED
15 minute winter	28	11	123.016	0.773	37.3	1.5029	0.0000	SURCHARGED
15 minute winter	29	11	123.003	0.953	462.2	1.7294	0.0000	SURCHARGED
15 minute winter	30	11	122.304	0.304	495.4	0.6478	0.0000	OK
15 minute winter	31A	10	129.063	0.068	24.4	0.1150	0.0000	OK
15 minute winter	31	12	127.276	0.498	84.1	1.2475	0.0000	SURCHARGED
15 minute winter	32	12	127.202	0.470	91.5	1.4717	0.0000	SURCHARGED
15 minute winter	33	12	127.014	0.879	92.9	1.0992	0.0000	SURCHARGED
15 minute winter	34	12	126.916	1.911	174.4	2.8701	0.0000	SURCHARGED
15 minute winter	35	12	125.921	1.191	231.0	3.3563	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	48	12.001	49	3.0	0.464	0.016	4.6053	
1440 minute winter	49	11.004	50	8.8	0.816	0.008	12.4145	
1440 minute winter	50	11.005	51	9.6	0.786	0.006	13.1389	
1440 minute winter	51	11.006	51_OUT	26.5	0.879	0.014	5.3607	
1440 minute winter	19A	13.002	19	11.5	1.663	0.030	0.4865	
1440 minute winter	55	8.000	21	5.9	0.939	0.045	0.1447	
15 minute winter	20	7.000	21	36.3	2.121	0.180	0.4021	
15 minute winter	21	7.001	22	55.9	1.683	0.095	0.9241	
15 minute winter	22	7.002	23	129.9	2.964	0.216	2.6882	
15 minute winter	23	7.003	27	214.8	2.197	0.229	3.0423	
15 minute winter	24	9.000	25	25.6	0.985	0.643	1.0521	
15 minute winter	25	9.001	26	108.1	0.771	0.677	6.4751	
15 minute winter	26	9.002	27	161.5	1.219	1.013	3.3485	
15 minute winter	27	7.004	29	408.7	2.580	0.884	5.0613	
15 minute winter	28	10.000	29	35.6	0.649	0.502	0.7366	
15 minute winter	29	7.005	30	457.4	3.093	2.860	2.7467	
15 minute winter	30	7.006	42	492.3	4.450	0.642	2.6631	
15 minute winter	31A	4.000	31	24.2	1.491	0.201	1.0344	
15 minute winter	31	4.001	34	72.9	2.304	0.454	0.7149	
15 minute winter	32	5.000	33	87.4	2.311	0.620	2.6221	
15 minute winter	33	5.001	34	79.4	1.318	0.247	0.9640	
15 minute winter	34	4.002	35	168.0	2.386	2.355	2.7613	
15 minute winter	35	4.003	38	228.6	3.246	1.135	3.0141	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	36	10	124.745	0.122	35.4	0.2370	0.0000	OK
15 minute winter	37	10	124.401	0.122	71.0	0.2344	0.0000	OK
15 minute winter	38	11	123.793	0.608	334.8	1.2867	0.0000	SURCHARGED
15 minute winter	39	11	123.361	0.227	334.8	0.3253	0.0000	OK
15 minute winter	40	11	122.325	0.406	374.4	0.7991	0.0000	OK
1440 minute winter	41	1380	122.068	0.799	27.1	1.5022	0.0000	SURCHARGED
1440 minute winter	42	1380	122.068	1.468	65.8	3.0379	0.0000	SURCHARGED
1440 minute winter	42_OUT	1380	122.068	2.167	65.3	0.0000	0.0000	OK
1440 minute winter	52	1410	122.055	2.155	39.5	1513.7940	0.0000	FLOOD RISK
1440 minute winter	53	1380	122.069	2.269	30.6	4.0098	0.0000	SURCHARGED
1440 minute winter	urface Water Pumping Station	1410	119.866	0.086	12.8	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	36	6.000	37	35.0	1.691	0.494	0.2974	
15 minute winter	37	6.001	38	70.6	1.688	0.354	1.4394	
15 minute winter	38	4.004	39	334.8	2.455	2.100	2.4726	
15 minute winter	39	4.005	40	334.7	2.868	0.483	3.0767	
15 minute winter	40	4.006	41	372.0	2.669	0.946	4.7177	
1440 minute winter	41	4.007	42	27.0	1.220	0.019	4.6156	
1440 minute winter	42	4.008	42_OUT	65.3	1.471	0.043	4.0959	
1440 minute winter	52	14.000	53	30.6	0.216	0.056	4.4178	
1440 minute winter	53	14.001	urface Water Pumping Station	12.8	0.842	0.317	0.0501	1112.2



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