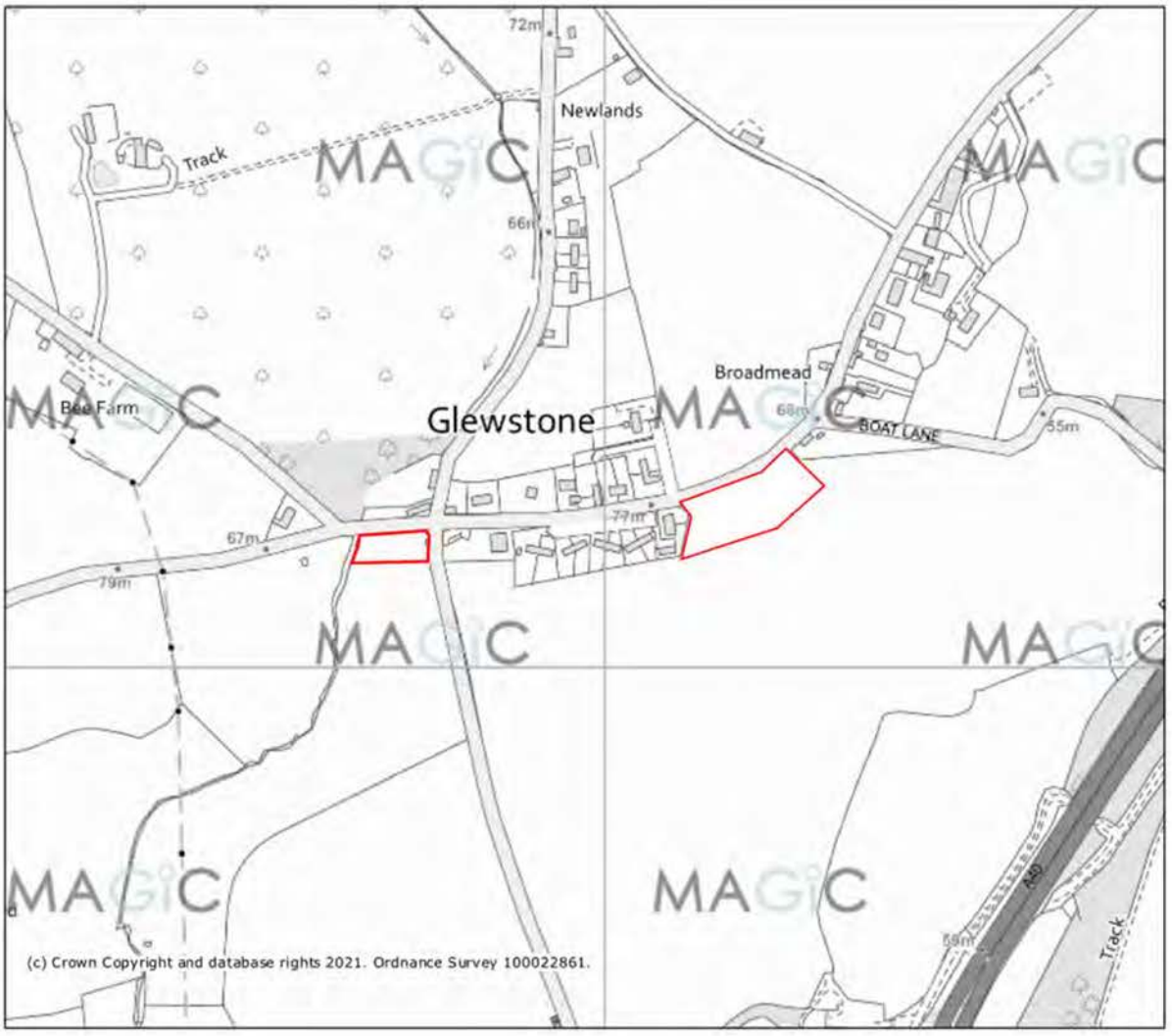

Surface Water Management and Foul Drainage Strategy for Glewstone, Ross-on-Wye

Contract Ref: FS003

James Spreckley on behalf of RG & RB Williams

Contents

QUALITY ASSURANCE RECORD

This report documents work undertaken by Townsend Water Engineering Ltd. for James Spreckley on behalf of RG & RB Williams in November - January 2022 on behalf. The Purpose of this work is to provide a Surface Water Management Plan (SWMP) and a Foul Drainage Strategy (FDS) for the proposed development at Glewstone, Ross on Wye, Herefordshire. This is required within the scope of a planning application to obtain approval for the development.

Contributors for Townsend Water Engineering Ltd:

Name	Role
Charles Townsend	Project Director

Document Status and Revision History:

Version	Date	Author	Reviewer	Authoriser	Status / Comment
1	26/01/2022	CT	CT	CT	Final Issue
2	27/06/2022	CT	CT	CT	Final Issue

Limitation of liability and use

The work described in this report was undertaken for the party or parties stated; for the purpose or purposes stated; to the time and budget constraints stated. No liability is accepted for use by other parties or for other purposes, or unreasonably beyond the terms and parameters of its commission and its delivery to normal professional standards.

1. INTRODUCTION

1.1 Purpose of this report

This report describes a Surface Water Management Plan (SWMP) and Foul Drainage Strategy (FDS) that has been undertaken for James Spreckley on behalf of RG & RB Williams, for the proposed development of 7 dwellings at Glewstone, Ross on Wye, Herefordshire. These elements of work will be required as part of an **outline** planning application for this development.

The proposed SWMP uses Sustainable Drainage Systems (SuDS) and is designed to comply with both the local authority's requirements and the national SuDS guidance (e.g., CIRIA's SuDS Manual 2015 and DEFRA's National SuDS Standards). The recommended SuDS features would be capable of being operated and maintained for the lifetime of the proposed development.

The proposed foul water treatment and disposal strategy is based on the following references: The Building Regulations 2010, BS6297 Code of Practice and Sewers for Adoption (7th Edition) and BRE 478 Mound filter systems for the treatment of domestic wastewater.

1.2 Sources of information and consultation

This report has been informed by:

- Proposed site plan from James Spreckley;
- Consultation response from Welsh Water;
- CIRIA 'SuDS Manual;'
- Herefordshire Council Sustainable Urban Drainage Systems (SuDS) Handbook;
- The National Planning Policy Framework.

1.3 Structure of this report

The report has been structured in order to deal with key drainage related issues of the NPPF Practice Guide. The principal sections are as follows:

- Section 2 refers to spatial planning considerations by reference to the proposed land use and flood zoning;
- Section 3 presents a surface water management plan for the development;
- Section 4 presents a foul drainage strategy for the dwelling;
- Section 5 provides a summary of the findings.

Additional Appendices are provided that deal with the following:

- Appendix 1 presents site soil testing;
- Appendix 2 presents Micro Drainage modelling outputs

2. SPATIAL PLANNING CONSIDERATIONS

2.1 Location Plan

The proposed development site is shown in Figure 1(OS map) and Figure 2 (aerial), with location and grid reference details found in Table 1. The site is split into two sites: Land west of Chapel Cottage' HR9 6RW and 'Land at Glewstone crossroads' HR9 6AP, both are located at Glewstone, Ross on Wye, Herefordshire.

Land at Glewstone crossroad is for 2 dwelling with associated garages, it is to the west of Glewstone (HR9 6AP). Luke Brook is to the east of the site. The road is to the north and west of the site and there field to the south. The site falls to the River Luke.

Land west of Chapel Cottage (HR9 6RW) this part of the site will be for 5 dwellings and associated garages. To north is Glewstone road and to the east is Chapel Cottage. To the south is fields and to the west is housing.

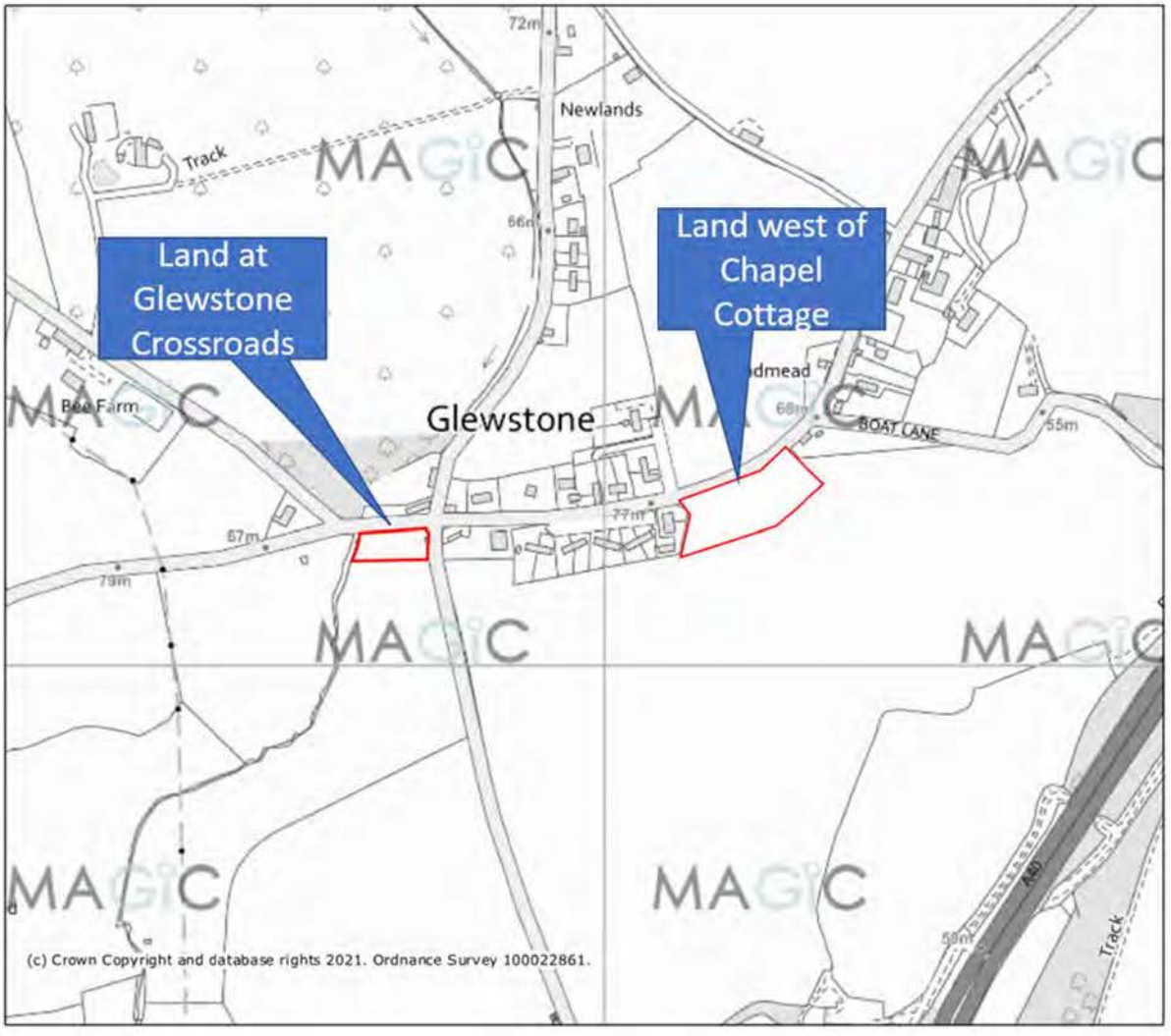

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Figure 1: Location of development (outlined in red)

Table 1: Grid reference details for the site (planning application & https://www.streetmap.co.uk/)

Reference	Land at Glewstone	Land west of Chapel Cottage
OS X (Eastings)	355822	356112
OS Y (Northings)	222084	222132
Nearest Post Code	HR9 6AP	HR9 6RW
Lat (WGS84)	N51: 53:44 (51.89554290172632)	N51:53:46 (51.89599740915421)
Long (WGS84)	W2:38:36 (-2.64341764980931714)	(-2.6392096728080023)
Nat Grid	SO558220 / SO5582222084	SO561221 / SO5611222132

Figure 2: Aerial photograph of the site (outlined in red) and field under same ownership (outlined in blue)

2.2 Environment Agency Flood Zone

The Environment Agency flood map for planning (Figure 3) indicates the site is in 'Flood Zone 1', defined as areas having less than 0.1% annual exceedance probability of river flooding. This suggests the site is at low risk of fluvial flooding. The land at Glewstone Crossroads is next to Lukes Brook. Lukes Brook flows from North to South. There is a bridge to the north. The finished floor levels have been set at a minimum of 66mAOD, which approximately 1m higher than the bank.

Figure 4 indicates the level of risk and location of pluvial flooding. The map indicates that there is some surface water flooding on the far west of the land at Glewstone Crossroads. No buildings have been placed in this area and the floor levels are higher than the bank by approximately 1m.

Figure 3: Flood map for planning (Copyright Environment Agency)

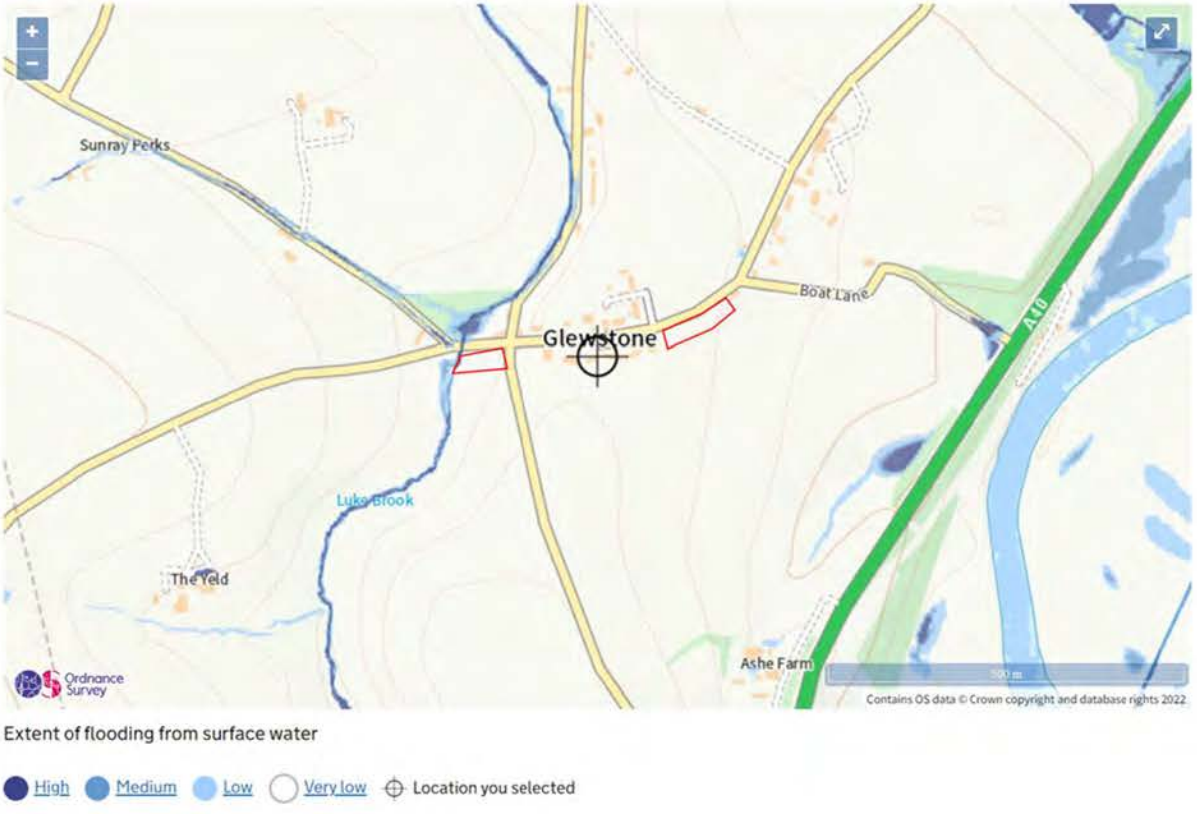


Figure 4 – Surface water flood risk map (Copyright Environment Agency) showing the site (outlined in red) and field under same ownership (outlined in blue)

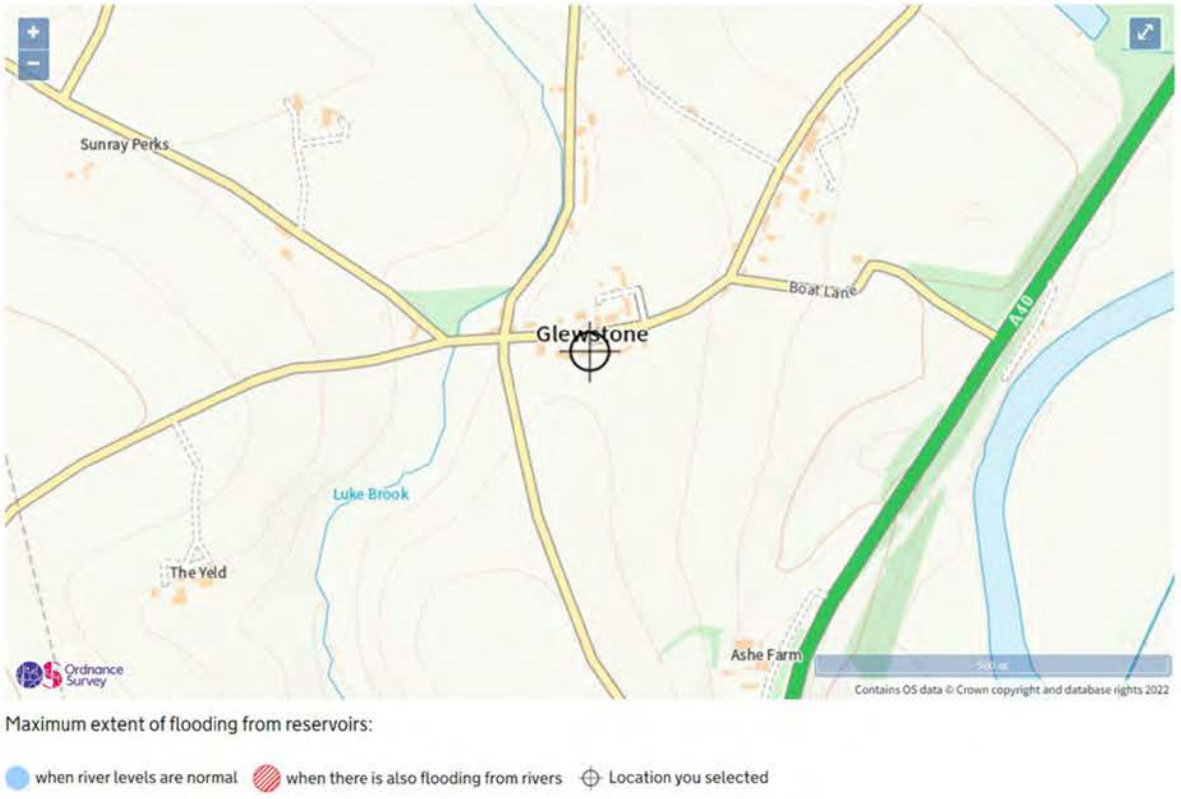


Figure 5 - Reservoir flood risk map (Copyright Environment Agency) showing the site (outlined in red) and field under same ownership (outlined in blue)

2.3 Groundwater and Source Protection Zones

Across the majority of the site the ground conditions are sandstone strata belonging to the Brownstones Formation, which is Early Devonian in age (Taken from the soakaway tests). A groundwater test was undertaken, The tests indicated the site is dry to a depth of approximately 2.4m below ground level in both parts of the site. This suggest the ground water level is low.

Source Protection Zones (SPZ) in relation to the development are considered in Figure 6. The site was found to be approximately 3,500 m distance from the nearest SPZ, 'Total Catchment – Zone 3'. This is defined by the Environment Agency as 'the area around a source within which all groundwater recharged is presumed to be discharged at source.' The site is approximately 4,000 m away from Zone 1. Any SuDS features or foul drainage strategy presented in this report is considered not to interfere with the SPZ. In addition, the only impermeable areas on site will be the building roofs so the runoff water quality will be good.

Figure 6 – Site location in relation to SPZ's

2.4 Soil conditions

According to the infiltration and percolation report undertaken by EMS Geotech both sites have a thin layer of topsoil, and this is underlain by Brownstone Formation.

The Land at Glewstone crossroads site had soakaway levels between 3.93×10^{-5}m/s and 8.3×10^{-6} m/s and had percolation rates between 118 and 180 s/mm.

The land west of Chapel cottage two of the trial pits did not work but the third indicated a soakaway value of 6.77x10-6m/s, the percolation of the site was between 41 and 58 s/mm.

3. Surface Water Management Plan

3.1 Development proposals

Development proposals are two separate parcels of land: land at Glewstone Crossroads and land west of Chapel cottage. Both parcels will have separate drainage strategies. Please find them below:

3.1.1 Land at Glewstone Crossroads

The proposed development at land at Glewstone Crossroads is for 2 house with associated garages and roads. The existing site is a greenfield site. The total residential development is for 100m^2 per house (a total of 200m^2). The drives will be permeable. The houses will drain by soakaway. Please see figure 8 for the proposed layout.

Figure 7 – Site layout plan of land at Glewstone

3.1.2 Land west of Chapel west

The proposed development is for 5 dwellings with associated garages and roads. This site is a greenfield site. Please see figure 8 for the proposed layout.

The total hardstanding is 100m^2 per house including a garage. The drive ways will be permeable for the development. Each house will have a private soakaway.

Figure 8: Land west of Chapel West

3.2 Infiltration rates

3.2.1 Infiltration rates for Land at Glewstone Crossroads

Percolation and infiltration tests, plus a groundwater assessment, were conducted by EMS Geotech. The ground over most of this area consists of topsoil and underlain by brownstone formation (sand).

The test results are given in appendix 1; the BRE365 infiltration test did drain, and the values were between 3.93×10^{-5}m/s and 8.3×10^{-6}m/s. These values are acceptable, and soakaways will be used. For conservativism, the value of 8.3×10^{-6}m/s will be used for calculating the size of the soakaways.

3.2.2 Infiltration rates for Land west of chapel cottage

Percolation and infiltration tests, plus a groundwater assessment, were conducted by EMS Geotech. The ground over most of this part of the site consists of topsoil and brownstone formation

The test results are given in appendix 1; one of the BRE365 infiltrations was successful and the values was 6.77×10^{-6}m/s. These values are acceptable for infiltration and soakaways will be used. For conservativism, the value of 6.77×10^{-6}m/s will be used.

3.3 Climate change allowances

The Environment Agency and NPPF require a consideration of the impacts of climate change on the design of SuDS any proposed development. In February 2016, the Environment Agency updated the climate change allowances required in Flood Risk Assessments (Environment Agency, 2016); this advice updates previous climate change allowances to support the NPPF (DCLG, 2012

Table 3 shows anticipated changes in small catchments, recommending a progressive increase, reaching 40% for the 'Upper End' allowance by 2115. This allowance would be recommended for this proposed development, which is classified as 'More Vulnerable' and has been taken to have a 100-year design life. The 40% climate change allowance is based on the 90th percentile, meaning that there is a 90% chance that rainfall will not increase by more than the 40% increment.

Table 3: peak rainfall intensity allowance in small and urban catchments (use 1961 to 1990 baseline)

Allowance Category	Total potential change anticipated		
	'2020s' (2015 to 2039)	'2050s' (2040 to 2069)	'2080s' (2070 to 2115)
Upper end	10%	20%	40%
Central	5%	10%	20%

Source: Environment Agency (2018)

3.4 Pre-development runoff rates

Due to the use of soakaways on both parts of the site, the discharge will be the same as previous.

3.5 Surface water drainage strategy

3.5.1 Overview of SuDS strategy

The Surface Water Management Plan (SWMP) requires the provision of SuDS in order to manage runoff from the development site. As said in section 3.1.2 infiltration is feasible at this site. Each dwelling will have an individual soakaway for their surface water. The driveway will be private and made of gravel and so are permeable.

3.5.1.1 Land at Glewstone Crossroads

For the calculations, the impermeable area for each soakaway was 100m^2.

Each house has a separate soakaway which will drain each houses' surface water.

The dimension of the soakaways are 1.8 deep and have a 2.4m diameter. The performance is shown in Table 2.

Please note at detailed design a trial pit will be needed to excavate to ensure that soakaway parameters are correct.

Table 2 : Dimension and Performance of Soakaways

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Soakaway	FEH: 100 years: +40 %: 600 mins: Winter	65.408	65.408	1.708	1.708	0.7	7.729	0.000	3.965	0.0	0.000	5	OK
Soakaway (1)	FEH: 100 years: +40 %: 600 mins: Winter	66.418	66.418	1.618	1.618	0.6	7.323	0.000	3.824	0.0	0.000	10	OK

The following conservative assumptions and design parameters were set within the drainage model:

- Rainfall intensity was obtained through the FEH methodology and increased by 40%, the Upper end allowance for climate change over the 100year design life of the proposed residential development – as described in section 3.3;
- The soakaway was based on the largest dwelling and garage to calculate the impermeable area. This is 100m^2
- A 1.0 runoff coefficient was assumed in the modelling, meaning that all the runoff generated in the area directed to the soakaway, and therefore no runoff losses are assumed.
- It was assumed that runoff from all the impermeable area will reach to the storage within 4 minutes.
- For designing all the features, a factor of safety of 2.0 was used.

3.5.1.2 Land at west of Chapel Cottage.

For the calculations an impermeable area of approximately 80m^2 was used for each house.

Each house has a separate soakaway which will rain each houses and garage surface water.

All the soakaway dimensions are 2m deep and 2.1m circular. This is the preliminary design and may change at detailed design.

The performance of the soakaways is shown in Table 2.

Table 3 : Performance of Soakaways

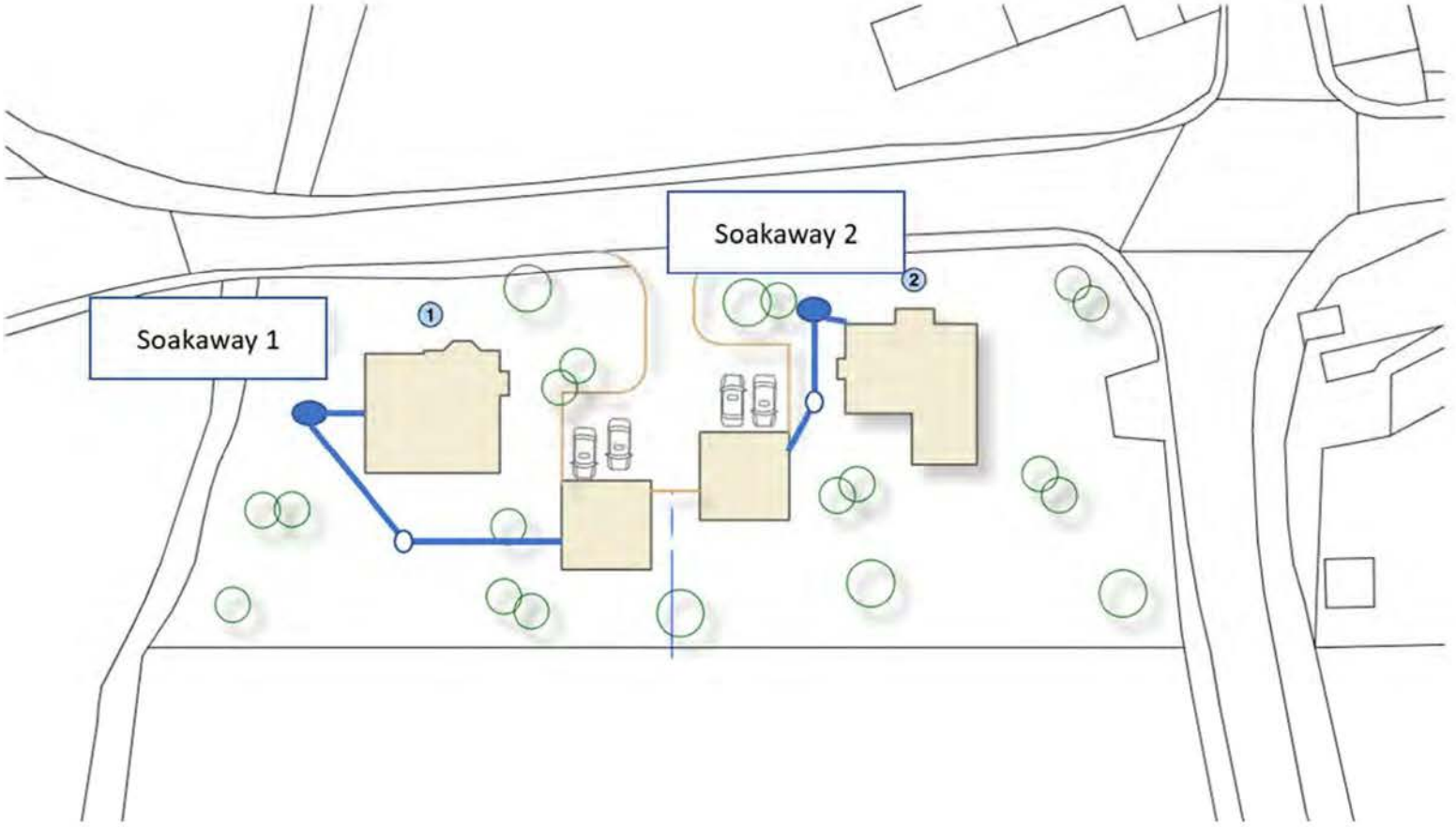
Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Soakaway	FEH: 100 years: +40 %: 720 mins: Winter	71.757	71.757	1.757	1.757	0.4	6.086	0.000	3.273	0.0	0.000	12	OK
Soakaway (1)	FEH: 100 years: +40 %: 720 mins: Winter	75.247	75.247	1.747	1.747	0.4	6.052	0.000	3.260	0.0	0.000	13	OK
Soakaway (2)	FEH: 100 years: +40 %: 600 mins: Winter	72.954	72.954	1.704	1.704	0.5	5.904	0.000	2.699	0.0	0.000	15	OK
Soakaway (3)	FEH: 100 years: +40 %: 600 mins: Winter	70.186	70.186	1.686	1.686	0.5	5.841	0.000	2.678	0.0	0.000	16	OK
Soakaway (4)	FEH: 100 years: +40 %: 720 mins: Winter	68.407	68.407	1.807	1.807	0.4	6.257	0.000	3.339	0.0	0.000	5	OK

The following conservative assumptions and design parameters were set within the drainage model:

- Rainfall intensity was obtained through the FEH methodology and increased by 40%, the Upper end allowance for climate change over the 100year design life of the proposed residential development – as described in section 3.3;
- The soakaway was based on the large amount of impermeable area per plot in this case it was plot 80m^2.
- A 1.0 runoff coefficient was assumed in the modelling, meaning that all the runoff generated in the area directed to the soakaway, and therefore no runoff losses are assumed.
- It was assumed that runoff from all the impermeable area will reach to the storage within 4 minutes.
- For designing all the features, a factor of safety of 2.0 was used.

Figure 9 – Site layout including SWMP

Figure 10:SWMP for land west of Chapel Cottage



3.6 Residual risks

Residual risks associated with the SuDS features designed in this report include the risk of storm events of greater magnitude than those considered in this report or from partial blockage of any pipes or flow controls in the systems. There is approximately 100mm freeboard above the 100 yr. +40%CC event within the soakaway. All the soakaways have been positioned below the dwellings therefore if any of the soakaways overtop in the 1 in 100 year event plus climate change the floodwater will flow away from the houses. The individual households will maintain the soakaway.

Structures which manage surface water runoff require little maintenance, however a regular maintenance schedule e.g., after heavy rainfall, should be established by the site owners to reduce the risk of blockage within the drainage system.

Regular inspection and maintenance are required to ensure the effective long-term operation of belowground storage systems. Maintenance responsibility for systems should be placed with a responsible organisation. Table 4 provides guidance on the type of operational and maintenance requirements that may be appropriate. The list of actions is not exhaustive, and some actions may not always be required.

Maintenance Plans and schedules should be developed during the design phase and will be specific to the type of tank that is adopted. Specific maintenance needs of the system should be monitored, and maintenance schedules adjusted to suit requirements.

TABLE 13.1 Operation and maintenance requirements for soakaways

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	Annually
	Cleaning of gutters and any filters on downpipes	Annually (or as required based on inspections)
	Trimming any roots that may be causing blockages	Annually (or as required)
Occasional maintenance	Remove sediment and debris from pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	As required, based on inspections
Remedial actions	Reconstruct soakaway and/or replace or clean void fill, if performance deteriorates or failure occurs	As required
	Replacement of clogged geotextile (will require reconstruction of soakaway)	As required
Monitoring	Inspect silt traps and note rate of sediment accumulation	Monthly in the first year and then annually
	Check soakaway to ensure emptying is occurring	Annually

Table 4 – CIRIA SuDS operation and maintenance schedule for soakaways

4. Foul Water Drainage Strategy

The site is located within a part of the River Wye catchment, (defined by Herefordshire Council in the Position Statement as the Red Zone) where Herefordshire Council has determined that phosphate flows into the water environment need to be restricted

Both sections of the site will drain their foul water to the public sewer. Welsh Water have confirmed this is a public combined sewer.

Both sections of the site will require a pump to discharge to the sewer as it is uphill.

As this application is for outline, the foul drainage details will be undertaken at detailed design. Please can you condition this.

Figure 11: Foul Drainage strategy for Land at Glewstone Crossroads

Figure 12: Foul Drainage strategy for Land west of Chapel Cottage.

5. SUMMARY AND CONCLUSIONS

A summary of the main conclusions for the SWMP and FDS is presented below:

- The proposed development is for outline planning.
- Development proposals are for construction of 7 residential dwellings at Glewstone. The site is split into two land developments: Land at Glewstone Crossroads and Land west of Chapel cottage.
- The site is within a flood zone 1. The minimum finished floor level will be approximately 1m above the bank level. The finished floor level will be set at a minimum of 66mAOD.
- The proposed development will have a total impermeable area of 600m^2, dwellings at land at Glewstone Crossroads is 100m2 and at Land West of Chapel cottage is 80m2. The roads in both parcels are permeable.
- Infiltration is feasible at the site. Land at Glewstone Crossroad has an infiltration of $8.3x10^{-6}$m/s and land west of chapel cottage has an infiltration of $6.77x10^{-6}$m/s.
- Allowance is made for climate change by increasing design rainfall by 40%, in line with the NPPF and Environment Agency recommended allowance;
- Each individual dwelling and garage will have individual soakaways. At detailed design further soakaway tests will need to be undertaken to ensure the ground is permeable at the specific position of the soakaway.
- All the roadways will be gravel and therefore permeable and do not require formal drainage.
- The foul water flows will be connected to the public sewer, each site will require a pumping station to drain to the public sewer as it is uphill;
- Note that a management company will be responsible for the management and maintenance of the foul drainage system serving their properties. It is recommended that the manufacturer option for long term maintenance is taken up.

6. REFERENCES

Author	Date	Title/Description
British Water	2013	Flows and Loads Code of Practice – 4_Sizing Criteria, Treatment Capacity for Sewage Treatment Systems.
Centre for Ecology and Hydrology.		The Flood Estimation Handbook Web Service https://fehweb.ceh.ac.uk/
CIRIA	2015	The SUDS Manual – CIRIA Report C753.
DCLG	Mar 2012	Technical Guidance to the National Planning Policy Framework.
DEFRA / Environment Agency	2013	Rainfall Runoff Management for Development Report SC030219
Environment Agency/ UK Government	2018	Interactive Flood Maps. https://flood-warning-information.service.gov.uk/long-term-flood-risk/
Environment Agency/ UK Government	2018	Interactive Flood Map for planning. https://flood-map-for-planning.service.gov.uk/
Herefordshire Council	2018	Sustainable Urban Drainage Systems (SuDS) Handbook²
Ministry of Housing, Communities and Local Government.	2019	National Planning Policy Framework
Phelps and Griggs	2008	BRE 478 Mound filter systems for the treatment of domestic wastewater
WHS	2016b	Revitalised Flood Hydrograph Model ReFH2: Technical Guidance.

Appendix 1: Percolation Testing

Sent by e-mail to: james@jamesspreckleyltd.co.uk,

James Spreckley Ltd.
Brinsop House,
Brinsop,
Hereford
HR4 7AS

For the attention of James Spreckley,

28th October 2021

E224401 – Infiltration and Percolation Tests – Land at Glewstone, Herefordshire.

Dear James,

Following your recent instruction we have pleasure in providing the following letter report summarising the findings of recent soakaway and percolation tests for the above site.

1. Introduction

Environmental Management Solutions Limited (EMS) have been commissioned to undertake soakaway and percolation tests for a proposed development at two sites in Glewstone, Herefordshire. The works have been commissioned by James Spreckley Limited. The client proposes to develop the site for residential purposes.

This letter report has been produced to summarise the findings of recent soakaway and percolation tests at the site to aid with drainage design and accompany ongoing planning requirements.

2. Scope of Works

The agreed scope of works included:

- Mobilization to site and production of health and safety documentation.
- Undertake Cable Avoidance Tool (CAT) scans of each exploratory hole location.
- Percolation test pits located within the area of the proposed drainage field comprising an at ground level 0.30m x 0.30m x 0.30m hand dug test pit and initial excavation, using mechanical excavator, to pipe invert levels with a 0.30m x 0.30m x 0.30m hand dug test pit in the base to determine percolation infiltration rates for the proposed drainage field.
- Excavation of soakaway test pits close to the proposed house locations, using a mechanical excavator, to between 1.00-2.00m depth. To determine soil infiltration rates for the proposed soakaway locations.

- Filling each test pit with clean potable water using a 4x4 vehicle with water bowser at the start of each test. We would aim to undertake three test pit locations in one day with three complete test runs in each pit, ground conditions permitting.

- Percolation test will be undertaking in general accordance with BS 6297 and soakaway tests in accordance with BRE 365. Excavation and logging of pits will be undertaken in general accordance with the BS5930: 2015.

- Determination of each trial / test pit location using a tape measure or recreational handheld GPS unit.

- Compilation of a Soil Infiltration Rate letter report in electronic (pdf) format outlining the works undertaken, details of encountered ground conditions and groundwater levels; Including factual information such as trial and test pit logs, photographs of trial and test pits, calculated infiltration test results; Provide recommendations on the feasibility of using infiltration devices at the site.

3. Site Location and Description

There are two sites at this location on the western periphery to Glewstone Village (West Site) and the eastern village periphery (East Site).

West Site

The site is on the western periphery of the village of Glewstone. The approximate National Grid Reference for the western site is E: 355810, N: 222100. It comprises a rectangular plot, sloping down sharply to the north in the northern end of a grass covered field. The site is delineated to the north and east by hedgerows, opens to the remainder of the field toward the south and delineated by the Luke Brook to the west.

The site sits at an approximate elevation of 70m Above Ordnance Datum (m AOD) in the east and slopes to approximately 65m AOD in the northwest.

East Site

The site is on the eastern periphery of the village of Glewstone. The approximate National Grid Reference f is E: 356120, N: 222140. It comprises a roughly rectangular plot in the northern portion of a recently harvested maize field. The site is delineated to the north and west by hedgerows and opens to the remainder of the field toward the east and south.

The site sits at an approximate elevation of 75m in the west and slopes to approximate 68m AOD in the east.

Plans showing the site locations and existing layouts are included in Appendix A.

4. Site History

Historical maps, sourced from the Old Maps Online website (https://maps.nls.uk/view/120898198) dated 1928, indicate the western site had a small rectangular structure on the southern boundary which is no longer present. The eastern site was shown to be part of a larger open field.

Images obtained from Google Earth, indicate the sites have been largely unchanged since 2001.

5. Proposed Development

It is proposed to develop both he west and east site for residential purposes with associated gardens and parking. It is intended that surface water drainage will be dealt with using SUDs / soakaway and foul water to a drainage field.

6. Geology

Topographic maps indicate the western site to be on the western slope of a hill, the site slopes to the west towards the Luke Brook. The eastern site is location on the western side of the Wye Valley, the ground slopes toward the River Wye in the east.

The BGS map (Sheet 215: Ross-on-Wye, Solid and Drift, dated 2000), indicates the sites to be directly underlain with sandstone strata belonging to the Brownstones Formation, which is Early Devonian in age. This stratum is likely to have been derived from cyclic deposition over a floodplain. It is generally described by the BGS Lexicon (www.webapps.bgs.ac.uk/lexicon) as 'Red, brown and purple fluvial sandstones with red mudstone interbeds'.

There are no historical BGS borehole records located within 250m of either site.

There are no significant geological features within 250m of either site.

7. Hydrogeology

West Site

The site is situated on elevated ground, at approximately 68m AOD, on the northwestern slope of a small hill. The site slopes sharply towards the Luke Brook on the western boundary of the field. From geological and local topographic information, it is anticipated that groundwater will occur at depth and flow towards the south.

East Site

The site is situated on elevated ground, at an approximate elevation of 67m AOD on the north-eastern slope of the same hill. The site slopes gently towards the east towards the River Wye. From geological and local topographic information, it is anticipated that groundwater will occur at depth and flow towards the south.

According to the MAGIC website (www.magic.defra.gov.uk), Brownstones Formation bedrock is classed as a Secondary A aquifer.

Groundwater vulnerability is given as High for the Brownstones Formation.

8. Hydrology

West Site

The site slopes sharply towards the northwest and is entirely grass covered. Therefore, it is anticipated that on-site drainage will be predominantly directed straight into the ground. The nearest recorded surface water feature is the Luke Brook, located on the western site boundary. It is a tributary of the Garren Brook and ultimately the River Wye.

East Site

The eastern site slopes gently towards the east and is a recently harvested maize field. Therefore, it is anticipated that on-site drainage will be predominantly directed straight into the ground. The nearest recorded surface water feature to is the Luke Brook, located approximately 290m west of the site.

The Environment Agency Flood Map for Planning website (www.flood-map-for-planning.service.gov.uk) shows both sites to be within a Flood Zone 1 area and not at risk from flooding.

9. Previous Investigation Works

EMS is not aware of any previous intrusive investigation works having been conducted at this site.

10. Site Works

West Site

Site works were undertaken on 22nd September 2021 and included a single trial pit (TP01) to 2.50m depth, 3 No. soakaway test pits (SA01 to SA03), to between 1.13m and 1.89m depth and 3 No. percolation test pits (PT01 to PT02) to between 0.71m and 0.84m depth.

East Site

Site works were undertaken on 18th October 2021 and included 3 No soakaway test pits (SA01 to SA03), to between 1.50m and 2.42m depth and 3 No percolation test pits (PT01 to PT03) to between 0.90m and 1.15m depth.

All test pits were undertaken using a mechanical excavator in the proposed drainage field.

An exploratory hole location plan showing the investigation work layout is included in Appendix A.

11. Encountered Ground Conditions

The encountered ground conditions generally agreed with the anticipated ground conditions. A shallow depth of topsoil underlain by weathered Brownstone Formation.

West Site

No hardstanding, buried structures or services were encountered within the test pits.

Topsoil was encountered in all test pits to a depth of 0.10m and generally comprised grass over soft reddish brown clayey organic rich sand with roots and rootlets.

Underlying the Topsoil, granular Brownstones Formation was encountered to depths between 0.71m (PT03) and 2.40m (TP01). It was generally described as medium dense reddish brown clayey sand with occasional to abundant sandstone lithorelicts.

Brownstones formation bedrock was encountered at a depth of 2.40m (TP01). It was described as extremely weak reddish brown sandstone recovered as angular coarse sandstone gravel.

Groundwater was not encountered during the site works.

East Site

No hardstanding, buried structures or services were encountered within the test pits.

Topsoil was encountered in all test pits to a depth of 0.20m and generally comprised maize stubble over dark brown clayey organic rich sand with roots and rootlets.

Underlying the Topsoil, granular Brownstones Formation was encountered to depths between 0.50m (SA02 and SA03) and 2.30m (SA03). It was generally described as medium dense reddish brown clayey sand with occasional to abundant sandstone lithorelicts.

Brownstones formation bedrock was encountered at a depths between 1.90m (SA01) and 2.42m (SA03). It was generally described as extremely weak reddish brown argillaceous sandstone recovered as angular coarse sandstone gravel.

Groundwater was not encountered during the site works.

Soakaway, percolation and trial pit logs showing the soils and strata encountered are included in Appendix B. A photographic record of the soakaway/percolation pits undertaken is included in Appendix C.

12. Soil Infiltration Rates

West Site

The soakaway pits were excavated using a mechanical excavator in the proposed drainage area to of the proposed development. Prior to commencing each test, SA01 and SA03 were filled with approximately 300 litres of water from a 900l bowser to depths between 0.85m and 1.58m. Each pit took 50 seconds to fill.

Percolation test pits were excavated using hand tools and subsequently filled with potable water from 30 litre water drums to depths between 0.42m and 0.57m depth. Each pit took 10 seconds to fill.

In SA02, and PT01 to PT03, the water levels dropped relatively slowly over a six-hour period; therefore, it was only possible to undertake a single test in each pit.

The records of the infiltration tests undertaken together with the calculation of the equivalent soil infiltration rates are included in Appendix D. The infiltration test results are summarized in the table below:

Test Pit	Test No.	Equivalent Infiltration Rate	Average Vp Values (s/mm)	Stratum
SA01	Test 1	3.93 x 10-^{05} m/s		Granular Brownstones Formation
	Test 2	3.01 x 10-^{05} m/s		
	Test 3	8.31 x 10-^{05} m/s		
SA02	Test 1	Permeability was too low to calculate soil infiltration rate.		
SA03	Test 1	1.15 x 10-^{05} m/s		
	Test 2	8.30 x 10-^{06} m/s		
	Test 3	1.50 x 10-^{05} m/s Infiltration rate is extrapolated		
PT01	Test 1	1.84 x 10-^{06} m/s Infiltration rate is extrapolated	180.8	
PT02	Test 1	2.33 x 10-^{06} m/s Infiltration rate is extrapolated	138	
PT03	Test 1	2.79 x 10-^{06} m/s Infiltration rate is extrapolated	118	

East Site

The soakaway pits were excavated using a mechanical excavator in the proposed drainage area to of the proposed development. Prior to commencing each test, SA01 and SA03 were filled with approximately 300 litres of water from a 900l bowser to depths between 0.91m and 1.82m. Each pit took 50 seconds to fill.

Percolation test pits were excavated using hand tools and subsequently filled with potable water from 30 litre water drums to depths between 0.62m and 0.87m depth. Each pit took 10 seconds to fill.

In SA01 to SA03 the water levels dropped little over a six-hour period; therefore, it was only possible to undertake a single test in each pit.

The records of the infiltration tests undertaken together with the calculation of the equivalent soil infiltration rates are included in Appendix D. The infiltration test results are summarized in the table below:

Test Pit	Test No.	Equivalent Infiltration Rate	Average Vp Values (s/mm)	Stratum
SA01	Test 1	3.16 x 10-^{06} m/s Infiltration rate is extrapolated		Granular Brownstones Formation
SA02	Test 1	6.77 x 10-^{06} m/s		
SA03	Test 1	Permeability was too low to calculate soil infiltration rate.		
PT01	Test 1	8.64 x 10-^{06} m/s	41.6	
	Test 2	7.66 x 10-^{06} m/s		
	Test 3	6.50 x 10-^{06} m/s Infiltration rate is extrapolated		
PT02	Test 1	1.39 x 10-^{05} m/s	58	
	Test 2	3.54 x 10-^{06} m/s Infiltration rate is extrapolated		
PT03	Test 1	2.09 x 10-^{05} m/s	46.2	
	Test 2	4.22 x 10-^{06} m/s		

13. Soakaway Design Advice

West Site

The soakaway test results undertaken within the granular Brownstones Formation returned good infiltration rates for SA01 and SA03. It is anticipated that the poor infiltration rates recorded in SA02 were due to a higher fines content within the shallower soils.

Therefore, it is considered that disposal of surface water to infiltration devices is feasible for this site, when targeting the granular weathered Brownstones Formation with low fines content located lower down slop towards the north of the site.

It is recommended that consideration is given to incorporating some form rainwater reuse system into the proposed properties to reduce the volume of water for discharge to soakaway.

Calculated average Percolation Values (Vp) determined from the percolation pits were between 118 s/mm and 180.8 s/mm.

Where the Vp is above 100 s/mm, effective treatment is unlikely to take place in a drainage field as there will be inefficient soakage. Foul water will not infiltrate well and may result in ponding, which can lead to overland pollution problems and odours.

Potential solutions will require reducing the soil infiltration rate through the subsurface using engineered drainage mounds or sand filters. Therefore, consultation with the Environment

Agency will be required to discuss alternative solutions and disposal methods other that infiltration systems.

East Site

The soakaway test results undertaken within the Brownstones Formation strata returned poor infiltration rates. It is anticipated this is due to a high fines content within the weathered sandstone.

As soil infiltration rates are likely to be relatively poor, consideration should be given to incorporating some form of rainwater reuse system into the proposed development. This will help to reduce the volume of surface water to be discharged to soakaway.

Calculated average Percolation Values (Vp) determined from the percolation pits for this site were between 41.6 s/mm and 58 s/mm. Foul water drainage field disposal should only be used when percolation tests indicate average values of Vp between 15 s/mm and 100 s/mm. Therefore, it is considered this site is suitable for drainage field disposal.

References

- British Geological Survey Sheet 215 "Ross-on-Wye" Solid and Drift edition (1:50,000) dated 2000.
- Building Research Establishment, Soakaway Design BRE 365, dated 2016.
- BS 6297: 2007+A1:2008: Code of practice for the design and Installation of Drainage Fields for use in Wastewater Treatment.

Yours sincerely

For and on behalf of Environmental Management Solutions Limited

[redacted]

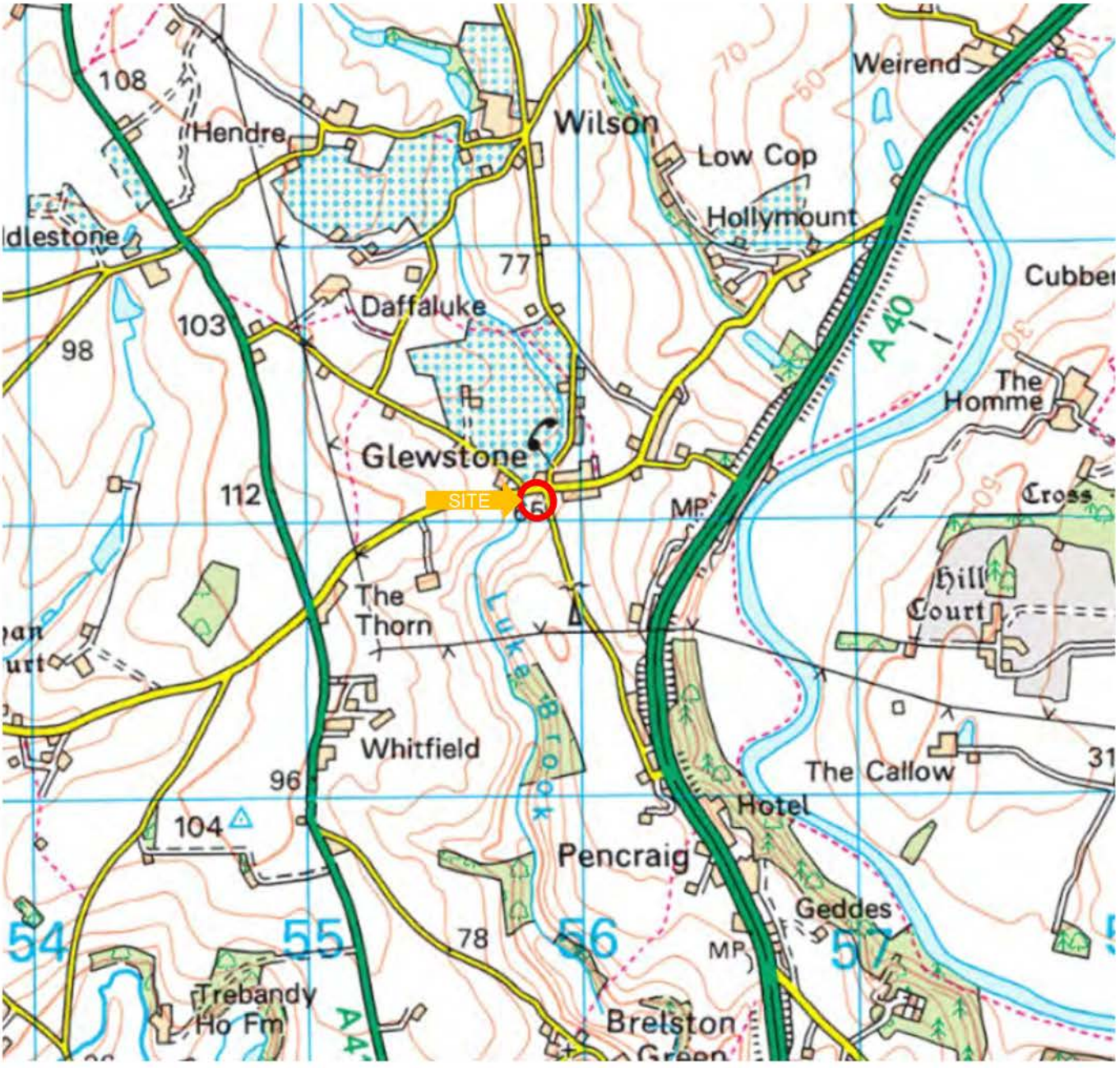
Olivia Scotson-Benbow (Geo-Environmental Engineer)
EMS – Geotech
Olivia.benbow@ems-geotech.co.uk

Appendices:

Appendices

Appendix A – Drawings and Plans
Appendix B – Exploratory Hole Logs
Appendix C – Photographic Record - Soakaway Pits, Percolation Pits and Trial Pits
Appendix D – Soakaway and Percolation Test Results

Appendix A – Drawings and Plans



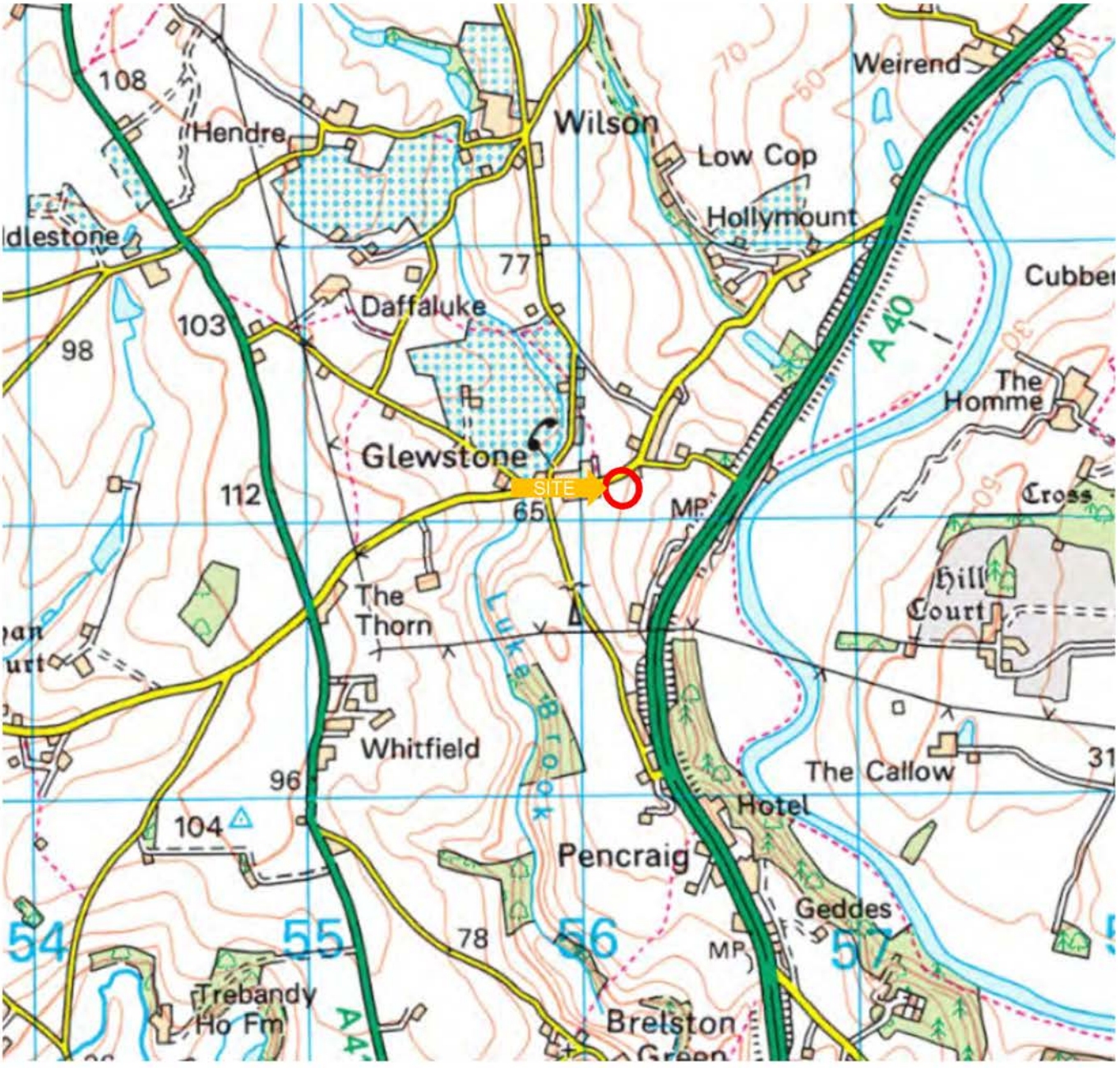
KEY:

Site Location

Approximate Scale:

0 km 1

ENVIRONMENTAL MANAGEMENT SOLUTIONS EMS asbestos EMS geotech EMS water	Project Number:	E24401
	Site:	Land at Glewstone (West), Herefordshire
	Drawing Title:	Site Location Plan



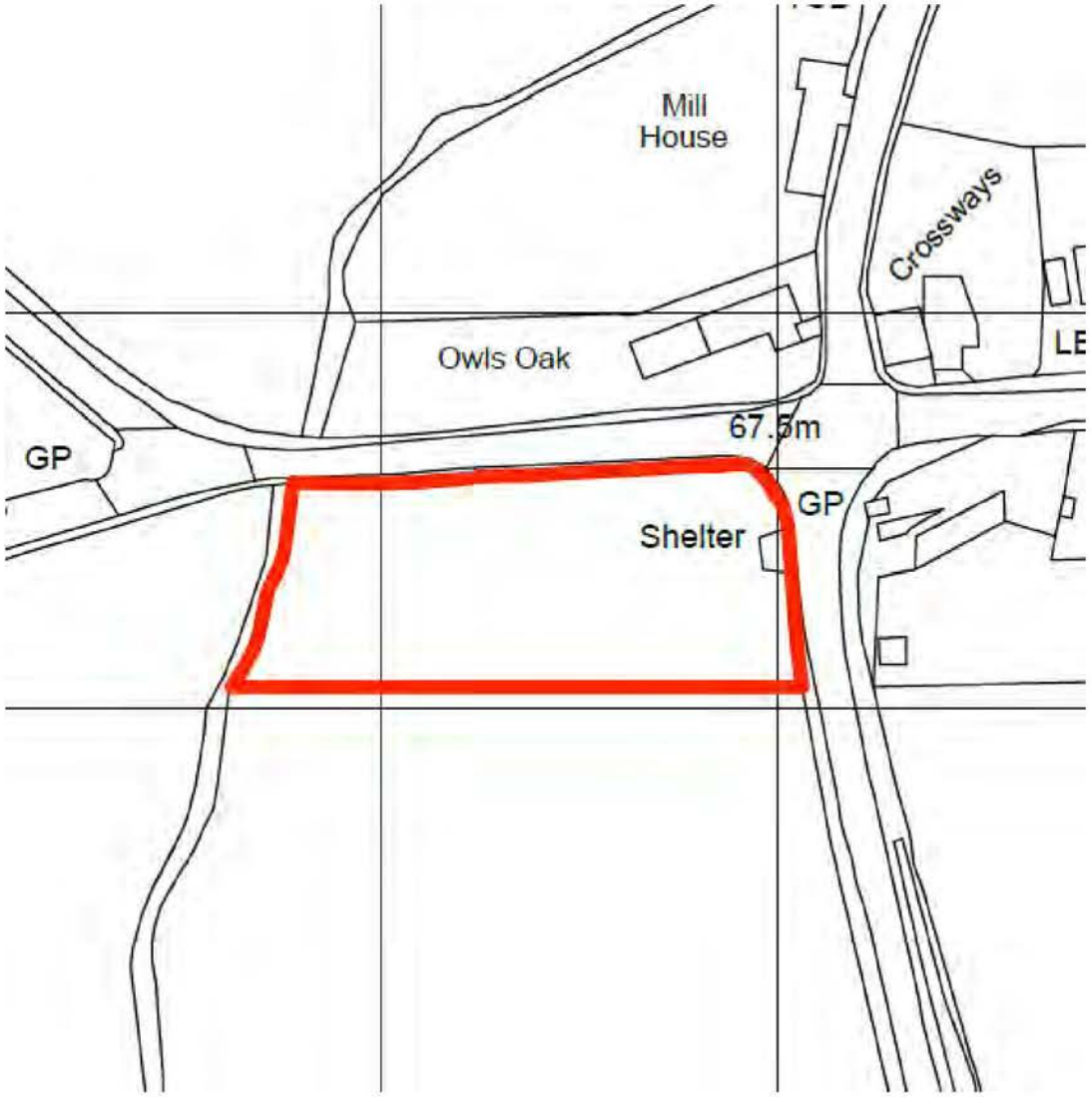
KEY:

Site Location

Approximate Scale:

0 km 1

ENVIRONMENTAL MANAGEMENT SOLUTIONS EMS asbestos EMS geotech EMS water	Project Number:	E24401
	Site:	Land at Glewstone (East), Herefordshire
	Drawing Title:	Site Location Plan



Key:

Site Boundary.

0 40m

Approximate Scale:

Extract taken from James Spreckley Proposed residential development at Glewstone, Herefordshire, dated January 2021

ENVIRONMENTAL MANAGEMENT SOLUTIONS EMSasbestos EMSgeotech EMSwater	Project Number:	E24401
	Site:	Land at Glewstone (West) Herefordshire.
	Drawing Title:	Existing Site Layout Drawing

Key:

Site Boundary.

0 40m

Approximate Scale:

Extract taken from James Spreckley Proposed residential development at Glewstone, Herefordshire, dated January 2021

ENVIRONMENTAL MANAGEMENT SOLUTIONS
EMSasbestos EMSgeotech EMSwater

Project Number:	E24401
Site:	Land at Glewstone (East) Herefordshire.
Drawing Title:	Existing Site Layout Drawing

Key:

Site Boundary.

0 20m

Approximate Scale:

Extract taken from James Spreckley Proposed residential development at Glewstone, Herefordshire, dated January 2021

ENVIRONMENTAL MANAGEMENT SOLUTIONS EMSasbestos EMSgeotech EMSwater	Project Number:	E24401
	Site:	Land at Glewstone (West) Herefordshire.
	Drawing Title:	Proposed Site Layout Drawing

Key:

Site Boundary.

0 30m

Approximate Scale:

Extract taken from James Spreckley Proposed residential development at Glewstone, Herefordshire, dated January 2021

ENVIRONMENTAL MANAGEMENT SOLUTIONS
EMSasbestos EMSgeotech EMSwater

Project Number:	E24401
Site:	Land at Glewstone (East) Herefordshire.
Drawing Title:	Proposed Site Layout Drawing

N

- Site Boundary
- Trial Pit Location (TP01)
- Soakaway Pit Locations (SA01 to SA03)
- Percolation Pit Locations (PT01 and PT03)

0 20m

Approximate Scale:

Extract taken from James Spreckley Proposed residential development at Glewstone, Herefordshire, dated January 2021

ENVIRONMENTAL MANAGEMENT SOLUTIONS EMSasbestos EMSgeotech EMSwater	Project Number:	E24401
	Site:	Land at Glewstone (West) Herefordshire.
	Drawing Title:	Exploratory Hole Location Plan

N

Site Boundary

Soakaway Pit Locations (SA01 to SA03)

Percolation Pit Locations (PT01 and PT03)

0 30m

Approximate Scale:

Extract taken from James Spreckley Proposed residential development at Glewstone, Herefordshire, dated January 2021

ENVIRONMENTAL MANAGEMENT SOLUTIONS
EMSasbestos EMSgeotech EMSwater

Project Number:	E24401
Site:	Land at Glewstone (East) Herefordshire.
Drawing Title:	Exploratory Hole Location Plan

Appendix B – Exploratory Hole Logs

Trial Pit Log

Project Name: Land at Glewstone (West)	Client: James Spreckley	Date: 22/09/2021
Location: Glewstone	Contractor: LD	Co-ords: E355803.00 N222102.00
Project No. : E24401W	Crew Name: LD	Equipment: Hydraulic Excavator and Hand Tools

Location Number	Location Type	Level	Logged By	Scale	Page Number
PT01	TP		OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			TOPSOIL: Grass over soft reddish brown clayey organic rich sand. Abundant roots and rootlets. Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					0.72			End of Borehole at 0.720m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
0.30	0.30	Stable	None				

Remarks

Groundwater not included.
Pit terminated at 0.72m to undertake percolation testing.
Pit backfilled with arisings on completion.

Trial Pit Log

Project Name: Land at Glewstone (West)	Client: James Spreckley	Date: 22/09/2021
Location: Glewstone	Contractor: LD	Co-ords: E355817.00 N222106.00
Project No. : E24401W	Crew Name: LD	Equipment: Hydraulic Excavator and Hand Tools

Location Number	Location Type	Level	Logged By	Scale	Page Number
PT02	TP		OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			TOPSOIL: Grass over soft reddish brown clayey organic rich sand. Abundant roots and rootlets.
								Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					0.84			End of Borehole at 0.840m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
0.30	0.30	Stable	None				

Remarks

Groundwater not included.
Pit terminated at 0.84m to undertake percolation testing.
Pit backfilled with arisings on completion.

Trial Pit Log

Project Name: Land at Glewstone (West)	Client: James Spreckley	Date: 22/09/2021
Location: Glewstone	Contractor: LD	Co-ords: E355832.00 N222110.00
Project No. : E24401W	Crew Name: LD	Equipment: Hydraulic Excavator and Hand Tools

Location Number	Location Type	Level	Logged By	Scale	Page Number
PT03	TP		OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			TOPSOIL: Grass over soft reddish brown clayey organic rich sand. Abundant roots and rootlets. Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					0.71			End of Borehole at 0.710m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
0.30	0.30	Stable	None				

Remarks

Groundwater not included.
Pit terminated at 0.71m to undertake percolation testing.
Pit backfilled with arisings on completion.

Trial Pit Log

Project Name: Land at Glewstone (West)	Client: James Spreckley	Date: 22/09/2021
Location: Glewstone	Contractor: LD	Co-ords: E355807.00 N222099.00
Project No. : E24401W	Crew Name: LD	Equipment: Hydraulic Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
SA01	TP		OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.10			TOPSOIL: Grass over soft reddish brown clayey organic rich sand. Abundant roots and rootlets.
								Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					0.95			Medium dense reddish brown clayey SAND. Occasional angular fine to coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					1.20			Medium dense reddish brown clayey SAND. Abundant angular coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					1.58			End of Borehole at 1.580m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.20	0.30	Stable	None				

Remarks

Groundwater not included.
Pit terminated at 1.58m to undertake soakaway testing.
Pit backfilled with arisings on completion.

Trial Pit Log

Project Name: Land at Glewstone (West)	Client: James Spreckley	Date: 22/09/2021
Location: Glewstone	Contractor: LD	Co-ords: E355826.00 N222101.00
Project No. : E24401W	Crew Name: LD	Equipment: Hydraulic Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
SA02	TP		OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			TOPSOIL: Grass over soft reddish brown clayey organic rich sand. Abundant roots and rootlets.
								Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					0.80			Medium dense reddish brown clayey SAND. Occasional angular fine to coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					1.13			End of Borehole at 1.130m

1 2 3 4 5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.20	0.30	Stable	None				

Remarks

Groundwater not included.
Pit terminated at 1.13m to undertake soakaway testing.
Pit backfilled with arisings on completion.

Trial Pit Log

Project Name: Land at Glewstone (West)	Client: James Spreckley	Date: 22/09/2021
Location: Glewstone	Contractor: LD	Co-ords: E355836.00 N222103.00
Project No. : E24401W	Crew Name: LD	Equipment: Hydraulic Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
SA03	TP		OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			TOPSOIL: Grass over soft reddish brown clayey organic rich sand. Abundant roots and rootlets.
								Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					0.95			Medium dense reddish brown clayey SAND. Occasional angular fine to coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					1.30			Medium dense reddish brown clayey SAND. Abundant angular coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					1.89			End of Borehole at 1.890m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.20	0.30	Stable	None				

Remarks

Groundwater not included.
Pit terminated at 1.89m to undertake soakaway testing.
Pit backfilled with arisings on completion.

Trial Pit Log

EMSgeotech

Project Name: Land at Glewstone (West)	Client: James Spreckley	Date: 22/09/2021
Location: Glewstone	Contractor: LD	Co-ords: E355794.00 N222094.00
Project No. : E24401W	Crew Name: LD	Equipment: Hydraulic Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP01	TP		OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			TOPSOIL: Grass over soft reddish brown clayey organic rich sand. Abundant roots and rootlets.
								Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					0.90			Medium dense reddish brown clayey SAND. Occasional angular fine to coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					1.40			Medium dense reddish brown clayey SAND. Abundant angular coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					2.40			Extremely weak reddish brown SANDSTONE. Recovered as angular coarse gravel of sandstone. [BROWNSTONES FORMATION]
					2.50			End of Borehole at 2.500m

1 2 3 4 5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.50	0.30	Stable	None				

Remarks

Groundwater not included.
Pit terminated at 2.50m in Brownstones Formation.
Pit backfilled with arisings on completion.

ENVIRONMENTAL MANAGEMENT SOLUTIONS

EMSgeotech

Trial Pit Log

Project Name: Land at Glewstone (East)	Client: James Spreckley	Date: 18/10/2021
Location: Glewstone	Contractor: LD	Co-ords: E356126.00 N222128.00
Project No. : E24401E	Crew Name:	Equipment: Hydraulic Excavator and Hand Tools

Location Number	Location Type	Level	Logged By	Scale	Page Number
PT01	TP	70.00m AoD	OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	70.00		TOPSOIL: Maize stubble over dark brown very clayey organic rich sand. Abundant roots and rootlets.
					0.60	69.80		Medium dense reddish brown very clayey SAND. [BROWNSTONES FORMATION]
					0.96	69.40		Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
								End of Borehole at 0.960m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
0.30	0.30	Stable	None				

Remarks

Groundwater not encountered.
Pit terminated at 0.96m to undertake percolation testing.
Relative density based on ease of excavation and sidewall stability.
Backfilled with arisings on completion.

ENVIRONMENTAL MANAGEMENT SOLUTIONS

Trial Pit Log

Project Name: Land at Glewstone (East)	Client: James Spreckley	Date: 18/10/2021
Location: Glewstone	Contractor: LD	Co-ords: E356137.00 N222126.00
Project No. : E24401E	Crew Name:	Equipment: Hydraulic Excavator and Hand Tools

Location Number	Location Type	Level	Logged By	Scale	Page Number
PT02	TP	70.00m AoD	OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	70.00		TOPSOIL: Maize stubble over dark brown very clayey organic rich sand. Abundant roots and rootlets.
					0.85	69.80		Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					1.15	69.15		Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
								End of Borehole at 1.150m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
0.30	0.30	Stable	None				

Remarks

Groundwater not encountered.
Pit terminated at 1.15m to undertake percolation testing.
Relative density based on ease of excavation and sidewall stability.
Backfilled with arisings on completion.

EMS geotech

Trial Pit Log

Project Name: Land at Glewstone (East)	Client: James Spreckley	Date: 18/10/2021
Location: Glewstone	Contractor: LD	Co-ords: E356146.00 N222142.00
Project No. : E24401E	Crew Name:	Equipment: Hydraulic Excavator and Hand Tools

Location Number	Location Type	Level	Logged By	Scale	Page Number
PT03	TP	70.00m AoD	OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	70.00		TOPSOIL: Maize stubble over dark brown very clayey organic rich sand. Abundant roots and rootlets.
					0.70	69.80		Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					0.90	69.30		Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
								End of Borehole at 0.900m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
0.30	0.30	Stable	None				

Remarks

Groundwater not encountered.
Pit terminated at 0.90m to undertake percolation testing.
Relative density based on ease of excavation and sidewall stability.
Backfilled with arisings on completion.

ENVIRONMENTAL MANAGEMENT SOLUTIONS

Trial Pit Log

Project Name: Land at Glewstone (East)	Client: James Spreckley	Date: 18/10/2021
Location: Glewstone	Contractor: LD	Co-ords: E356151.00 N222149.00
Project No. : E24401E	Crew Name:	Equipment: Hydraulic Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
SA01	TP	70.00m AoD	OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	70.00		TOPSOIL: Maize stubble over dark brown very clayey organic rich sand. Abundant roots and rootlets.
					0.80	69.80		Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					1.90	69.20		Medium dense reddish brown clayey SAND. Occasional angular fine to coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					2.10	68.10		Extremely weak reddish brown argillaceous SANDSTONE. Recovered as angular fine to coarse sandstone gravel. [BROWNSTONES FORMATION]
								End of Borehole at 2.100m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.20	0.30	Stable	None				

Remarks

Groundwater not encountered.
Pit terminated at 2.10m to undertake soakaway testing.
Relative density based on ease of excavation and sidewall stability.
Backfilled with arisings on completion.

Trial Pit Log

Project Name: Land at Glewstone (East)	Client: James Spreckley	Date: 18/10/2021
Location: Glewstone	Contractor: LD	Co-ords: E356162.00 N222163.00
Project No. : E24401E	Crew Name:	Equipment: Hydraulic Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
SA02	TP	69.00m AoD	OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	69.00		TOPSOIL: Maize stubble over dark brown very clayey organic rich sand. Abundant roots and rootlets.
					0.50	68.80		Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					1.20	68.50		Medium dense reddish brown clayey SAND. Occasional angular fine to coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					1.50	67.80		Medium dense reddish brown slightly clayey SAND. Abundant angular fine to coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
								End of Borehole at 1.500m

1
2
3
4
5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.20	0.30	Stable	None				

Remarks

Groundwater not encountered.
Pit terminated at 1.50m to undertake soakaway testing.
Relative density based on ease of excavation and sidewall stability.
Backfilled with arisings on completion.

Trial Pit Log

Project Name: Land at Glewstone (East)	Client: James Spreckley	Date: 18/10/2021
Location: Glewstone	Contractor: LD	Co-ords: E356169.00 N222171.00
Project No. : E24401E	Crew Name:	Equipment: Hydraulic Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
SA03	TP	69.00m AoD	OFSB	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	69.00		TOPSOIL: Maize stubble over dark brown very clayey organic rich sand. Abundant roots and rootlets.
					0.50	68.80		Medium dense reddish brown clayey SAND. [BROWNSTONES FORMATION]
					1.20	68.50		Medium dense reddish brown clayey SAND. Occasional angular fine to coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					1.40	67.80		Stiff reddish brown slightly sandy CLAY. Occasional angular fine mudstone lithorelicts. [BROWNSTONES FORMATION]
					2.30	67.60		Medium dense reddish brown very clayey SAND. Occasional angular fine to coarse sandstone lithorelicts. [BROWNSTONES FORMATION]
					2.42	66.70		Extremely weak reddish brown argillaceous SANDSTONE. Recovered as angular fine to coarse sandstone gravel. [BROWNSTONES FORMATION]
								End of Borehole at 2.420m

1
2
3
4
5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.20	0.30	Stable	None				

Remarks

Groundwater not encountered.
Pit terminated at 2.42m to undertake soakaway testing.
Relative density based on ease of excavation and sidewall stability.
Backfilled with arisings on completion.

Appendix C – Photographic Record – Soakaway Pits, Percolation Pits and Trial Pits

Photo 1: Trial Pit TP01

Photo 2: Trial Pit TP01 Spoil

Photo 3: Soakaway Pit SA01

Photo 4: Soakaway Pit SA01 Spoil

Photo 5: Soakaway Pit SA02

Photo 6: Soakaway Pit SA02 Spoil

Photo 7: Soakaway Pit SA03

Photo 8: Soakaway Pit SA03 Spoil

Photo 9: Precolation Pit PT01

Photo 10: Percolation Pit PT01 Spoil

Photo 11: Percolation Pit PT02

Photo 12: Percolation Pit PT02 Spoil

Photo 13: Percolation Pit PT03

Photo 14: Percolation Pit PT03 Spoil

Photo 1: Soakaway Pit SA01

Photo 2: Soakaway Pit SA01 Spoil

Photo 3: Soakaway Pit SA02

Photo 4: Soakaway Pit SA02 Spoil

Photo 5: Soakaway Pit SA03

Photo 6: Soakaway Pit SA03 Spoil

Photo 7: Precolation Pit PT01

Photo 8: Percolation Pit PT01 Spoil

Photo 9: Percolation Pit PT02

Photo 10: Percolation Pit PT02 Spoil

Photo 11: Percolation Pit PT03

Photo 12: Percolation Pit PT03 Spoil

Appendix D – Soakaway and Percolation Test Results

Soakaway Tests Results
West Site

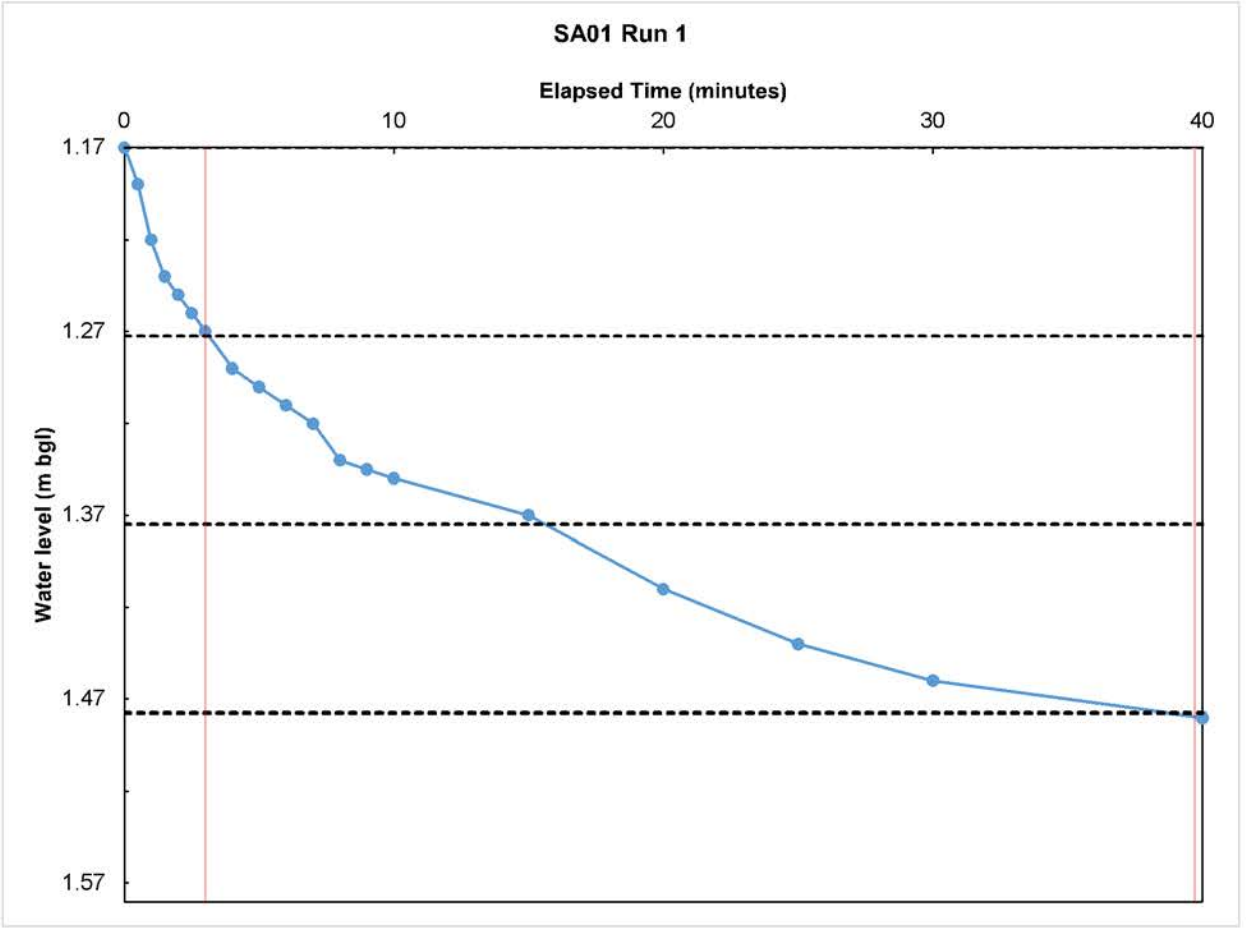
Project Name:	Land at Glewstone (West)
Project Number:	E24401
Date of Test:	22/09/2021
Test Location:	SA01 Run 1

The test pit was not filled with gravel.

Depth of pit (m):	1.58	
Effective depth (m):	0.41	
Width of pit (m):	0.40	
Length of pit (m):	1.20	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.10	
a_{s50} =	1.14	
t_{p75-25} =	36.7	minutes
***f* (soil infiltration rate) =**	**3.93E-05**	m/s

Time elapsed (mins)	Water level (m bgl)
0	1.17
0.5	1.19
1	1.22
1.5	1.24
2	1.25
2.5	1.26
3	1.27
4	1.29
5	1.30
6	1.31
7	1.32
8	1.34
9	1.35
10	1.35
15	1.37
20	1.41

Time elapsed (mins)	Water level (m bgl)
25	1.44
30	1.46
40	1.48



Soakaway Tests Results

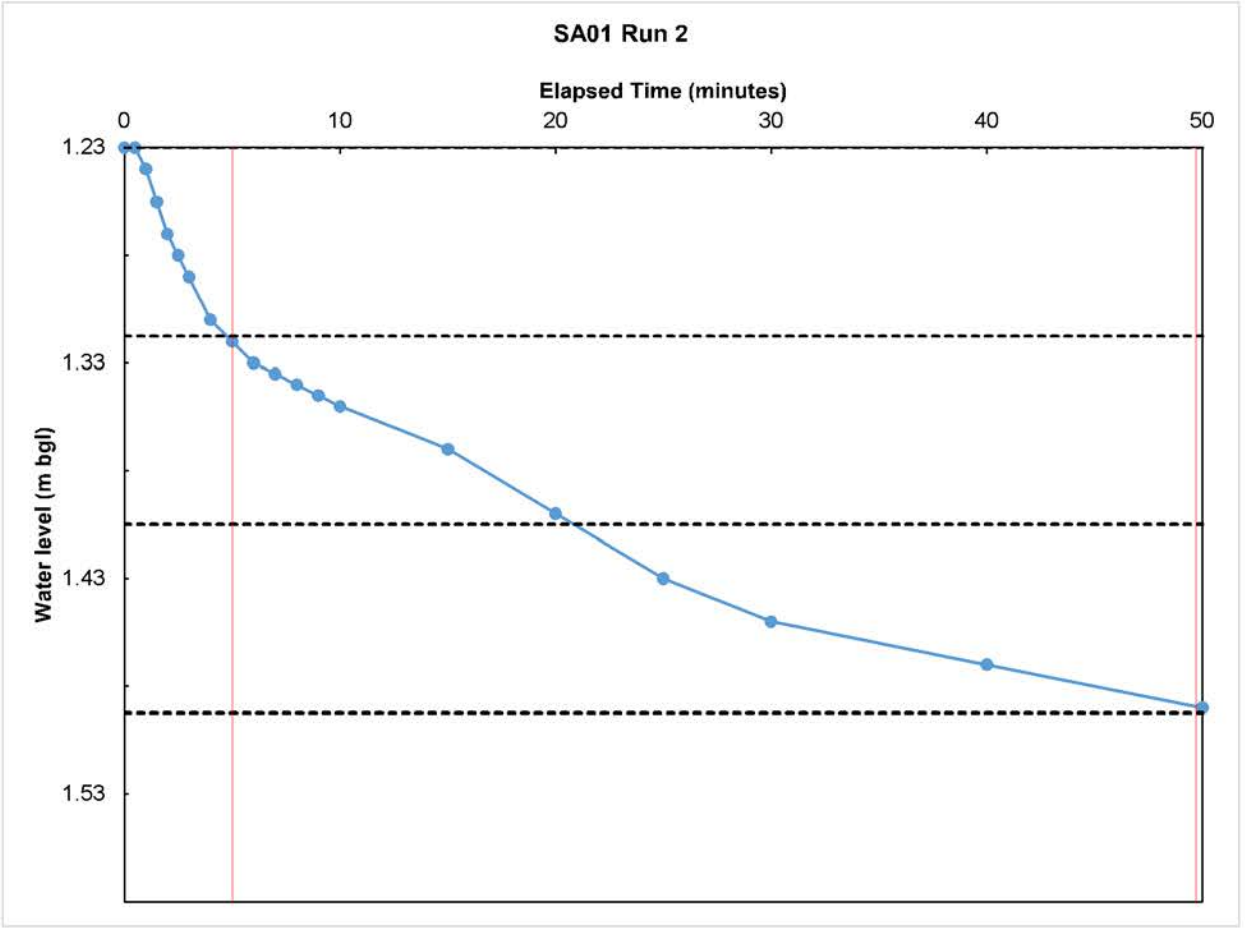
Project Name:	Land at Glewstone (West)
Project Number:	E24401
Date of Test:	22/09/2021
Test Location:	SA01 Run 2

The test pit was not filled with gravel.

Depth of pit (m):	1.58	
Effective depth (m):	0.35	
Width of pit (m):	0.40	
Length of pit (m):	1.20	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.08	
a_{s50} =	1.04	
t_{p75-25} =	44.7	minutes
***f* (soil infiltration rate) =**	**3.01E-05**	m/s

Time elapsed (mins)	Water level (m bgl)
0	1.23
0.5	1.23
1	1.24
1.5	1.26
2	1.27
2.5	1.28
3	1.29
4	1.31
5	1.32
6	1.33
7	1.34
8	1.34
9	1.35
10	1.35
15	1.37
20	1.40

Time elapsed (mins)	Water level (m bgl)
25	1.43
30	1.45
40	1.47
50	1.49



Soakaway Tests Results

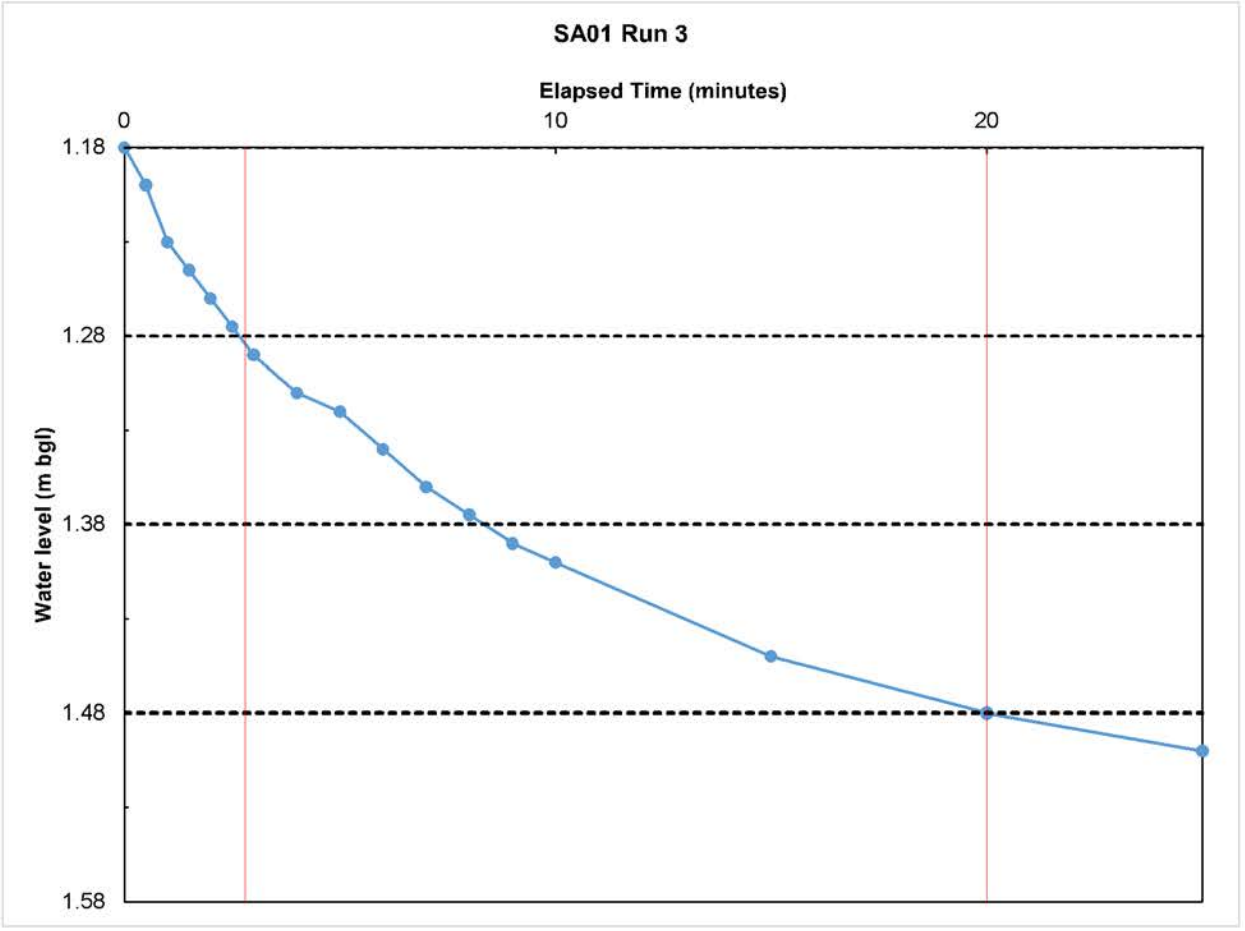
Project Name:	Land at Glewstone (West)
Project Number:	E24401
Date of Test:	22/09/2021
Test Location:	SA01 Run 3

The test pit was not filled with gravel.

Depth of pit (m):	1.58	
Effective depth (m):	0.40	
Width of pit (m):	0.40	
Length of pit (m):	1.20	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.10	
a_{s50} =	1.12	
t_{p75-25} =	17.2	minutes
***f* (soil infiltration rate) =**	**8.31E-05**	m/s

Time elapsed (mins)	Water level (m bgl)
0	1.18
0.5	1.20
1	1.23
1.5	1.25
2	1.26
2.5	1.28
3	1.29
4	1.31
5	1.32
6	1.34
7	1.36
8	1.38
9	1.39
10	1.40
15	1.45
20	1.48

Time elapsed (mins)	Water level (m bgl)
25	1.50



Soakaway Tests Results

Project Name:	Land at Glewstone (West)
Project Number:	E24401
Date of Test:	22/09/2021
Test Location:	SA02 Run 1

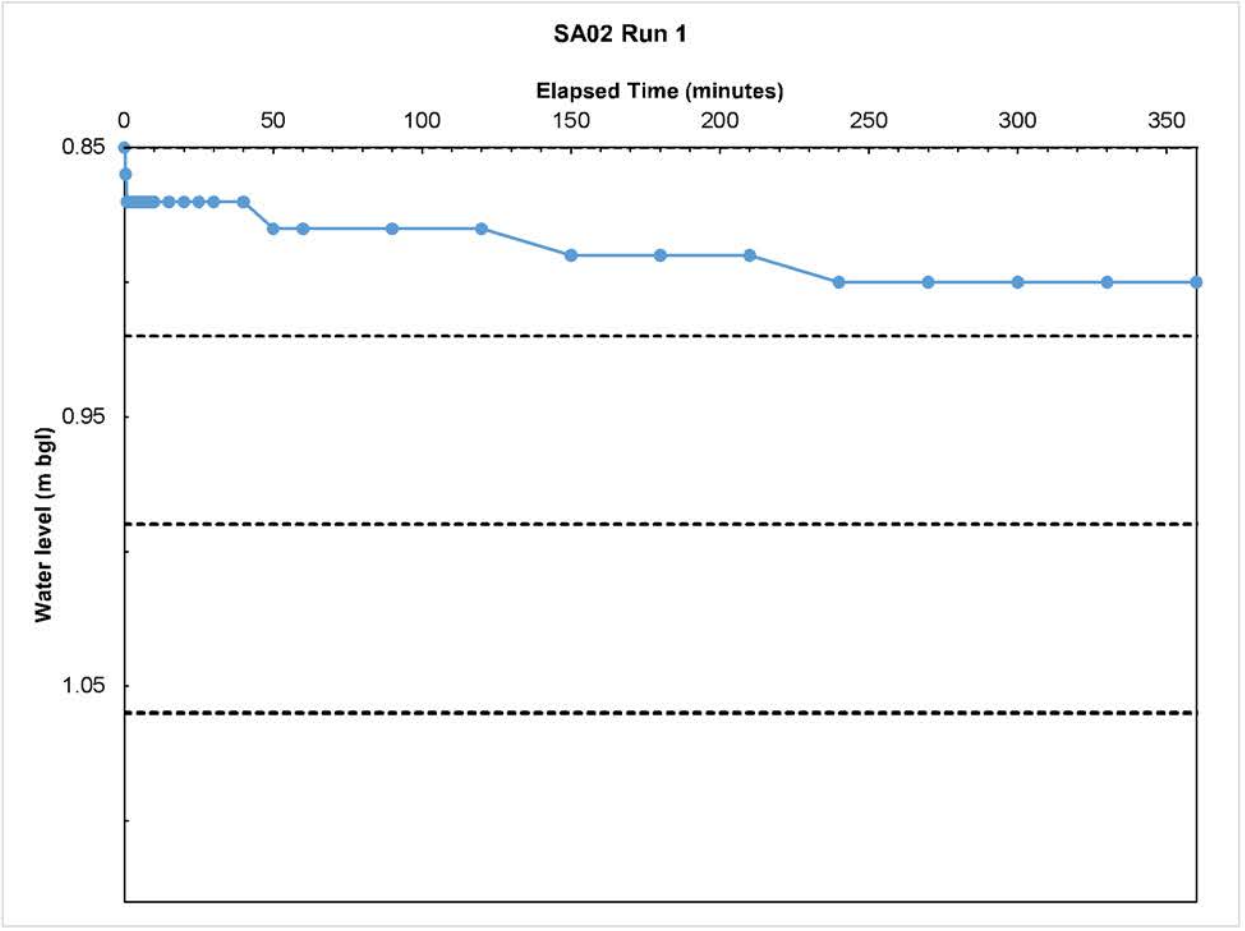
The test pit was not filled with gravel.

Depth of pit (m):	1.13	
Effective depth (m):	0.28	
Width of pit (m):	0.40	
Length of pit (m):	1.20	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.07	
a_{s50} =	0.93	
t_{p75-25} =	-	minutes
***f* (soil infiltration rate) =**	N/A	m/s

Permeability too low to calculate infiltration rate.

Time elapsed (mins)	Water level (m bgl)
0	0.85
0.5	0.86
1	0.87
1.5	0.87
2	0.87
2.5	0.87
3	0.87
4	0.87
5	0.87
6	0.87
7	0.87
8	0.87
9	0.87
10	0.87
15	0.87
20	0.87

Time elapsed (mins)	Water level (m bgl)
25	0.87
30	0.87
40	0.87
50	0.88
60	0.88
90	0.88
120	0.88
150	0.89
180	0.89
210	0.89
240	0.90
270	0.90
300	0.90
330	0.90
360	0.90



Soakaway Tests Results

Project Name:	Land at Glewstone (West)

Project Number:	E24401
Date of Test:	22/09/2021
Test Location:	SA03 Run 1

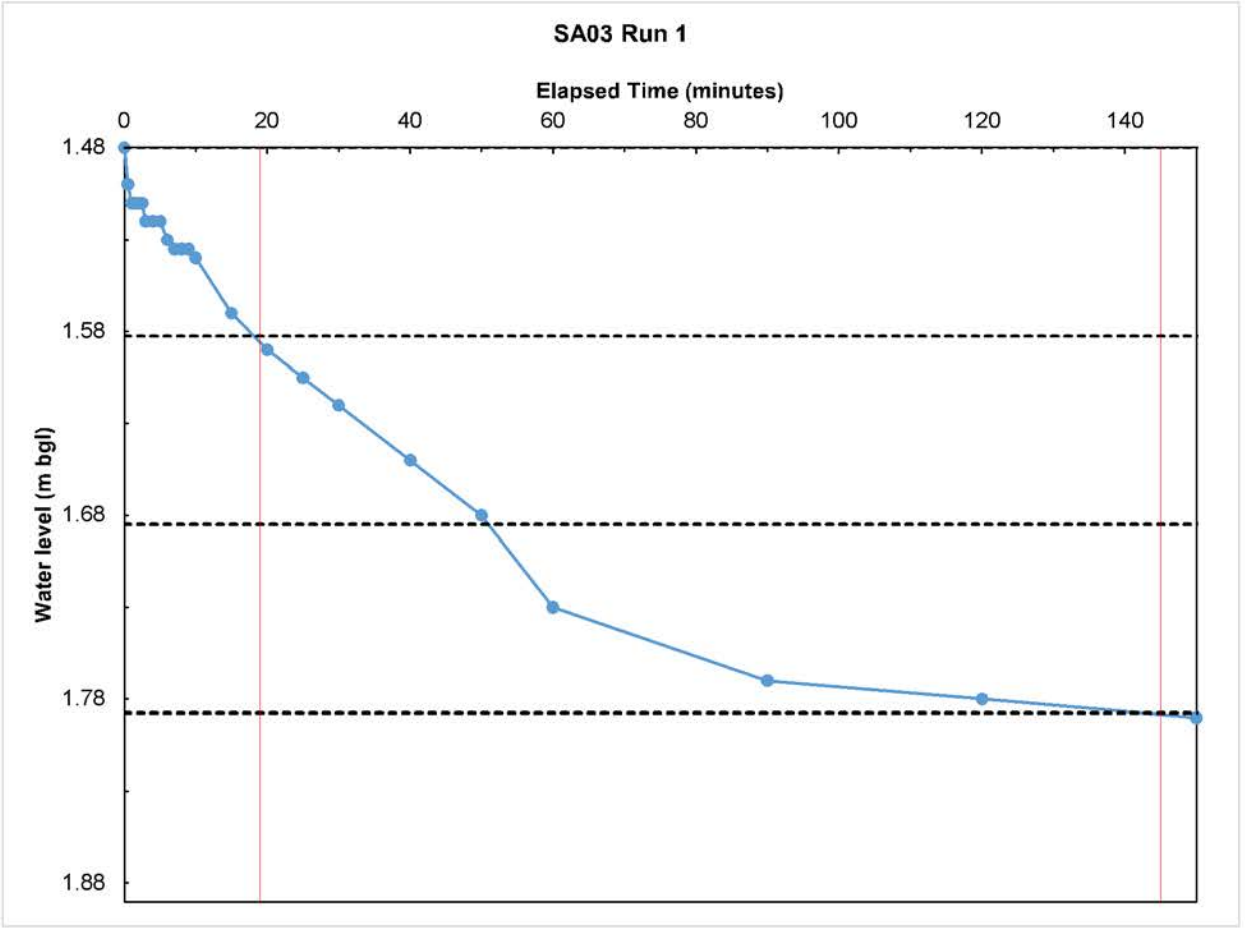
The test pit was not filled with gravel.

Depth of pit (m):	1.89
Effective depth (m):	0.41
Width of pit (m):	0.40
Length of pit (m):	1.20

Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.10	
a_{s50} =	1.14	
t_{p75-25} =	126	minutes
***f* (soil infiltration rate) =**	**1.15E-05**	m/s

Time elapsed (mins)	Water level (m bgl)
0	1.48
0.5	1.50
1	1.51
1.5	1.51
2	1.51
2.5	1.51
3	1.52
4	1.52
5	1.52
6	1.53
7	1.54
8	1.54
9	1.54
10	1.54
15	1.57
20	1.59

Time elapsed (mins)	Water level (m bgl)
25	1.61
30	1.62
40	1.65
50	1.68
60	1.73
90	1.77
120	1.78
150	1.79



Soakaway Tests Results

Project Name:	Land at Glewstone (West)

Project Number:	E24401
Date of Test:	22/09/2021
Test Location:	SA03 Run 2

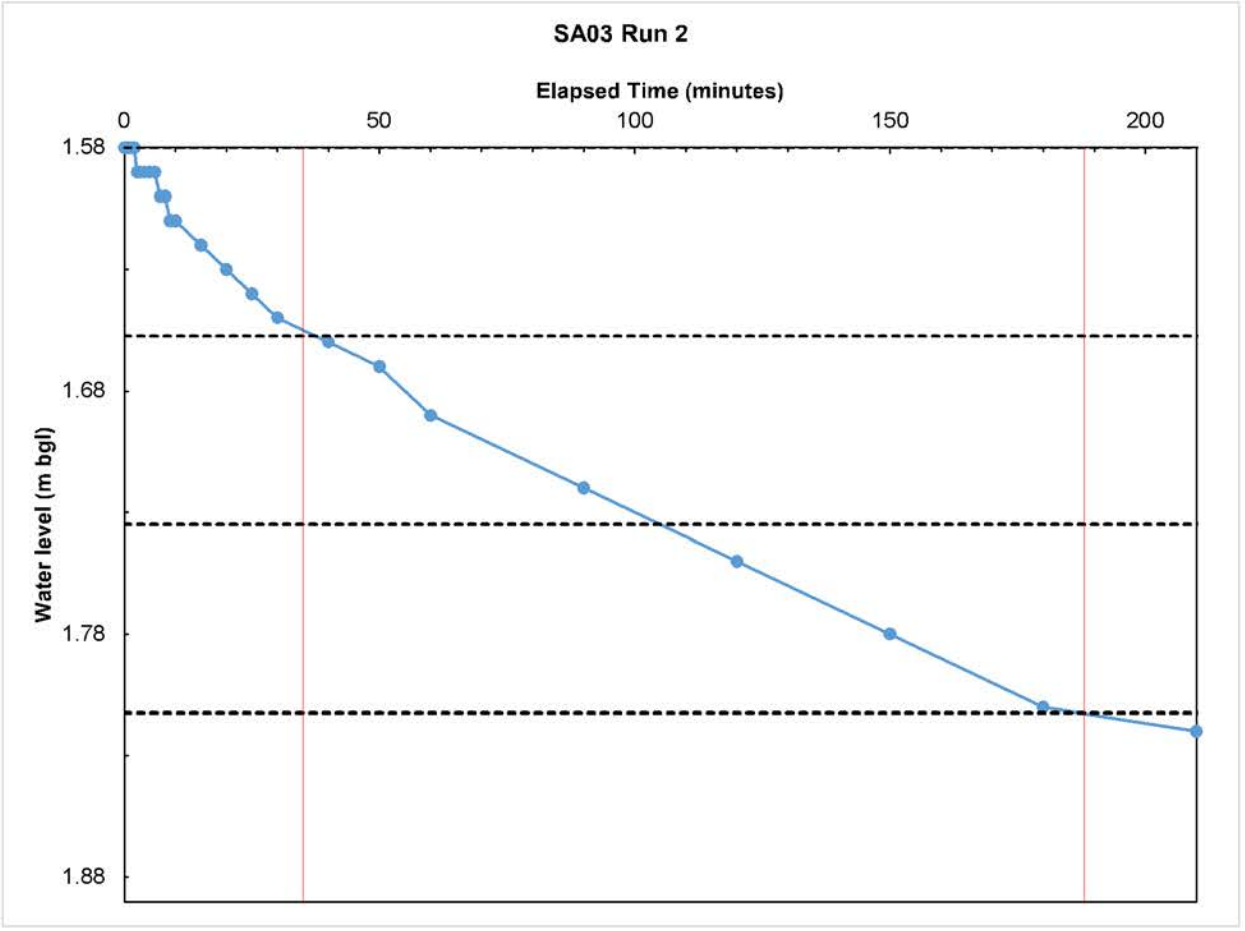
The test pit was not filled with gravel.

Depth of pit (m):	1.89
Effective depth (m):	0.31
Width of pit (m):	0.40
Length of pit (m):	1.20

Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.07	
a_{s50} =	0.98	
t_{p75-25} =	153	minutes
***f* (soil infiltration rate) =**	**8.30E-06**	m/s

Time elapsed (mins)	Water level (m bgl)
0	1.58
0.5	1.58
1	1.58
1.5	1.58
2	1.58
2.5	1.59
3	1.59
4	1.59
5	1.59
6	1.59
7	1.60
8	1.60
9	1.61
10	1.61
15	1.62
20	1.63

Time elapsed (mins)	Water level (m bgl)
25	1.64
30	1.65
40	1.66
50	1.67
60	1.69
90	1.72
120	1.75
150	1.78
180	1.81
210	1.82



Soakaway Tests Results

Project Name:	Land at Glewstone (West)

Project Number:	E24401
Date of Test:	22/09/2021
Test Location:	SA03 Run 3

The test pit was not filled with gravel.

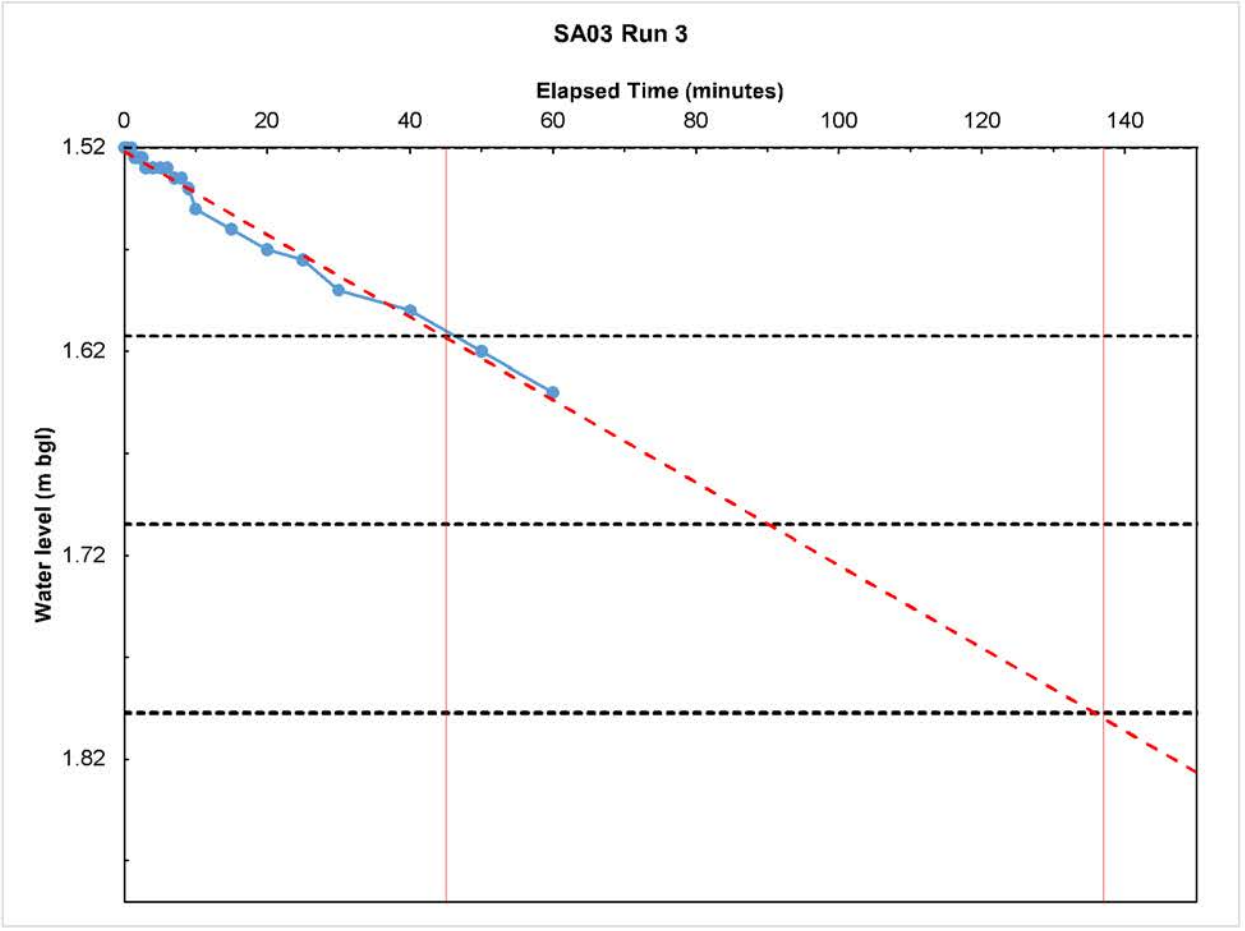
Depth of pit (m):	1.89
Effective depth (m):	0.37
Width of pit (m):	0.40
Length of pit (m):	1.20

Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.09	
a_{s50} =	1.07	
t_{p75-25} =	92	minutes
***f* (soil infiltration rate) =**	**1.50E-05**	m/s

Infiltration rate is extrapolated

Time elapsed (mins)	Water level (m bgl)
0	1.52
0.5	1.52
1	1.52
1.5	1.53
2	1.53
2.5	1.53
3	1.53
4	1.53
5	1.53
6	1.53
7	1.54
8	1.54
9	1.54
10	1.55
15	1.56
20	1.57

Time elapsed (mins)	Water level (m bgl)
25	1.58
30	1.59
40	1.60
50	1.62
60	1.64



Soakaway Tests Results

Project Name:	Land at Glewstone (West)
Project Number:	E24401
Date of Test:	22/09/2021
Test Location:	PT01 Run 1

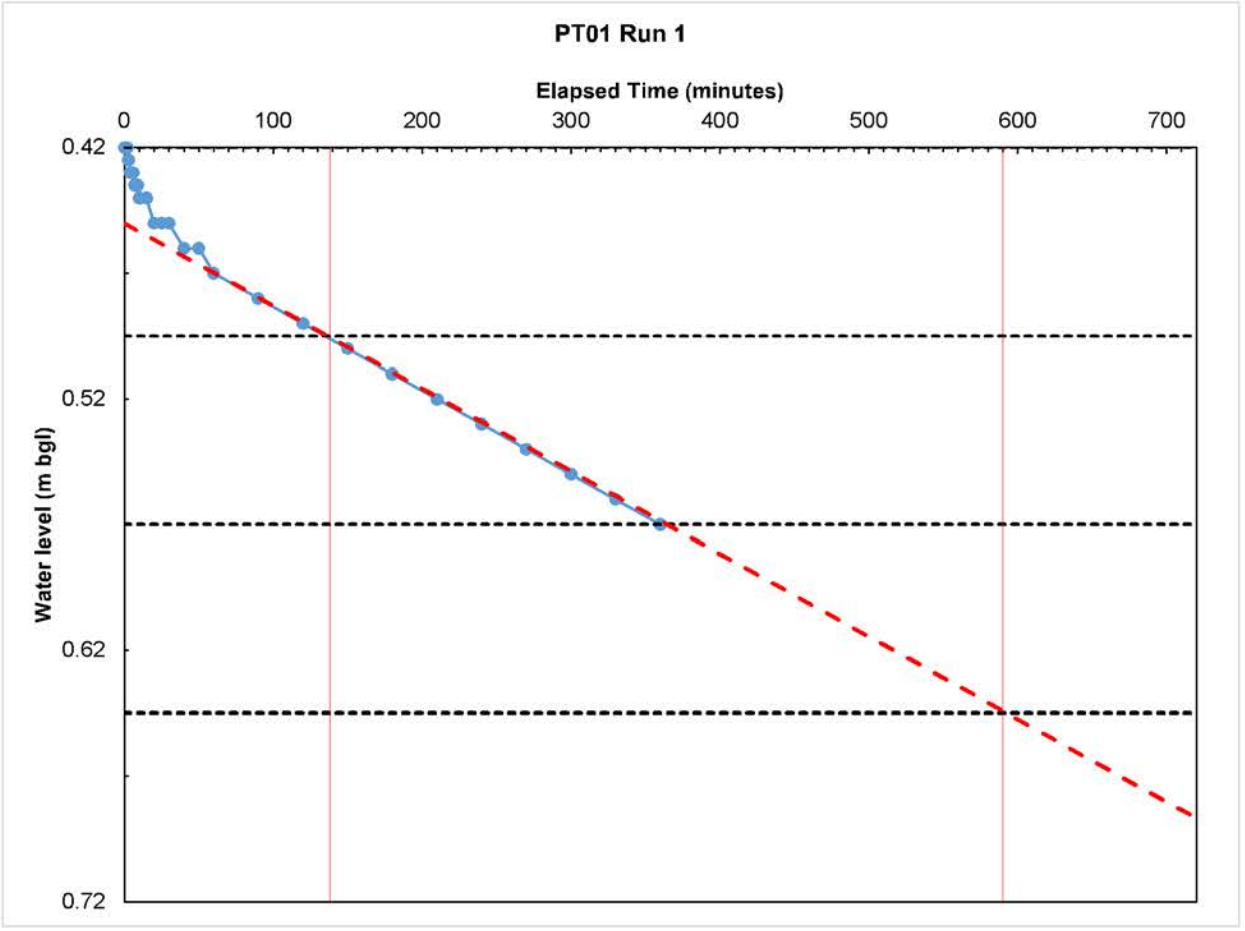
The test pit was not filled with gravel.

Depth of pit (m):	0.72	
Effective depth (m):	0.30	
Width of pit (m):	0.30	
Length of pit (m):	0.30	
Time taken to fill pit (s)	10	
Water Added to pit (l)	27	
V_{p75-25} =	0.01	
a_{s50} =	0.27	
t_{p75-25} =	452	minutes
***f* (soil infiltration rate) =**	**1.84E-06**	m/s

Infiltration rate is extrapolated

Time elapsed (mins)	Water level (m bgl)
0	0.42
0.5	0.42
1	0.42
1.5	0.42
2	0.42
2.5	0.43
3	0.43
4	0.43
5	0.43
6	0.43
7	0.44
8	0.44
9	0.44
10	0.44
15	0.44
20	0.45

Time elapsed (mins)	Water level (m bgl)
25	0.45
30	0.45
40	0.46
50	0.46
60	0.47
90	0.48
120	0.49
150	0.50
180	0.51
210	0.52
240	0.53
270	0.54
300	0.55
330	0.56
360	0.57



Soakaway Tests Results

Project Name:	Land at Glewstone (West)
Project Number:	E24401
Date of Test:	22/09/2021
Test Location:	PT02 Run 1

The test pit was not filled with gravel.

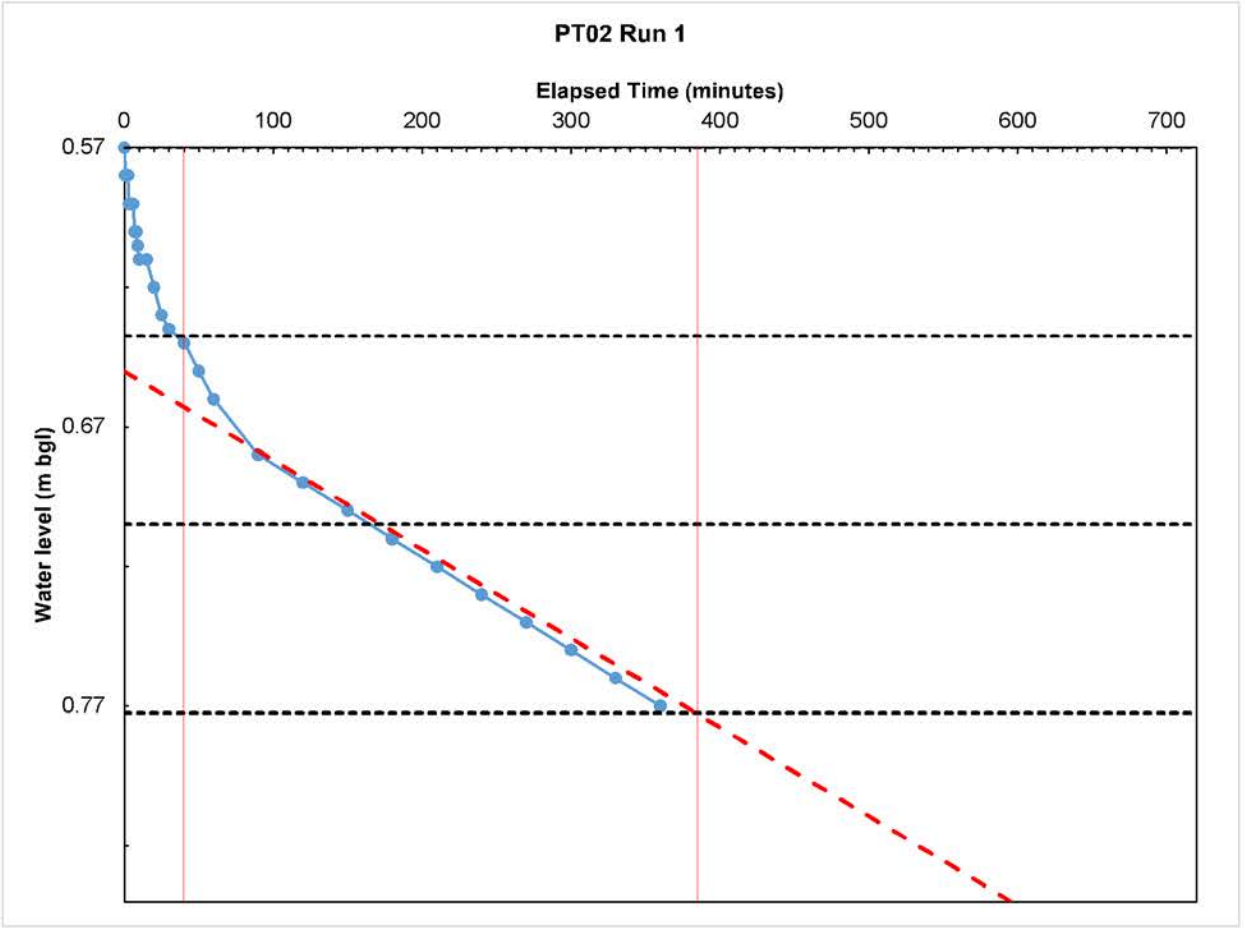
Depth of pit (m):	0.84
Effective depth (m):	0.27
Width of pit (m):	0.30
Length of pit (m):	0.30

Time taken to fill pit (s)	10	
Water Added to pit (l)	27	
V_{p75-25} =	0.01	
a_{s50} =	0.25	
t_{p75-25} =	345	minutes
***f* (soil infiltration rate) =**	**2.33E-06**	m/s

Infiltration rate is extrapolated

Time elapsed (mins)	Water level (m bgl)
0	0.57
0.5	0.58
1	0.58
1.5	0.58
2	0.58
2.5	0.58
3	0.59
4	0.59
5	0.59
6	0.59
7	0.60
8	0.60
9	0.61
10	0.61
15	0.61
20	0.62

Time elapsed (mins)	Water level (m bgl)
25	0.63
30	0.64
40	0.64
50	0.65
60	0.66
90	0.68
120	0.69
150	0.70
180	0.71
210	0.72
240	0.73
270	0.74
300	0.75
330	0.76
360	0.77



Soakaway Tests Results

Project Name:	Land at Glewstone (West)
Project Number:	E24401
Date of Test:	22/09/2021
Test Location:	PT03 Run 1

The test pit was not filled with gravel.

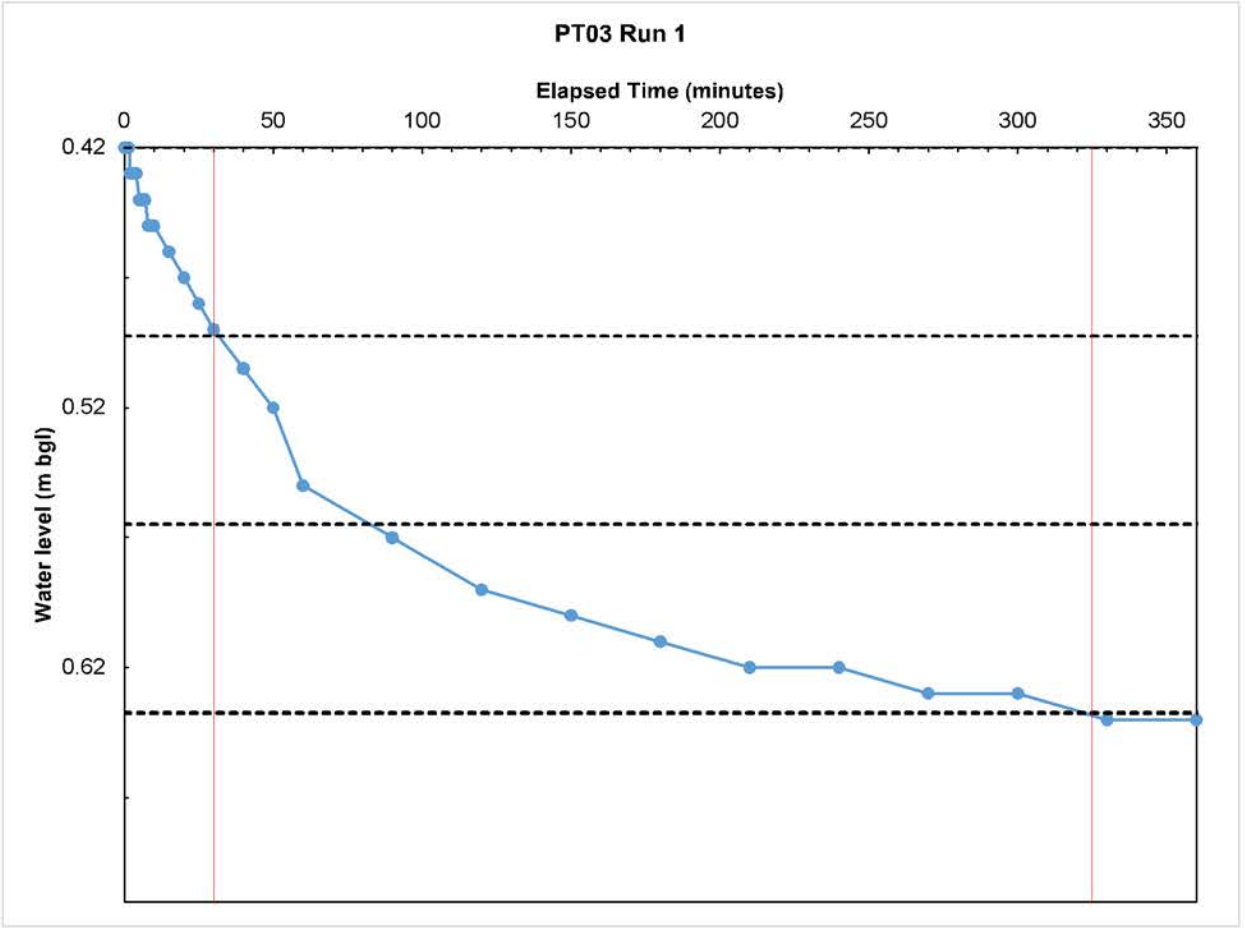
Depth of pit (m):	0.71
Effective depth (m):	0.29
Width of pit (m):	0.30
Length of pit (m):	0.30

Time taken to fill pit (s)	10	
Water Added to pit (l)	27	
V_{p75-25} =	0.01	
a_{s50} =	0.26	
t_{p75-25} =	295	minutes
***f* (soil infiltration rate) =**	**2.79E-06**	m/s

Infiltration rate is extrapolated

Time elapsed (mins)	Water level (m bgl)
0	0.42
0.5	0.42
1	0.42
1.5	0.42
2	0.43
2.5	0.43
3	0.43
4	0.43
5	0.44
6	0.44
7	0.44
8	0.45
9	0.45
10	0.45
15	0.46
20	0.47

Time elapsed (mins)	Water level (m bgl)
25	0.48
30	0.49
40	0.51
50	0.52
60	0.55
90	0.57
120	0.59
150	0.60
180	0.61
210	0.62
240	0.62
270	0.63
300	0.63
330	0.64
360	0.64



Percolation Test Results

Hole ID	Test Date	Test No.	Time at 75% Full (tp75) (mins)	Time at 25% Full (tp25) (mins)	Ellapsed Time		Percolation Value (Vp) (s/mm)	Comments
					Minutes (mins)	Seconds (s)		
PT01	29/09/2021	1	138	590	452	27120	180.8	
						Average Vp for Test Pit PT01:	**180.8**	Rate is extrapolated
PT02	29/09/2021	1	40	385	345	20700	138	
						Average Vp for Test Pit PT02:	**138**	Rate is extrapolated
PT03	29/09/2021	1	30	325	295	17700	118	
						Average Vp for Test Pit PT03:	**118**	

Soakaway Tests Results

Project Name:	Land at Glewstone (East)

Project Number:	E24401
Date of Test:	18/10/2021
Test Location:	SA01 Run 1

The test pit was not filled with gravel.

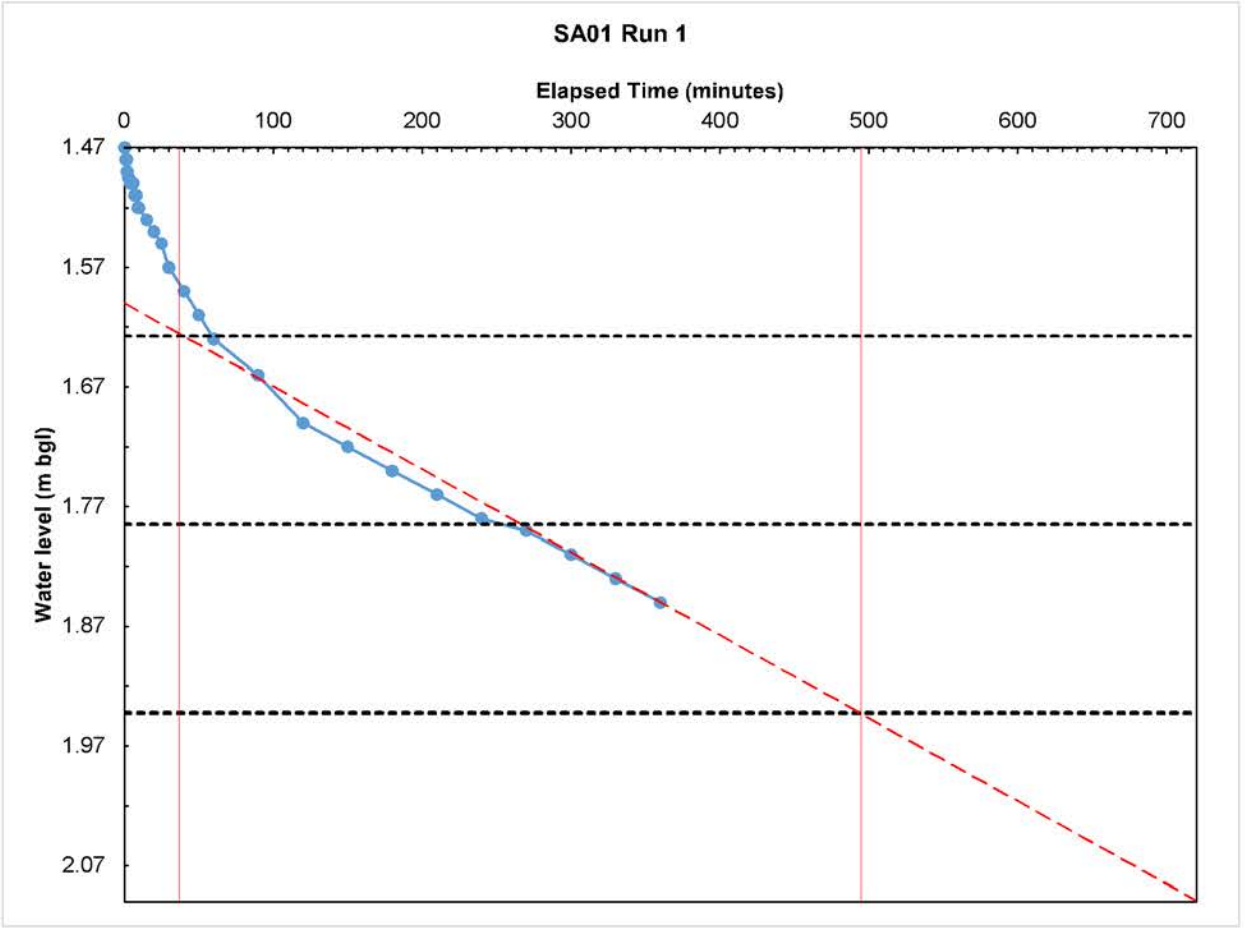
Depth of pit (m):	2.10
Effective depth (m):	0.63
Width of pit (m):	0.30
Length of pit (m):	1.20

Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.11	
a_{s50} =	1.31	
t_{p75-25} =	458	minutes
***f* (soil infiltration rate) =**	**3.16E-06**	m/s

Infiltration rate is extrapolated

Time elapsed (mins)	Water level (m bgl)
0	1.47
0.5	1.47
1	1.48
1.5	1.48
2	1.49
2.5	1.50
3	1.50
4	1.50
5	1.50
6	1.50
7	1.51
8	1.51
9	1.52
10	1.52
15	1.53
20	1.54

Time elapsed (mins)	Water level (m bgl)
25	1.55
30	1.57
40	1.59
50	1.61
60	1.63
90	1.66
120	1.70
150	1.72
180	1.74
210	1.76
240	1.78
270	1.79
300	1.81
330	1.83
360	1.85



Soakaway Tests Results

Project Name:	Land at Glewstone (East)

Project Number:	E24401
Date of Test:	18/10/2021
Test Location:	SA02 Run 1

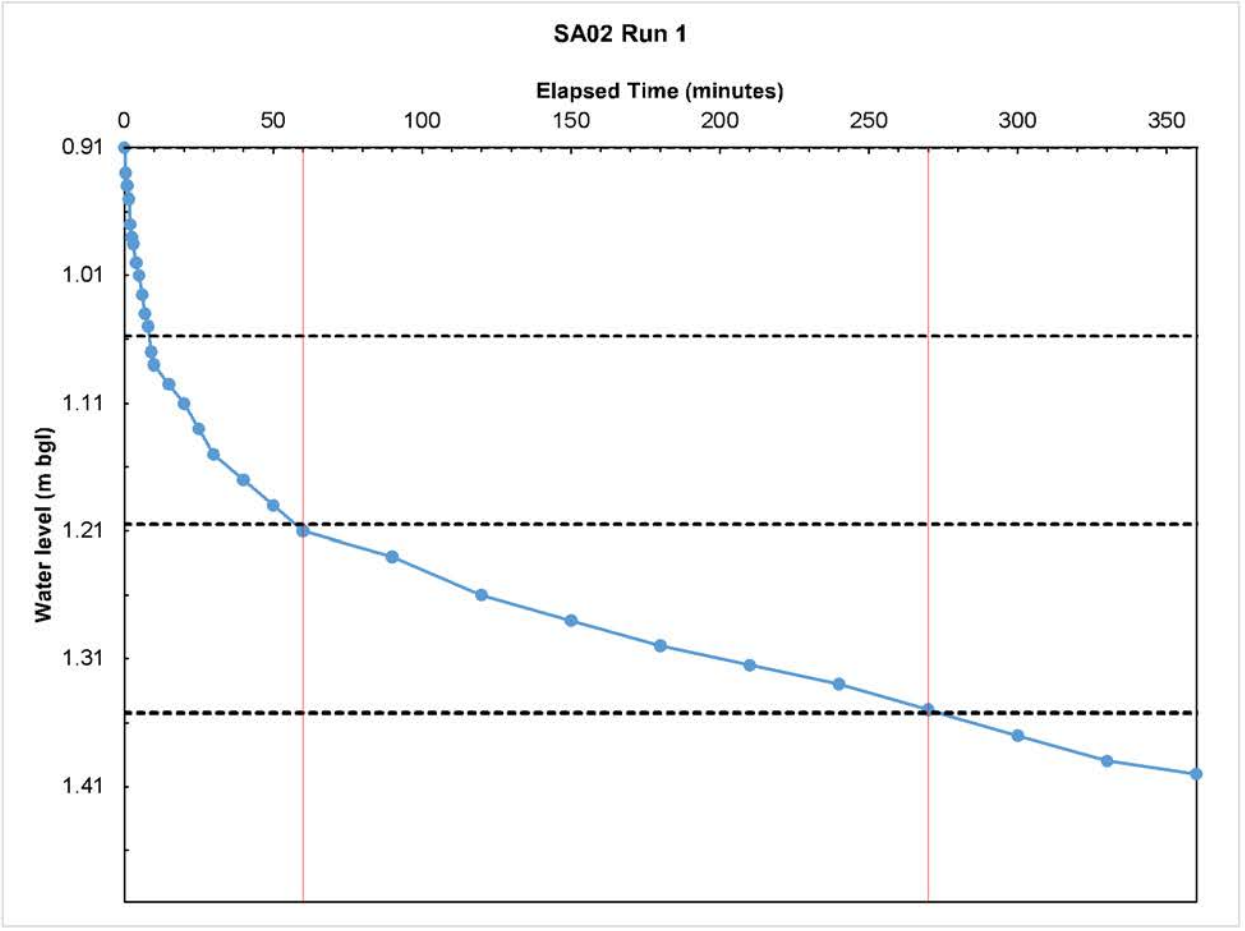
The test pit was not filled with gravel.

Depth of pit (m):	1.50
Effective depth (m):	0.59
Width of pit (m):	0.30
Length of pit (m):	1.20

Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.11	
a_{s50} =	1.25	
t_{p75-25} =	210	minutes
***f* (soil infiltration rate) =**	**6.77E-06**	m/s

Time elapsed (mins)	Water level (m bgl)
0	0.91
0.5	0.93
1	0.94
1.5	0.95
2	0.97
2.5	0.98
3	0.99
4	1.00
5	1.01
6	1.03
7	1.04
8	1.05
9	1.07
10	1.08
15	1.10
20	1.11

Time elapsed (mins)	Water level (m bgl)
25	1.13
30	1.15
40	1.17
50	1.19
60	1.21
90	1.23
120	1.26
150	1.28
180	1.30
210	1.32
240	1.33
270	1.35
300	1.37
330	1.39
360	1.40



Soakaway Tests Results

Project Name:	Land at Glewstone (East)
Project Number:	E24401
Date of Test:	18/10/2021
Test Location:	SA03 Run 1

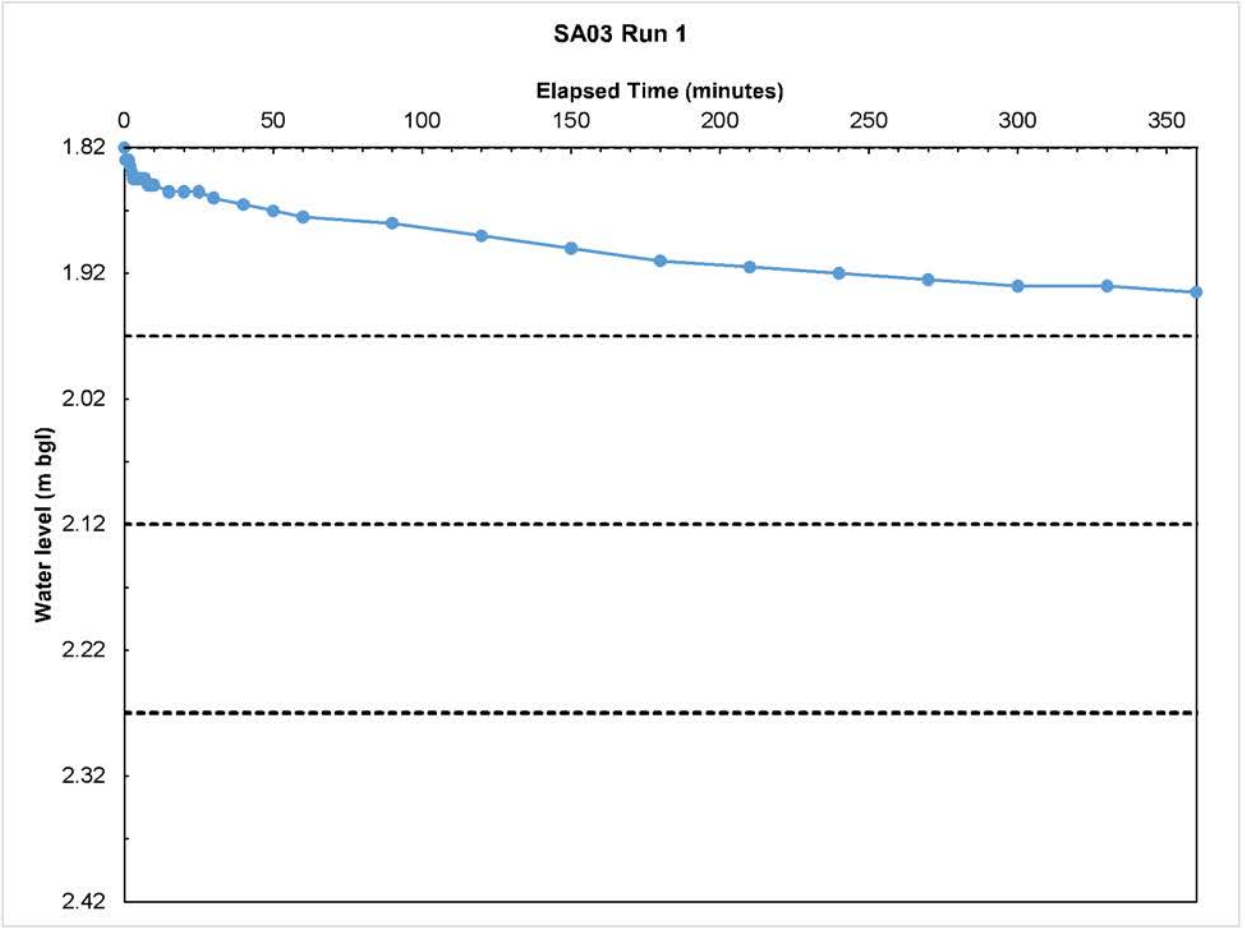
The test pit was not filled with gravel.

Depth of pit (m):	2.42	
Effective depth (m):	0.60	
Width of pit (m):	0.30	
Length of pit (m):	1.20	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.11	
a_{s50} =	1.26	
t_{p75-25} =	-	minutes
***f* (soil infiltration rate) =**	**NA**	m/s

Permeability too low to calculate infiltration rate.

Time elapsed (mins)	Water level (m bgl)
0	1.82
0.5	1.83
1	1.83
1.5	1.83
2	1.84
2.5	1.84
3	1.85
4	1.85
5	1.85
6	1.85
7	1.85
8	1.85
9	1.85
10	1.85
15	1.86
20	1.86

Time elapsed (mins)	Water level (m bgl)
25	1.86
30	1.86
40	1.87
50	1.87
60	1.88
90	1.88
120	1.89
150	1.90
180	1.91
210	1.92
240	1.92
270	1.93
300	1.93
330	1.93
360	1.94



Soakaway Tests Results

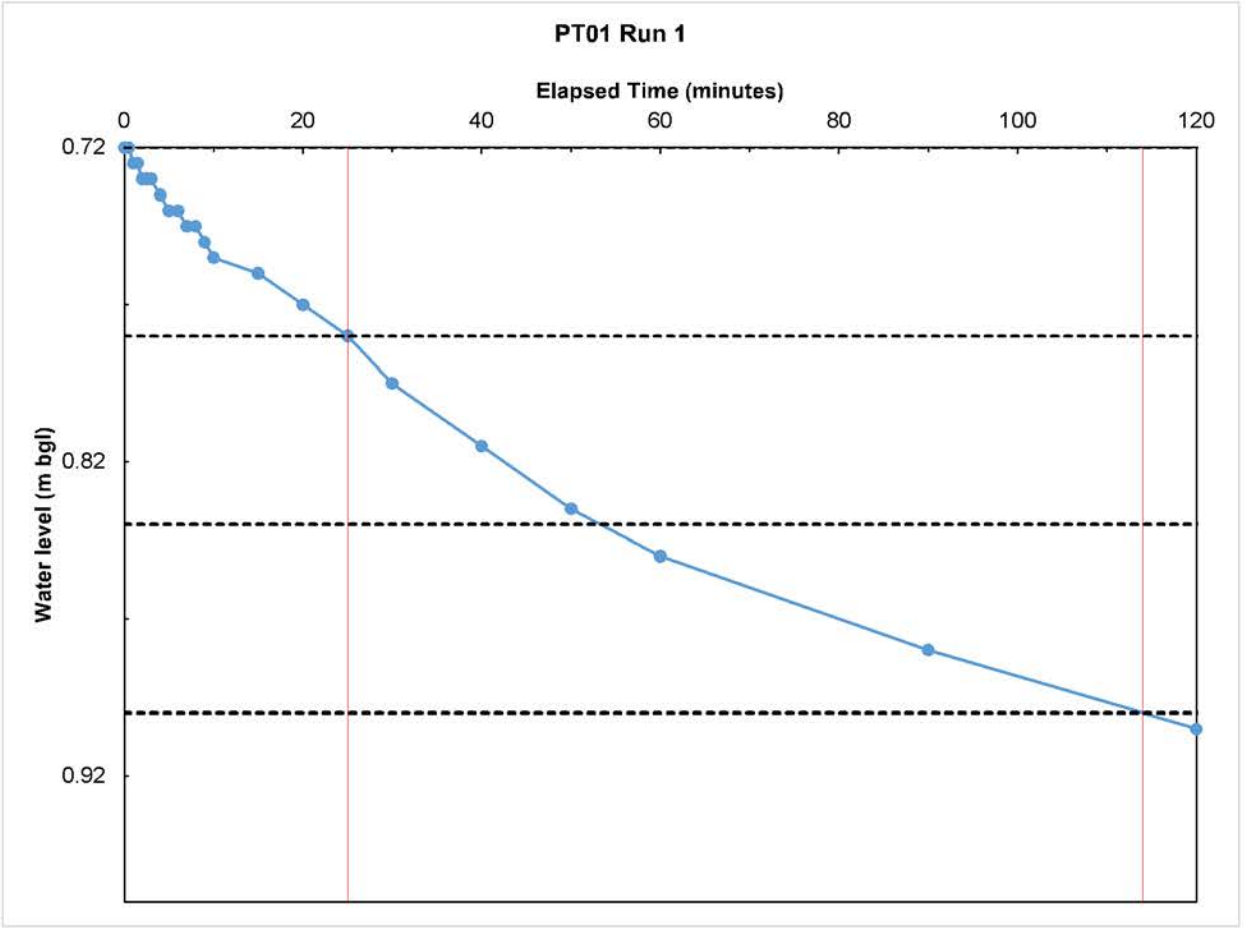
Project Name:	Land at Glewstone (East)
Project Number:	E24401
Date of Test:	18/10/2021
Test Location:	PT01 Run 1

The test pit was not filled with gravel.

Depth of pit (m):	0.96	
Effective depth (m):	0.24	
Width of pit (m):	0.30	
Length of pit (m):	0.30	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.01	
a_{s50} =	0.23	
t_{p75-25} =	89	minutes
***f* (soil infiltration rate) =**	**8.64E-06**	m/s

Time elapsed (mins)	Water level (m bgl)
0	0.72
0.5	0.72
1	0.73
1.5	0.73
2	0.73
2.5	0.73
3	0.73
4	0.74
5	0.74
6	0.74
7	0.75
8	0.75
9	0.75
10	0.76
15	0.76
20	0.77

Time elapsed (mins)	Water level (m bgl)
25	0.78
30	0.80
40	0.82
50	0.84
60	0.85
90	0.88
120	0.91



Soakaway Tests Results

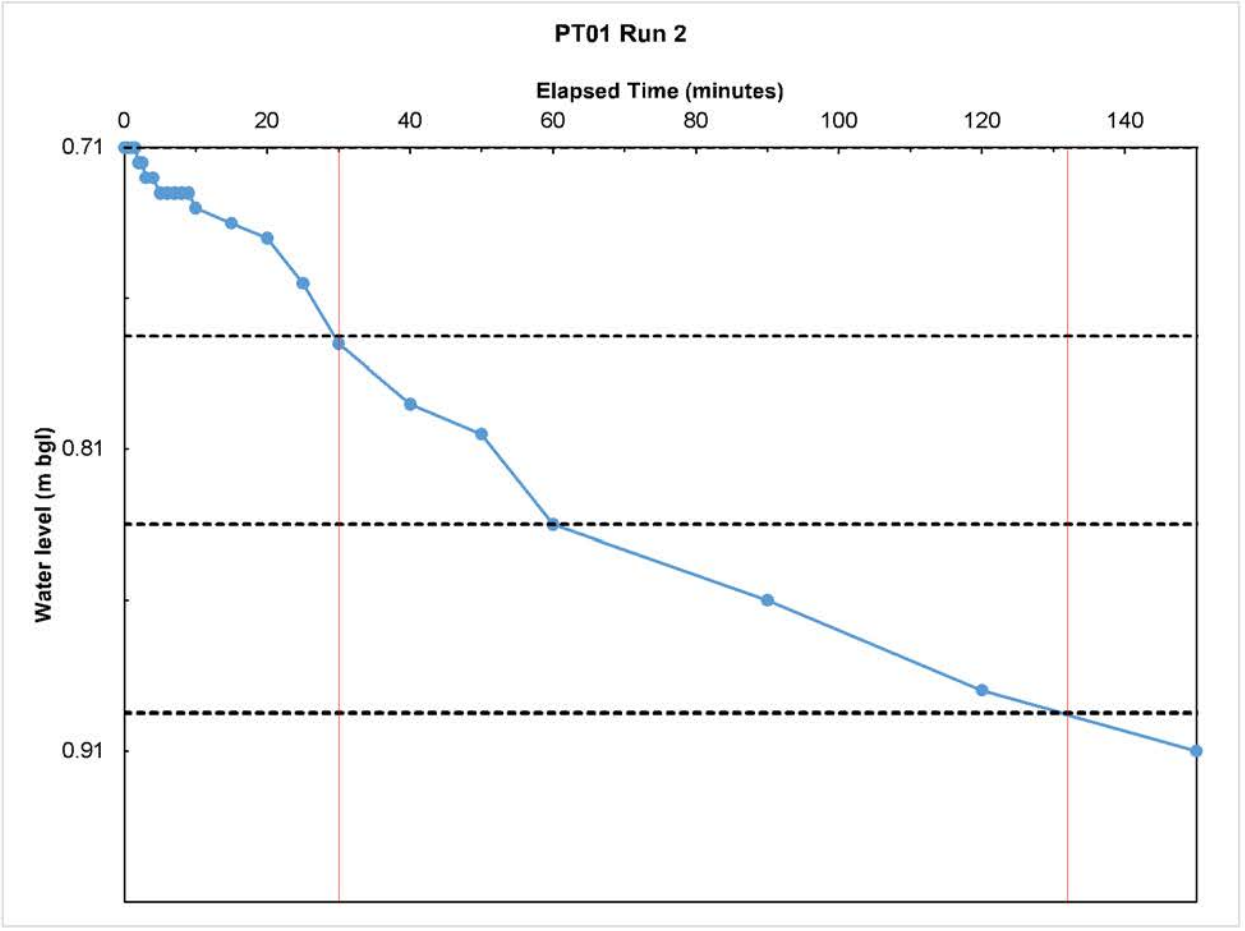
Project Name:	Land at Glewstone (East)
Project Number:	E24401
Date of Test:	18/10/2021
Test Location:	PT01 Run 2

The test pit was not filled with gravel.

Depth of pit (m):	0.96	
Effective depth (m):	0.25	
Width of pit (m):	0.30	
Length of pit (m):	0.30	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.01	
a_{s50} =	0.24	
t_{p75-25} =	102	minutes
***f* (soil infiltration rate) =**	**7.66E-06**	m/s

Time elapsed (mins)	Water level (m bgl)
0	0.71
0.5	0.71
1	0.71
1.5	0.71
2	0.72
2.5	0.72
3	0.72
4	0.72
5	0.73
6	0.73
7	0.73
8	0.73
9	0.73
10	0.73
15	0.74
20	0.74

Time elapsed (mins)	Water level (m bgl)
25	0.76
30	0.78
40	0.80
50	0.81
60	0.84
90	0.86
120	0.89
150	0.91



Soakaway Tests Results

Project Name:	Land at Glewstone (East)
Project Number:	E24401
Date of Test:	18/10/2021
Test Location:	PT01 Run 3

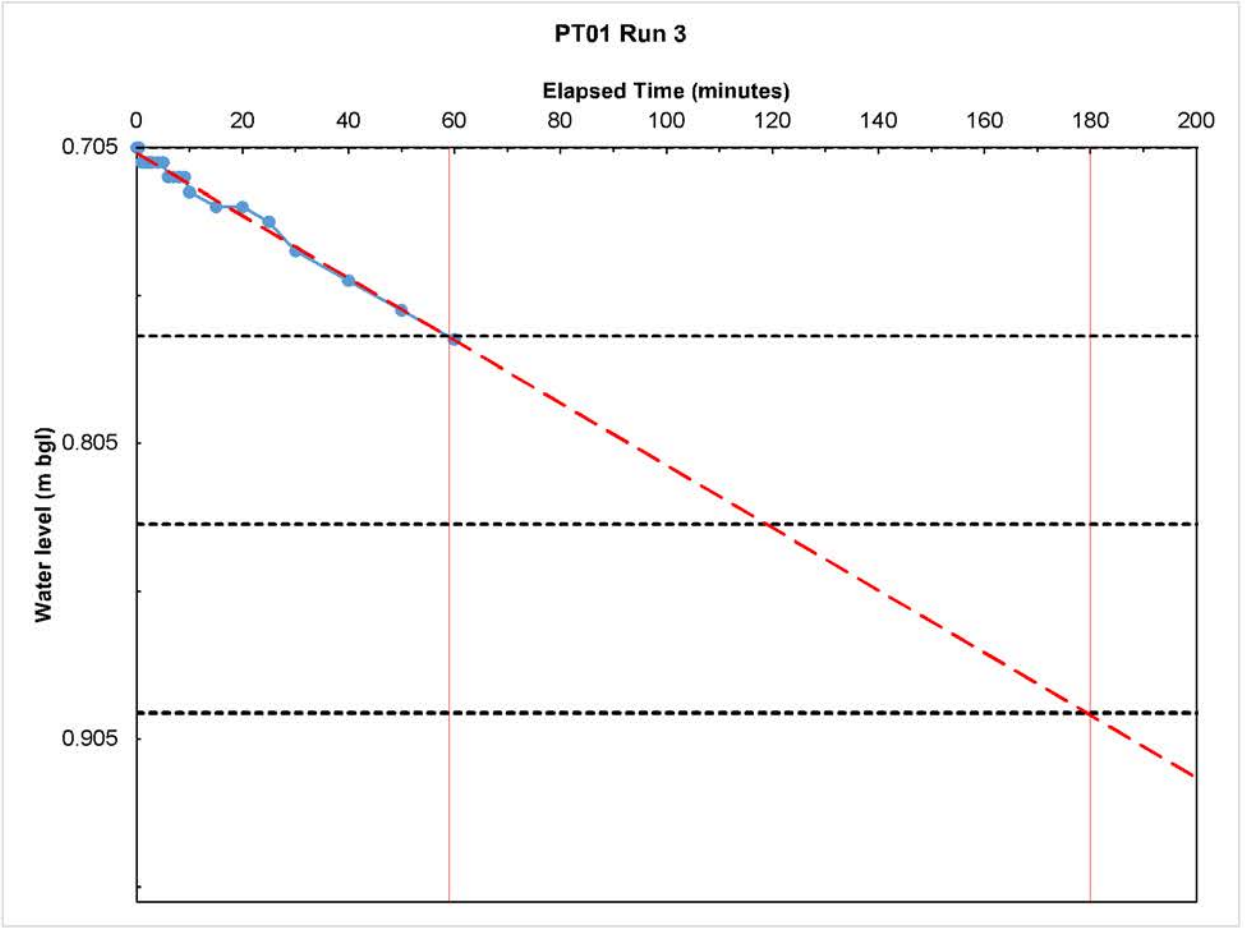
The test pit was not filled with gravel.

Depth of pit (m):	0.96	
Effective depth (m):	0.26	
Width of pit (m):	0.30	
Length of pit (m):	0.30	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.01	
a_{s50} =	0.24	
t_{p75-25} =	121	minutes
***f* (soil infiltration rate) =**	**6.50E-06**	m/s

Infiltration Rate is Extrapolated

Time elapsed (mins)	Water level (m bgl)
0	0.71
0.5	0.71
1	0.71
1.5	0.71
2	0.71
2.5	0.71
3	0.71
4	0.71
5	0.71
6	0.72
7	0.72
8	0.72
9	0.72
10	0.72
15	0.73
20	0.73

Time elapsed (mins)	Water level (m bgl)
25	0.73
30	0.74
40	0.75
50	0.76
60	0.77



Soakaway Tests Results

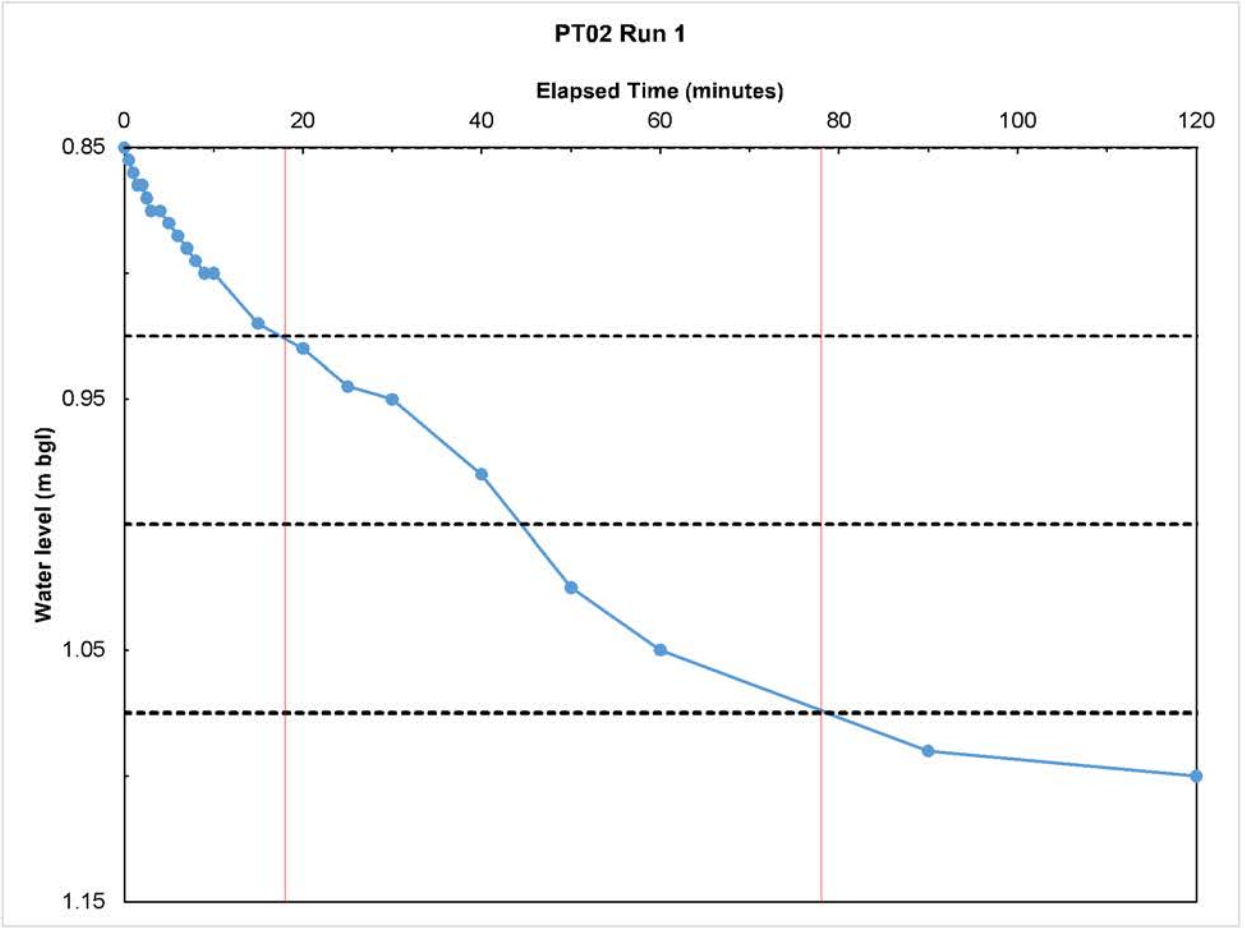
Project Name:	Land at Glewstone (East)
Project Number:	E24401
Date of Test:	18/10/2021
Test Location:	PT02 Run 1

The test pit was not filled with gravel.

Depth of pit (m):	1.15	
Effective depth (m):	0.30	
Width of pit (m):	0.30	
Length of pit (m):	0.30	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.01	
a_{s50} =	0.27	
t_{p75-25} =	60	minutes
***f* (soil infiltration rate) =**	**1.39E-05**	m/s

Time elapsed (mins)	Water level (m bgl)
0	0.85
0.5	0.86
1	0.86
1.5	0.87
2	0.87
2.5	0.87
3	0.88
4	0.88
5	0.88
6	0.89
7	0.89
8	0.90
9	0.90
10	0.90
15	0.92
20	0.93

Time elapsed (mins)	Water level (m bgl)
25	0.95
30	0.95
40	0.98
50	1.03
60	1.05
90	1.09
120	1.10



Soakaway Tests Results

Project Name:	Land at Glewstone (East)
Project Number:	E24401
Date of Test:	18/10/2021
Test Location:	PT02 Run 1

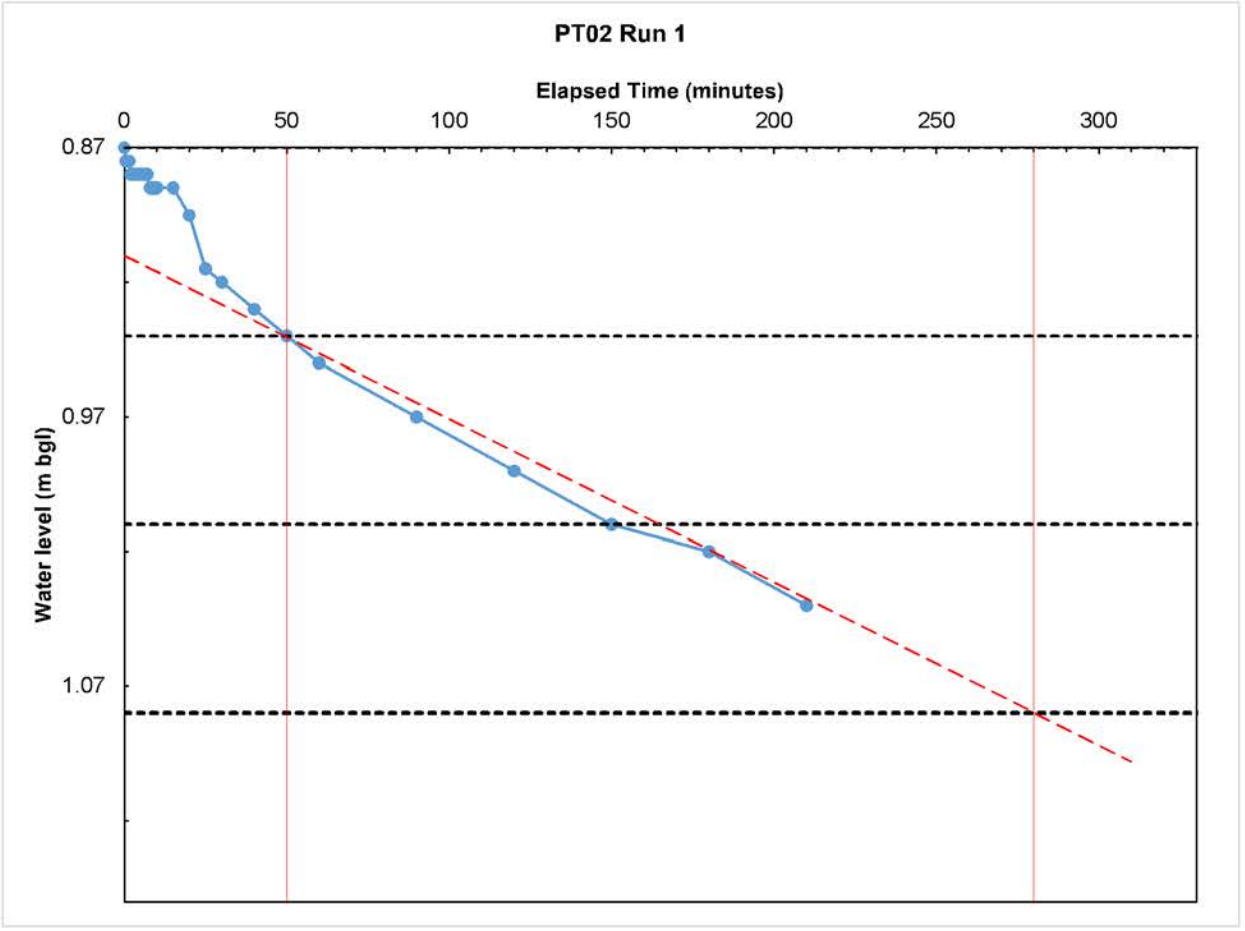
The test pit was not filled with gravel.

Depth of pit (m):	1.15	
Effective depth (m):	0.28	
Width of pit (m):	0.30	
Length of pit (m):	0.30	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.01	
a_{s50} =	0.26	
t_{p75-25} =	230	minutes
***f* (soil infiltration rate) =**	**3.54E-06**	m/s

Infiltration rate is extrapolated.

Time elapsed (mins)	Water level (m bgl)
0	0.87
0.5	0.88
1	0.88
1.5	0.88
2	0.88
2.5	0.88
3	0.88
4	0.88
5	0.88
6	0.88
7	0.88
8	0.89
9	0.89
10	0.89
15	0.89
20	0.90

Time elapsed (mins)	Water level (m bgl)
25	0.92
30	0.92
40	0.93
50	0.94
60	0.95
90	0.97
120	0.99
150	1.01
180	1.02
210	1.04



Soakaway Tests Results

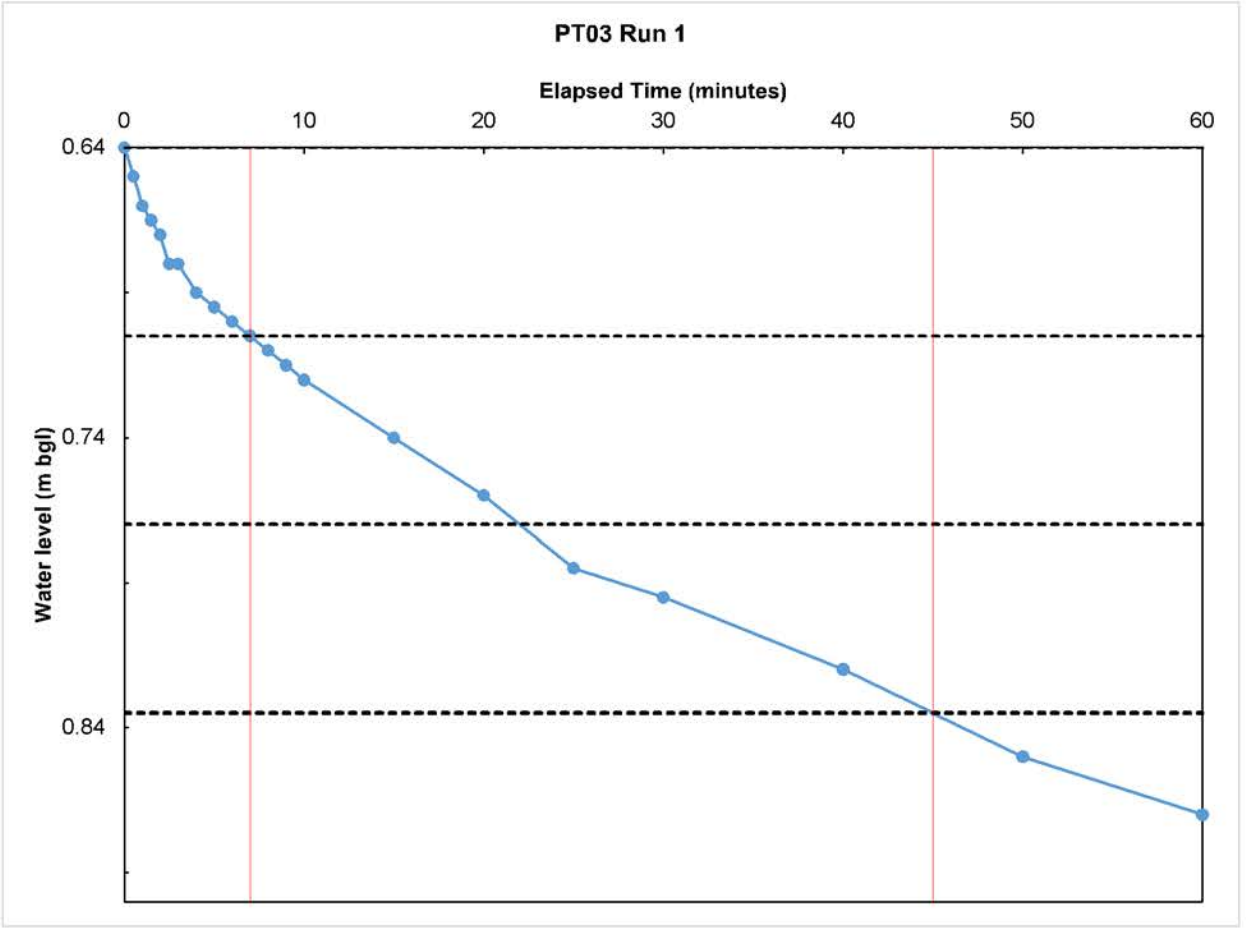
Project Name:	Land at Glewstone (East)
Project Number:	E24401
Date of Test:	18/10/2021
Test Location:	PT03 Run 1

The test pit was not filled with gravel.

Depth of pit (m):	0.90	
Effective depth (m):	0.26	
Width of pit (m):	0.30	
Length of pit (m):	0.30	
Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.01	
a_{s50} =	0.25	
t_{p75-25} =	38	minutes
***f* (soil infiltration rate) =**	**2.09E-05**	m/s

Time elapsed (mins)	Water level (m bgl)
0	0.64
0.5	0.65
1	0.66
1.5	0.67
2	0.67
2.5	0.68
3	0.68
4	0.69
5	0.70
6	0.70
7	0.71
8	0.71
9	0.72
10	0.72
15	0.74
20	0.76

Time elapsed (mins)	Water level (m bgl)
25	0.79
30	0.80
40	0.82
50	0.85
60	0.87



Soakaway Tests Results

Project Name:	Land at Glewstone (East)

Project Number:	E24401
Date of Test:	18/10/2021
Test Location:	PT03 Run 2

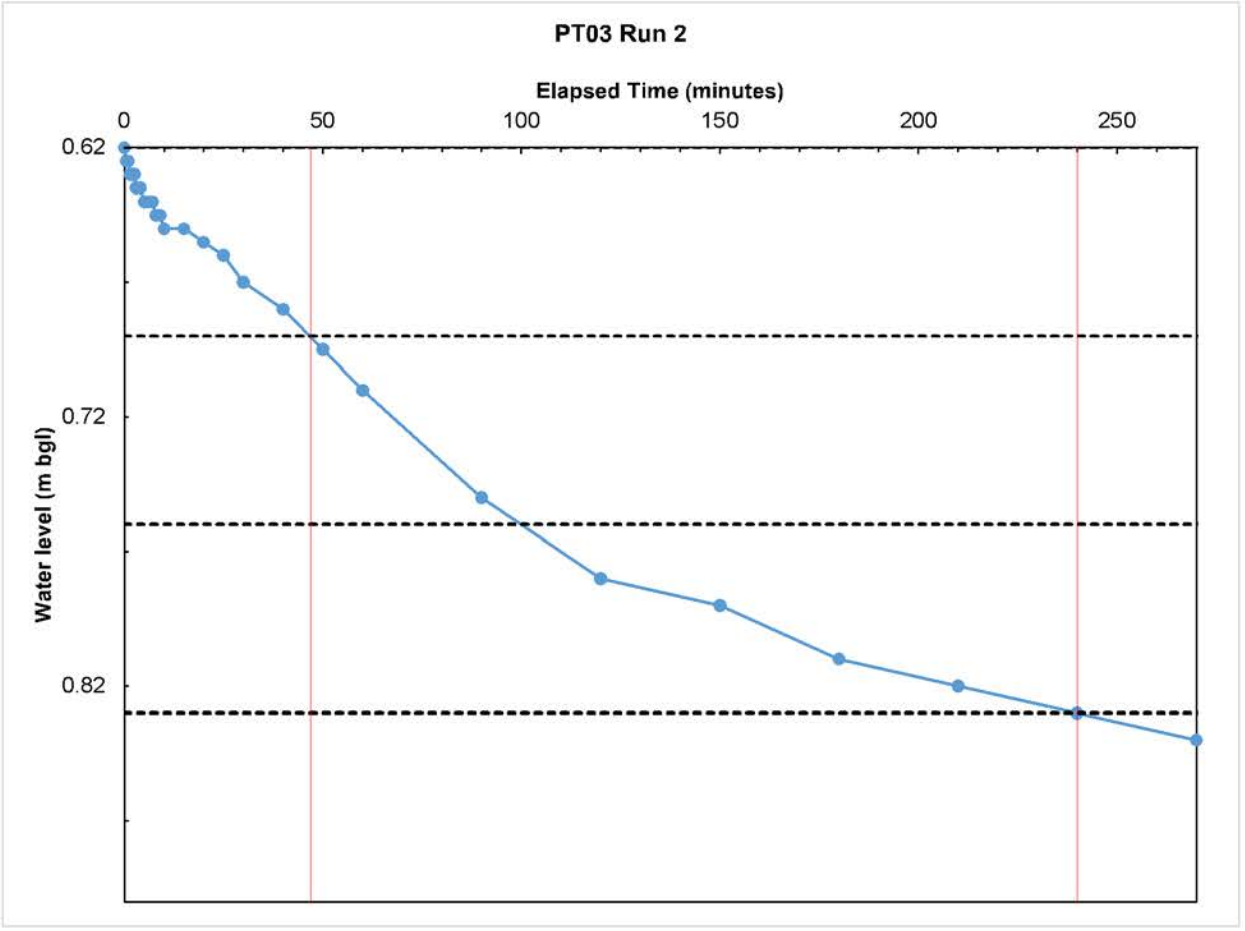
The test pit was not filled with gravel.

Depth of pit (m):	0.90
Effective depth (m):	0.28
Width of pit (m):	0.30
Length of pit (m):	0.30

Time taken to fill pit (s)	50	
Water Added to pit (l)	27	
V_{p75-25} =	0.01	
a_{s50} =	0.26	
t_{p75-25} =	193	minutes
***f* (soil infiltration rate) =**	**4.22E-06**	m/s

Time elapsed (mins)	Water level (m bgl)
0	0.62
0.5	0.63
1	0.63
1.5	0.63
2	0.63
2.5	0.63
3	0.64
4	0.64
5	0.64
6	0.64
7	0.64
8	0.65
9	0.65
10	0.65
15	0.65
20	0.66

Time elapsed (mins)	Water level (m bgl)
25	0.66
30	0.67
40	0.68
50	0.70
60	0.71
90	0.75
120	0.78
150	0.79
180	0.81
210	0.82
240	0.83
270	0.84



Percolation Test Results

Hole ID	Test Date	Test No.	Time at 75% Full (tp75) (mins)	Time at 25% Full (tp25) (mins)	Ellapsed Time		Percolation Value (Vp) (s/mm)	Comments
					Minutes (mins)	Seconds (s)		
PT01	18/10/2021	1	25	114	89	5340	35.6	
PT01	18/10/2021	2	30	132	102	6120	40.8	
PT01	18/10/2021	3	59	180	121	7260	48.4	
						Average Vp for Test Pit PT01:	**41.6**	
PT02	18/10/2021	1	18	78	60	3600	24	
PT02	18/10/2021	2	50	280	230	13800	92	
						Average Vp for Test Pit PT02:	**58**	
PT03	18/10/2021	1	7	45	38	2280	15.2	
PT03	18/10/2021	2	47	240	193	11580	77.2	
						Average Vp for Test Pit PT03:	**46.2**	

Appendix 2: Micro Drainage modelling results

Land east of Glewstone

Land west of Chapel Cottage

Project:	Date: 26/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		

Critical Storm

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow (m^3)
Catchment Area	FEH: 100 years: +40 %: 15 mins: Winter	0.01	4.5	2.110
Catchment Area (1)	FEH: 100 years: +40 %: 15 mins: Winter	0.00	2.1	0.976
Catchment Area (2)	FEH: 100 years: +40 %: 15 mins: Winter	0.00	2.0	0.957
Catchment Area (3)	FEH: 100 years: +40 %: 15 mins: Winter	0.01	4.2	1.989

Project:	Date: 26/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

Critical Storm

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Soakaway	FEH: 100 years: +40 %: 600 mins: Winter	65.408	65.408	1.708	1.708	0.7	7.729	0.000	3.965	0.0	0.000	5	OK
Soakaway (1)	FEH: 100 years: +40 %: 600 mins: Winter	66.418	66.418	1.618	1.618	0.6	7.323	0.000	3.824	0.0	0.000	10	OK

Project:	Date: 26/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address:		

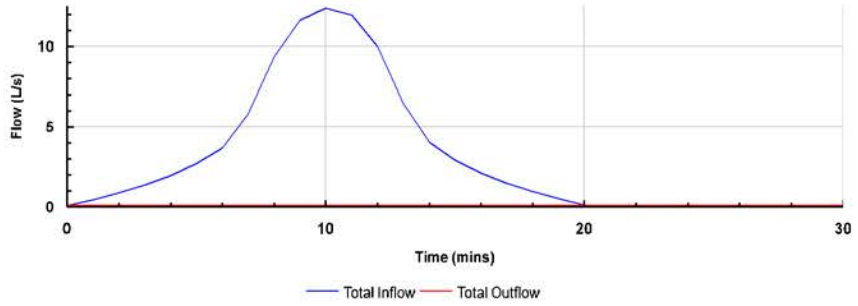
Phase
FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

Tables

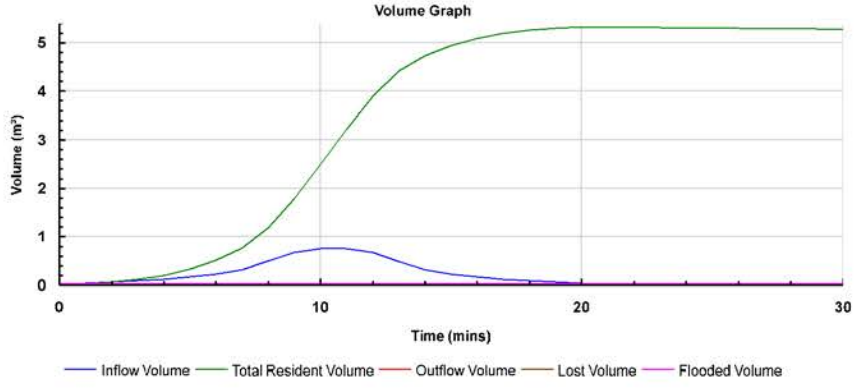
Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	12.4	5.387	0.0	0.000

Graphs

Flow Graph



Volume Graph



Project:	Date: 26/01/2022		
	Designed by: towns	Checked by	Approved By:
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address		

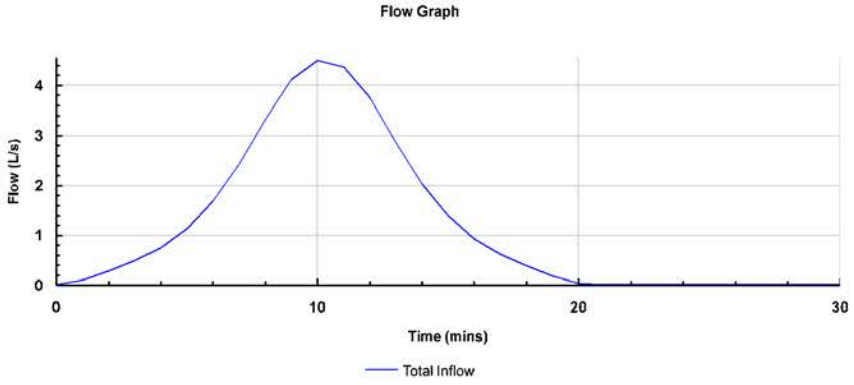
Catchment Area
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	4.5
Total Inflow Volume (m³)	2.110

Graphs



Project:	Date: 26/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		

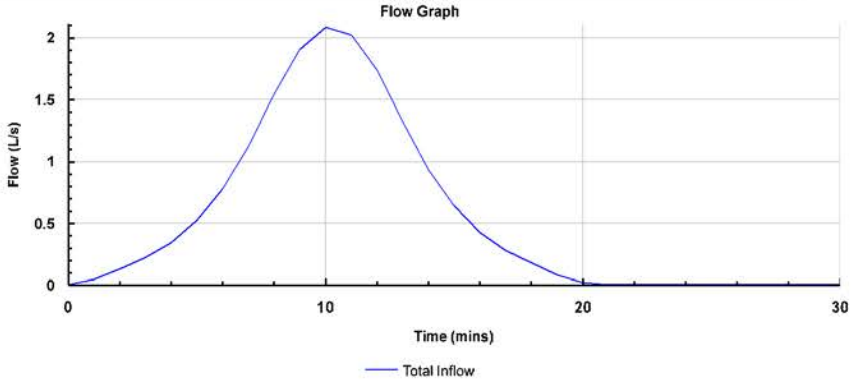
Catchment Area (1)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	2.1
Total Inflow Volume (m³)	0.976

Graphs



Project:	Date: 26/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		

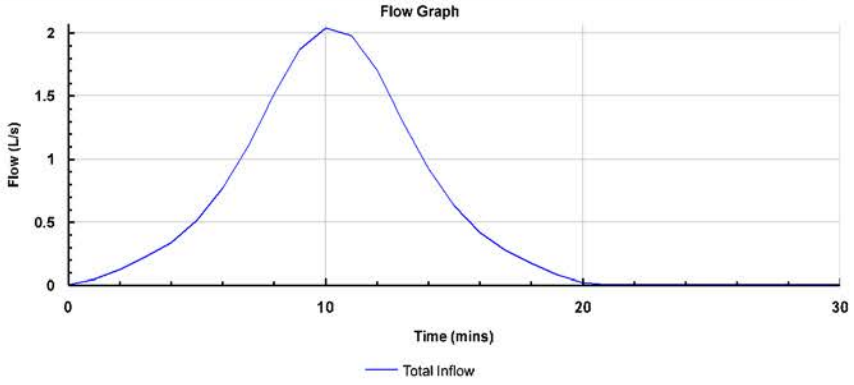
Catchment Area (2)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	2.0
Total Inflow Volume (m³)	0.957

Graphs



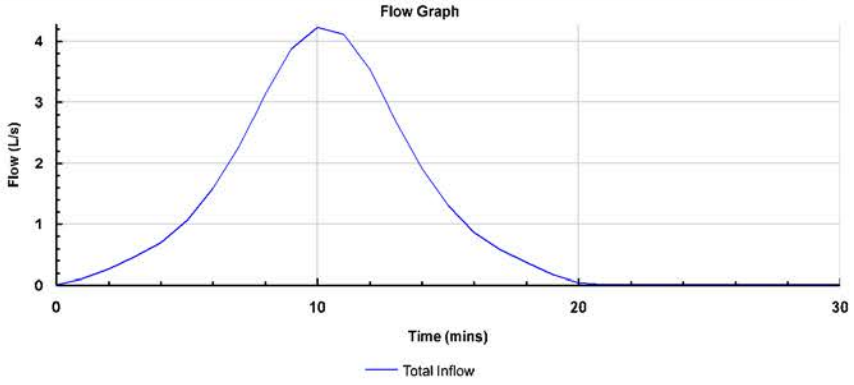
Catchment Area (3)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	4.2
Total Inflow Volume (m³)	1.989

Graphs

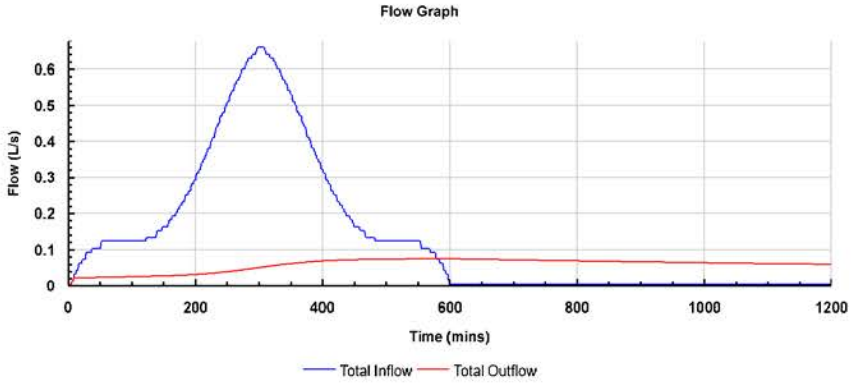


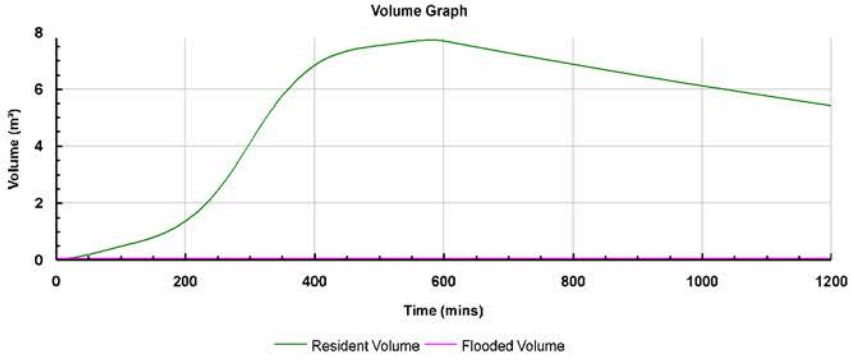
Project:	Date: 26/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

Soakaway
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 600 mins: Winter

Type : Soakaway

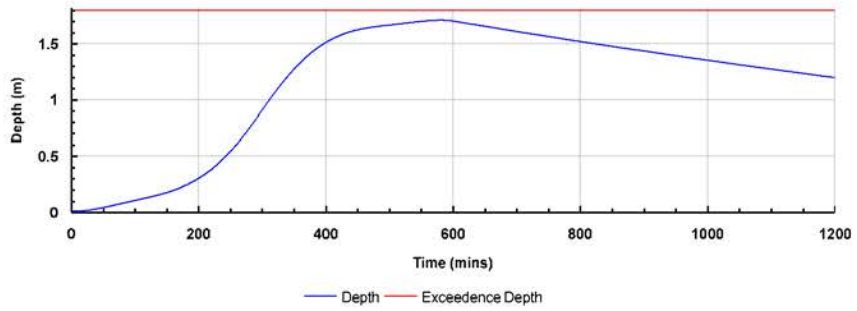
Graphs





Project:	Date: 26/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

Depth Graph

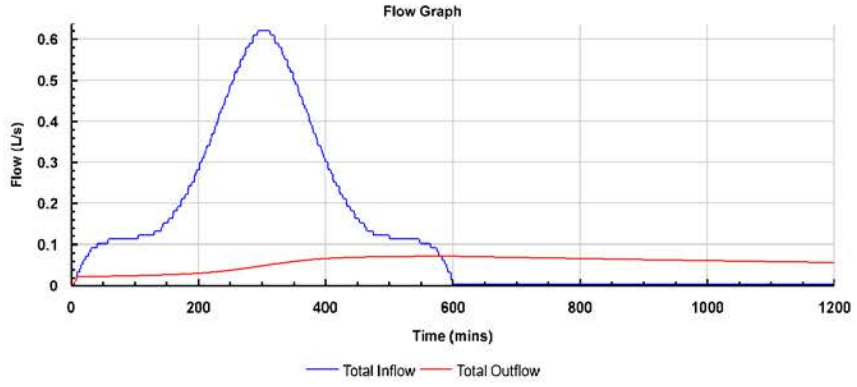


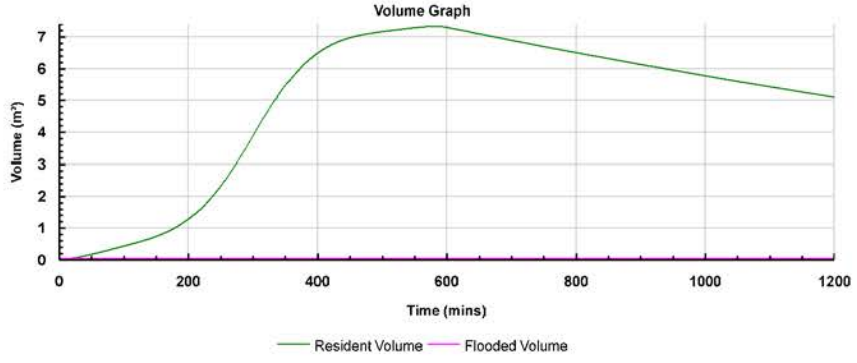
Project:	Date: 26/01/2022		
	Designed by: towns	Checked by	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address		

Soakaway (1)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 600 mins: Winter

Type : Soakaway

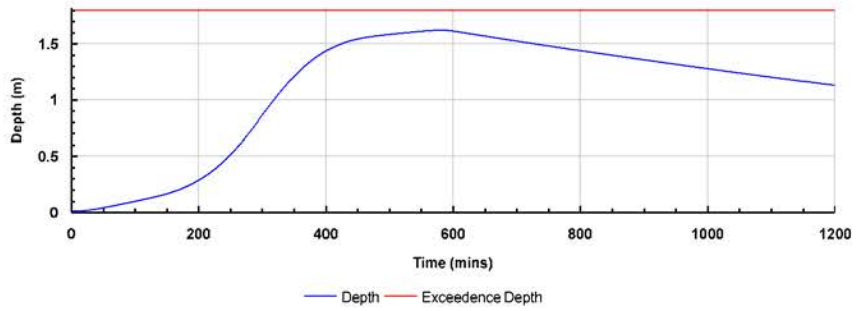
Graphs





Project:	Date: 26/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

Depth Graph



Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		

Soakaway Type : Soakaway

Dimensions

Exceedence Level (m)	72.000
Depth (m)	2.000
Base Level (m)	70.000
Freeboard (mm)	0
Soakaway Shape	Circular
Diameter / Width (m)	2.100
Porosity (%)	100
Ineffective Storage Depth (m)	0.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.02412
Side Infiltration Rate (m/hr)	0.02412
Safety Factor	2.0
Total Volume (m³)	6.927

Inlets

Inlet

Incoming Item(s)	Catchment Area
Bypass Destination	(None)
Capacity Type	No Restriction

Soakaway (1) Type : Soakaway

Dimensions

Exceedence Level (m)	75.500
Depth (m)	2.000
Base Level (m)	73.500
Freeboard (mm)	0
Soakaway Shape	Circular
Diameter / Width (m)	2.100
Porosity (%)	100
Ineffective Storage Depth (m)	0.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.02412
Side Infiltration Rate (m/hr)	0.02412
Safety Factor	2.0
Total Volume (m³)	6.927

Inlets

Inlet

Incoming Item(s)	Catchment Area (4)
Bypass Destination	(None)
Capacity Type	No Restriction

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		

Soakaway (2)

Type : Soakaway

Dimensions

Exceedence Level (m)	73.250
Depth (m)	2.000
Base Level (m)	71.250
Freeboard (mm)	0
Soakaway Shape	Circular
Diameter / Width (m)	2.100
Porosity (%)	100
Ineffective Storage Depth (m)	0.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.02412
Side Infiltration Rate (m/hr)	0.02412
Safety Factor	2.0
Total Volume (m³)	6.927

Inlets

Inlet

Incoming Item(s)	Catchment Area (3)
Bypass Destination	(None)
Capacity Type	No Restriction

Soakaway (3)

Type : Soakaway

Dimensions

Exceedence Level (m)	70.500
Depth (m)	2.000
Base Level (m)	68.500
Freeboard (mm)	0
Soakaway Shape	Circular
Diameter / Width (m)	2.100
Porosity (%)	100
Ineffective Storage Depth (m)	0.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.02412
Side Infiltration Rate (m/hr)	0.02412
Safety Factor	2.0
Total Volume (m³)	6.927

Inlets

Inlet

Incoming Item(s)	Catchment Area (1)
Bypass Destination	(None)
Capacity Type	No Restriction

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address		

Soakaway (4)

Type : Soakaway

Dimensions

Exceedence Level (m)	68.500
Depth (m)	1.900
Base Level (m)	66.600
Freeboard (mm)	0
Soakaway Shape	Circular
Diameter / Width (m)	2.100
Porosity (%)	100
Ineffective Storage Depth (m)	0.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.02412
Side Infiltration Rate (m/hr)	0.02412
Safety Factor	2.0
Total Volume (m^3)	6.581

Inlets

Inlet

Incoming Item(s)	Catchment Area (2)
Bypass Destination	(None)
Capacity Type	No Restriction

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: Phase	Company Address:		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	Soakaway		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (1)	Soakaway (3)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (2)	Soakaway (4)		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (3)	Soakaway (2)		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (4)	Soakaway (1)		Time of Concentration	0.008	100	0	100	0.008
TOTAL		**0.0**		**0.042**				**0.042**

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address		

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Level	Level Inverts
Min. Cover Depth (m)	1.200
Min. Slope (1:x)	500.00
Max. Slope (1:x)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75

Diameter (mm)	Min. Slope (1:x)	Max. Slope (1:x)
100	0.00	0.00
150	0.00	0.00

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address:		

Manhole Options

Apply Offset	☐
Synchronise Manhole Invert Levels	☑

Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Catchment Area

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow (m^3)
FEH: 100 years: +40 %: 15 mins: Summer	0.01	4.8	2.117
FEH: 100 years: +40 %: 15 mins: Winter	0.01	5.1	2.369
FEH: 100 years: +40 %: 30 mins: Summer	0.01	4.5	2.838
FEH: 100 years: +40 %: 30 mins: Winter	0.01	4.1	3.180
FEH: 100 years: +40 %: 60 mins: Summer	0.01	3.4	3.646
FEH: 100 years: +40 %: 60 mins: Winter	0.01	2.8	4.084
FEH: 100 years: +40 %: 120 mins: Summer	0.01	2.3	4.428
FEH: 100 years: +40 %: 120 mins: Winter	0.01	1.7	4.966
FEH: 100 years: +40 %: 180 mins: Summer	0.01	1.8	4.951
FEH: 100 years: +40 %: 180 mins: Winter	0.01	1.3	5.545
FEH: 100 years: +40 %: 240 mins: Summer	0.01	1.4	5.323
FEH: 100 years: +40 %: 240 mins: Winter	0.01	1.0	5.958
FEH: 100 years: +40 %: 360 mins: Summer	0.01	1.0	5.809
FEH: 100 years: +40 %: 360 mins: Winter	0.01	0.8	6.491
FEH: 100 years: +40 %: 480 mins: Summer	0.01	0.8	6.136
FEH: 100 years: +40 %: 480 mins: Winter	0.01	0.6	6.886
FEH: 100 years: +40 %: 600 mins: Summer	0.01	0.7	6.406
FEH: 100 years: +40 %: 600 mins: Winter	0.01	0.5	7.178
FEH: 100 years: +40 %: 720 mins: Summer	0.01	0.6	6.618
FEH: 100 years: +40 %: 720 mins: Winter	0.01	0.4	7.432
FEH: 100 years: +40 %: 960 mins: Summer	0.01	0.5	6.929
FEH: 100 years: +40 %: 960 mins: Winter	0.01	0.3	7.771
FEH: 100 years: +40 %: 1440 mins: Summer	0.01	0.3	7.440
FEH: 100 years: +40 %: 1440 mins: Winter	0.01	0.2	8.250

FEH: 100 years: +40 %: 2160 mins: Summer	0.01	0.2	7.908
FEH: 100 years: +40 %: 2160 mins: Winter	0.01	0.2	8.868
FEH: 100 years: +40 %: 2880 mins: Summer	0.01	0.2	8.473
FEH: 100 years: +40 %: 2880 mins: Winter	0.01	0.1	9.355
FEH: 100 years: +40 %: 4320 mins: Summer	0.01	0.1	9.168
FEH: 100 years: +40 %: 4320 mins: Winter	0.01	0.1	10.565
FEH: 100 years: +40 %: 5760 mins: Summer	0.01	0.1	9.888
FEH: 100 years: +40 %: 5760 mins: Winter	0.01	0.1	10.992
FEH: 100 years: +40 %: 7200 mins: Summer	0.01	0.1	10.804
FEH: 100 years: +40 %: 7200 mins: Winter	0.01	0.1	11.921
FEH: 100 years: +40 %: 8640 mins: Summer	0.01	0.1	11.819
FEH: 100 years: +40 %: 8640 mins: Winter	0.01	0.1	12.755
FEH: 100 years: +40 %: 10080 mins: Summer	0.01	0.1	12.938
FEH: 100 years: +40 %: 10080 mins: Winter	0.01	0.1	13.912
FEH: 30 years: +0 %: 15 mins: Summer	0.01	2.6	1.140
FEH: 30 years: +0 %: 15 mins: Winter	0.01	2.7	1.276
FEH: 30 years: +0 %: 30 mins: Summer	0.01	2.4	1.524
FEH: 30 years: +0 %: 30 mins: Winter	0.01	2.2	1.705
FEH: 30 years: +0 %: 60 mins: Summer	0.01	1.8	1.934
FEH: 30 years: +0 %: 60 mins: Winter	0.01	1.5	2.168
FEH: 30 years: +0 %: 120 mins: Summer	0.01	1.2	2.377
FEH: 30 years: +0 %: 120 mins: Winter	0.01	0.9	2.660
FEH: 30 years: +0 %: 180 mins: Summer	0.01	0.9	2.682
FEH: 30 years: +0 %: 180 mins: Winter	0.01	0.7	3.001
FEH: 30 years: +0 %: 240 mins: Summer	0.01	0.8	2.914

FEH: 30 years: +0 %: 240 mins: Winter	0.01	0.6	3.262
FEH: 30 years: +0 %: 360 mins: Summer	0.01	0.6	3.235
FEH: 30 years: +0 %: 360 mins: Winter	0.01	0.4	3.608
FEH: 30 years: +0 %: 480 mins: Summer	0.01	0.5	3.449
FEH: 30 years: +0 %: 480 mins: Winter	0.01	0.3	3.869
FEH: 30 years: +0 %: 600 mins: Summer	0.01	0.4	3.623
FEH: 30 years: +0 %: 600 mins: Winter	0.01	0.3	4.056
FEH: 30 years: +0 %: 720 mins: Summer	0.01	0.3	3.761
FEH: 30 years: +0 %: 720 mins: Winter	0.01	0.3	4.187
FEH: 30 years: +0 %: 960 mins: Summer	0.01	0.3	3.990
FEH: 30 years: +0 %: 960 mins: Winter	0.01	0.2	4.444
FEH: 30 years: +0 %: 1440 mins: Summer	0.01	0.2	4.384
FEH: 30 years: +0 %: 1440 mins: Winter	0.01	0.1	4.906
FEH: 30 years: +0 %: 2160 mins: Summer	0.01	0.1	4.643
FEH: 30 years: +0 %: 2160 mins: Winter	0.01	0.1	5.318
FEH: 30 years: +0 %: 2880 mins: Summer	0.01	0.1	4.945
FEH: 30 years: +0 %: 2880 mins: Winter	0.01	0.1	5.497
FEH: 30 years: +0 %: 4320 mins: Summer	0.01	0.1	5.800
FEH: 30 years: +0 %: 4320 mins: Winter	0.01	0.1	6.266
FEH: 30 years: +0 %: 5760 mins: Summer	0.01	0.1	6.505
FEH: 30 years: +0 %: 5760 mins: Winter	0.01	0.0	7.045
FEH: 30 years: +0 %: 7200 mins: Summer	0.01	0.1	7.511
FEH: 30 years: +0 %: 7200 mins: Winter	0.01	0.0	7.690
FEH: 30 years: +0 %: 8640 mins: Summer	0.01	0.0	7.667

FEH: 30 years: +0 %: 8640 mins: Winter	0.01	0.0	8.504
FEH: 30 years: +0 %: 10080 mins: Summer	0.01	0.0	7.740
FEH: 30 years: +0 %: 10080 mins: Winter	0.01	0.0	9.311
FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.2	0.511
FEH: 2 years: +0 %: 15 mins: Winter	0.01	1.2	0.572
FEH: 2 years: +0 %: 30 mins: Summer	0.01	1.1	0.668
FEH: 2 years: +0 %: 30 mins: Winter	0.01	1.0	0.750
FEH: 2 years: +0 %: 60 mins: Summer	0.01	0.8	0.848
FEH: 2 years: +0 %: 60 mins: Winter	0.01	0.6	0.943
FEH: 2 years: +0 %: 120 mins: Summer	0.01	0.6	1.160
FEH: 2 years: +0 %: 120 mins: Winter	0.01	0.4	1.298
FEH: 2 years: +0 %: 180 mins: Summer	0.01	0.5	1.375
FEH: 2 years: +0 %: 180 mins: Winter	0.01	0.4	1.534
FEH: 2 years: +0 %: 240 mins: Summer	0.01	0.4	1.543
FEH: 2 years: +0 %: 240 mins: Winter	0.01	0.3	1.717
FEH: 2 years: +0 %: 360 mins: Summer	0.01	0.3	1.786
FEH: 2 years: +0 %: 360 mins: Winter	0.01	0.2	1.986
FEH: 2 years: +0 %: 480 mins: Summer	0.01	0.3	1.958
FEH: 2 years: +0 %: 480 mins: Winter	0.01	0.2	2.179
FEH: 2 years: +0 %: 600 mins: Summer	0.01	0.2	2.100
FEH: 2 years: +0 %: 600 mins: Winter	0.01	0.2	2.364
FEH: 2 years: +0 %: 720 mins: Summer	0.01	0.2	2.236
FEH: 2 years: +0 %: 720 mins: Winter	0.01	0.2	2.512
FEH: 2 years: +0 %: 960 mins: Summer	0.01	0.2	2.419
FEH: 2 years: +0 %: 960 mins: Winter	0.01	0.1	2.682
FEH: 2 years: +0 %: 1440 mins: Summer	0.01	0.1	2.618
FEH: 2 years: +0 %: 1440 mins: Winter	0.01	0.1	3.053
FEH: 2 years: +0 %: 2160 mins: Summer	0.01	0.1	3.004
FEH: 2 years: +0 %: 2160 mins: Winter	0.01	0.1	3.262
FEH: 2 years: +0 %: 2880 mins: Summer	0.01	0.1	3.416
FEH: 2 years: +0 %: 2880 mins: Winter	0.01	0.0	3.598
FEH: 2 years: +0 %: 4320 mins: Summer	0.01	0.1	3.931

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		

FEH: 2 years: +0 %: 4320 mins: Winter	0.01	0.0	4.303
FEH: 2 years: +0 %: 5760 mins: Summer	0.01	0.0	3.869
FEH: 2 years: +0 %: 5760 mins: Winter	0.01	0.0	4.838
FEH: 2 years: +0 %: 7200 mins: Summer	0.01	0.0	3.973
FEH: 2 years: +0 %: 7200 mins: Winter	0.01	0.0	5.274
FEH: 2 years: +0 %: 8640 mins: Summer	0.01	0.0	4.144
FEH: 2 years: +0 %: 8640 mins: Winter	0.01	0.0	4.867
FEH: 2 years: +0 %: 10080 mins: Summer	0.01	0.0	4.234
FEH: 2 years: +0 %: 10080 mins: Winter	0.01	0.0	4.840

Catchment Area (1)

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow (m^3)
FEH: 100 years: +40 %: 15 mins: Summer	0.01	4.7	2.042
FEH: 100 years: +40 %: 15 mins: Winter	0.01	4.9	2.285
FEH: 100 years: +40 %: 30 mins: Summer	0.01	4.3	2.737
FEH: 100 years: +40 %: 30 mins: Winter	0.01	3.9	3.066
FEH: 100 years: +40 %: 60 mins: Summer	0.01	3.3	3.519
FEH: 100 years: +40 %: 60 mins: Winter	0.01	2.7	3.944
FEH: 100 years: +40 %: 120 mins: Summer	0.01	2.2	4.273
FEH: 100 years: +40 %: 120 mins: Winter	0.01	1.7	4.792
FEH: 100 years: +40 %: 180 mins: Summer	0.01	1.7	4.777
FEH: 100 years: +40 %: 180 mins: Winter	0.01	1.3	5.350
FEH: 100 years: +40 %: 240 mins: Summer	0.01	1.4	5.136
FEH: 100 years: +40 %: 240 mins: Winter	0.01	1.0	5.759
FEH: 100 years: +40 %: 360 mins: Summer	0.01	1.0	5.604
FEH: 100 years: +40 %: 360 mins: Winter	0.01	0.7	6.271
FEH: 100 years: +40 %: 480 mins: Summer	0.01	0.8	5.926
FEH: 100 years: +40 %: 480 mins: Winter	0.01	0.6	6.625
FEH: 100 years: +40 %: 600 mins: Summer	0.01	0.7	6.174
FEH: 100 years: +40 %: 600 mins: Winter	0.01	0.5	6.931
FEH: 100 years: +40 %: 720 mins: Summer	0.01	0.6	6.373
FEH: 100 years: +40 %: 720 mins: Winter	0.01	0.4	7.122
FEH: 100 years: +40 %: 960 mins: Summer	0.01	0.5	6.710
FEH: 100 years: +40 %: 960 mins: Winter	0.01	0.3	7.520
FEH: 100 years: +40 %: 1440 mins: Summer	0.01	0.3	7.170
FEH: 100 years: +40 %: 1440 mins: Winter	0.01	0.2	8.010

FEH: 100 years: +40 %: 2160 mins: Summer	0.01	0.2	7.604
FEH: 100 years: +40 %: 2160 mins: Winter	0.01	0.2	8.586
FEH: 100 years: +40 %: 2880 mins: Summer	0.01	0.2	8.254
FEH: 100 years: +40 %: 2880 mins: Winter	0.01	0.1	8.923
FEH: 100 years: +40 %: 4320 mins: Summer	0.01	0.1	8.719
FEH: 100 years: +40 %: 4320 mins: Winter	0.01	0.1	10.163
FEH: 100 years: +40 %: 5760 mins: Summer	0.01	0.1	9.544
FEH: 100 years: +40 %: 5760 mins: Winter	0.01	0.1	10.704
FEH: 100 years: +40 %: 7200 mins: Summer	0.01	0.1	10.620
FEH: 100 years: +40 %: 7200 mins: Winter	0.01	0.1	11.575
FEH: 100 years: +40 %: 8640 mins: Summer	0.01	0.1	11.606
FEH: 100 years: +40 %: 8640 mins: Winter	0.01	0.1	12.540
FEH: 100 years: +40 %: 10080 mins: Summer	0.01	0.1	12.576
FEH: 100 years: +40 %: 10080 mins: Winter	0.01	0.1	13.428
FEH: 30 years: +0 %: 15 mins: Summer	0.01	2.5	1.099
FEH: 30 years: +0 %: 15 mins: Winter	0.01	2.6	1.231
FEH: 30 years: +0 %: 30 mins: Summer	0.01	2.3	1.470
FEH: 30 years: +0 %: 30 mins: Winter	0.01	2.1	1.645
FEH: 30 years: +0 %: 60 mins: Summer	0.01	1.8	1.868
FEH: 30 years: +0 %: 60 mins: Winter	0.01	1.4	2.094
FEH: 30 years: +0 %: 120 mins: Summer	0.01	1.2	2.298
FEH: 30 years: +0 %: 120 mins: Winter	0.01	0.9	2.573
FEH: 30 years: +0 %: 180 mins: Summer	0.01	0.9	2.591
FEH: 30 years: +0 %: 180 mins: Winter	0.01	0.7	2.897
FEH: 30 years: +0 %: 240 mins: Summer	0.01	0.8	2.807

FEH: 30 years: +0 %: 240 mins: Winter	0.01	0.6	3.150
FEH: 30 years: +0 %: 360 mins: Summer	0.01	0.6	3.118
FEH: 30 years: +0 %: 360 mins: Winter	0.01	0.4	3.488
FEH: 30 years: +0 %: 480 mins: Summer	0.01	0.4	3.326
FEH: 30 years: +0 %: 480 mins: Winter	0.01	0.3	3.739
FEH: 30 years: +0 %: 600 mins: Summer	0.01	0.4	3.487
FEH: 30 years: +0 %: 600 mins: Winter	0.01	0.3	3.922
FEH: 30 years: +0 %: 720 mins: Summer	0.01	0.3	3.632
FEH: 30 years: +0 %: 720 mins: Winter	0.01	0.2	4.054
FEH: 30 years: +0 %: 960 mins: Summer	0.01	0.3	3.830
FEH: 30 years: +0 %: 960 mins: Winter	0.01	0.2	4.291
FEH: 30 years: +0 %: 1440 mins: Summer	0.01	0.2	4.223
FEH: 30 years: +0 %: 1440 mins: Winter	0.01	0.1	4.652
FEH: 30 years: +0 %: 2160 mins: Summer	0.01	0.1	4.524
FEH: 30 years: +0 %: 2160 mins: Winter	0.01	0.1	5.162
FEH: 30 years: +0 %: 2880 mins: Summer	0.01	0.1	4.777
FEH: 30 years: +0 %: 2880 mins: Winter	0.01	0.1	5.350
FEH: 30 years: +0 %: 4320 mins: Summer	0.01	0.1	5.596
FEH: 30 years: +0 %: 4320 mins: Winter	0.01	0.1	6.017
FEH: 30 years: +0 %: 5760 mins: Summer	0.01	0.1	6.491
FEH: 30 years: +0 %: 5760 mins: Winter	0.01	0.0	6.778
FEH: 30 years: +0 %: 7200 mins: Summer	0.01	0.1	7.003
FEH: 30 years: +0 %: 7200 mins: Winter	0.01	0.0	7.435
FEH: 30 years: +0 %: 8640 mins: Summer	0.01	0.0	7.054

FEH: 30 years: +0 %: 8640 mins: Winter	0.01	0.0	8.294
FEH: 30 years: +0 %: 10080 mins: Summer	0.01	0.0	7.376
FEH: 30 years: +0 %: 10080 mins: Winter	0.01	0.0	8.828
FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.1	0.493
FEH: 2 years: +0 %: 15 mins: Winter	0.01	1.2	0.553
FEH: 2 years: +0 %: 30 mins: Summer	0.01	1.0	0.646
FEH: 2 years: +0 %: 30 mins: Winter	0.01	0.9	0.721
FEH: 2 years: +0 %: 60 mins: Summer	0.01	0.8	0.814
FEH: 2 years: +0 %: 60 mins: Winter	0.01	0.6	0.911
FEH: 2 years: +0 %: 120 mins: Summer	0.01	0.6	1.118
FEH: 2 years: +0 %: 120 mins: Winter	0.01	0.4	1.260
FEH: 2 years: +0 %: 180 mins: Summer	0.01	0.5	1.321
FEH: 2 years: +0 %: 180 mins: Winter	0.01	0.3	1.484
FEH: 2 years: +0 %: 240 mins: Summer	0.01	0.4	1.488
FEH: 2 years: +0 %: 240 mins: Winter	0.01	0.3	1.661
FEH: 2 years: +0 %: 360 mins: Summer	0.01	0.3	1.724
FEH: 2 years: +0 %: 360 mins: Winter	0.01	0.2	1.925
FEH: 2 years: +0 %: 480 mins: Summer	0.01	0.3	1.877
FEH: 2 years: +0 %: 480 mins: Winter	0.01	0.2	2.101
FEH: 2 years: +0 %: 600 mins: Summer	0.01	0.2	2.026
FEH: 2 years: +0 %: 600 mins: Winter	0.01	0.2	2.287
FEH: 2 years: +0 %: 720 mins: Summer	0.01	0.2	2.161
FEH: 2 years: +0 %: 720 mins: Winter	0.01	0.1	2.376
FEH: 2 years: +0 %: 960 mins: Summer	0.01	0.2	2.293
FEH: 2 years: +0 %: 960 mins: Winter	0.01	0.1	2.586
FEH: 2 years: +0 %: 1440 mins: Summer	0.01	0.1	2.564
FEH: 2 years: +0 %: 1440 mins: Winter	0.01	0.1	2.831
FEH: 2 years: +0 %: 2160 mins: Summer	0.01	0.1	2.946
FEH: 2 years: +0 %: 2160 mins: Winter	0.01	0.1	3.161
FEH: 2 years: +0 %: 2880 mins: Summer	0.01	0.1	3.287
FEH: 2 years: +0 %: 2880 mins: Winter	0.01	0.0	3.552
FEH: 2 years: +0 %: 4320 mins: Summer	0.01	0.0	3.630

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		

FEH: 2 years: +0 %: 4320 mins: Winter	0.01	0.0	4.198
FEH: 2 years: +0 %: 5760 mins: Summer	0.01	0.0	3.660
FEH: 2 years: +0 %: 5760 mins: Winter	0.01	0.0	4.702
FEH: 2 years: +0 %: 7200 mins: Summer	0.01	0.0	3.802
FEH: 2 years: +0 %: 7200 mins: Winter	0.01	0.0	4.493
FEH: 2 years: +0 %: 8640 mins: Summer	0.01	0.0	3.836
FEH: 2 years: +0 %: 8640 mins: Winter	0.01	0.0	4.456
FEH: 2 years: +0 %: 10080 mins: Summer	0.01	0.0	3.995
FEH: 2 years: +0 %: 10080 mins: Winter	0.01	0.0	4.717

Catchment Area (2)

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow (m³)
FEH: 100 years: +40 %: 15 mins: Summer	0.01	5.0	2.176
FEH: 100 years: +40 %: 15 mins: Winter	0.01	5.2	2.438
FEH: 100 years: +40 %: 30 mins: Summer	0.01	4.6	2.920
FEH: 100 years: +40 %: 30 mins: Winter	0.01	4.2	3.271
FEH: 100 years: +40 %: 60 mins: Summer	0.01	3.5	3.751
FEH: 100 years: +40 %: 60 mins: Winter	0.01	2.9	4.198
FEH: 100 years: +40 %: 120 mins: Summer	0.01	2.3	4.555
FEH: 100 years: +40 %: 120 mins: Winter	0.01	1.8	5.105
FEH: 100 years: +40 %: 180 mins: Summer	0.01	1.8	5.093
FEH: 100 years: +40 %: 180 mins: Winter	0.01	1.3	5.699
FEH: 100 years: +40 %: 240 mins: Summer	0.01	1.5	5.471
FEH: 100 years: +40 %: 240 mins: Winter	0.01	1.1	6.131
FEH: 100 years: +40 %: 360 mins: Summer	0.01	1.1	5.965
FEH: 100 years: +40 %: 360 mins: Winter	0.01	0.8	6.691
FEH: 100 years: +40 %: 480 mins: Summer	0.01	0.9	6.312
FEH: 100 years: +40 %: 480 mins: Winter	0.01	0.6	7.085
FEH: 100 years: +40 %: 600 mins: Summer	0.01	0.7	6.578
FEH: 100 years: +40 %: 600 mins: Winter	0.01	0.5	7.366
FEH: 100 years: +40 %: 720 mins: Summer	0.01	0.6	6.814
FEH: 100 years: +40 %: 720 mins: Winter	0.01	0.4	7.627
FEH: 100 years: +40 %: 960 mins: Summer	0.01	0.5	7.129
FEH: 100 years: +40 %: 960 mins: Winter	0.01	0.3	7.967
FEH: 100 years: +40 %: 1440 mins: Summer	0.01	0.3	7.630
FEH: 100 years: +40 %: 1440 mins: Winter	0.01	0.3	8.510

FEH: 100 years: +40 %: 2160 mins: Summer	0.01	0.3	8.179
FEH: 100 years: +40 %: 2160 mins: Winter	0.01	0.2	9.106
FEH: 100 years: +40 %: 2880 mins: Summer	0.01	0.2	8.770
FEH: 100 years: +40 %: 2880 mins: Winter	0.01	0.1	9.635
FEH: 100 years: +40 %: 4320 mins: Summer	0.01	0.1	9.382
FEH: 100 years: +40 %: 4320 mins: Winter	0.01	0.1	10.775
FEH: 100 years: +40 %: 5760 mins: Summer	0.01	0.1	10.291
FEH: 100 years: +40 %: 5760 mins: Winter	0.01	0.1	11.338
FEH: 100 years: +40 %: 7200 mins: Summer	0.01	0.1	11.059
FEH: 100 years: +40 %: 7200 mins: Winter	0.01	0.1	12.101
FEH: 100 years: +40 %: 8640 mins: Summer	0.01	0.1	12.128
FEH: 100 years: +40 %: 8640 mins: Winter	0.01	0.1	13.166
FEH: 100 years: +40 %: 10080 mins: Summer	0.01	0.1	13.183
FEH: 100 years: +40 %: 10080 mins: Winter	0.01	0.1	14.274
FEH: 30 years: +0 %: 15 mins: Summer	0.01	2.7	1.172
FEH: 30 years: +0 %: 15 mins: Winter	0.01	2.8	1.314
FEH: 30 years: +0 %: 30 mins: Summer	0.01	2.5	1.571
FEH: 30 years: +0 %: 30 mins: Winter	0.01	2.2	1.754
FEH: 30 years: +0 %: 60 mins: Summer	0.01	1.9	1.991
FEH: 30 years: +0 %: 60 mins: Winter	0.01	1.5	2.227
FEH: 30 years: +0 %: 120 mins: Summer	0.01	1.3	2.447
FEH: 30 years: +0 %: 120 mins: Winter	0.01	0.9	2.741
FEH: 30 years: +0 %: 180 mins: Summer	0.01	1.0	2.761
FEH: 30 years: +0 %: 180 mins: Winter	0.01	0.7	3.097
FEH: 30 years: +0 %: 240 mins: Summer	0.01	0.8	2.995

FEH: 30 years: +0 %: 240 mins: Winter	0.01	0.6	3.348
FEH: 30 years: +0 %: 360 mins: Summer	0.01	0.6	3.330
FEH: 30 years: +0 %: 360 mins: Winter	0.01	0.4	3.739
FEH: 30 years: +0 %: 480 mins: Summer	0.01	0.5	3.547
FEH: 30 years: +0 %: 480 mins: Winter	0.01	0.3	3.974
FEH: 30 years: +0 %: 600 mins: Summer	0.01	0.4	3.733
FEH: 30 years: +0 %: 600 mins: Winter	0.01	0.3	4.163
FEH: 30 years: +0 %: 720 mins: Summer	0.01	0.3	3.858
FEH: 30 years: +0 %: 720 mins: Winter	0.01	0.3	4.318
FEH: 30 years: +0 %: 960 mins: Summer	0.01	0.3	4.105
FEH: 30 years: +0 %: 960 mins: Winter	0.01	0.2	4.658
FEH: 30 years: +0 %: 1440 mins: Summer	0.01	0.2	4.492
FEH: 30 years: +0 %: 1440 mins: Winter	0.01	0.2	5.038
FEH: 30 years: +0 %: 2160 mins: Summer	0.01	0.2	4.776
FEH: 30 years: +0 %: 2160 mins: Winter	0.01	0.1	5.471
FEH: 30 years: +0 %: 2880 mins: Summer	0.01	0.1	5.173
FEH: 30 years: +0 %: 2880 mins: Winter	0.01	0.1	5.734
FEH: 30 years: +0 %: 4320 mins: Summer	0.01	0.1	5.905
FEH: 30 years: +0 %: 4320 mins: Winter	0.01	0.1	6.374
FEH: 30 years: +0 %: 5760 mins: Summer	0.01	0.1	6.704
FEH: 30 years: +0 %: 5760 mins: Winter	0.01	0.0	7.122
FEH: 30 years: +0 %: 7200 mins: Summer	0.01	0.1	7.603
FEH: 30 years: +0 %: 7200 mins: Winter	0.01	0.0	7.862
FEH: 30 years: +0 %: 8640 mins: Summer	0.01	0.1	8.082

FEH: 30 years: +0 %: 8640 mins: Winter	0.01	0.0	8.809
FEH: 30 years: +0 %: 10080 mins: Summer	0.01	0.0	7.867
FEH: 30 years: +0 %: 10080 mins: Winter	0.01	0.0	9.552
FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.2	0.525
FEH: 2 years: +0 %: 15 mins: Winter	0.01	1.3	0.589
FEH: 2 years: +0 %: 30 mins: Summer	0.01	1.1	0.689
FEH: 2 years: +0 %: 30 mins: Winter	0.01	1.0	0.770
FEH: 2 years: +0 %: 60 mins: Summer	0.01	0.8	0.868
FEH: 2 years: +0 %: 60 mins: Winter	0.01	0.7	0.968
FEH: 2 years: +0 %: 120 mins: Summer	0.01	0.6	1.193
FEH: 2 years: +0 %: 120 mins: Winter	0.01	0.5	1.334
FEH: 2 years: +0 %: 180 mins: Summer	0.01	0.5	1.412
FEH: 2 years: +0 %: 180 mins: Winter	0.01	0.4	1.590
FEH: 2 years: +0 %: 240 mins: Summer	0.01	0.4	1.586
FEH: 2 years: +0 %: 240 mins: Winter	0.01	0.3	1.764
FEH: 2 years: +0 %: 360 mins: Summer	0.01	0.3	1.829
FEH: 2 years: +0 %: 360 mins: Winter	0.01	0.2	2.041
FEH: 2 years: +0 %: 480 mins: Summer	0.01	0.3	2.015
FEH: 2 years: +0 %: 480 mins: Winter	0.01	0.2	2.246
FEH: 2 years: +0 %: 600 mins: Summer	0.01	0.2	2.150
FEH: 2 years: +0 %: 600 mins: Winter	0.01	0.2	2.420
FEH: 2 years: +0 %: 720 mins: Summer	0.01	0.2	2.291
FEH: 2 years: +0 %: 720 mins: Winter	0.01	0.2	2.590
FEH: 2 years: +0 %: 960 mins: Summer	0.01	0.2	2.497
FEH: 2 years: +0 %: 960 mins: Winter	0.01	0.1	2.752
FEH: 2 years: +0 %: 1440 mins: Summer	0.01	0.1	2.696
FEH: 2 years: +0 %: 1440 mins: Winter	0.01	0.1	3.146
FEH: 2 years: +0 %: 2160 mins: Summer	0.01	0.1	3.062
FEH: 2 years: +0 %: 2160 mins: Winter	0.01	0.1	3.348
FEH: 2 years: +0 %: 2880 mins: Summer	0.01	0.1	3.456
FEH: 2 years: +0 %: 2880 mins: Winter	0.01	0.0	3.666
FEH: 2 years: +0 %: 4320 mins: Summer	0.01	0.1	4.042

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		

FEH: 2 years: +0 %: 4320 mins: Winter	0.01	0.0	4.405
FEH: 2 years: +0 %: 5760 mins: Summer	0.01	0.0	4.009
FEH: 2 years: +0 %: 5760 mins: Winter	0.01	0.0	4.908
FEH: 2 years: +0 %: 7200 mins: Summer	0.01	0.0	4.146
FEH: 2 years: +0 %: 7200 mins: Winter	0.01	0.0	5.610
FEH: 2 years: +0 %: 8640 mins: Summer	0.01	0.0	4.252
FEH: 2 years: +0 %: 8640 mins: Winter	0.01	0.0	4.979
FEH: 2 years: +0 %: 10080 mins: Summer	0.01	0.0	4.355
FEH: 2 years: +0 %: 10080 mins: Winter	0.01	0.0	4.961

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		

Catchment Area (3)

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow (m^3)
FEH: 100 years: +40 %: 15 mins: Summer	0.01	4.7	2.062
FEH: 100 years: +40 %: 15 mins: Winter	0.01	4.9	2.309
FEH: 100 years: +40 %: 30 mins: Summer	0.01	4.4	2.765
FEH: 100 years: +40 %: 30 mins: Winter	0.01	4.0	3.095
FEH: 100 years: +40 %: 60 mins: Summer	0.01	3.3	3.551
FEH: 100 years: +40 %: 60 mins: Winter	0.01	2.7	3.979
FEH: 100 years: +40 %: 120 mins: Summer	0.01	2.2	4.320
FEH: 100 years: +40 %: 120 mins: Winter	0.01	1.7	4.829
FEH: 100 years: +40 %: 180 mins: Summer	0.01	1.7	4.822
FEH: 100 years: +40 %: 180 mins: Winter	0.01	1.3	5.393
FEH: 100 years: +40 %: 240 mins: Summer	0.01	1.4	5.182
FEH: 100 years: +40 %: 240 mins: Winter	0.01	1.0	5.804
FEH: 100 years: +40 %: 360 mins: Summer	0.01	1.0	5.657
FEH: 100 years: +40 %: 360 mins: Winter	0.01	0.7	6.326
FEH: 100 years: +40 %: 480 mins: Summer	0.01	0.8	5.976
FEH: 100 years: +40 %: 480 mins: Winter	0.01	0.6	6.689
FEH: 100 years: +40 %: 600 mins: Summer	0.01	0.7	6.238
FEH: 100 years: +40 %: 600 mins: Winter	0.01	0.5	7.002
FEH: 100 years: +40 %: 720 mins: Summer	0.01	0.6	6.446
FEH: 100 years: +40 %: 720 mins: Winter	0.01	0.4	7.196
FEH: 100 years: +40 %: 960 mins: Summer	0.01	0.5	6.750
FEH: 100 years: +40 %: 960 mins: Winter	0.01	0.3	7.582
FEH: 100 years: +40 %: 1440 mins: Summer	0.01	0.3	7.238
FEH: 100 years: +40 %: 1440 mins: Winter	0.01	0.2	8.080

FEH: 100 years: +40 %: 2160 mins: Summer	0.01	0.2	7.680
FEH: 100 years: +40 %: 2160 mins: Winter	0.01	0.2	8.663
FEH: 100 years: +40 %: 2880 mins: Summer	0.01	0.2	8.330
FEH: 100 years: +40 %: 2880 mins: Winter	0.01	0.1	8.966
FEH: 100 years: +40 %: 4320 mins: Summer	0.01	0.1	8.867
FEH: 100 years: +40 %: 4320 mins: Winter	0.01	0.1	10.309
FEH: 100 years: +40 %: 5760 mins: Summer	0.01	0.1	9.614
FEH: 100 years: +40 %: 5760 mins: Winter	0.01	0.1	10.714
FEH: 100 years: +40 %: 7200 mins: Summer	0.01	0.1	10.622
FEH: 100 years: +40 %: 7200 mins: Winter	0.01	0.1	11.660
FEH: 100 years: +40 %: 8640 mins: Summer	0.01	0.1	11.609
FEH: 100 years: +40 %: 8640 mins: Winter	0.01	0.1	12.546
FEH: 100 years: +40 %: 10080 mins: Summer	0.01	0.1	12.582
FEH: 100 years: +40 %: 10080 mins: Winter	0.01	0.1	13.549
FEH: 30 years: +0 %: 15 mins: Summer	0.01	2.5	1.109
FEH: 30 years: +0 %: 15 mins: Winter	0.01	2.7	1.244
FEH: 30 years: +0 %: 30 mins: Summer	0.01	2.3	1.485
FEH: 30 years: +0 %: 30 mins: Winter	0.01	2.1	1.662
FEH: 30 years: +0 %: 60 mins: Summer	0.01	1.8	1.886
FEH: 30 years: +0 %: 60 mins: Winter	0.01	1.4	2.111
FEH: 30 years: +0 %: 120 mins: Summer	0.01	1.2	2.316
FEH: 30 years: +0 %: 120 mins: Winter	0.01	0.9	2.590
FEH: 30 years: +0 %: 180 mins: Summer	0.01	0.9	2.618
FEH: 30 years: +0 %: 180 mins: Winter	0.01	0.7	2.920
FEH: 30 years: +0 %: 240 mins: Summer	0.01	0.8	2.840

FEH: 30 years: +0 %: 240 mins: Winter	0.01	0.6	3.178
FEH: 30 years: +0 %: 360 mins: Summer	0.01	0.6	3.158
FEH: 30 years: +0 %: 360 mins: Winter	0.01	0.4	3.517
FEH: 30 years: +0 %: 480 mins: Summer	0.01	0.5	3.360
FEH: 30 years: +0 %: 480 mins: Winter	0.01	0.3	3.773
FEH: 30 years: +0 %: 600 mins: Summer	0.01	0.4	3.527
FEH: 30 years: +0 %: 600 mins: Winter	0.01	0.3	3.958
FEH: 30 years: +0 %: 720 mins: Summer	0.01	0.3	3.660
FEH: 30 years: +0 %: 720 mins: Winter	0.01	0.2	4.086
FEH: 30 years: +0 %: 960 mins: Summer	0.01	0.3	3.884
FEH: 30 years: +0 %: 960 mins: Winter	0.01	0.2	4.324
FEH: 30 years: +0 %: 1440 mins: Summer	0.01	0.2	4.259
FEH: 30 years: +0 %: 1440 mins: Winter	0.01	0.1	4.680
FEH: 30 years: +0 %: 2160 mins: Summer	0.01	0.1	4.556
FEH: 30 years: +0 %: 2160 mins: Winter	0.01	0.1	5.232
FEH: 30 years: +0 %: 2880 mins: Summer	0.01	0.1	4.813
FEH: 30 years: +0 %: 2880 mins: Winter	0.01	0.1	5.387
FEH: 30 years: +0 %: 4320 mins: Summer	0.01	0.1	5.647
FEH: 30 years: +0 %: 4320 mins: Winter	0.01	0.1	6.070
FEH: 30 years: +0 %: 5760 mins: Summer	0.01	0.1	6.496
FEH: 30 years: +0 %: 5760 mins: Winter	0.01	0.0	6.907
FEH: 30 years: +0 %: 7200 mins: Summer	0.01	0.1	7.090
FEH: 30 years: +0 %: 7200 mins: Winter	0.01	0.0	7.519
FEH: 30 years: +0 %: 8640 mins: Summer	0.01	0.0	7.259

FEH: 30 years: +0 %: 8640 mins: Winter	0.01	0.0	8.398
FEH: 30 years: +0 %: 10080 mins: Summer	0.01	0.0	7.382
FEH: 30 years: +0 %: 10080 mins: Winter	0.01	0.0	8.951
FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.1	0.500
FEH: 2 years: +0 %: 15 mins: Winter	0.01	1.2	0.557
FEH: 2 years: +0 %: 30 mins: Summer	0.01	1.0	0.649
FEH: 2 years: +0 %: 30 mins: Winter	0.01	0.9	0.728
FEH: 2 years: +0 %: 60 mins: Summer	0.01	0.8	0.824
FEH: 2 years: +0 %: 60 mins: Winter	0.01	0.6	0.920
FEH: 2 years: +0 %: 120 mins: Summer	0.01	0.6	1.132
FEH: 2 years: +0 %: 120 mins: Winter	0.01	0.4	1.268
FEH: 2 years: +0 %: 180 mins: Summer	0.01	0.5	1.338
FEH: 2 years: +0 %: 180 mins: Winter	0.01	0.3	1.494
FEH: 2 years: +0 %: 240 mins: Summer	0.01	0.4	1.502
FEH: 2 years: +0 %: 240 mins: Winter	0.01	0.3	1.673
FEH: 2 years: +0 %: 360 mins: Summer	0.01	0.3	1.741
FEH: 2 years: +0 %: 360 mins: Winter	0.01	0.2	1.943
FEH: 2 years: +0 %: 480 mins: Summer	0.01	0.3	1.903
FEH: 2 years: +0 %: 480 mins: Winter	0.01	0.2	2.122
FEH: 2 years: +0 %: 600 mins: Summer	0.01	0.2	2.042
FEH: 2 years: +0 %: 600 mins: Winter	0.01	0.2	2.305
FEH: 2 years: +0 %: 720 mins: Summer	0.01	0.2	2.184
FEH: 2 years: +0 %: 720 mins: Winter	0.01	0.1	2.402
FEH: 2 years: +0 %: 960 mins: Summer	0.01	0.2	2.333
FEH: 2 years: +0 %: 960 mins: Winter	0.01	0.1	2.615
FEH: 2 years: +0 %: 1440 mins: Summer	0.01	0.1	2.584
FEH: 2 years: +0 %: 1440 mins: Winter	0.01	0.1	2.957
FEH: 2 years: +0 %: 2160 mins: Summer	0.01	0.1	2.952
FEH: 2 years: +0 %: 2160 mins: Winter	0.01	0.1	3.187
FEH: 2 years: +0 %: 2880 mins: Summer	0.01	0.1	3.320
FEH: 2 years: +0 %: 2880 mins: Winter	0.01	0.0	3.558
FEH: 2 years: +0 %: 4320 mins: Summer	0.01	0.0	3.680

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		

FEH: 2 years: +0 %: 4320 mins: Winter	0.01	0.0	4.202
FEH: 2 years: +0 %: 5760 mins: Summer	0.01	0.0	3.665
FEH: 2 years: +0 %: 5760 mins: Winter	0.01	0.0	4.768
FEH: 2 years: +0 %: 7200 mins: Summer	0.01	0.0	3.884
FEH: 2 years: +0 %: 7200 mins: Winter	0.01	0.0	4.579
FEH: 2 years: +0 %: 8640 mins: Summer	0.01	0.0	4.037
FEH: 2 years: +0 %: 8640 mins: Winter	0.01	0.0	4.462
FEH: 2 years: +0 %: 10080 mins: Summer	0.01	0.0	4.111
FEH: 2 years: +0 %: 10080 mins: Winter	0.01	0.0	4.720

Catchment Area (4)

Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow (m^3)
FEH: 100 years: +40 %: 15 mins: Summer	0.01	4.8	2.104
FEH: 100 years: +40 %: 15 mins: Winter	0.01	5.0	2.354
FEH: 100 years: +40 %: 30 mins: Summer	0.01	4.5	2.821
FEH: 100 years: +40 %: 30 mins: Winter	0.01	4.0	3.157
FEH: 100 years: +40 %: 60 mins: Summer	0.01	3.4	3.623
FEH: 100 years: +40 %: 60 mins: Winter	0.01	2.8	4.060
FEH: 100 years: +40 %: 120 mins: Summer	0.01	2.3	4.405
FEH: 100 years: +40 %: 120 mins: Winter	0.01	1.7	4.933
FEH: 100 years: +40 %: 180 mins: Summer	0.01	1.7	4.925
FEH: 100 years: +40 %: 180 mins: Winter	0.01	1.3	5.509
FEH: 100 years: +40 %: 240 mins: Summer	0.01	1.4	5.286
FEH: 100 years: +40 %: 240 mins: Winter	0.01	1.0	5.921
FEH: 100 years: +40 %: 360 mins: Summer	0.01	1.0	5.772
FEH: 100 years: +40 %: 360 mins: Winter	0.01	0.8	6.448
FEH: 100 years: +40 %: 480 mins: Summer	0.01	0.8	6.101
FEH: 100 years: +40 %: 480 mins: Winter	0.01	0.6	6.853
FEH: 100 years: +40 %: 600 mins: Summer	0.01	0.7	6.362
FEH: 100 years: +40 %: 600 mins: Winter	0.01	0.5	7.129
FEH: 100 years: +40 %: 720 mins: Summer	0.01	0.6	6.578
FEH: 100 years: +40 %: 720 mins: Winter	0.01	0.4	7.392
FEH: 100 years: +40 %: 960 mins: Summer	0.01	0.5	6.890
FEH: 100 years: +40 %: 960 mins: Winter	0.01	0.3	7.745
FEH: 100 years: +40 %: 1440 mins: Summer	0.01	0.3	7.376
FEH: 100 years: +40 %: 1440 mins: Winter	0.01	0.2	8.203

FEH: 100 years: +40 %: 2160 mins: Summer	0.01	0.2	7.874
FEH: 100 years: +40 %: 2160 mins: Winter	0.01	0.2	8.800
FEH: 100 years: +40 %: 2880 mins: Summer	0.01	0.2	8.440
FEH: 100 years: +40 %: 2880 mins: Winter	0.01	0.1	9.318
FEH: 100 years: +40 %: 4320 mins: Summer	0.01	0.1	9.118
FEH: 100 years: +40 %: 4320 mins: Winter	0.01	0.1	10.469
FEH: 100 years: +40 %: 5760 mins: Summer	0.01	0.1	9.820
FEH: 100 years: +40 %: 5760 mins: Winter	0.01	0.1	10.859
FEH: 100 years: +40 %: 7200 mins: Summer	0.01	0.1	10.715
FEH: 100 years: +40 %: 7200 mins: Winter	0.01	0.1	11.755
FEH: 100 years: +40 %: 8640 mins: Summer	0.01	0.1	11.818
FEH: 100 years: +40 %: 8640 mins: Winter	0.01	0.1	12.752
FEH: 100 years: +40 %: 10080 mins: Summer	0.01	0.1	12.821
FEH: 100 years: +40 %: 10080 mins: Winter	0.01	0.1	13.792
FEH: 30 years: +0 %: 15 mins: Summer	0.01	2.6	1.133
FEH: 30 years: +0 %: 15 mins: Winter	0.01	2.7	1.272
FEH: 30 years: +0 %: 30 mins: Summer	0.01	2.4	1.516
FEH: 30 years: +0 %: 30 mins: Winter	0.01	2.2	1.697
FEH: 30 years: +0 %: 60 mins: Summer	0.01	1.8	1.924
FEH: 30 years: +0 %: 60 mins: Winter	0.01	1.5	2.153
FEH: 30 years: +0 %: 120 mins: Summer	0.01	1.2	2.365
FEH: 30 years: +0 %: 120 mins: Winter	0.01	0.9	2.647
FEH: 30 years: +0 %: 180 mins: Summer	0.01	0.9	2.664
FEH: 30 years: +0 %: 180 mins: Winter	0.01	0.7	2.982
FEH: 30 years: +0 %: 240 mins: Summer	0.01	0.8	2.898

FEH: 30 years: +0 %: 240 mins: Winter	0.01	0.6	3.242
FEH: 30 years: +0 %: 360 mins: Summer	0.01	0.6	3.215
FEH: 30 years: +0 %: 360 mins: Winter	0.01	0.4	3.588
FEH: 30 years: +0 %: 480 mins: Summer	0.01	0.5	3.433
FEH: 30 years: +0 %: 480 mins: Winter	0.01	0.3	3.846
FEH: 30 years: +0 %: 600 mins: Summer	0.01	0.4	3.605
FEH: 30 years: +0 %: 600 mins: Winter	0.01	0.3	4.027
FEH: 30 years: +0 %: 720 mins: Summer	0.01	0.3	3.743
FEH: 30 years: +0 %: 720 mins: Winter	0.01	0.3	4.164
FEH: 30 years: +0 %: 960 mins: Summer	0.01	0.3	3.964
FEH: 30 years: +0 %: 960 mins: Winter	0.01	0.2	4.409
FEH: 30 years: +0 %: 1440 mins: Summer	0.01	0.2	4.344
FEH: 30 years: +0 %: 1440 mins: Winter	0.01	0.1	4.784
FEH: 30 years: +0 %: 2160 mins: Summer	0.01	0.1	4.638
FEH: 30 years: +0 %: 2160 mins: Winter	0.01	0.1	5.311
FEH: 30 years: +0 %: 2880 mins: Summer	0.01	0.1	4.944
FEH: 30 years: +0 %: 2880 mins: Winter	0.01	0.1	5.465
FEH: 30 years: +0 %: 4320 mins: Summer	0.01	0.1	5.657
FEH: 30 years: +0 %: 4320 mins: Winter	0.01	0.1	6.218
FEH: 30 years: +0 %: 5760 mins: Summer	0.01	0.1	6.503
FEH: 30 years: +0 %: 5760 mins: Winter	0.01	0.0	6.980
FEH: 30 years: +0 %: 7200 mins: Summer	0.01	0.1	7.508
FEH: 30 years: +0 %: 7200 mins: Winter	0.01	0.0	7.686
FEH: 30 years: +0 %: 8640 mins: Summer	0.01	0.0	7.464

FEH: 30 years: +0 %: 8640 mins: Winter	0.01	0.0	8.405
FEH: 30 years: +0 %: 10080 mins: Summer	0.01	0.0	7.621
FEH: 30 years: +0 %: 10080 mins: Winter	0.01	0.0	9.192
FEH: 2 years: +0 %: 15 mins: Summer	0.01	1.2	0.508
FEH: 2 years: +0 %: 15 mins: Winter	0.01	1.2	0.568
FEH: 2 years: +0 %: 30 mins: Summer	0.01	1.0	0.662
FEH: 2 years: +0 %: 30 mins: Winter	0.01	0.9	0.745
FEH: 2 years: +0 %: 60 mins: Summer	0.01	0.8	0.841
FEH: 2 years: +0 %: 60 mins: Winter	0.01	0.6	0.938
FEH: 2 years: +0 %: 120 mins: Summer	0.01	0.6	1.154
FEH: 2 years: +0 %: 120 mins: Winter	0.01	0.4	1.289
FEH: 2 years: +0 %: 180 mins: Summer	0.01	0.5	1.368
FEH: 2 years: +0 %: 180 mins: Winter	0.01	0.4	1.525
FEH: 2 years: +0 %: 240 mins: Summer	0.01	0.4	1.531
FEH: 2 years: +0 %: 240 mins: Winter	0.01	0.3	1.705
FEH: 2 years: +0 %: 360 mins: Summer	0.01	0.3	1.775
FEH: 2 years: +0 %: 360 mins: Winter	0.01	0.2	1.976
FEH: 2 years: +0 %: 480 mins: Summer	0.01	0.3	1.949
FEH: 2 years: +0 %: 480 mins: Winter	0.01	0.2	2.162
FEH: 2 years: +0 %: 600 mins: Summer	0.01	0.2	2.083
FEH: 2 years: +0 %: 600 mins: Winter	0.01	0.2	2.345
FEH: 2 years: +0 %: 720 mins: Summer	0.01	0.2	2.225
FEH: 2 years: +0 %: 720 mins: Winter	0.01	0.1	2.494
FEH: 2 years: +0 %: 960 mins: Summer	0.01	0.2	2.380
FEH: 2 years: +0 %: 960 mins: Winter	0.01	0.1	2.659
FEH: 2 years: +0 %: 1440 mins: Summer	0.01	0.1	2.614
FEH: 2 years: +0 %: 1440 mins: Winter	0.01	0.1	3.034
FEH: 2 years: +0 %: 2160 mins: Summer	0.01	0.1	2.982
FEH: 2 years: +0 %: 2160 mins: Winter	0.01	0.1	3.257
FEH: 2 years: +0 %: 2880 mins: Summer	0.01	0.1	3.413
FEH: 2 years: +0 %: 2880 mins: Winter	0.01	0.0	3.565
FEH: 2 years: +0 %: 4320 mins: Summer	0.01	0.0	3.833

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Address:		

FEH: 2 years: +0 %: 4320 mins: Winter	0.01	0.0	4.302
FEH: 2 years: +0 %: 5760 mins: Summer	0.01	0.0	3.805
FEH: 2 years: +0 %: 5760 mins: Winter	0.01	0.0	4.836
FEH: 2 years: +0 %: 7200 mins: Summer	0.01	0.0	3.971
FEH: 2 years: +0 %: 7200 mins: Winter	0.01	0.0	5.271
FEH: 2 years: +0 %: 8640 mins: Summer	0.01	0.0	4.044
FEH: 2 years: +0 %: 8640 mins: Winter	0.01	0.0	4.669
FEH: 2 years: +0 %: 10080 mins: Summer	0.01	0.0	4.231
FEH: 2 years: +0 %: 10080 mins: Winter	0.01	0.0	4.838

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

Soakaway

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 100 years: +40 %: 15 mins: Summer	70.605	70.605	0.605	0.605	4.8	2.094	0.000	0.037	0.0	0.000	70	OK
FEH: 100 years: +40 %: 15 mins: Winter	70.677	70.677	0.677	0.677	5.1	2.346	0.000	0.039	0.0	0.000	66	OK
FEH: 100 years: +40 %: 30 mins: Summer	70.807	70.807	0.807	0.807	4.5	2.795	0.000	0.087	0.0	0.000	60	OK
FEH: 100 years: +40 %: 30 mins: Winter	70.905	70.905	0.905	0.905	4.1	3.135	0.000	0.092	0.0	0.000	55	OK
FEH: 100 years: +40 %: 60 mins: Summer	71.027	71.027	1.027	1.027	3.4	3.557	0.000	0.202	0.0	0.000	49	OK
FEH: 100 years: +40 %: 60 mins: Winter	71.152	71.152	1.152	1.152	2.8	3.990	0.000	0.216	0.0	0.000	42	OK
FEH: 100 years: +40 %: 120 mins: Summer	71.224	71.224	1.224	1.224	2.3	4.240	0.000	0.450	0.0	0.000	39	OK
FEH: 100 years: +40 %: 120 mins: Winter	71.377	71.377	1.377	1.377	1.7	4.769	0.000	0.485	0.0	0.000	31	OK
FEH: 100 years: +40 %: 180 mins: Summer	71.344	71.344	1.344	1.344	1.8	4.657	0.000	0.715	0.0	0.000	33	OK
FEH: 100 years: +40 %: 180 mins: Winter	71.512	71.512	1.512	1.512	1.3	5.237	0.000	0.772	0.0	0.000	24	OK
FEH: 100 years: +40 %: 240 mins: Summer	71.420	71.420	1.420	1.420	1.4	4.920	0.000	0.985	0.0	0.000	29	OK
FEH: 100 years: +40 %: 240 mins: Winter	71.598	71.598	1.598	1.598	1.0	5.535	0.000	1.065	0.0	0.000	20	OK
FEH: 100 years: +40 %: 360 mins: Summer	71.497	71.497	1.497	1.497	1.0	5.186	0.000	1.517	0.0	0.000	25	OK
FEH: 100 years: +40 %: 360 mins: Winter	71.685	71.685	1.685	1.685	0.8	5.837	0.000	1.642	0.0	0.000	16	OK

FEH: 100 years: +40 %: 480 mins: Summer	71.528	71.528	1.528	1.528	0.8	5.292	0.000	2.030	0.0	0.000	24	OK
FEH: 100 years: +40 %: 480 mins: Winter	71.732	71.732	1.732	1.732	0.6	5.999	0.000	2.208	0.0	0.000	13	OK
FEH: 100 years: +40 %: 600 mins: Summer	71.542	71.542	1.542	1.542	0.7	5.341	0.000	2.528	0.0	0.000	23	OK
FEH: 100 years: +40 %: 600 mins: Winter	71.750	71.750	1.750	1.750	0.5	6.060	0.000	2.750	0.0	0.000	13	OK
FEH: 100 years: +40 %: 720 mins: Summer	71.540	71.540	1.540	1.540	0.6	5.334	0.000	3.001	0.0	0.000	23	OK
FEH: 100 years: +40 %: 720 mins: Winter	71.757	71.757	1.757	1.757	0.4	6.086	0.000	3.273	0.0	0.000	12	OK
FEH: 100 years: +40 %: 960 mins: Summer	71.516	71.516	1.516	1.516	0.5	5.251	0.000	3.869	0.0	0.000	24	OK
FEH: 100 years: +40 %: 960 mins: Winter	71.731	71.731	1.731	1.731	0.3	5.996	0.000	4.221	0.0	0.000	13	OK
FEH: 100 years: +40 %: 1440 mins: Summer	71.478	71.478	1.478	1.478	0.3	5.118	0.000	5.379	0.0	0.000	26	OK
FEH: 100 years: +40 %: 1440 mins: Winter	71.664	71.664	1.664	1.664	0.2	5.765	0.000	5.828	0.0	0.000	17	OK
FEH: 100 years: +40 %: 2160 mins: Summer	71.404	71.404	1.404	1.404	0.2	4.864	0.000	7.061	0.0	0.000	30	OK
FEH: 100 years: +40 %: 2160 mins: Winter	71.592	71.592	1.592	1.592	0.2	5.514	0.000	7.734	0.0	0.000	20	OK
FEH: 100 years: +40 %: 2880 mins: Summer	71.350	71.350	1.350	1.350	0.2	4.675	0.000	8.430	0.0	0.000	33	OK
FEH: 100 years: +40 %: 2880 mins: Winter	71.523	71.523	1.523	1.523	0.1	5.275	0.000	9.139	0.0	0.000	24	OK
FEH: 100 years: +40 %: 4320 mins: Summer	71.273	71.273	1.273	1.273	0.1	4.409	0.000	9.168	0.0	0.000	36	OK
FEH: 100 years: +40 %: 4320 mins: Winter	71.418	71.418	1.418	1.418	0.1	4.912	0.000	10.565	0.0	0.000	29	OK

FEH: 100 years: +40 %: 5760 mins: Summer	71.203	71.203	1.203	1.203	0.1	4.167	0.000	9.888	0.0	0.000	40	OK
FEH: 100 years: +40 %: 5760 mins: Winter	71.297	71.297	1.297	1.297	0.1	4.492	0.000	10.992	0.0	0.000	35	OK
FEH: 100 years: +40 %: 7200 mins: Summer	71.177	71.177	1.177	1.177	0.1	4.077	0.000	10.804	0.0	0.000	41	OK
FEH: 100 years: +40 %: 7200 mins: Winter	71.239	71.239	1.239	1.239	0.1	4.292	0.000	11.921	0.0	0.000	38	OK
FEH: 100 years: +40 %: 8640 mins: Summer	71.154	71.154	1.154	1.154	0.1	3.996	0.000	11.819	0.0	0.000	42	OK
FEH: 100 years: +40 %: 8640 mins: Winter	71.159	71.159	1.159	1.159	0.1	4.015	0.000	12.755	0.0	0.000	42	OK
FEH: 100 years: +40 %: 10080 mins: Summer	71.143	71.143	1.143	1.143	0.1	3.958	0.000	12.938	0.0	0.000	43	OK
FEH: 100 years: +40 %: 10080 mins: Winter	71.170	71.170	1.170	1.170	0.1	4.051	0.000	13.912	0.0	0.000	42	OK
FEH: 30 years: +0 %: 15 mins: Summer	70.324	70.324	0.324	0.324	2.6	1.121	0.000	0.029	0.0	0.000	84	OK
FEH: 30 years: +0 %: 15 mins: Winter	70.363	70.363	0.363	0.363	2.7	1.258	0.000	0.030	0.0	0.000	82	OK
FEH: 30 years: +0 %: 30 mins: Summer	70.430	70.430	0.430	0.430	2.4	1.490	0.000	0.066	0.0	0.000	78	OK
FEH: 30 years: +0 %: 30 mins: Winter	70.482	70.482	0.482	0.482	2.2	1.670	0.000	0.069	0.0	0.000	76	OK
FEH: 30 years: +0 %: 60 mins: Summer	70.539	70.539	0.539	0.539	1.8	1.866	0.000	0.145	0.0	0.000	73	OK
FEH: 30 years: +0 %: 60 mins: Winter	70.606	70.606	0.606	0.606	1.5	2.099	0.000	0.153	0.0	0.000	70	OK
FEH: 30 years: +0 %: 120 mins: Summer	70.646	70.646	0.646	0.646	1.2	2.237	0.000	0.315	0.0	0.000	68	OK
FEH: 30 years: +0 %: 120 mins: Winter	70.727	70.727	0.727	0.727	0.9	2.518	0.000	0.333	0.0	0.000	64	OK

FEH: 30 years: +0 %: 180 mins: Summer	70.712	70.712	0.712	0.712	0.9	2.466	0.000	0.495	0.0	0.000	64	OK
FEH: 30 years: +0 %: 180 mins: Winter	70.803	70.803	0.803	0.803	0.7	2.780	0.000	0.524	0.0	0.000	60	OK
FEH: 30 years: +0 %: 240 mins: Summer	70.756	70.756	0.756	0.756	0.8	2.620	0.000	0.677	0.0	0.000	62	OK
FEH: 30 years: +0 %: 240 mins: Winter	70.854	70.854	0.854	0.854	0.6	2.959	0.000	0.720	0.0	0.000	57	OK
FEH: 30 years: +0 %: 360 mins: Summer	70.804	70.804	0.804	0.804	0.6	2.784	0.000	1.038	0.0	0.000	60	OK
FEH: 30 years: +0 %: 360 mins: Winter	70.908	70.908	0.908	0.908	0.4	3.143	0.000	1.106	0.0	0.000	55	OK
FEH: 30 years: +0 %: 480 mins: Summer	70.820	70.820	0.820	0.820	0.5	2.840	0.000	1.386	0.0	0.000	59	OK
FEH: 30 years: +0 %: 480 mins: Winter	70.936	70.936	0.936	0.936	0.3	3.242	0.000	1.484	0.0	0.000	53	OK
FEH: 30 years: +0 %: 600 mins: Summer	70.825	70.825	0.825	0.825	0.4	2.858	0.000	1.720	0.0	0.000	59	OK
FEH: 30 years: +0 %: 600 mins: Winter	70.944	70.944	0.944	0.944	0.3	3.271	0.000	1.843	0.0	0.000	53	OK
FEH: 30 years: +0 %: 720 mins: Summer	70.821	70.821	0.821	0.821	0.3	2.842	0.000	2.038	0.0	0.000	59	OK
FEH: 30 years: +0 %: 720 mins: Winter	70.938	70.938	0.938	0.938	0.3	3.250	0.000	2.178	0.0	0.000	53	OK
FEH: 30 years: +0 %: 960 mins: Summer	70.813	70.813	0.813	0.813	0.3	2.816	0.000	2.629	0.0	0.000	59	OK
FEH: 30 years: +0 %: 960 mins: Winter	70.928	70.928	0.928	0.928	0.2	3.215	0.000	2.816	0.0	0.000	54	OK
FEH: 30 years: +0 %: 1440 mins: Summer	70.793	70.793	0.793	0.793	0.2	2.747	0.000	3.668	0.0	0.000	60	OK
FEH: 30 years: +0 %: 1440 mins: Winter	70.908	70.908	0.908	0.908	0.1	3.144	0.000	3.955	0.0	0.000	55	OK
FEH: 30 years: +0 %: 2160 mins: Summer	70.744	70.744	0.744	0.744	0.1	2.576	0.000	4.643	0.0	0.000	63	OK

FEH: 30 years: +0 %: 2160 mins: Winter	70.851	70.851	0.851	0.851	0.1	2.948	0.000	5.223	0.0	0.000	57	OK
FEH: 30 years: +0 %: 2880 mins: Summer	70.703	70.703	0.703	0.703	0.1	2.436	0.000	4.945	0.0	0.000	65	OK
FEH: 30 years: +0 %: 2880 mins: Winter	70.793	70.793	0.793	0.793	0.1	2.746	0.000	5.497	0.0	0.000	60	OK
FEH: 30 years: +0 %: 4320 mins: Summer	70.676	70.676	0.676	0.676	0.1	2.341	0.000	5.800	0.0	0.000	66	OK
FEH: 30 years: +0 %: 4320 mins: Winter	70.726	70.726	0.726	0.726	0.1	2.514	0.000	6.266	0.0	0.000	64	OK
FEH: 30 years: +0 %: 5760 mins: Summer	70.613	70.613	0.613	0.613	0.1	2.124	0.000	6.505	0.0	0.000	69	OK
FEH: 30 years: +0 %: 5760 mins: Winter	70.674	70.674	0.674	0.674	0.1	2.335	0.000	7.045	0.0	0.000	66	OK
FEH: 30 years: +0 %: 7200 mins: Summer	70.627	70.627	0.627	0.627	0.1	2.171	0.000	7.511	0.0	0.000	69	OK
FEH: 30 years: +0 %: 7200 mins: Winter	70.615	70.615	0.615	0.615	0.0	2.131	0.000	7.690	0.0	0.000	69	OK
FEH: 30 years: +0 %: 8640 mins: Summer	70.584	70.584	0.584	0.584	0.1	2.021	0.000	7.667	0.0	0.000	71	OK
FEH: 30 years: +0 %: 8640 mins: Winter	70.593	70.593	0.593	0.593	0.0	2.055	0.000	8.504	0.0	0.000	70	OK
FEH: 30 years: +0 %: 10080 mins: Summer	70.599	70.599	0.599	0.599	0.1	2.075	0.000	7.740	0.0	0.000	70	OK
FEH: 30 years: +0 %: 10080 mins: Winter	70.583	70.583	0.583	0.583	0.0	2.019	0.000	9.311	0.0	0.000	71	OK
FEH: 2 years: +0 %: 15 mins: Summer	70.143	70.143	0.143	0.143	1.2	0.496	0.000	0.025	0.0	0.000	93	OK
FEH: 2 years: +0 %: 15 mins: Winter	70.161	70.161	0.161	0.161	1.2	0.557	0.000	0.025	0.0	0.000	92	OK
FEH: 2 years: +0 %: 30 mins: Summer	70.185	70.185	0.185	0.185	1.1	0.640	0.000	0.052	0.0	0.000	91	OK
FEH: 2 years: +0 %: 30 mins: Winter	70.208	70.208	0.208	0.208	1.0	0.722	0.000	0.053	0.0	0.000	90	OK

FEH: 2 years: +0 %: 60 mins: Summer	70.229	70.229	0.229	0.229	0.8	0.794	0.000	0.109	0.0	0.000	89	OK
FEH: 2 years: +0 %: 60 mins: Winter	70.257	70.257	0.257	0.257	0.6	0.890	0.000	0.112	0.0	0.000	87	OK
FEH: 2 years: +0 %: 120 mins: Summer	70.303	70.303	0.303	0.303	0.6	1.049	0.000	0.235	0.0	0.000	85	OK
FEH: 2 years: +0 %: 120 mins: Winter	70.343	70.343	0.343	0.343	0.4	1.187	0.000	0.244	0.0	0.000	83	OK
FEH: 2 years: +0 %: 180 mins: Summer	70.348	70.348	0.348	0.348	0.5	1.205	0.000	0.367	0.0	0.000	83	OK
FEH: 2 years: +0 %: 180 mins: Winter	70.393	70.393	0.393	0.393	0.4	1.362	0.000	0.381	0.0	0.000	80	OK
FEH: 2 years: +0 %: 240 mins: Summer	70.379	70.379	0.379	0.379	0.4	1.312	0.000	0.502	0.0	0.000	81	OK
FEH: 2 years: +0 %: 240 mins: Winter	70.429	70.429	0.429	0.429	0.3	1.485	0.000	0.522	0.0	0.000	79	OK
FEH: 2 years: +0 %: 360 mins: Summer	70.413	70.413	0.413	0.413	0.3	1.431	0.000	0.769	0.0	0.000	79	OK
FEH: 2 years: +0 %: 360 mins: Winter	70.470	70.470	0.470	0.470	0.2	1.629	0.000	0.804	0.0	0.000	76	OK
FEH: 2 years: +0 %: 480 mins: Summer	70.429	70.429	0.429	0.429	0.3	1.485	0.000	1.028	0.0	0.000	79	OK
FEH: 2 years: +0 %: 480 mins: Winter	70.491	70.491	0.491	0.491	0.2	1.699	0.000	1.078	0.0	0.000	75	OK
FEH: 2 years: +0 %: 600 mins: Summer	70.436	70.436	0.436	0.436	0.2	1.508	0.000	1.278	0.0	0.000	78	OK
FEH: 2 years: +0 %: 600 mins: Winter	70.508	70.508	0.508	0.508	0.2	1.761	0.000	1.351	0.0	0.000	75	OK
FEH: 2 years: +0 %: 720 mins: Summer	70.440	70.440	0.440	0.440	0.2	1.525	0.000	1.523	0.0	0.000	78	OK
FEH: 2 years: +0 %: 720 mins: Winter	70.516	70.516	0.516	0.516	0.2	1.789	0.000	1.612	0.0	0.000	74	OK
FEH: 2 years: +0 %: 960 mins: Summer	70.440	70.440	0.440	0.440	0.2	1.524	0.000	1.963	0.0	0.000	78	OK

FEH: 2 years: +0 %: 960 mins: Winter	70.505	70.505	0.505	0.505	0.1	1.751	0.000	2.072	0.0	0.000	75	OK
FEH: 2 years: +0 %: 1440 mins: Summer	70.418	70.418	0.418	0.418	0.1	1.447	0.000	2.618	0.0	0.000	79	OK
FEH: 2 years: +0 %: 1440 mins: Winter	70.498	70.498	0.498	0.498	0.1	1.725	0.000	2.913	0.0	0.000	75	OK
FEH: 2 years: +0 %: 2160 mins: Summer	70.399	70.399	0.399	0.399	0.1	1.383	0.000	3.004	0.0	0.000	80	OK
FEH: 2 years: +0 %: 2160 mins: Winter	70.451	70.451	0.451	0.451	0.1	1.562	0.000	3.262	0.0	0.000	77	OK
FEH: 2 years: +0 %: 2880 mins: Summer	70.383	70.383	0.383	0.383	0.1	1.328	0.000	3.416	0.0	0.000	81	OK
FEH: 2 years: +0 %: 2880 mins: Winter	70.418	70.418	0.418	0.418	0.1	1.449	0.000	3.598	0.0	0.000	79	OK
FEH: 2 years: +0 %: 4320 mins: Summer	70.365	70.365	0.365	0.365	0.1	1.265	0.000	3.931	0.0	0.000	82	OK
FEH: 2 years: +0 %: 4320 mins: Winter	70.375	70.375	0.375	0.375	0.0	1.300	0.000	4.303	0.0	0.000	81	OK
FEH: 2 years: +0 %: 5760 mins: Summer	70.325	70.325	0.325	0.325	0.1	1.127	0.000	3.869	0.0	0.000	84	OK
FEH: 2 years: +0 %: 5760 mins: Winter	70.325	70.325	0.325	0.325	0.0	1.125	0.000	4.838	0.0	0.000	84	OK
FEH: 2 years: +0 %: 7200 mins: Summer	70.320	70.320	0.320	0.320	0.0	1.108	0.000	3.973	0.0	0.000	84	OK
FEH: 2 years: +0 %: 7200 mins: Winter	70.313	70.313	0.313	0.313	0.0	1.085	0.000	5.274	0.0	0.000	84	OK
FEH: 2 years: +0 %: 8640 mins: Summer	70.312	70.312	0.312	0.312	0.0	1.082	0.000	4.144	0.0	0.000	84	OK
FEH: 2 years: +0 %: 8640 mins: Winter	70.286	70.286	0.286	0.286	0.0	0.989	0.000	4.867	0.0	0.000	86	OK
FEH: 2 years: +0 %: 10080 mins: Summer	70.289	70.289	0.289	0.289	0.0	1.001	0.000	4.234	0.0	0.000	86	OK
FEH: 2 years: +0 %: 10080 mins: Winter	70.230	70.230	0.230	0.230	0.0	0.796	0.000	4.840	0.0	0.000	89	OK

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

Soakaway (1)

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 100 years: +40 %: 15 mins: Summer	74.101	74.101	0.601	0.601	4.8	2.082	0.000	0.037	0.0	0.000	70	OK
FEH: 100 years: +40 %: 15 mins: Winter	74.173	74.173	0.673	0.673	5.0	2.331	0.000	0.039	0.0	0.000	66	OK
FEH: 100 years: +40 %: 30 mins: Summer	74.302	74.302	0.802	0.802	4.5	2.779	0.000	0.087	0.0	0.000	60	OK
FEH: 100 years: +40 %: 30 mins: Winter	74.399	74.399	0.899	0.899	4.0	3.113	0.000	0.092	0.0	0.000	55	OK
FEH: 100 years: +40 %: 60 mins: Summer	74.520	74.520	1.020	1.020	3.4	3.534	0.000	0.201	0.0	0.000	49	OK
FEH: 100 years: +40 %: 60 mins: Winter	74.645	74.645	1.145	1.145	2.8	3.967	0.000	0.215	0.0	0.000	43	OK
FEH: 100 years: +40 %: 120 mins: Summer	74.718	74.718	1.218	1.218	2.3	4.217	0.000	0.449	0.0	0.000	39	OK
FEH: 100 years: +40 %: 120 mins: Winter	74.868	74.868	1.368	1.368	1.7	4.738	0.000	0.482	0.0	0.000	32	OK
FEH: 100 years: +40 %: 180 mins: Summer	74.837	74.837	1.337	1.337	1.7	4.631	0.000	0.713	0.0	0.000	33	OK
FEH: 100 years: +40 %: 180 mins: Winter	75.002	75.002	1.502	1.502	1.3	5.202	0.000	0.769	0.0	0.000	25	OK
FEH: 100 years: +40 %: 240 mins: Summer	74.910	74.910	1.410	1.410	1.4	4.884	0.000	0.980	0.0	0.000	29	OK
FEH: 100 years: +40 %: 240 mins: Winter	75.088	75.088	1.588	1.588	1.0	5.499	0.000	1.061	0.0	0.000	21	OK
FEH: 100 years: +40 %: 360 mins: Summer	74.987	74.987	1.487	1.487	1.0	5.151	0.000	1.510	0.0	0.000	26	OK
FEH: 100 years: +40 %: 360 mins: Winter	75.173	75.173	1.673	1.673	0.8	5.796	0.000	1.634	0.0	0.000	16	OK

FEH: 100 years: +40 %: 480 mins: Summer	75.019	75.019	1.519	1.519	0.8	5.260	0.000	2.021	0.0	0.000	24	OK
FEH: 100 years: +40 %: 480 mins: Winter	75.223	75.223	1.723	1.723	0.6	5.969	0.000	2.200	0.0	0.000	14	OK
FEH: 100 years: +40 %: 600 mins: Summer	75.031	75.031	1.531	1.531	0.7	5.302	0.000	2.515	0.0	0.000	23	OK
FEH: 100 years: +40 %: 600 mins: Winter	75.237	75.237	1.737	1.737	0.5	6.017	0.000	2.736	0.0	0.000	13	OK
FEH: 100 years: +40 %: 720 mins: Summer	75.030	75.030	1.530	1.530	0.6	5.300	0.000	2.988	0.0	0.000	23	OK
FEH: 100 years: +40 %: 720 mins: Winter	75.247	75.247	1.747	1.747	0.4	6.052	0.000	3.260	0.0	0.000	13	OK
FEH: 100 years: +40 %: 960 mins: Summer	75.006	75.006	1.506	1.506	0.5	5.218	0.000	3.853	0.0	0.000	25	OK
FEH: 100 years: +40 %: 960 mins: Winter	75.225	75.225	1.725	1.725	0.3	5.973	0.000	4.210	0.0	0.000	14	OK
FEH: 100 years: +40 %: 1440 mins: Summer	74.962	74.962	1.462	1.462	0.3	5.063	0.000	5.344	0.0	0.000	27	OK
FEH: 100 years: +40 %: 1440 mins: Winter	75.153	75.153	1.653	1.653	0.2	5.727	0.000	5.802	0.0	0.000	17	OK
FEH: 100 years: +40 %: 2160 mins: Summer	74.896	74.896	1.396	1.396	0.2	4.836	0.000	7.037	0.0	0.000	30	OK
FEH: 100 years: +40 %: 2160 mins: Winter	75.076	75.076	1.576	1.576	0.2	5.459	0.000	7.686	0.0	0.000	21	OK
FEH: 100 years: +40 %: 2880 mins: Summer	74.846	74.846	1.346	1.346	0.2	4.662	0.000	8.403	0.0	0.000	33	OK
FEH: 100 years: +40 %: 2880 mins: Winter	75.019	75.019	1.519	1.519	0.1	5.261	0.000	9.109	0.0	0.000	24	OK
FEH: 100 years: +40 %: 4320 mins: Summer	74.770	74.770	1.270	1.270	0.1	4.398	0.000	9.118	0.0	0.000	37	OK
FEH: 100 years: +40 %: 4320 mins: Winter	74.897	74.897	1.397	1.397	0.1	4.839	0.000	10.469	0.0	0.000	30	OK

FEH: 100 years: +40 %: 5760 mins: Summer	74.689	74.689	1.189	1.189	0.1	4.117	0.000	9.820	0.0	0.000	41	OK
FEH: 100 years: +40 %: 5760 mins: Winter	74.780	74.780	1.280	1.280	0.1	4.433	0.000	10.859	0.0	0.000	36	OK
FEH: 100 years: +40 %: 7200 mins: Summer	74.658	74.658	1.158	1.158	0.1	4.013	0.000	10.715	0.0	0.000	42	OK
FEH: 100 years: +40 %: 7200 mins: Winter	74.721	74.721	1.221	1.221	0.1	4.227	0.000	11.755	0.0	0.000	39	OK
FEH: 100 years: +40 %: 8640 mins: Summer	74.653	74.653	1.153	1.153	0.1	3.995	0.000	11.818	0.0	0.000	42	OK
FEH: 100 years: +40 %: 8640 mins: Winter	74.659	74.659	1.159	1.159	0.1	4.014	0.000	12.752	0.0	0.000	42	OK
FEH: 100 years: +40 %: 10080 mins: Summer	74.629	74.629	1.129	1.129	0.1	3.911	0.000	12.821	0.0	0.000	44	OK
FEH: 100 years: +40 %: 10080 mins: Winter	74.649	74.649	1.149	1.149	0.1	3.979	0.000	13.792	0.0	0.000	43	OK
FEH: 30 years: +0 %: 15 mins: Summer	73.822	73.822	0.322	0.322	2.6	1.115	0.000	0.029	0.0	0.000	84	OK
FEH: 30 years: +0 %: 15 mins: Winter	73.862	73.862	0.362	0.362	2.7	1.253	0.000	0.030	0.0	0.000	82	OK
FEH: 30 years: +0 %: 30 mins: Summer	73.928	73.928	0.428	0.428	2.4	1.482	0.000	0.066	0.0	0.000	79	OK
FEH: 30 years: +0 %: 30 mins: Winter	73.980	73.980	0.480	0.480	2.2	1.662	0.000	0.068	0.0	0.000	76	OK
FEH: 30 years: +0 %: 60 mins: Summer	74.036	74.036	0.536	0.536	1.8	1.856	0.000	0.145	0.0	0.000	73	OK
FEH: 30 years: +0 %: 60 mins: Winter	74.101	74.101	0.601	0.601	1.5	2.083	0.000	0.152	0.0	0.000	70	OK
FEH: 30 years: +0 %: 120 mins: Summer	74.143	74.143	0.643	0.643	1.2	2.226	0.000	0.315	0.0	0.000	68	OK
FEH: 30 years: +0 %: 120 mins: Winter	74.223	74.223	0.723	0.723	0.9	2.505	0.000	0.332	0.0	0.000	64	OK

FEH: 30 years: +0 %: 180 mins: Summer	74.207	74.207	0.707	0.707	0.9	2.449	0.000	0.493	0.0	0.000	65	OK
FEH: 30 years: +0 %: 180 mins: Winter	74.297	74.297	0.797	0.797	0.7	2.762	0.000	0.522	0.0	0.000	60	OK
FEH: 30 years: +0 %: 240 mins: Summer	74.252	74.252	0.752	0.752	0.8	2.605	0.000	0.675	0.0	0.000	62	OK
FEH: 30 years: +0 %: 240 mins: Winter	74.349	74.349	0.849	0.849	0.6	2.941	0.000	0.718	0.0	0.000	58	OK
FEH: 30 years: +0 %: 360 mins: Summer	74.298	74.298	0.798	0.798	0.6	2.765	0.000	1.035	0.0	0.000	60	OK
FEH: 30 years: +0 %: 360 mins: Winter	74.402	74.402	0.902	0.902	0.4	3.124	0.000	1.102	0.0	0.000	55	OK
FEH: 30 years: +0 %: 480 mins: Summer	74.316	74.316	0.816	0.816	0.5	2.826	0.000	1.382	0.0	0.000	59	OK
FEH: 30 years: +0 %: 480 mins: Winter	74.430	74.430	0.930	0.930	0.3	3.221	0.000	1.478	0.0	0.000	53	OK
FEH: 30 years: +0 %: 600 mins: Summer	74.321	74.321	0.821	0.821	0.4	2.842	0.000	1.715	0.0	0.000	59	OK
FEH: 30 years: +0 %: 600 mins: Winter	74.437	74.437	0.937	0.937	0.3	3.245	0.000	1.835	0.0	0.000	53	OK
FEH: 30 years: +0 %: 720 mins: Summer	74.316	74.316	0.816	0.816	0.3	2.826	0.000	2.032	0.0	0.000	59	OK
FEH: 30 years: +0 %: 720 mins: Winter	74.432	74.432	0.932	0.932	0.3	3.229	0.000	2.170	0.0	0.000	53	OK
FEH: 30 years: +0 %: 960 mins: Summer	74.307	74.307	0.807	0.807	0.3	2.794	0.000	2.618	0.0	0.000	60	OK
FEH: 30 years: +0 %: 960 mins: Winter	74.421	74.421	0.921	0.921	0.2	3.188	0.000	2.802	0.0	0.000	54	OK
FEH: 30 years: +0 %: 1440 mins: Summer	74.283	74.283	0.783	0.783	0.2	2.713	0.000	3.645	0.0	0.000	61	OK
FEH: 30 years: +0 %: 1440 mins: Winter	74.392	74.392	0.892	0.892	0.1	3.090	0.000	3.888	0.0	0.000	55	OK
FEH: 30 years: +0 %: 2160 mins: Summer	74.243	74.243	0.743	0.743	0.1	2.573	0.000	4.638	0.0	0.000	63	OK

FEH: 30 years: +0 %: 2160 mins: Winter	74.350	74.350	0.850	0.850	0.1	2.943	0.000	5.218	0.0	0.000	58	OK
FEH: 30 years: +0 %: 2880 mins: Summer	74.203	74.203	0.703	0.703	0.1	2.435	0.000	4.944	0.0	0.000	65	OK
FEH: 30 years: +0 %: 2880 mins: Winter	74.290	74.290	0.790	0.790	0.1	2.737	0.000	5.465	0.0	0.000	60	OK
FEH: 30 years: +0 %: 4320 mins: Summer	74.143	74.143	0.643	0.643	0.1	2.226	0.000	5.657	0.0	0.000	68	OK
FEH: 30 years: +0 %: 4320 mins: Winter	74.220	74.220	0.720	0.720	0.1	2.495	0.000	6.218	0.0	0.000	64	OK
FEH: 30 years: +0 %: 5760 mins: Summer	74.113	74.113	0.613	0.613	0.1	2.122	0.000	6.503	0.0	0.000	69	OK
FEH: 30 years: +0 %: 5760 mins: Winter	74.170	74.170	0.670	0.670	0.1	2.322	0.000	6.980	0.0	0.000	66	OK
FEH: 30 years: +0 %: 7200 mins: Summer	74.127	74.127	0.627	0.627	0.1	2.170	0.000	7.508	0.0	0.000	69	OK
FEH: 30 years: +0 %: 7200 mins: Winter	74.115	74.115	0.615	0.615	0.0	2.129	0.000	7.686	0.0	0.000	69	OK
FEH: 30 years: +0 %: 8640 mins: Summer	74.084	74.084	0.584	0.584	0.1	2.021	0.000	7.464	0.0	0.000	71	OK
FEH: 30 years: +0 %: 8640 mins: Winter	74.093	74.093	0.593	0.593	0.0	2.055	0.000	8.405	0.0	0.000	70	OK
FEH: 30 years: +0 %: 10080 mins: Summer	74.074	74.074	0.574	0.574	0.1	1.988	0.000	7.621	0.0	0.000	71	OK
FEH: 30 years: +0 %: 10080 mins: Winter	74.060	74.060	0.560	0.560	0.0	1.941	0.000	9.192	0.0	0.000	72	OK
FEH: 2 years: +0 %: 15 mins: Summer	73.642	73.642	0.142	0.142	1.2	0.493	0.000	0.024	0.0	0.000	93	OK
FEH: 2 years: +0 %: 15 mins: Winter	73.660	73.660	0.160	0.160	1.2	0.553	0.000	0.025	0.0	0.000	92	OK
FEH: 2 years: +0 %: 30 mins: Summer	73.683	73.683	0.183	0.183	1.0	0.634	0.000	0.052	0.0	0.000	91	OK
FEH: 2 years: +0 %: 30 mins: Winter	73.707	73.707	0.207	0.207	0.9	0.717	0.000	0.053	0.0	0.000	90	OK

FEH: 2 years: +0 %: 60 mins: Summer	73.727	73.727	0.227	0.227	0.8	0.787	0.000	0.109	0.0	0.000	89	OK
FEH: 2 years: +0 %: 60 mins: Winter	73.756	73.756	0.256	0.256	0.6	0.885	0.000	0.111	0.0	0.000	87	OK
FEH: 2 years: +0 %: 120 mins: Summer	73.801	73.801	0.301	0.301	0.6	1.044	0.000	0.235	0.0	0.000	85	OK
FEH: 2 years: +0 %: 120 mins: Winter	73.840	73.840	0.340	0.340	0.4	1.177	0.000	0.243	0.0	0.000	83	OK
FEH: 2 years: +0 %: 180 mins: Summer	73.846	73.846	0.346	0.346	0.5	1.198	0.000	0.367	0.0	0.000	83	OK
FEH: 2 years: +0 %: 180 mins: Winter	73.891	73.891	0.391	0.391	0.4	1.354	0.000	0.381	0.0	0.000	80	OK
FEH: 2 years: +0 %: 240 mins: Summer	73.876	73.876	0.376	0.376	0.4	1.301	0.000	0.500	0.0	0.000	81	OK
FEH: 2 years: +0 %: 240 mins: Winter	73.925	73.925	0.425	0.425	0.3	1.473	0.000	0.521	0.0	0.000	79	OK
FEH: 2 years: +0 %: 360 mins: Summer	73.910	73.910	0.410	0.410	0.3	1.421	0.000	0.767	0.0	0.000	79	OK
FEH: 2 years: +0 %: 360 mins: Winter	73.968	73.968	0.468	0.468	0.2	1.620	0.000	0.802	0.0	0.000	77	OK
FEH: 2 years: +0 %: 480 mins: Summer	73.926	73.926	0.426	0.426	0.3	1.476	0.000	1.026	0.0	0.000	79	OK
FEH: 2 years: +0 %: 480 mins: Winter	73.986	73.986	0.486	0.486	0.2	1.684	0.000	1.074	0.0	0.000	76	OK
FEH: 2 years: +0 %: 600 mins: Summer	73.931	73.931	0.431	0.431	0.2	1.493	0.000	1.273	0.0	0.000	78	OK
FEH: 2 years: +0 %: 600 mins: Winter	74.003	74.003	0.503	0.503	0.2	1.743	0.000	1.345	0.0	0.000	75	OK
FEH: 2 years: +0 %: 720 mins: Summer	73.937	73.937	0.437	0.437	0.2	1.515	0.000	1.520	0.0	0.000	78	OK
FEH: 2 years: +0 %: 720 mins: Winter	74.012	74.012	0.512	0.512	0.1	1.773	0.000	1.606	0.0	0.000	74	OK
FEH: 2 years: +0 %: 960 mins: Summer	73.933	73.933	0.433	0.433	0.2	1.498	0.000	1.946	0.0	0.000	78	OK

FEH: 2 years: +0 %: 960 mins: Winter	74.001	74.001	0.501	0.501	0.1	1.734	0.000	2.062	0.0	0.000	75	OK
FEH: 2 years: +0 %: 1440 mins: Summer	73.917	73.917	0.417	0.417	0.1	1.443	0.000	2.614	0.0	0.000	79	OK
FEH: 2 years: +0 %: 1440 mins: Winter	73.993	73.993	0.493	0.493	0.1	1.709	0.000	2.902	0.0	0.000	75	OK
FEH: 2 years: +0 %: 2160 mins: Summer	73.894	73.894	0.394	0.394	0.1	1.365	0.000	2.982	0.0	0.000	80	OK
FEH: 2 years: +0 %: 2160 mins: Winter	73.950	73.950	0.450	0.450	0.1	1.558	0.000	3.257	0.0	0.000	78	OK
FEH: 2 years: +0 %: 2880 mins: Summer	73.883	73.883	0.383	0.383	0.1	1.326	0.000	3.413	0.0	0.000	81	OK
FEH: 2 years: +0 %: 2880 mins: Winter	73.911	73.911	0.411	0.411	0.1	1.425	0.000	3.565	0.0	0.000	79	OK
FEH: 2 years: +0 %: 4320 mins: Summer	73.843	73.843	0.343	0.343	0.1	1.188	0.000	3.833	0.0	0.000	83	OK
FEH: 2 years: +0 %: 4320 mins: Winter	73.875	73.875	0.375	0.375	0.0	1.299	0.000	4.302	0.0	0.000	81	OK
FEH: 2 years: +0 %: 5760 mins: Summer	73.825	73.825	0.325	0.325	0.1	1.127	0.000	3.805	0.0	0.000	84	OK
FEH: 2 years: +0 %: 5760 mins: Winter	73.825	73.825	0.325	0.325	0.0	1.124	0.000	4.836	0.0	0.000	84	OK
FEH: 2 years: +0 %: 7200 mins: Summer	73.820	73.820	0.320	0.320	0.0	1.107	0.000	3.971	0.0	0.000	84	OK
FEH: 2 years: +0 %: 7200 mins: Winter	73.813	73.813	0.313	0.313	0.0	1.085	0.000	5.271	0.0	0.000	84	OK
FEH: 2 years: +0 %: 8640 mins: Summer	73.792	73.792	0.292	0.292	0.0	1.011	0.000	4.044	0.0	0.000	85	OK
FEH: 2 years: +0 %: 8640 mins: Winter	73.767	73.767	0.267	0.267	0.0	0.926	0.000	4.669	0.0	0.000	87	OK
FEH: 2 years: +0 %: 10080 mins: Summer	73.789	73.789	0.289	0.289	0.0	1.000	0.000	4.231	0.0	0.000	86	OK
FEH: 2 years: +0 %: 10080 mins: Winter	73.730	73.730	0.230	0.230	0.0	0.795	0.000	4.838	0.0	0.000	89	OK

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

Soakaway (2)

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 100 years: +40 %: 15 mins: Summer	71.839	71.839	0.589	0.589	4.7	2.040	0.000	0.036	0.0	0.000	71	OK
FEH: 100 years: +40 %: 15 mins: Winter	71.910	71.910	0.660	0.660	4.9	2.286	0.000	0.038	0.0	0.000	67	OK
FEH: 100 years: +40 %: 30 mins: Summer	72.036	72.036	0.786	0.786	4.4	2.723	0.000	0.086	0.0	0.000	61	OK
FEH: 100 years: +40 %: 30 mins: Winter	72.131	72.131	0.881	0.881	4.0	3.051	0.000	0.091	0.0	0.000	56	OK
FEH: 100 years: +40 %: 60 mins: Summer	72.250	72.250	1.000	1.000	3.4	3.463	0.000	0.198	0.0	0.000	50	OK
FEH: 100 years: +40 %: 60 mins: Winter	72.372	72.372	1.122	1.122	2.7	3.887	0.000	0.212	0.0	0.000	44	OK
FEH: 100 years: +40 %: 120 mins: Summer	72.444	72.444	1.194	1.194	2.2	4.134	0.000	0.443	0.0	0.000	40	OK
FEH: 100 years: +40 %: 120 mins: Winter	72.588	72.588	1.338	1.338	1.7	4.636	0.000	0.476	0.0	0.000	33	OK
FEH: 100 years: +40 %: 180 mins: Summer	72.558	72.558	1.308	1.308	1.7	4.532	0.000	0.703	0.0	0.000	35	OK
FEH: 100 years: +40 %: 180 mins: Winter	72.720	72.720	1.470	1.470	1.3	5.090	0.000	0.757	0.0	0.000	27	OK
FEH: 100 years: +40 %: 240 mins: Summer	72.631	72.631	1.381	1.381	1.4	4.785	0.000	0.967	0.0	0.000	31	OK
FEH: 100 years: +40 %: 240 mins: Winter	72.806	72.806	1.556	1.556	1.0	5.388	0.000	1.046	0.0	0.000	22	OK
FEH: 100 years: +40 %: 360 mins: Summer	72.706	72.706	1.456	1.456	1.0	5.043	0.000	1.488	0.0	0.000	27	OK
FEH: 100 years: +40 %: 360 mins: Winter	72.891	72.891	1.641	1.641	0.7	5.683	0.000	1.611	0.0	0.000	18	OK

FEH: 100 years: +40 %: 480 mins: Summer	72.736	72.736	1.486	1.486	0.8	5.146	0.000	1.991	0.0	0.000	26	OK
FEH: 100 years: +40 %: 480 mins: Winter	72.930	72.930	1.680	1.680	0.6	5.818	0.000	2.161	0.0	0.000	16	OK
FEH: 100 years: +40 %: 600 mins: Summer	72.749	72.749	1.499	1.499	0.7	5.191	0.000	2.479	0.0	0.000	25	OK
FEH: 100 years: +40 %: 600 mins: Winter	72.954	72.954	1.704	1.704	0.5	5.904	0.000	2.699	0.0	0.000	15	OK
FEH: 100 years: +40 %: 720 mins: Summer	72.747	72.747	1.497	1.497	0.6	5.184	0.000	2.943	0.0	0.000	25	OK
FEH: 100 years: +40 %: 720 mins: Winter	72.948	72.948	1.698	1.698	0.4	5.880	0.000	3.194	0.0	0.000	15	OK
FEH: 100 years: +40 %: 960 mins: Summer	72.723	72.723	1.473	1.473	0.5	5.101	0.000	3.794	0.0	0.000	26	OK
FEH: 100 years: +40 %: 960 mins: Winter	72.935	72.935	1.685	1.685	0.3	5.837	0.000	4.141	0.0	0.000	16	OK
FEH: 100 years: +40 %: 1440 mins: Summer	72.680	72.680	1.430	1.430	0.3	4.952	0.000	5.266	0.0	0.000	29	OK
FEH: 100 years: +40 %: 1440 mins: Winter	72.875	72.875	1.625	1.625	0.2	5.629	0.000	5.733	0.0	0.000	19	OK
FEH: 100 years: +40 %: 2160 mins: Summer	72.605	72.605	1.355	1.355	0.2	4.693	0.000	6.899	0.0	0.000	32	OK
FEH: 100 years: +40 %: 2160 mins: Winter	72.794	72.794	1.544	1.544	0.2	5.349	0.000	7.589	0.0	0.000	23	OK
FEH: 100 years: +40 %: 2880 mins: Summer	72.575	72.575	1.325	1.325	0.2	4.588	0.000	8.315	0.0	0.000	34	OK
FEH: 100 years: +40 %: 2880 mins: Winter	72.693	72.693	1.443	1.443	0.1	5.000	0.000	8.826	0.0	0.000	28	OK
FEH: 100 years: +40 %: 4320 mins: Summer	72.478	72.478	1.228	1.228	0.1	4.253	0.000	8.867	0.0	0.000	39	OK
FEH: 100 years: +40 %: 4320 mins: Winter	72.619	72.619	1.369	1.369	0.1	4.742	0.000	10.309	0.0	0.000	32	OK

FEH: 100 years: +40 %: 5760 mins: Summer	72.411	72.411	1.161	1.161	0.1	4.023	0.000	9.614	0.0	0.000	42	OK
FEH: 100 years: +40 %: 5760 mins: Winter	72.513	72.513	1.263	1.263	0.1	4.373	0.000	10.714	0.0	0.000	37	OK
FEH: 100 years: +40 %: 7200 mins: Summer	72.403	72.403	1.153	1.153	0.1	3.992	0.000	10.622	0.0	0.000	42	OK
FEH: 100 years: +40 %: 7200 mins: Winter	72.453	72.453	1.203	1.203	0.1	4.167	0.000	11.660	0.0	0.000	40	OK
FEH: 100 years: +40 %: 8640 mins: Summer	72.376	72.376	1.126	1.126	0.1	3.901	0.000	11.609	0.0	0.000	44	OK
FEH: 100 years: +40 %: 8640 mins: Winter	72.386	72.386	1.136	1.136	0.1	3.935	0.000	12.546	0.0	0.000	43	OK
FEH: 100 years: +40 %: 10080 mins: Summer	72.347	72.347	1.097	1.097	0.1	3.799	0.000	12.582	0.0	0.000	45	OK
FEH: 100 years: +40 %: 10080 mins: Winter	72.356	72.356	1.106	1.106	0.1	3.829	0.000	13.549	0.0	0.000	45	OK
FEH: 30 years: +0 %: 15 mins: Summer	71.565	71.565	0.315	0.315	2.5	1.091	0.000	0.029	0.0	0.000	84	OK
FEH: 30 years: +0 %: 15 mins: Winter	71.604	71.604	0.354	0.354	2.7	1.225	0.000	0.030	0.0	0.000	82	OK
FEH: 30 years: +0 %: 30 mins: Summer	71.669	71.669	0.419	0.419	2.4	1.451	0.000	0.065	0.0	0.000	79	OK
FEH: 30 years: +0 %: 30 mins: Winter	71.720	71.720	0.470	0.470	2.1	1.627	0.000	0.068	0.0	0.000	77	OK
FEH: 30 years: +0 %: 60 mins: Summer	71.775	71.775	0.525	0.525	1.8	1.819	0.000	0.144	0.0	0.000	74	OK
FEH: 30 years: +0 %: 60 mins: Winter	71.839	71.839	0.589	0.589	1.4	2.042	0.000	0.151	0.0	0.000	71	OK
FEH: 30 years: +0 %: 120 mins: Summer	71.879	71.879	0.629	0.629	1.2	2.178	0.000	0.311	0.0	0.000	69	OK
FEH: 30 years: +0 %: 120 mins: Winter	71.957	71.957	0.707	0.707	0.9	2.448	0.000	0.328	0.0	0.000	65	OK

FEH: 30 years: +0 %: 180 mins: Summer	71.944	71.944	0.694	0.694	0.9	2.405	0.000	0.488	0.0	0.000	65	OK
FEH: 30 years: +0 %: 180 mins: Winter	72.030	72.030	0.780	0.780	0.7	2.702	0.000	0.516	0.0	0.000	61	OK
FEH: 30 years: +0 %: 240 mins: Summer	71.986	71.986	0.736	0.736	0.8	2.550	0.000	0.668	0.0	0.000	63	OK
FEH: 30 years: +0 %: 240 mins: Winter	72.081	72.081	0.831	0.831	0.6	2.879	0.000	0.710	0.0	0.000	58	OK
FEH: 30 years: +0 %: 360 mins: Summer	72.033	72.033	0.783	0.783	0.6	2.712	0.000	1.024	0.0	0.000	61	OK
FEH: 30 years: +0 %: 360 mins: Winter	72.133	72.133	0.883	0.883	0.4	3.058	0.000	1.089	0.0	0.000	56	OK
FEH: 30 years: +0 %: 480 mins: Summer	72.047	72.047	0.797	0.797	0.5	2.760	0.000	1.364	0.0	0.000	60	OK
FEH: 30 years: +0 %: 480 mins: Winter	72.161	72.161	0.911	0.911	0.3	3.155	0.000	1.461	0.0	0.000	54	OK
FEH: 30 years: +0 %: 600 mins: Summer	72.050	72.050	0.800	0.800	0.4	2.772	0.000	1.693	0.0	0.000	60	OK
FEH: 30 years: +0 %: 600 mins: Winter	72.169	72.169	0.919	0.919	0.3	3.183	0.000	1.814	0.0	0.000	54	OK
FEH: 30 years: +0 %: 720 mins: Summer	72.045	72.045	0.795	0.795	0.3	2.754	0.000	2.004	0.0	0.000	60	OK
FEH: 30 years: +0 %: 720 mins: Winter	72.163	72.163	0.913	0.913	0.2	3.161	0.000	2.144	0.0	0.000	54	OK
FEH: 30 years: +0 %: 960 mins: Summer	72.038	72.038	0.788	0.788	0.3	2.728	0.000	2.585	0.0	0.000	61	OK
FEH: 30 years: +0 %: 960 mins: Winter	72.149	72.149	0.899	0.899	0.2	3.113	0.000	2.766	0.0	0.000	55	OK
FEH: 30 years: +0 %: 1440 mins: Summer	72.014	72.014	0.764	0.764	0.2	2.646	0.000	3.598	0.0	0.000	62	OK
FEH: 30 years: +0 %: 1440 mins: Winter	72.121	72.121	0.871	0.871	0.1	3.017	0.000	3.829	0.0	0.000	56	OK
FEH: 30 years: +0 %: 2160 mins: Summer	71.977	71.977	0.727	0.727	0.1	2.518	0.000	4.556	0.0	0.000	64	OK

FEH: 30 years. +0 %: 2160 mins: Winter	72.081	72.081	0.831	0.831	0.1	2.878	0.000	5.162	0.0	0.000	58	OK
FEH: 30 years. +0 %: 2880 mins: Summer	71.927	71.927	0.677	0.677	0.1	2.345	0.000	4.813	0.0	0.000	66	OK
FEH: 30 years. +0 %: 2880 mins: Winter	72.024	72.024	0.774	0.774	0.1	2.679	0.000	5.387	0.0	0.000	61	OK
FEH: 30 years. +0 %: 4320 mins: Summer	71.891	71.891	0.641	0.641	0.1	2.219	0.000	5.647	0.0	0.000	68	OK
FEH: 30 years. +0 %: 4320 mins: Winter	71.948	71.948	0.698	0.698	0.1	2.419	0.000	6.070	0.0	0.000	65	OK
FEH: 30 years. +0 %: 5760 mins: Summer	71.861	71.861	0.611	0.611	0.1	2.118	0.000	6.496	0.0	0.000	69	OK
FEH: 30 years. +0 %: 5760 mins: Winter	71.906	71.906	0.656	0.656	0.1	2.271	0.000	6.907	0.0	0.000	67	OK
FEH: 30 years. +0 %: 7200 mins: Summer	71.835	71.835	0.585	0.585	0.1	2.026	0.000	7.090	0.0	0.000	71	OK
FEH: 30 years. +0 %: 7200 mins: Winter	71.844	71.844	0.594	0.594	0.0	2.058	0.000	7.519	0.0	0.000	70	OK
FEH: 30 years. +0 %: 8640 mins: Summer	71.806	71.806	0.556	0.556	0.1	1.926	0.000	7.259	0.0	0.000	72	OK
FEH: 30 years. +0 %: 8640 mins: Winter	71.842	71.842	0.592	0.592	0.0	2.051	0.000	8.398	0.0	0.000	70	OK
FEH: 30 years. +0 %: 10080 mins: Summer	71.799	71.799	0.549	0.549	0.1	1.900	0.000	7.382	0.0	0.000	73	OK
FEH: 30 years. +0 %: 10080 mins: Winter	71.768	71.768	0.518	0.518	0.0	1.796	0.000	8.951	0.0	0.000	74	OK
FEH: 2 years. +0 %: 15 mins: Summer	71.390	71.390	0.140	0.140	1.1	0.484	0.000	0.024	0.0	0.000	93	OK
FEH: 2 years. +0 %: 15 mins: Winter	71.406	71.406	0.156	0.156	1.2	0.542	0.000	0.025	0.0	0.000	92	OK
FEH: 2 years. +0 %: 30 mins: Summer	71.429	71.429	0.179	0.179	1.0	0.621	0.000	0.051	0.0	0.000	91	OK
FEH: 2 years. +0 %: 30 mins: Winter	71.452	71.452	0.202	0.202	0.9	0.700	0.000	0.053	0.0	0.000	90	OK

FEH: 2 years: +0 %: 60 mins: Summer	71.472	71.472	0.222	0.222	0.8	0.771	0.000	0.108	0.0	0.000	89	OK
FEH: 2 years: +0 %: 60 mins: Winter	71.500	71.500	0.250	0.250	0.6	0.867	0.000	0.111	0.0	0.000	87	OK
FEH: 2 years: +0 %: 120 mins: Summer	71.545	71.545	0.295	0.295	0.6	1.021	0.000	0.233	0.0	0.000	85	OK
FEH: 2 years: +0 %: 120 mins: Winter	71.584	71.584	0.334	0.334	0.4	1.159	0.000	0.241	0.0	0.000	83	OK
FEH: 2 years: +0 %: 180 mins: Summer	71.587	71.587	0.337	0.337	0.5	1.169	0.000	0.364	0.0	0.000	83	OK
FEH: 2 years: +0 %: 180 mins: Winter	71.632	71.632	0.382	0.382	0.4	1.324	0.000	0.378	0.0	0.000	81	OK
FEH: 2 years: +0 %: 240 mins: Summer	71.618	71.618	0.368	0.368	0.4	1.273	0.000	0.497	0.0	0.000	82	OK
FEH: 2 years: +0 %: 240 mins: Winter	71.666	71.666	0.416	0.416	0.3	1.442	0.000	0.517	0.0	0.000	79	OK
FEH: 2 years: +0 %: 360 mins: Summer	71.651	71.651	0.401	0.401	0.3	1.390	0.000	0.761	0.0	0.000	80	OK
FEH: 2 years: +0 %: 360 mins: Winter	71.709	71.709	0.459	0.459	0.2	1.588	0.000	0.796	0.0	0.000	77	OK
FEH: 2 years: +0 %: 480 mins: Summer	71.664	71.664	0.414	0.414	0.3	1.434	0.000	1.015	0.0	0.000	79	OK
FEH: 2 years: +0 %: 480 mins: Winter	71.725	71.725	0.475	0.475	0.2	1.647	0.000	1.064	0.0	0.000	76	OK
FEH: 2 years: +0 %: 600 mins: Summer	71.670	71.670	0.420	0.420	0.2	1.455	0.000	1.261	0.0	0.000	79	OK
FEH: 2 years: +0 %: 600 mins: Winter	71.743	71.743	0.493	0.493	0.2	1.708	0.000	1.334	0.0	0.000	75	OK
FEH: 2 years: +0 %: 720 mins: Summer	71.677	71.677	0.427	0.427	0.2	1.478	0.000	1.506	0.0	0.000	79	OK
FEH: 2 years: +0 %: 720 mins: Winter	71.741	71.741	0.491	0.491	0.1	1.699	0.000	1.575	0.0	0.000	75	OK
FEH: 2 years: +0 %: 960 mins: Summer	71.671	71.671	0.421	0.421	0.2	1.458	0.000	1.926	0.0	0.000	79	OK

FEH: 2 years: +0 %: 960 mins: Winter	71.739	71.739	0.489	0.489	0.1	1.694	0.000	2.043	0.0	0.000	76	OK
FEH: 2 years: +0 %: 1440 mins: Summer	71.661	71.661	0.411	0.411	0.1	1.425	0.000	2.584	0.0	0.000	79	OK
FEH: 2 years: +0 %: 1440 mins: Winter	71.730	71.730	0.480	0.480	0.1	1.662	0.000	2.858	0.0	0.000	76	OK
FEH: 2 years: +0 %: 2160 mins: Summer	71.637	71.637	0.387	0.387	0.1	1.340	0.000	2.952	0.0	0.000	81	OK
FEH: 2 years: +0 %: 2160 mins: Winter	71.683	71.683	0.433	0.433	0.1	1.499	0.000	3.187	0.0	0.000	78	OK
FEH: 2 years: +0 %: 2880 mins: Summer	71.611	71.611	0.361	0.361	0.1	1.249	0.000	3.320	0.0	0.000	82	OK
FEH: 2 years: +0 %: 2880 mins: Winter	71.660	71.660	0.410	0.410	0.1	1.419	0.000	3.558	0.0	0.000	80	OK
FEH: 2 years: +0 %: 4320 mins: Summer	71.582	71.582	0.332	0.332	0.1	1.149	0.000	3.680	0.0	0.000	83	OK
FEH: 2 years: +0 %: 4320 mins: Winter	71.614	71.614	0.364	0.364	0.0	1.261	0.000	4.202	0.0	0.000	82	OK
FEH: 2 years: +0 %: 5760 mins: Summer	71.560	71.560	0.310	0.310	0.0	1.073	0.000	3.665	0.0	0.000	85	OK
FEH: 2 years: +0 %: 5760 mins: Winter	71.574	71.574	0.324	0.324	0.0	1.122	0.000	4.768	0.0	0.000	84	OK
FEH: 2 years: +0 %: 7200 mins: Summer	71.552	71.552	0.302	0.302	0.0	1.045	0.000	3.884	0.0	0.000	85	OK
FEH: 2 years: +0 %: 7200 mins: Winter	71.547	71.547	0.297	0.297	0.0	1.028	0.000	4.579	0.0	0.000	85	OK
FEH: 2 years: +0 %: 8640 mins: Summer	71.541	71.541	0.291	0.291	0.0	1.008	0.000	4.037	0.0	0.000	85	OK
FEH: 2 years: +0 %: 8640 mins: Winter	71.489	71.489	0.239	0.239	0.0	0.828	0.000	4.462	0.0	0.000	88	OK
FEH: 2 years: +0 %: 10080 mins: Summer	71.515	71.515	0.265	0.265	0.0	0.917	0.000	4.111	0.0	0.000	87	OK
FEH: 2 years: +0 %: 10080 mins: Winter	71.479	71.479	0.229	0.229	0.0	0.795	0.000	4.720	0.0	0.000	89	OK

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

Soakaway (3)

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 100 years: +40 %: 15 mins: Summer	69.083	69.083	0.583	0.583	4.7	2.020	0.000	0.036	0.0	0.000	71	OK
FEH: 100 years: +40 %: 15 mins: Winter	69.153	69.153	0.653	0.653	4.9	2.262	0.000	0.038	0.0	0.000	67	OK
FEH: 100 years: +40 %: 30 mins: Summer	69.278	69.278	0.778	0.778	4.3	2.695	0.000	0.085	0.0	0.000	61	OK
FEH: 100 years: +40 %: 30 mins: Winter	69.372	69.372	0.872	0.872	3.9	3.022	0.000	0.091	0.0	0.000	56	OK
FEH: 100 years: +40 %: 60 mins: Summer	69.491	69.491	0.991	0.991	3.3	3.431	0.000	0.197	0.0	0.000	50	OK
FEH: 100 years: +40 %: 60 mins: Winter	69.612	69.612	1.112	1.112	2.7	3.853	0.000	0.211	0.0	0.000	44	OK
FEH: 100 years: +40 %: 120 mins: Summer	69.680	69.680	1.180	1.180	2.2	4.088	0.000	0.440	0.0	0.000	41	OK
FEH: 100 years: +40 %: 120 mins: Winter	69.828	69.828	1.328	1.328	1.7	4.599	0.000	0.473	0.0	0.000	34	OK
FEH: 100 years: +40 %: 180 mins: Summer	69.796	69.796	1.296	1.296	1.7	4.489	0.000	0.698	0.0	0.000	35	OK
FEH: 100 years: +40 %: 180 mins: Winter	69.957	69.957	1.457	1.457	1.3	5.048	0.000	0.753	0.0	0.000	27	OK
FEH: 100 years: +40 %: 240 mins: Summer	69.869	69.869	1.369	1.369	1.4	4.741	0.000	0.961	0.0	0.000	32	OK
FEH: 100 years: +40 %: 240 mins: Winter	70.043	70.043	1.543	1.543	1.0	5.345	0.000	1.040	0.0	0.000	23	OK
FEH: 100 years: +40 %: 360 mins: Summer	69.942	69.942	1.442	1.442	1.0	4.994	0.000	1.478	0.0	0.000	28	OK
FEH: 100 years: +40 %: 360 mins: Winter	70.126	70.126	1.626	1.626	0.7	5.631	0.000	1.601	0.0	0.000	19	OK

FEH: 100 years: +40 %: 480 mins: Summer	69.972	69.972	1.472	1.472	0.8	5.100	0.000	1.979	0.0	0.000	26	OK
FEH: 100 years: +40 %: 480 mins: Winter	70.163	70.163	1.663	1.663	0.6	5.760	0.000	2.145	0.0	0.000	17	OK
FEH: 100 years: +40 %: 600 mins: Summer	69.982	69.982	1.482	1.482	0.7	5.134	0.000	2.461	0.0	0.000	26	OK
FEH: 100 years: +40 %: 600 mins: Winter	70.186	70.186	1.686	1.686	0.5	5.841	0.000	2.678	0.0	0.000	16	OK
FEH: 100 years: +40 %: 720 mins: Summer	69.978	69.978	1.478	1.478	0.6	5.121	0.000	2.919	0.0	0.000	26	OK
FEH: 100 years: +40 %: 720 mins: Winter	70.179	70.179	1.679	1.679	0.4	5.816	0.000	3.169	0.0	0.000	16	OK
FEH: 100 years: +40 %: 960 mins: Summer	69.963	69.963	1.463	1.463	0.5	5.067	0.000	3.777	0.0	0.000	27	OK
FEH: 100 years: +40 %: 960 mins: Winter	70.170	70.170	1.670	1.670	0.3	5.785	0.000	4.115	0.0	0.000	16	OK
FEH: 100 years: +40 %: 1440 mins: Summer	69.915	69.915	1.415	1.415	0.3	4.901	0.000	5.228	0.0	0.000	29	OK
FEH: 100 years: +40 %: 1440 mins: Winter	70.108	70.108	1.608	1.608	0.2	5.571	0.000	5.694	0.0	0.000	20	OK
FEH: 100 years: +40 %: 2160 mins: Summer	69.840	69.840	1.340	1.340	0.2	4.641	0.000	6.846	0.0	0.000	33	OK
FEH: 100 years: +40 %: 2160 mins: Winter	70.026	70.026	1.526	1.526	0.2	5.287	0.000	7.535	0.0	0.000	24	OK
FEH: 100 years: +40 %: 2880 mins: Summer	69.806	69.806	1.306	1.306	0.2	4.524	0.000	8.253	0.0	0.000	35	OK
FEH: 100 years: +40 %: 2880 mins: Winter	69.938	69.938	1.438	1.438	0.1	4.982	0.000	8.791	0.0	0.000	28	OK
FEH: 100 years: +40 %: 4320 mins: Summer	69.701	69.701	1.201	1.201	0.1	4.160	0.000	8.719	0.0	0.000	40	OK
FEH: 100 years: +40 %: 4320 mins: Winter	69.847	69.847	1.347	1.347	0.1	4.666	0.000	10.163	0.0	0.000	33	OK

FEH: 100 years: +40 %: 5760 mins: Summer	69.646	69.646	1.146	1.146	0.1	3.969	0.000	9.544	0.0	0.000	43	OK
FEH: 100 years: +40 %: 5760 mins: Winter	69.761	69.761	1.261	1.261	0.1	4.369	0.000	10.704	0.0	0.000	37	OK
FEH: 100 years: +40 %: 7200 mins: Summer	69.652	69.652	1.152	1.152	0.1	3.991	0.000	10.620	0.0	0.000	42	OK
FEH: 100 years: +40 %: 7200 mins: Winter	69.687	69.687	1.187	1.187	0.1	4.113	0.000	11.575	0.0	0.000	41	OK
FEH: 100 years: +40 %: 8640 mins: Summer	69.626	69.626	1.126	1.126	0.1	3.900	0.000	11.606	0.0	0.000	44	OK
FEH: 100 years: +40 %: 8640 mins: Winter	69.635	69.635	1.135	1.135	0.1	3.933	0.000	12.540	0.0	0.000	43	OK
FEH: 100 years: +40 %: 10080 mins: Summer	69.596	69.596	1.096	1.096	0.1	3.795	0.000	12.576	0.0	0.000	45	OK
FEH: 100 years: +40 %: 10080 mins: Winter	69.600	69.600	1.100	1.100	0.1	3.809	0.000	13.428	0.0	0.000	45	OK
FEH: 30 years: +0 %: 15 mins: Summer	68.812	68.812	0.312	0.312	2.5	1.081	0.000	0.029	0.0	0.000	84	OK
FEH: 30 years: +0 %: 15 mins: Winter	68.850	68.850	0.350	0.350	2.6	1.212	0.000	0.030	0.0	0.000	82	OK
FEH: 30 years: +0 %: 30 mins: Summer	68.915	68.915	0.415	0.415	2.3	1.436	0.000	0.065	0.0	0.000	79	OK
FEH: 30 years: +0 %: 30 mins: Winter	68.965	68.965	0.465	0.465	2.1	1.611	0.000	0.068	0.0	0.000	77	OK
FEH: 30 years: +0 %: 60 mins: Summer	69.020	69.020	0.520	0.520	1.8	1.801	0.000	0.143	0.0	0.000	74	OK
FEH: 30 years: +0 %: 60 mins: Winter	69.085	69.085	0.585	0.585	1.4	2.025	0.000	0.150	0.0	0.000	71	OK
FEH: 30 years: +0 %: 120 mins: Summer	69.124	69.124	0.624	0.624	1.2	2.160	0.000	0.310	0.0	0.000	69	OK
FEH: 30 years: +0 %: 120 mins: Winter	69.202	69.202	0.702	0.702	0.9	2.432	0.000	0.327	0.0	0.000	65	OK

FEH: 30 years: +0 %: 180 mins: Summer	69.187	69.187	0.687	0.687	0.9	2.378	0.000	0.486	0.0	0.000	66	OK
FEH: 30 years: +0 %: 180 mins: Winter	69.274	69.274	0.774	0.774	0.7	2.680	0.000	0.514	0.0	0.000	61	OK
FEH: 30 years: +0 %: 240 mins: Summer	69.227	69.227	0.727	0.727	0.8	2.518	0.000	0.663	0.0	0.000	64	OK
FEH: 30 years: +0 %: 240 mins: Winter	69.324	69.324	0.824	0.824	0.6	2.853	0.000	0.706	0.0	0.000	59	OK
FEH: 30 years: +0 %: 360 mins: Summer	69.272	69.272	0.772	0.772	0.6	2.674	0.000	1.017	0.0	0.000	61	OK
FEH: 30 years: +0 %: 360 mins: Winter	69.375	69.375	0.875	0.875	0.4	3.031	0.000	1.084	0.0	0.000	56	OK
FEH: 30 years: +0 %: 480 mins: Summer	69.288	69.288	0.788	0.788	0.4	2.729	0.000	1.356	0.0	0.000	61	OK
FEH: 30 years: +0 %: 480 mins: Winter	69.402	69.402	0.902	0.902	0.3	3.124	0.000	1.453	0.0	0.000	55	OK
FEH: 30 years: +0 %: 600 mins: Summer	69.290	69.290	0.790	0.790	0.4	2.737	0.000	1.681	0.0	0.000	60	OK
FEH: 30 years: +0 %: 600 mins: Winter	69.410	69.410	0.910	0.910	0.3	3.150	0.000	1.804	0.0	0.000	55	OK
FEH: 30 years: +0 %: 720 mins: Summer	69.288	69.288	0.788	0.788	0.3	2.730	0.000	1.995	0.0	0.000	61	OK
FEH: 30 years: +0 %: 720 mins: Winter	69.404	69.404	0.904	0.904	0.2	3.133	0.000	2.133	0.0	0.000	55	OK
FEH: 30 years: +0 %: 960 mins: Summer	69.276	69.276	0.776	0.776	0.3	2.690	0.000	2.562	0.0	0.000	61	OK
FEH: 30 years: +0 %: 960 mins: Winter	69.391	69.391	0.891	0.891	0.2	3.085	0.000	2.752	0.0	0.000	55	OK
FEH: 30 years: +0 %: 1440 mins: Summer	69.255	69.255	0.755	0.755	0.2	2.615	0.000	3.577	0.0	0.000	62	OK
FEH: 30 years: +0 %: 1440 mins: Winter	69.366	69.366	0.866	0.866	0.1	3.000	0.000	3.814	0.0	0.000	57	OK
FEH: 30 years: +0 %: 2160 mins: Summer	69.220	69.220	0.720	0.720	0.1	2.492	0.000	4.524	0.0	0.000	64	OK

FEH: 30 years. +0 %: 2160 mins: Winter	69.315	69.315	0.815	0.815	0.1	2.822	0.000	5.112	0.0	0.000	59	OK
FEH: 30 years. +0 %: 2880 mins: Summer	69.169	69.169	0.669	0.669	0.1	2.316	0.000	4.777	0.0	0.000	67	OK
FEH: 30 years. +0 %: 2880 mins: Winter	69.270	69.270	0.770	0.770	0.1	2.667	0.000	5.350	0.0	0.000	61	OK
FEH: 30 years. +0 %: 4320 mins: Summer	69.129	69.129	0.629	0.629	0.1	2.179	0.000	5.596	0.0	0.000	69	OK
FEH: 30 years. +0 %: 4320 mins: Winter	69.187	69.187	0.687	0.687	0.1	2.381	0.000	6.017	0.0	0.000	66	OK
FEH: 30 years. +0 %: 5760 mins: Summer	69.110	69.110	0.610	0.610	0.1	2.114	0.000	6.491	0.0	0.000	69	OK
FEH: 30 years. +0 %: 5760 mins: Winter	69.134	69.134	0.634	0.634	0.1	2.195	0.000	6.778	0.0	0.000	68	OK
FEH: 30 years. +0 %: 7200 mins: Summer	69.066	69.066	0.566	0.566	0.1	1.962	0.000	7.003	0.0	0.000	72	OK
FEH: 30 years. +0 %: 7200 mins: Winter	69.082	69.082	0.582	0.582	0.0	2.015	0.000	7.435	0.0	0.000	71	OK
FEH: 30 years. +0 %: 8640 mins: Summer	69.056	69.056	0.556	0.556	0.1	1.925	0.000	7.054	0.0	0.000	72	OK
FEH: 30 years. +0 %: 8640 mins: Winter	69.072	69.072	0.572	0.572	0.0	1.982	0.000	8.294	0.0	0.000	71	OK
FEH: 30 years. +0 %: 10080 mins: Summer	69.048	69.048	0.548	0.548	0.1	1.899	0.000	7.376	0.0	0.000	73	OK
FEH: 30 years. +0 %: 10080 mins: Winter	68.994	68.994	0.494	0.494	0.0	1.713	0.000	8.828	0.0	0.000	75	OK
FEH: 2 years. +0 %: 15 mins: Summer	68.638	68.638	0.138	0.138	1.1	0.478	0.000	0.024	0.0	0.000	93	OK
FEH: 2 years. +0 %: 15 mins: Winter	68.655	68.655	0.155	0.155	1.2	0.538	0.000	0.025	0.0	0.000	92	OK
FEH: 2 years. +0 %: 30 mins: Summer	68.678	68.678	0.178	0.178	1.0	0.618	0.000	0.051	0.0	0.000	91	OK
FEH: 2 years. +0 %: 30 mins: Winter	68.700	68.700	0.200	0.200	0.9	0.693	0.000	0.052	0.0	0.000	90	OK

FEH: 2 years: +0 %: 60 mins: Summer	68.719	68.719	0.219	0.219	0.8	0.760	0.000	0.108	0.0	0.000	89	OK
FEH: 2 years: +0 %: 60 mins: Winter	68.748	68.748	0.248	0.248	0.6	0.858	0.000	0.110	0.0	0.000	88	OK
FEH: 2 years: +0 %: 120 mins: Summer	68.791	68.791	0.291	0.291	0.6	1.008	0.000	0.233	0.0	0.000	85	OK
FEH: 2 years: +0 %: 120 mins: Winter	68.832	68.832	0.332	0.332	0.4	1.150	0.000	0.241	0.0	0.000	83	OK
FEH: 2 years: +0 %: 180 mins: Summer	68.833	68.833	0.333	0.333	0.5	1.152	0.000	0.362	0.0	0.000	83	OK
FEH: 2 years: +0 %: 180 mins: Winter	68.880	68.880	0.380	0.380	0.4	1.315	0.000	0.377	0.0	0.000	81	OK
FEH: 2 years: +0 %: 240 mins: Summer	68.864	68.864	0.364	0.364	0.4	1.259	0.000	0.495	0.0	0.000	82	OK
FEH: 2 years: +0 %: 240 mins: Winter	68.913	68.913	0.413	0.413	0.3	1.431	0.000	0.515	0.0	0.000	79	OK
FEH: 2 years: +0 %: 360 mins: Summer	68.897	68.897	0.397	0.397	0.3	1.374	0.000	0.758	0.0	0.000	80	OK
FEH: 2 years: +0 %: 360 mins: Winter	68.954	68.954	0.454	0.454	0.2	1.571	0.000	0.793	0.0	0.000	77	OK
FEH: 2 years: +0 %: 480 mins: Summer	68.907	68.907	0.407	0.407	0.3	1.410	0.000	1.008	0.0	0.000	80	OK
FEH: 2 years: +0 %: 480 mins: Winter	68.970	68.970	0.470	0.470	0.2	1.628	0.000	1.059	0.0	0.000	76	OK
FEH: 2 years: +0 %: 600 mins: Summer	68.916	68.916	0.416	0.416	0.2	1.440	0.000	1.257	0.0	0.000	79	OK
FEH: 2 years: +0 %: 600 mins: Winter	68.989	68.989	0.489	0.489	0.2	1.692	0.000	1.329	0.0	0.000	76	OK
FEH: 2 years: +0 %: 720 mins: Summer	68.921	68.921	0.421	0.421	0.2	1.457	0.000	1.498	0.0	0.000	79	OK
FEH: 2 years: +0 %: 720 mins: Winter	68.984	68.984	0.484	0.484	0.1	1.676	0.000	1.566	0.0	0.000	76	OK
FEH: 2 years: +0 %: 960 mins: Summer	68.914	68.914	0.414	0.414	0.2	1.432	0.000	1.909	0.0	0.000	79	OK

FEH: 2 years: +0 %: 960 mins: Winter	68.982	68.982	0.482	0.482	0.1	1.669	0.000	2.031	0.0	0.000	76	OK
FEH: 2 years: +0 %: 1440 mins: Summer	68.907	68.907	0.407	0.407	0.1	1.408	0.000	2.564	0.0	0.000	80	OK
FEH: 2 years: +0 %: 1440 mins: Winter	68.965	68.965	0.465	0.465	0.1	1.611	0.000	2.785	0.0	0.000	77	OK
FEH: 2 years: +0 %: 2160 mins: Summer	68.885	68.885	0.385	0.385	0.1	1.334	0.000	2.946	0.0	0.000	81	OK
FEH: 2 years: +0 %: 2160 mins: Winter	68.930	68.930	0.430	0.430	0.1	1.489	0.000	3.161	0.0	0.000	79	OK
FEH: 2 years: +0 %: 2880 mins: Summer	68.853	68.853	0.353	0.353	0.1	1.221	0.000	3.287	0.0	0.000	82	OK
FEH: 2 years: +0 %: 2880 mins: Winter	68.909	68.909	0.409	0.409	0.1	1.415	0.000	3.552	0.0	0.000	80	OK
FEH: 2 years: +0 %: 4320 mins: Summer	68.827	68.827	0.327	0.327	0.1	1.132	0.000	3.630	0.0	0.000	84	OK
FEH: 2 years: +0 %: 4320 mins: Winter	68.863	68.863	0.363	0.363	0.0	1.258	0.000	4.198	0.0	0.000	82	OK
FEH: 2 years: +0 %: 5760 mins: Summer	68.809	68.809	0.309	0.309	0.0	1.071	0.000	3.660	0.0	0.000	85	OK
FEH: 2 years: +0 %: 5760 mins: Winter	68.811	68.811	0.311	0.311	0.0	1.077	0.000	4.702	0.0	0.000	84	OK
FEH: 2 years: +0 %: 7200 mins: Summer	68.794	68.794	0.294	0.294	0.0	1.019	0.000	3.802	0.0	0.000	85	OK
FEH: 2 years: +0 %: 7200 mins: Winter	68.796	68.796	0.296	0.296	0.0	1.027	0.000	4.493	0.0	0.000	85	OK
FEH: 2 years: +0 %: 8640 mins: Summer	68.770	68.770	0.270	0.270	0.0	0.935	0.000	3.836	0.0	0.000	87	OK
FEH: 2 years: +0 %: 8640 mins: Winter	68.738	68.738	0.238	0.238	0.0	0.826	0.000	4.456	0.0	0.000	88	OK
FEH: 2 years: +0 %: 10080 mins: Summer	68.765	68.765	0.265	0.265	0.0	0.917	0.000	3.995	0.0	0.000	87	OK
FEH: 2 years: +0 %: 10080 mins: Winter	68.729	68.729	0.229	0.229	0.0	0.794	0.000	4.717	0.0	0.000	89	OK

Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

Soakaway (4)

Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
FEH: 100 years: +40 %: 15 mins: Summer	67.222	67.222	0.622	0.622	5.0	2.154	0.000	0.037	0.0	0.000	67	OK
FEH: 100 years: +40 %: 15 mins: Winter	67.297	67.297	0.697	0.697	5.2	2.414	0.000	0.039	0.0	0.000	63	OK
FEH: 100 years: +40 %: 30 mins: Summer	67.430	67.430	0.830	0.830	4.6	2.876	0.000	0.088	0.0	0.000	56	OK
FEH: 100 years: +40 %: 30 mins: Winter	67.531	67.531	0.931	0.931	4.2	3.226	0.000	0.094	0.0	0.000	51	OK
FEH: 100 years: +40 %: 60 mins: Summer	67.657	67.657	1.057	1.057	3.5	3.661	0.000	0.205	0.0	0.000	44	OK
FEH: 100 years: +40 %: 60 mins: Winter	67.785	67.785	1.185	1.185	2.9	4.103	0.000	0.219	0.0	0.000	38	OK
FEH: 100 years: +40 %: 120 mins: Summer	67.860	67.860	1.260	1.260	2.4	4.364	0.000	0.458	0.0	0.000	34	OK
FEH: 100 years: +40 %: 120 mins: Winter	68.016	68.016	1.416	1.416	1.8	4.905	0.000	0.494	0.0	0.000	25	OK
FEH: 100 years: +40 %: 180 mins: Summer	67.984	67.984	1.384	1.384	1.8	4.794	0.000	0.729	0.0	0.000	27	OK
FEH: 100 years: +40 %: 180 mins: Winter	68.155	68.155	1.555	1.555	1.3	5.386	0.000	0.787	0.0	0.000	18	OK
FEH: 100 years: +40 %: 240 mins: Summer	68.061	68.061	1.461	1.461	1.5	5.061	0.000	1.004	0.0	0.000	23	OK
FEH: 100 years: +40 %: 240 mins: Winter	68.246	68.246	1.646	1.646	1.1	5.700	0.000	1.087	0.0	0.000	13	OK
FEH: 100 years: +40 %: 360 mins: Summer	68.139	68.139	1.539	1.539	1.1	5.331	0.000	1.546	0.0	0.000	19	OK
FEH: 100 years: +40 %: 360 mins: Winter	68.339	68.339	1.739	1.739	0.8	6.024	0.000	1.679	0.0	0.000	8	OK

FEH: 100 years: +40 %: 480 mins: Summer	68.174	68.174	1.574	1.574	0.9	5.453	0.000	2.072	0.0	0.000	17	OK
FEH: 100 years: +40 %: 480 mins: Winter	68.385	68.385	1.785	1.785	0.6	6.181	0.000	2.256	0.0	0.000	6	OK
FEH: 100 years: +40 %: 600 mins: Summer	68.186	68.186	1.586	1.586	0.7	5.495	0.000	2.578	0.0	0.000	17	OK
FEH: 100 years: +40 %: 600 mins: Winter	68.398	68.398	1.798	1.798	0.5	6.228	0.000	2.805	0.0	0.000	5	OK
FEH: 100 years: +40 %: 720 mins: Summer	68.189	68.189	1.589	1.589	0.6	5.505	0.000	3.067	0.0	0.000	16	OK
FEH: 100 years: +40 %: 720 mins: Winter	68.407	68.407	1.807	1.807	0.4	6.257	0.000	3.339	0.0	0.000	5	OK
FEH: 100 years: +40 %: 960 mins: Summer	68.164	68.164	1.564	1.564	0.5	5.418	0.000	3.954	0.0	0.000	18	OK
FEH: 100 years: +40 %: 960 mins: Winter	68.379	68.379	1.779	1.779	0.4	6.162	0.000	4.303	0.0	0.000	6	OK
FEH: 100 years: +40 %: 1440 mins: Summer	68.120	68.120	1.521	1.521	0.4	5.267	0.000	5.486	0.0	0.000	20	OK
FEH: 100 years: +40 %: 1440 mins: Winter	68.323	68.323	1.723	1.723	0.3	5.969	0.000	5.974	0.0	0.000	9	OK
FEH: 100 years: +40 %: 2160 mins: Summer	68.063	68.063	1.463	1.463	0.3	5.067	0.000	7.253	0.0	0.000	23	OK
FEH: 100 years: +40 %: 2160 mins: Winter	68.239	68.239	1.639	1.639	0.2	5.677	0.000	7.902	0.0	0.000	14	OK
FEH: 100 years: +40 %: 2880 mins: Summer	68.016	68.016	1.416	1.416	0.2	4.904	0.000	8.669	0.0	0.000	25	OK
FEH: 100 years: +40 %: 2880 mins: Winter	68.169	68.169	1.569	1.569	0.1	5.433	0.000	9.363	0.0	0.000	17	OK
FEH: 100 years: +40 %: 4320 mins: Summer	67.913	67.913	1.313	1.313	0.1	4.547	0.000	9.382	0.0	0.000	31	OK
FEH: 100 years: +40 %: 4320 mins: Winter	68.061	68.061	1.461	1.461	0.1	5.059	0.000	10.775	0.0	0.000	23	OK

FEH: 100 years: +40 %: 5760 mins: Summer	67.870	67.870	1.270	1.270	0.1	4.400	0.000	10.291	0.0	0.000	33	OK
FEH: 100 years: +40 %: 5760 mins: Winter	67.948	67.948	1.348	1.348	0.1	4.667	0.000	11.338	0.0	0.000	29	OK
FEH: 100 years: +40 %: 7200 mins: Summer	67.797	67.797	1.197	1.197	0.1	4.147	0.000	11.059	0.0	0.000	37	OK
FEH: 100 years: +40 %: 7200 mins: Winter	67.862	67.862	1.262	1.262	0.1	4.370	0.000	12.101	0.0	0.000	34	OK
FEH: 100 years: +40 %: 8640 mins: Summer	67.793	67.793	1.193	1.193	0.1	4.133	0.000	12.128	0.0	0.000	37	OK
FEH: 100 years: +40 %: 8640 mins: Winter	67.824	67.824	1.224	1.224	0.1	4.240	0.000	13.166	0.0	0.000	36	OK
FEH: 100 years: +40 %: 10080 mins: Summer	67.772	67.772	1.172	1.172	0.1	4.061	0.000	13.183	0.0	0.000	38	OK
FEH: 100 years: +40 %: 10080 mins: Winter	67.804	67.804	1.204	1.204	0.1	4.171	0.000	14.274	0.0	0.000	37	OK
FEH: 30 years: +0 %: 15 mins: Summer	66.933	66.933	0.333	0.333	2.7	1.154	0.000	0.030	0.0	0.000	82	OK
FEH: 30 years: +0 %: 15 mins: Winter	66.974	66.974	0.374	0.374	2.8	1.295	0.000	0.031	0.0	0.000	80	OK
FEH: 30 years: +0 %: 30 mins: Summer	67.044	67.044	0.444	0.444	2.5	1.536	0.000	0.066	0.0	0.000	77	OK
FEH: 30 years: +0 %: 30 mins: Winter	67.096	67.096	0.496	0.496	2.2	1.719	0.000	0.069	0.0	0.000	74	OK
FEH: 30 years: +0 %: 60 mins: Summer	67.155	67.155	0.555	0.555	1.9	1.922	0.000	0.147	0.0	0.000	71	OK
FEH: 30 years: +0 %: 60 mins: Winter	67.223	67.223	0.623	0.623	1.5	2.157	0.000	0.154	0.0	0.000	67	OK
FEH: 30 years: +0 %: 120 mins: Summer	67.266	67.266	0.666	0.666	1.3	2.305	0.000	0.320	0.0	0.000	65	OK
FEH: 30 years: +0 %: 120 mins: Winter	67.350	67.350	0.750	0.750	0.9	2.596	0.000	0.338	0.0	0.000	61	OK

FEH: 30 years: +0 %: 180 mins: Summer	67.334	67.334	0.734	0.734	1.0	2.543	0.000	0.502	0.0	0.000	61	OK
FEH: 30 years: +0 %: 180 mins: Winter	67.430	67.430	0.830	0.830	0.7	2.873	0.000	0.534	0.0	0.000	56	OK
FEH: 30 years: +0 %: 240 mins: Summer	67.379	67.379	0.779	0.779	0.8	2.698	0.000	0.687	0.0	0.000	59	OK
FEH: 30 years: +0 %: 240 mins: Winter	67.478	67.478	0.878	0.878	0.6	3.042	0.000	0.731	0.0	0.000	54	OK
FEH: 30 years: +0 %: 360 mins: Summer	67.429	67.429	0.829	0.829	0.6	2.872	0.000	1.056	0.0	0.000	56	OK
FEH: 30 years: +0 %: 360 mins: Winter	67.543	67.543	0.943	0.943	0.4	3.266	0.000	1.130	0.0	0.000	50	OK
FEH: 30 years: +0 %: 480 mins: Summer	67.446	67.446	0.846	0.846	0.5	2.930	0.000	1.409	0.0	0.000	55	OK
FEH: 30 years: +0 %: 480 mins: Winter	67.564	67.564	0.964	0.964	0.4	3.337	0.000	1.509	0.0	0.000	49	OK
FEH: 30 years: +0 %: 600 mins: Summer	67.454	67.454	0.854	0.854	0.4	2.957	0.000	1.752	0.0	0.000	55	OK
FEH: 30 years: +0 %: 600 mins: Winter	67.572	67.572	0.972	0.972	0.3	3.367	0.000	1.874	0.0	0.000	49	OK
FEH: 30 years: +0 %: 720 mins: Summer	67.446	67.446	0.846	0.846	0.4	2.929	0.000	2.071	0.0	0.000	55	OK
FEH: 30 years: +0 %: 720 mins: Winter	67.571	67.571	0.971	0.971	0.3	3.364	0.000	2.222	0.0	0.000	49	OK
FEH: 30 years: +0 %: 960 mins: Summer	67.439	67.439	0.839	0.839	0.3	2.905	0.000	2.678	0.0	0.000	56	OK
FEH: 30 years: +0 %: 960 mins: Winter	67.579	67.579	0.979	0.979	0.2	3.390	0.000	2.907	0.0	0.000	48	OK
FEH: 30 years: +0 %: 1440 mins: Summer	67.417	67.417	0.817	0.817	0.2	2.831	0.000	3.728	0.0	0.000	57	OK
FEH: 30 years: +0 %: 1440 mins: Winter	67.536	67.536	0.936	0.936	0.2	3.241	0.000	4.029	0.0	0.000	51	OK
FEH: 30 years: +0 %: 2160 mins: Summer	67.369	67.369	0.769	0.769	0.2	2.665	0.000	4.776	0.0	0.000	60	OK

FEH: 30 years. +0 %: 2160 mins: Winter	67.481	67.481	0.881	0.881	0.1	3.053	0.000	5.331	0.0	0.000	54	OK
FEH: 30 years. +0 %: 2880 mins: Summer	67.349	67.349	0.749	0.749	0.1	2.595	0.000	5.173	0.0	0.000	61	OK
FEH: 30 years. +0 %: 2880 mins: Winter	67.431	67.431	0.831	0.831	0.1	2.877	0.000	5.734	0.0	0.000	56	OK
FEH: 30 years. +0 %: 4320 mins: Summer	67.293	67.293	0.693	0.693	0.1	2.399	0.000	5.905	0.0	0.000	64	OK
FEH: 30 years. +0 %: 4320 mins: Winter	67.341	67.341	0.741	0.741	0.1	2.566	0.000	6.374	0.0	0.000	61	OK
FEH: 30 years. +0 %: 5760 mins: Summer	67.248	67.248	0.648	0.648	0.1	2.244	0.000	6.704	0.0	0.000	66	OK
FEH: 30 years. +0 %: 5760 mins: Winter	67.289	67.289	0.689	0.689	0.1	2.386	0.000	7.122	0.0	0.000	64	OK
FEH: 30 years. +0 %: 7200 mins: Summer	67.229	67.229	0.629	0.629	0.1	2.177	0.000	7.603	0.0	0.000	67	OK
FEH: 30 years. +0 %: 7200 mins: Winter	67.249	67.249	0.649	0.649	0.1	2.248	0.000	7.862	0.0	0.000	66	OK
FEH: 30 years. +0 %: 8640 mins: Summer	67.228	67.228	0.628	0.628	0.1	2.175	0.000	8.082	0.0	0.000	67	OK
FEH: 30 years. +0 %: 8640 mins: Winter	67.231	67.231	0.631	0.631	0.0	2.185	0.000	8.809	0.0	0.000	67	OK
FEH: 30 years. +0 %: 10080 mins: Summer	67.200	67.200	0.600	0.600	0.1	2.078	0.000	7.867	0.0	0.000	68	OK
FEH: 30 years. +0 %: 10080 mins: Winter	67.211	67.211	0.611	0.611	0.0	2.115	0.000	9.552	0.0	0.000	68	OK
FEH: 2 years. +0 %: 15 mins: Summer	66.747	66.747	0.147	0.147	1.2	0.509	0.000	0.025	0.0	0.000	92	OK
FEH: 2 years. +0 %: 15 mins: Winter	66.766	66.766	0.166	0.166	1.3	0.573	0.000	0.025	0.0	0.000	91	OK
FEH: 2 years. +0 %: 30 mins: Summer	66.791	66.791	0.191	0.191	1.1	0.660	0.000	0.052	0.0	0.000	90	OK
FEH: 2 years. +0 %: 30 mins: Winter	66.814	66.814	0.214	0.214	1.0	0.742	0.000	0.053	0.0	0.000	89	OK

FEH: 2 years: +0 %: 60 mins: Summer	66.835	66.835	0.235	0.235	0.8	0.813	0.000	0.110	0.0	0.000	88	OK
FEH: 2 years: +0 %: 60 mins: Winter	66.864	66.864	0.264	0.264	0.7	0.915	0.000	0.112	0.0	0.000	86	OK
FEH: 2 years: +0 %: 120 mins: Summer	66.912	66.912	0.312	0.312	0.6	1.081	0.000	0.237	0.0	0.000	84	OK
FEH: 2 years: +0 %: 120 mins: Winter	66.953	66.953	0.353	0.353	0.5	1.222	0.000	0.246	0.0	0.000	81	OK
FEH: 2 years: +0 %: 180 mins: Summer	66.958	66.958	0.358	0.358	0.5	1.241	0.000	0.371	0.0	0.000	81	OK
FEH: 2 years: +0 %: 180 mins: Winter	67.009	67.009	0.409	0.409	0.4	1.417	0.000	0.387	0.0	0.000	78	OK
FEH: 2 years: +0 %: 240 mins: Summer	66.991	66.991	0.391	0.391	0.4	1.353	0.000	0.507	0.0	0.000	79	OK
FEH: 2 years: +0 %: 240 mins: Winter	67.042	67.042	0.442	0.442	0.3	1.530	0.000	0.528	0.0	0.000	77	OK
FEH: 2 years: +0 %: 360 mins: Summer	67.025	67.025	0.425	0.425	0.3	1.471	0.000	0.777	0.0	0.000	78	OK
FEH: 2 years: +0 %: 360 mins: Winter	67.085	67.085	0.485	0.485	0.2	1.681	0.000	0.814	0.0	0.000	74	OK
FEH: 2 years: +0 %: 480 mins: Summer	67.044	67.044	0.444	0.444	0.3	1.536	0.000	1.041	0.0	0.000	77	OK
FEH: 2 years: +0 %: 480 mins: Winter	67.108	67.108	0.508	0.508	0.2	1.761	0.000	1.094	0.0	0.000	73	OK
FEH: 2 years: +0 %: 600 mins: Summer	67.049	67.049	0.449	0.449	0.2	1.554	0.000	1.293	0.0	0.000	76	OK
FEH: 2 years: +0 %: 600 mins: Winter	67.123	67.123	0.523	0.523	0.2	1.811	0.000	1.367	0.0	0.000	72	OK
FEH: 2 years: +0 %: 720 mins: Summer	67.055	67.055	0.455	0.455	0.2	1.576	0.000	1.542	0.0	0.000	76	OK
FEH: 2 years: +0 %: 720 mins: Winter	67.136	67.136	0.536	0.536	0.2	1.856	0.000	1.639	0.0	0.000	72	OK
FEH: 2 years: +0 %: 960 mins: Summer	67.057	67.057	0.457	0.457	0.2	1.582	0.000	1.997	0.0	0.000	76	OK

FEH: 2 years: +0 %: 960 mins: Winter	67.123	67.123	0.523	0.523	0.1	1.812	0.000	2.101	0.0	0.000	72	OK
FEH: 2 years: +0 %: 1440 mins: Summer	67.035	67.035	0.435	0.435	0.1	1.508	0.000	2.696	0.0	0.000	77	OK
FEH: 2 years: +0 %: 1440 mins: Winter	67.119	67.119	0.519	0.519	0.1	1.798	0.000	2.966	0.0	0.000	73	OK
FEH: 2 years: +0 %: 2160 mins: Summer	67.011	67.011	0.411	0.411	0.1	1.423	0.000	3.062	0.0	0.000	78	OK
FEH: 2 years: +0 %: 2160 mins: Winter	67.071	67.071	0.471	0.471	0.1	1.632	0.000	3.348	0.0	0.000	75	OK
FEH: 2 years: +0 %: 2880 mins: Summer	66.993	66.993	0.393	0.393	0.1	1.361	0.000	3.456	0.0	0.000	79	OK
FEH: 2 years: +0 %: 2880 mins: Winter	67.034	67.034	0.434	0.434	0.1	1.505	0.000	3.666	0.0	0.000	77	OK
FEH: 2 years: +0 %: 4320 mins: Summer	66.967	66.967	0.367	0.367	0.1	1.270	0.000	4.042	0.0	0.000	81	OK
FEH: 2 years: +0 %: 4320 mins: Winter	66.991	66.991	0.391	0.391	0.0	1.353	0.000	4.405	0.0	0.000	79	OK
FEH: 2 years: +0 %: 5760 mins: Summer	66.941	66.941	0.341	0.341	0.1	1.180	0.000	4.009	0.0	0.000	82	OK
FEH: 2 years: +0 %: 5760 mins: Winter	66.938	66.938	0.338	0.338	0.0	1.172	0.000	4.908	0.0	0.000	82	OK
FEH: 2 years: +0 %: 7200 mins: Summer	66.921	66.921	0.321	0.321	0.0	1.111	0.000	4.146	0.0	0.000	83	OK
FEH: 2 years: +0 %: 7200 mins: Winter	66.935	66.935	0.335	0.335	0.0	1.161	0.000	5.610	0.0	0.000	82	OK
FEH: 2 years: +0 %: 8640 mins: Summer	66.913	66.913	0.313	0.313	0.0	1.085	0.000	4.252	0.0	0.000	84	OK
FEH: 2 years: +0 %: 8640 mins: Winter	66.905	66.905	0.305	0.305	0.0	1.056	0.000	4.979	0.0	0.000	84	OK
FEH: 2 years: +0 %: 10080 mins: Summer	66.889	66.889	0.289	0.289	0.0	1.003	0.000	4.355	0.0	0.000	85	OK
FEH: 2 years: +0 %: 10080 mins: Winter	66.841	66.841	0.241	0.241	0.0	0.833	0.000	4.961	0.0	0.000	87	OK

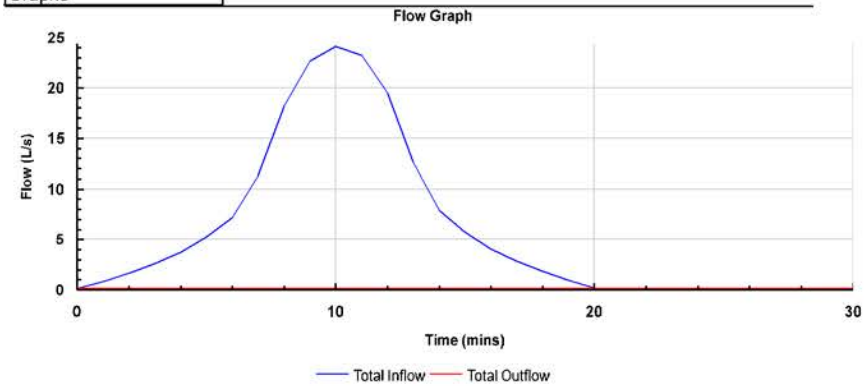
Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Phase Management Storm Phase: Phase	Company Address:		

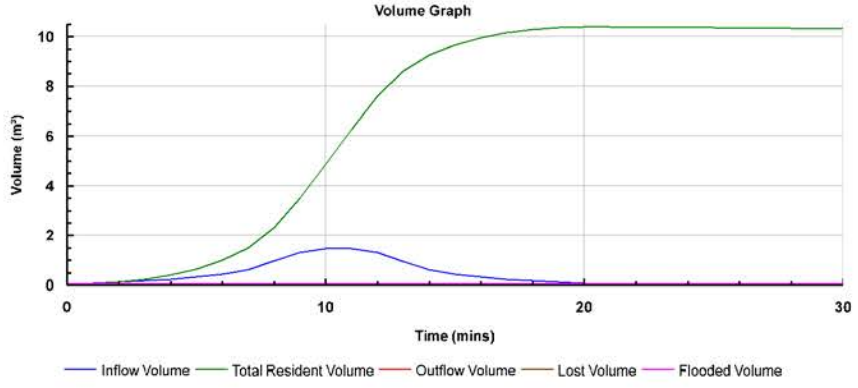
Phase
FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	24.1	10.501	0.0	0.000

Graphs





Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		

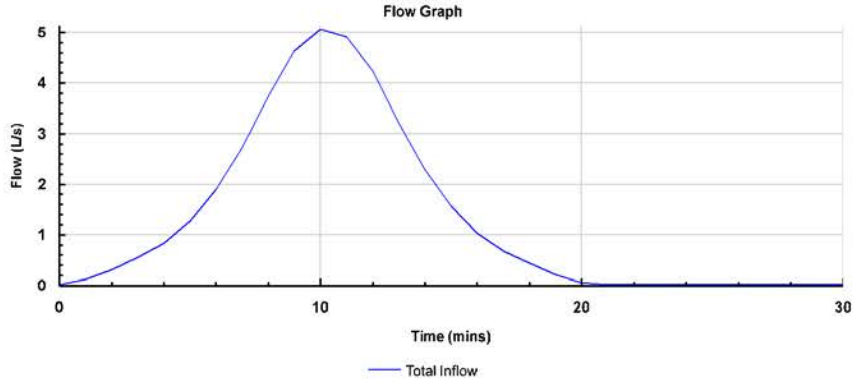
Catchment Area
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	5.1
Total Inflow Volume (m³)	2.369

Graphs



Project:	Date: 24/01/2022		
	Designed by: towns	Checked by	Approved By:
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address		

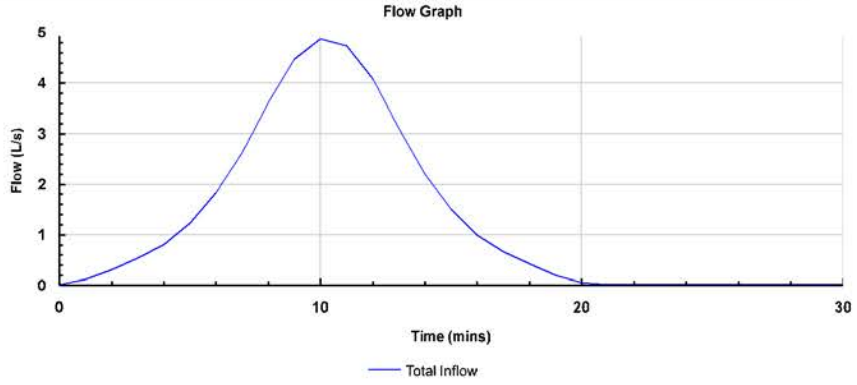
Catchment Area (1)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	4.9
Total Inflow Volume (m³)	2.285

Graphs



Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		

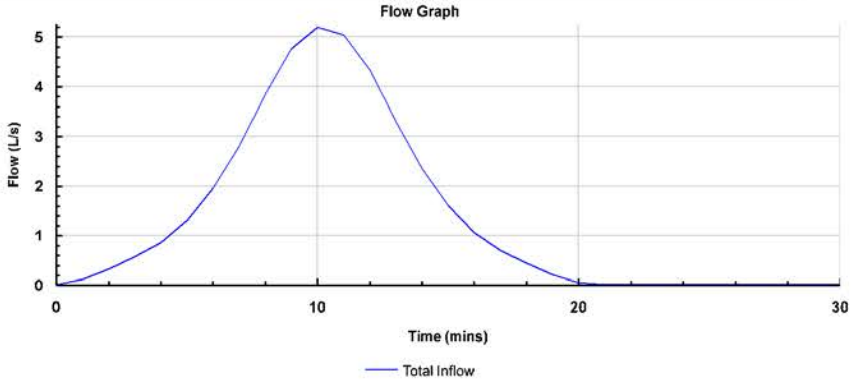
Catchment Area (2)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	5.2
Total Inflow Volume (m³)	2.438

Graphs



Project:	Date: 24/01/2022		
	Designed by: towns	Checked by	Approved By:
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address		

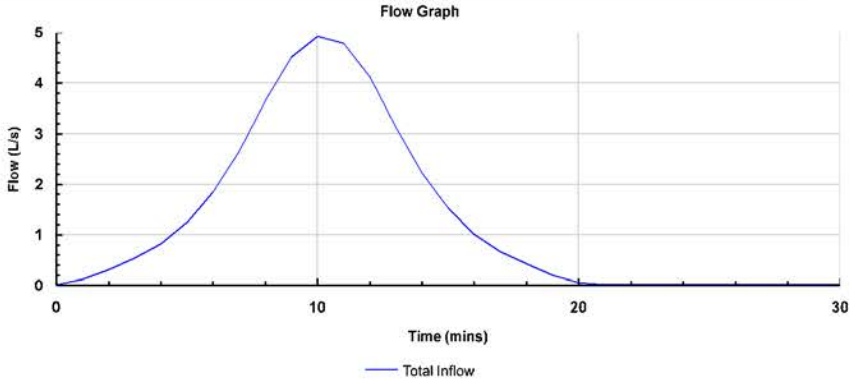
Catchment Area (3)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	4.9
Total Inflow Volume (m³)	2.309

Graphs



Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Inflow Results Storm Phase: Phase	Company Address:		

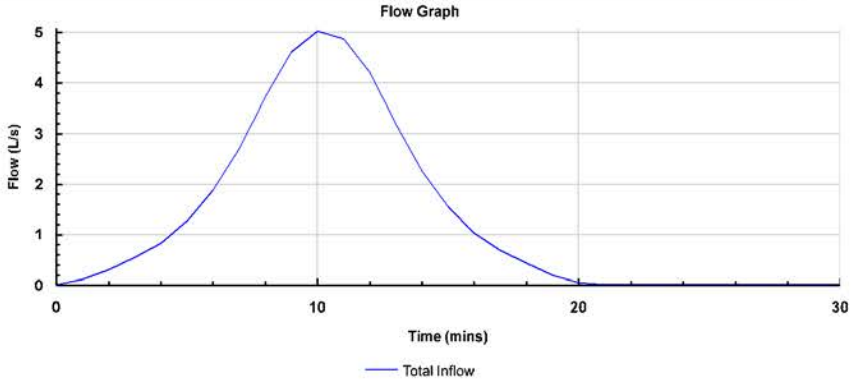
Catchment Area (4)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	5.0
Total Inflow Volume (m³)	2.354

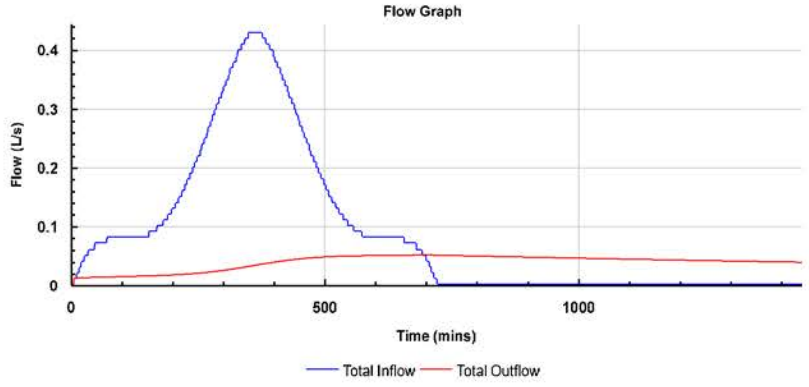
Graphs

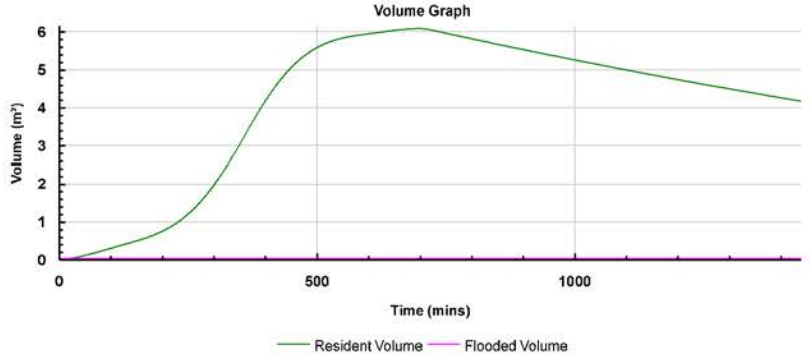


Soakaway
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 720 mins: Winter

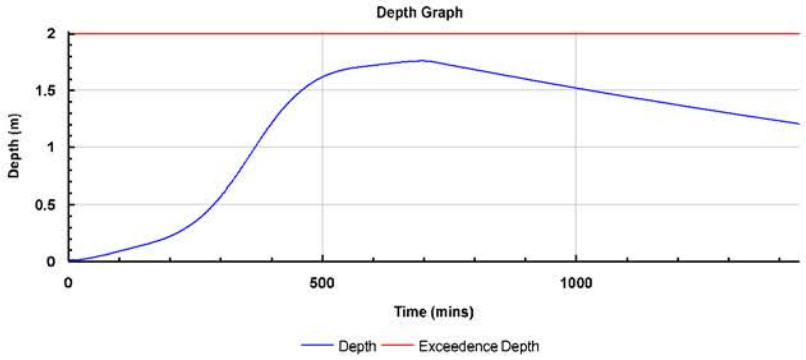
Type : Soakaway

Graphs





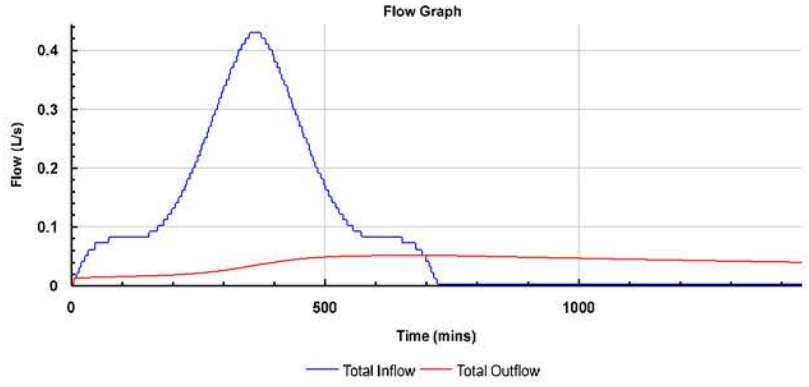
Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

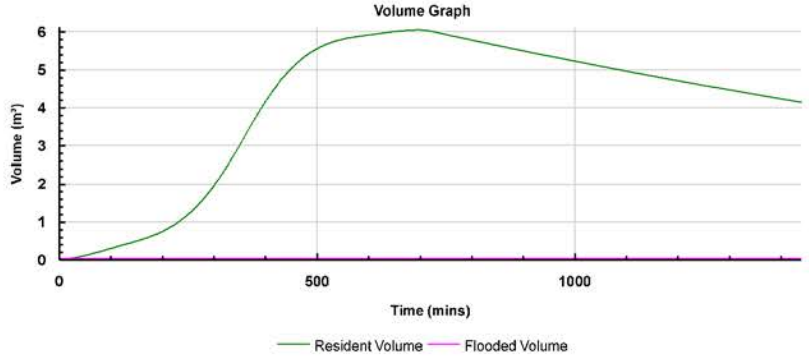


Soakaway (1)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 720 mins: Winter

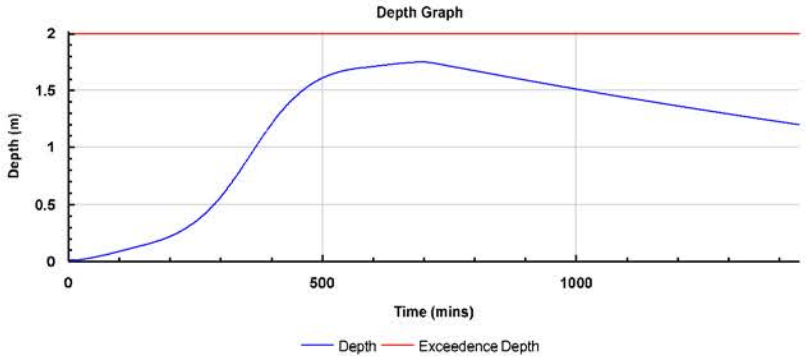
Type : Soakaway

Graphs





Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

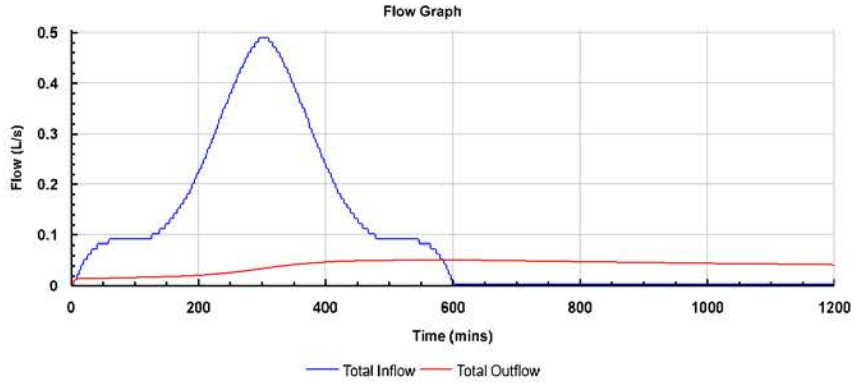


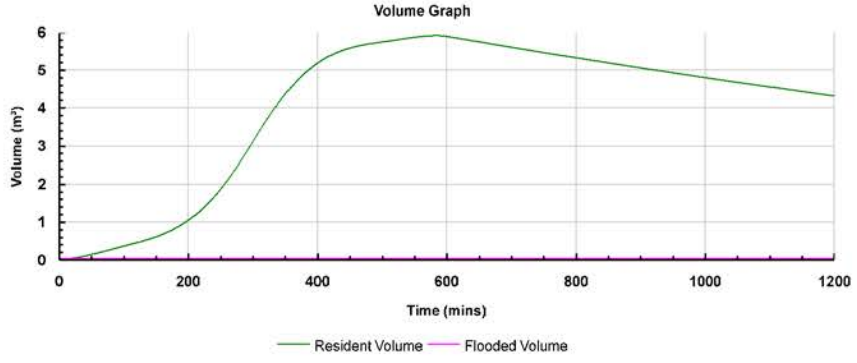
Project:	Date: 24/01/2022		
	Designed by: towns	Checked by:	Approved By:
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

Soakaway (2)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 600 mins: Winter

Type : Soakaway

Graphs





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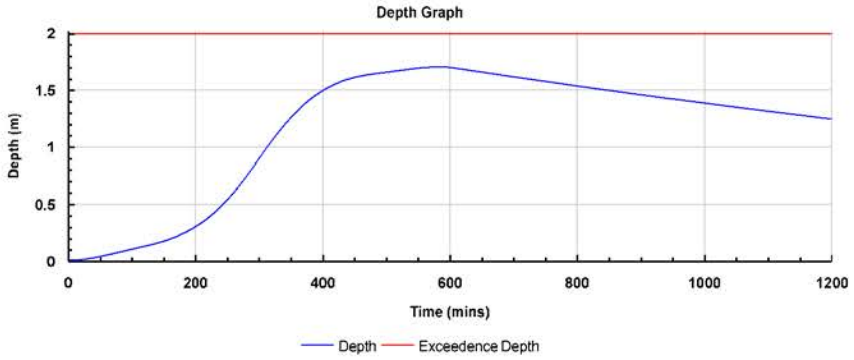

Project:	Date: 24/01/2022		
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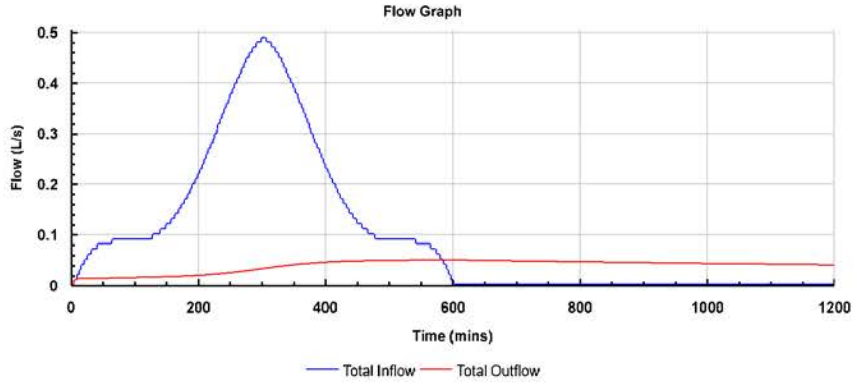
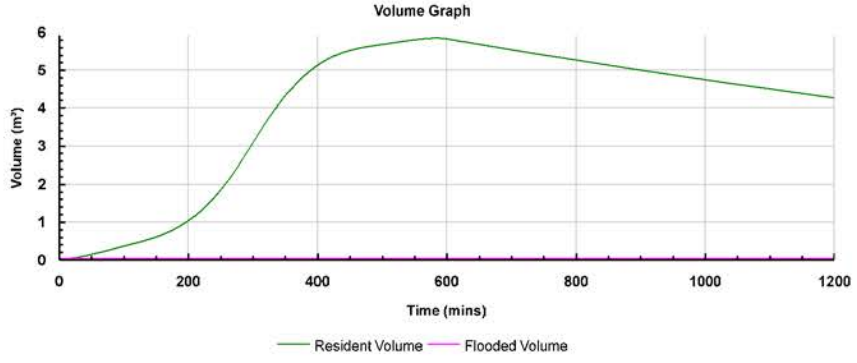
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		

Soakaway (3)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 600 mins: Winter

Type : Soakaway

Graphs





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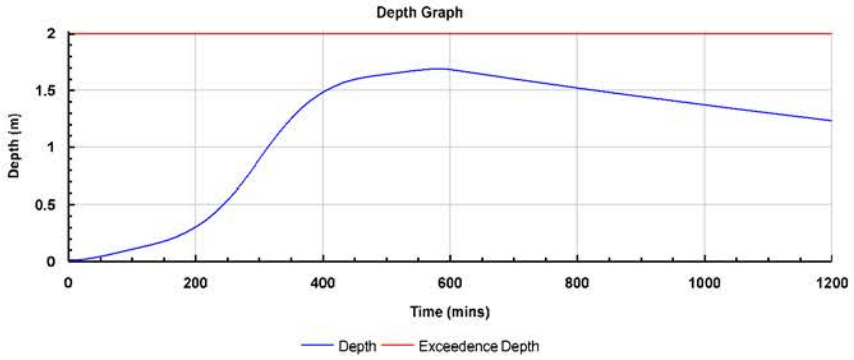
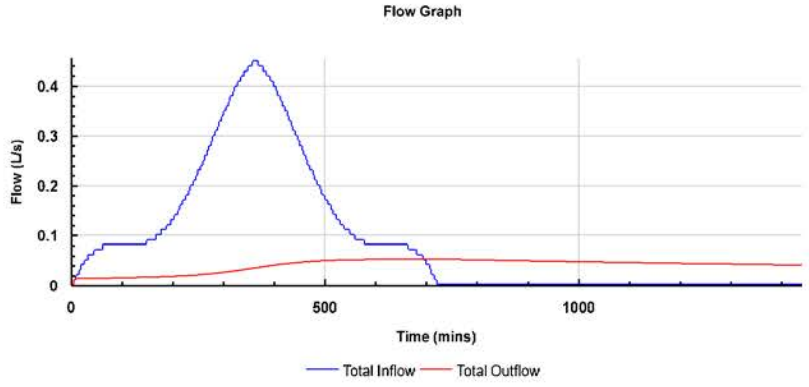
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address		

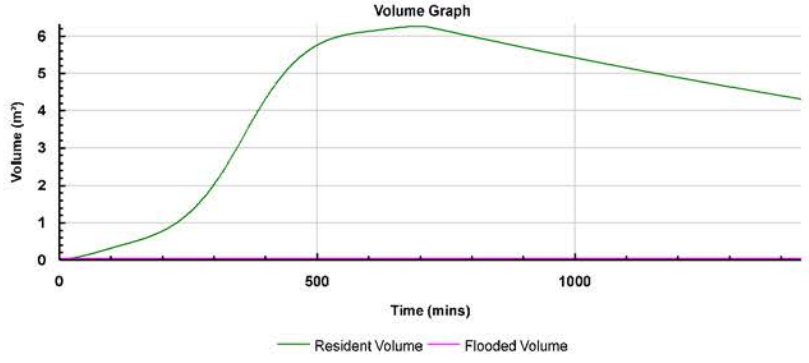


Soakaway (4)
Critical Storm: FEH: 100 years: Increase Rainfall (%): +40: 720 mins: Winter

Type : Soakaway

Graphs





Project:	Date: 24/01/2022		
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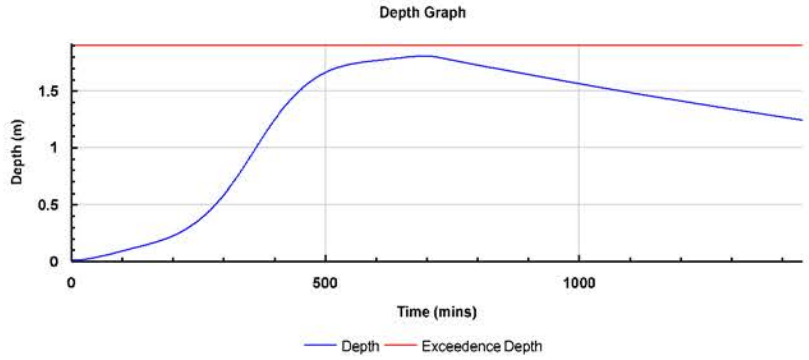
Report Details: Type: Stormwater Control Results Storm Phase: Phase	Company Address:		



Appendix 3: Welsh Water Consultations

Charles Townsend

From: Mohammad Mohsen <Mohammad.Mohsen@dwrcymru.com>
Sent: 24 January 2022 15:39
To: Charles Townsend
Subject: RE: sewer enquiry

Hi Charles,

I can confirm that there is a public foul sewer next to the sites.
You are correct that you can connect to the public foul sewer, but we still need to determine if the existing sewer has the capacity to take the additional sewer.

Kind regards,

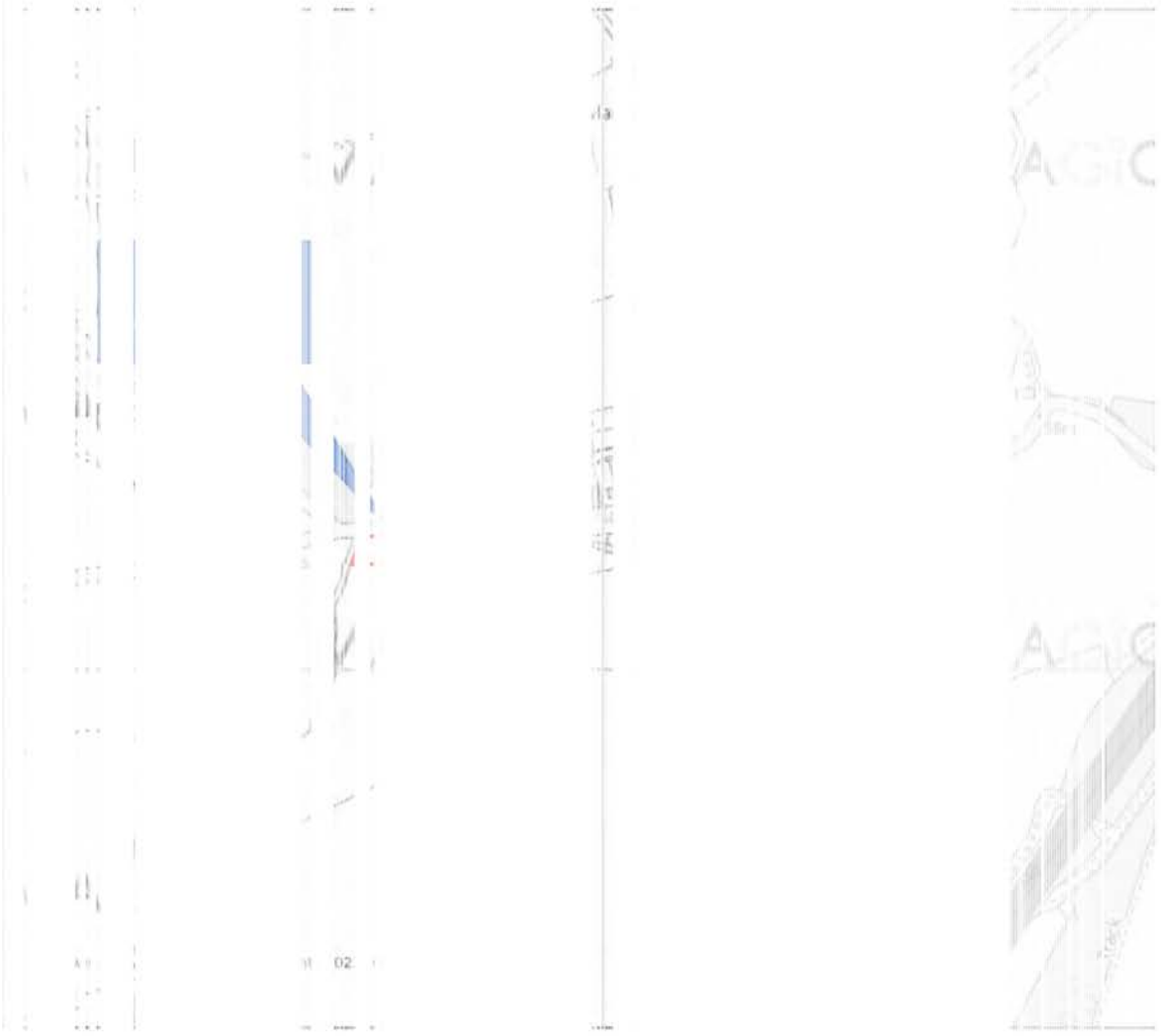
Mohammad Mohsen
Network Development Engineer | Developer Services
Dŵr Cymru Welsh Water

W: dwrcymru.com
E: developer.services@dwrcymru.com
T: 0800 917 2652 | M: 07826999421
A: PO Box 3146, Cardiff, CF30 0EH

From: Charles Townsend [redacted]
Sent: 24 January 2022 14:16
To: Mohammad Mohsen <Mohammad.Mohsen@dwrcymru.com>
Subject: RE: sewer enquiry

******** External Mail ********
Hi Mohammad, thank you for your email.

So just to confirm that there is a foul sewer next to the sites. Please see the location plan below:



If that is a public sewer then we must put the foul water into the sewer that is correct is it not.

Kind regards
Charles

Charles Townsend BSc (Hons) CIWEM CSci
Townsend Water Engineering
[redacted]
Tel:[redacted]

From: Mohammad Mohsen <Mohammad.Mohsen@dwrcymru.com>
Sent: 24 January 2022 13:48
To: Charles Townsend [redacted]
Subject: FW: sewer enquiry

Dear Mr. Charles,

Please find attached screen shots of both sites you asked about.
The site with postcode HR9 6RW has a public sewer nearby as showed on the plan. You will need a pre-planning application to know if this sewer has capacity to take additional sewer.
The site with postcode HR9 6AT has no public sewer nearby.

Regards,

Mohammad Mohsen
Network Development Engineer | Developer Services
Dŵr Cymru Welsh Water

W: dwrcymru.com
E: developer.services@dwrcymru.com
T: 0800 917 2652 | M: 07826999421
A: PO Box 3146, Cardiff, CF30 0EH

Before you print please think about the ENVIRONMENT

If we've gone the extra mile to provide you with excellent service, let us know. You can nominate an individual or team for a Diolch award through our website