QTS

## Cambois Data Centre Campus

# Enabling Works Phase A

## Phase A Addendum to Proposed Drainage Strategy

Document Ref. 4.4, Rev 01

# Cambois Data Centre Campus

## Addendum to Proposed Drainage Strategy – Enabling Works Phase A

## Renaissance Land Limited

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# Executive summary

This document outlines the surface water drainage strategy for the enabling works Phase A on Cambois Data Centre Campus. This is an addendum to “Cambois Data Centre Campus – Drainage Strategy – Technical Document 4.13 Rev 01”

In summary - three platforms are proposed in the enabling works, and they discharge surface through filter drains to a pond. This pond discharges to Cow Gut at less than greenfield runoff for the equivalent catchment, and this does not increase flood risk to Cow Gut.

The level of treatment to the surface water drainage is sufficient for the proposed land use.

# Contents


| | | |
|---|---|---|
| **1.0** | **Introduction** | **2** |
| 1.1 | LLFA Conditions | 2 |
| **2.0** | **The Site** | **5** |
| **3.0** | **Existing Drainage** | **7** |
| 3.1 | Existing Watercourse | 7 |
| 3.2 | Existing Off-Site inflow | 8 |
| **4.0** | **Proposed Drainage** | **16** |
| 4.1 | Full Site | 16 |
| 4.2 | Enabling Works Phase A | 17 |
| 4.3 | Enabling Works Drainage Summary | 35 |
| **Appendices** | | **37** |
| Appendix A | Existing Drainage Plan | 37 |
| Appendix B | Proposed Drainage Plan | 38 |
| Appendix C | Proposed Details | 39 |
| Appendix D | Drainage Phasing | 40 |
| Appendix E | Impermeable Area Plan | 41 |
| Appendix F | Exceedance Flows | 42 |
| Appendix G | Greenfield Runoff Calculation | 43 |
| Appendix H | Infodrainage Calculations | 44 |

# 1.0 Introduction

# 1.0 Introduction

This document outlines the drainage strategy for the enabling works to phase A of Cambois Data Centre Campus. For the proposed drainage strategy for Cambois Data Centre Campus refer to Drainage Strategy (Revision 01) – Technical Document 4.13, issued in January 2025.

This phase of work is to enable the site ahead of the main construction.

Part of the enabling works drainage is temporary in nature and expected to be in place for a period of approximately 1 year. It should be noted that some of the permanent drainage to the project will be constructed as part of the enabling works – most notably the southern pond that discharges to Cow Gut.

The enabling works drainage consists of;

- The permanent southern pond that discharges to Cow Gut
- A length of permanent buried drainage that connects the pond to the relevant enabling works platforms
- Enabling works drainage to three areas (DC1 and DC2 piling Mat, Substation Platform and the Construction Laydown Platform). This drainage will not form part of the final permanent drainage regime.
- Works to complete the Cow Gut Diversion

The contractor will submit a separate construction phase surface water management plan for the construction works.

## 1.1 LLFA Conditions

This report aims to discharge the following conditions relevant to the development;

| Condition | Comment |
|---|---|
| 33. Prior to commencement, including site set up works, a plan shall be submitted to and approved by the Local Planning Authority in writing that details the drainage phasing plan, including a build order shall be provided. The development shall then be carried out in accordance with these agreed details. | Please refer to Figure 4-1 and Appendix D for the proposed phasing to the development |
| 34 Prior to commencement of development, including clearance works, a scheme to dispose of surface water from the development shall be submitted to and approved by the Local Planning Authority in writing. This scheme shall: | This report outlines the surface water drainage strategy to the enabling works phase A of the development. |
| 34 A. Restrict discharge from the development to the Cow Gut and to the Maw Burn as per section 5.6 of Document 1043152 NCL1-DCZZ-STE-UG-RP-C-00-01 P rev V02 by Cundall for all rainfall events up to and including the 1 in 100 year + climate change storm event, unless otherwise agreed by LLFA and the Local Planning Authority. | Only discharge to Cow Gut is demonstrated for enabling works phase A – There is no discharge to Maw Burn for this phase. Flows are restricted to 1:1 year greenfield runoff for the equivalent catchment for this phase of works, which is less than in the original strategy. This is discussed in section 4.2.5. Flows are summarised in Table 4-3 |
| 34 B. Provide details of attenuation on site for the 1 in 100 year plus climate change event, at the time of submission of the reserved matters. | The enabling works phase A attenuation details are provided in the drainage strategy appendix C (drainage detail sheet 3 – Pond) |

| | |
|---|---|
| 34 C. Provide cross sections of all SuDS features | SuDS features relevant to the enabling works phase A are provided in the drainage strategy appendix C (drainage detail sheet 3 – Pond) |
| 34 D. Provide a cross section of the flow control | The enabling works phase A flow control is provided in the drainage strategy appendix C (drainage detail sheet 1) |
| 34 E. Incorporate vegetated sustainable drainage techniques throughout the development wherever possible and practicable, justification for alternatives should be by means of a 3 viability assessment in the event vegetated sustainable drainage systems are not proposed. | The southern pond that discharges to Cow Gut is vegetated, with details provided in Appendix C (drainage detail sheet 3 – Pond) |
| 34 F. Provide full hydraulic modelling calculations | Hydraulic modelling calculations for the enabling works phase A are provided in appendix H |
| 34 G. Provide an exceedance flow route plan | The enabling works phase A exceedance flow route plan is provided in section 4.2.6 and appendix F |
| 34 H. Confirm how the basins will be accessed for maintenance | Pond maintenance access is discussed in section 4.2.8 and the strategy illustrated in Figure 4-17 |
| 39 Prior to commencement of any works on site, including clearance works, details of the disposal of surface water from the development through the construction phase shall be submitted to and agreed with the Local Planning Authority in writing. The development shall then be carried out in accordance with these agreed details throughout the construction phase | Section 4.2.11 provides an outline of what will be included in the construction phase surface water management plan that will be submitted by the contractor. |

*Table 1-1 LLFA Conditions*

# 2.0

# The Site

# 2.0 The Site

The site layout for the enabling works Phase A is shown in Figure 2-1.

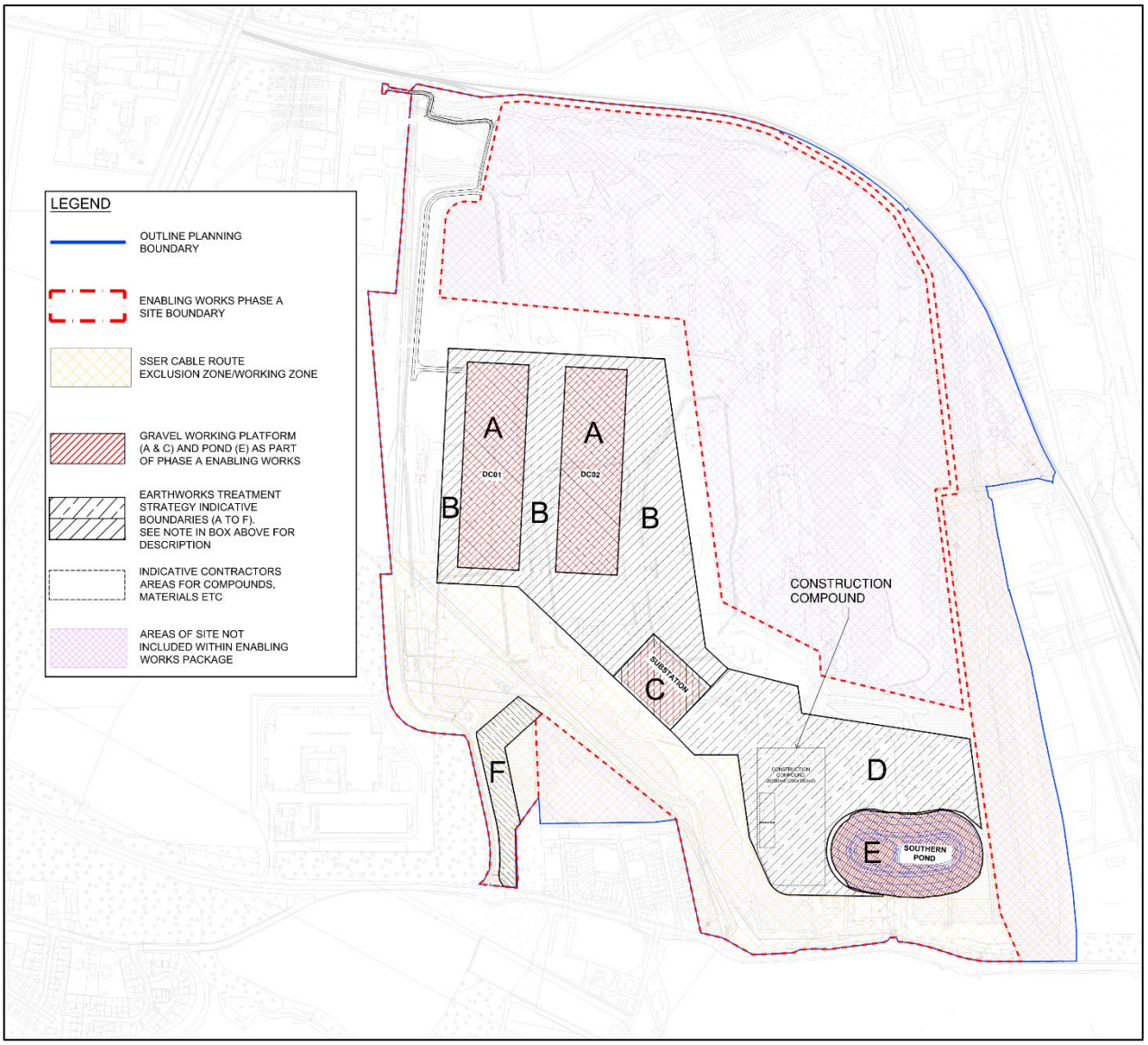


*Figure 2-1: Enabling Works Site Layout*

The enabling works phase A consists of a number of zones, described below;

- Zone A – this consists of two footprints under what will become the Phase 1 buildings. During the enabling works, this zone consists of a piling platform.
- Zone B – During the enabling works, obstacles will be removed and the ground re-instated for the phase 1 works.
- Zone C – This zone will be the Phase 1 substation. During enabling works the existing ground will be turned over to natural ground level and obstacles removed. A structural platform will be constructed in preparation for the phase 1 substation
- Zone D – During the enabling works, obstacles will be removed and an earthworks platform prepared for the phase 1 works. Inside this zone there is the footprint for the phase 1 construction compound – during the enabling works a structural earthworks platform will be constructed in preparation for the phase 1 construction compound.
- Zone E – The permanent pond discharging to Cow Gut will be installed in Zone E during the enabling works phase.
- Zone F – In this zone mounds will be removed in preparation of the phase 1 buried utility installation.

# 3.0

# Existing Drainage

# 3.0 Existing Drainage

Existing drainage is discussed in detail in the report Cambois Data Centre Campus – Drainage Strategy – Technical Document 4.13. In this report, existing drainage in the enabling works boundary is discussed.

## 3.1 Existing Watercourse

Two watercourses cross the Site, the larger Cow Gut running from west to the southeast and Maw Burn, running from the northwest of the Site to the eastern boundary. Both watercourse discharge into the sea within 300m of the Site, with Cow Gut discharging into Blyth Estuary and Maw Burn to the sea at Cambois Beach.

The Maw burn collects surface water from a relatively small area of the site, it predominantly conveys surface water from the north-west to the eastern outfall.

The Cow Gut has historically been used for the collection of storm water for the majority of the Site. According to records available, the culverted section of Cow Gut downstream of the site boundary is a 900mm pipe, followed by a 1200mm inverted siphon with a drop in level of approximately 3m in the siphon.

Figure 3-1 shows the key existing drainage features on site, as well as features that are to be removed during the enabling works phase A (coloured red).

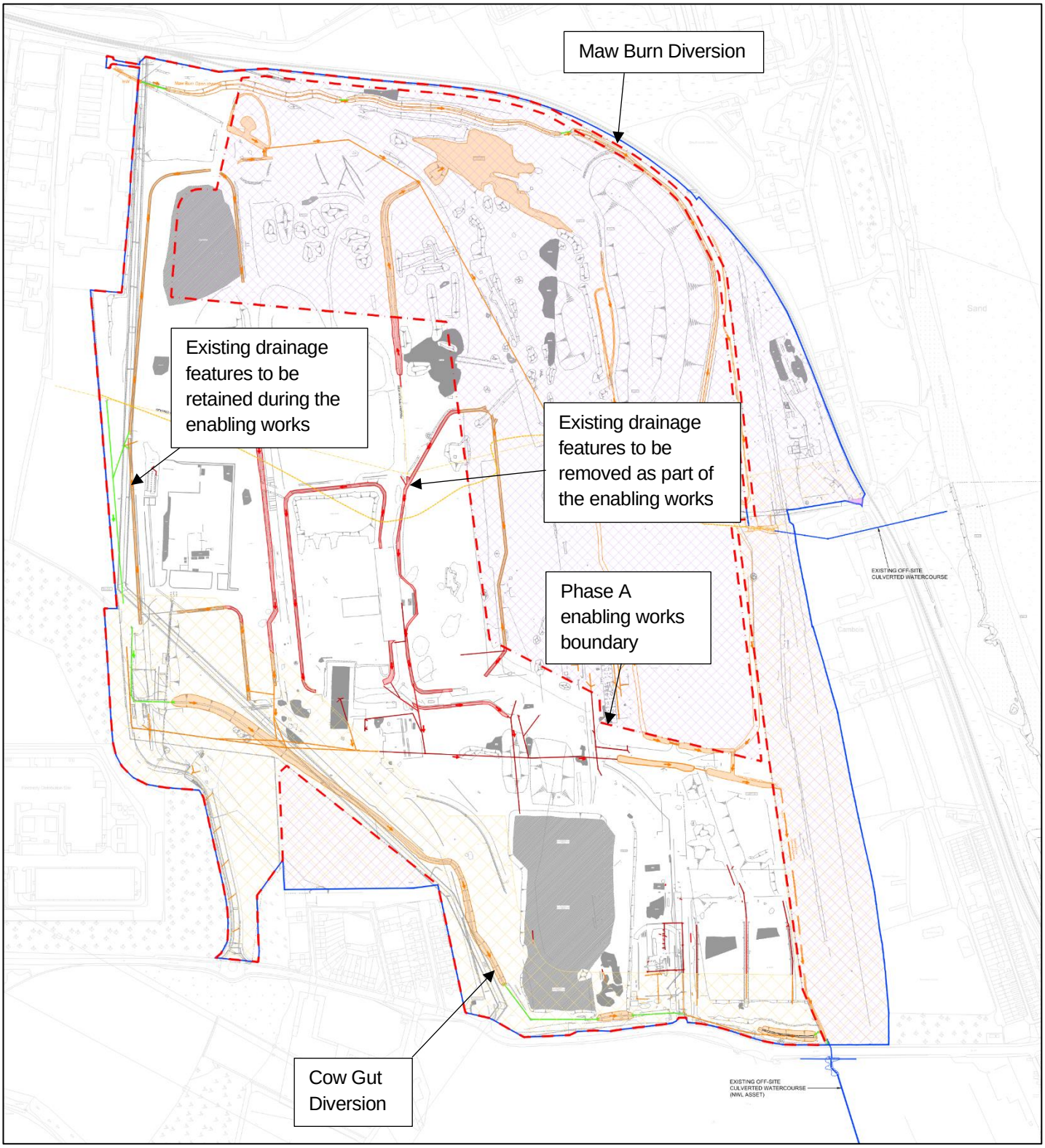


*Figure 3-1: Enabling Works Phase A - Existing Drainage Plan*

## 3.2 Existing Off-Site inflow

The enabling works drainage is intended to discharge to Cow Gut.

In order to determine the existing flow in Cow Gut as it discharges from the current site, the existing upstream and on-site flow rate into Cow Gut needs to be established.

### 3.2.1 Cow Gut Upstream Catchment

LIDAR composite digital terrain model data was downloaded from the Environment Agency website and imported into QGIS software. The LIDAR data, downloaded as 4 .TIF files, were converted to vector shape files and the GRASS plugin was used to create watershed routes in the existing surface water catchments in and around the site. Analysing the existing topographical survey of the Site, some catchment area extents within QGIS were amended to account for culvert routes, blocking structures and the project Site boundary to improve watershed route accuracy and discount any area within project boundary extents.

The Maw Burn and Cow Gut both have contributing catchments upstream of the proposed development. The extent of these can be seen in Figure 3-2. The Maw Burn upstream catchment is shown in Yellow and the Cow Gut upstream catchment is shown in Blue.

*Figure 3-2: Watercourse Catchment Areas*

These outcome catchment areas were grouped and quantified to provide a total off-site catchment area draining to the Site, of 52.65 ha for Cow Gut and 47.34 ha for Maw Burn.

### 3.2.2 Cow Gut On-Site Catchment

Figure 3-3 shows the enabling works on site catchment areas discharging to Cow Gut. The total existing on-site catchment to Cow Gut is 76.6Ha.

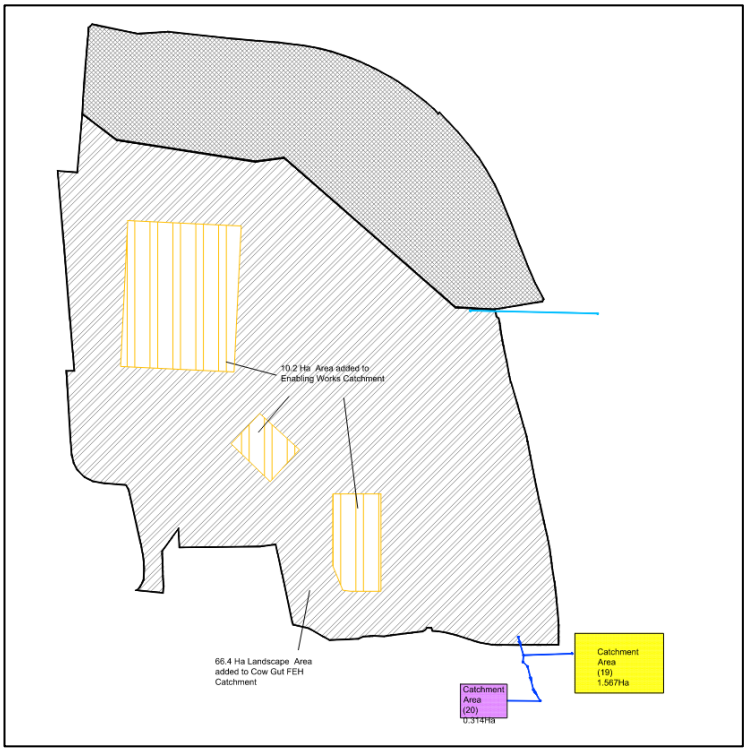


*Figure 3-3: Enabling Works on site catchment areas discharging to Cow Gut*

### 3.2.3 Determination of existing discharge flows to Cow Gut

A model has been developed in Infodrainage to determine the existing (baseline) flows that discharge to Cow Gut at the downstream boundary of the site.

The FEH Web Service was used to download FEH22 catchment rainfall data, and this was input into Infodrainage, as shown in Figure 3-4.

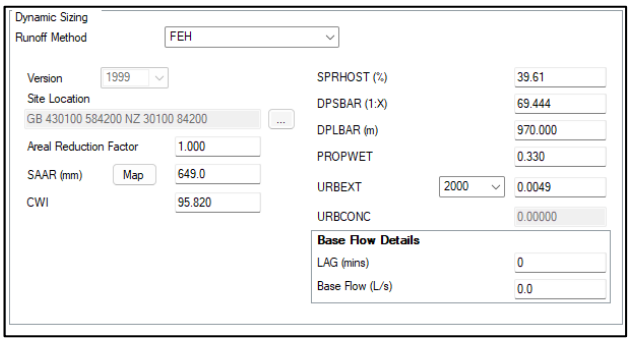


*Figure 3-4: FEH data applied to catchments in Infodrainage*

A model has been produced for the discharge from Cow Gut from the site boundary. Upstream and on-site catchment areas have been assigned to discharge to the model at the downstream site boundary.

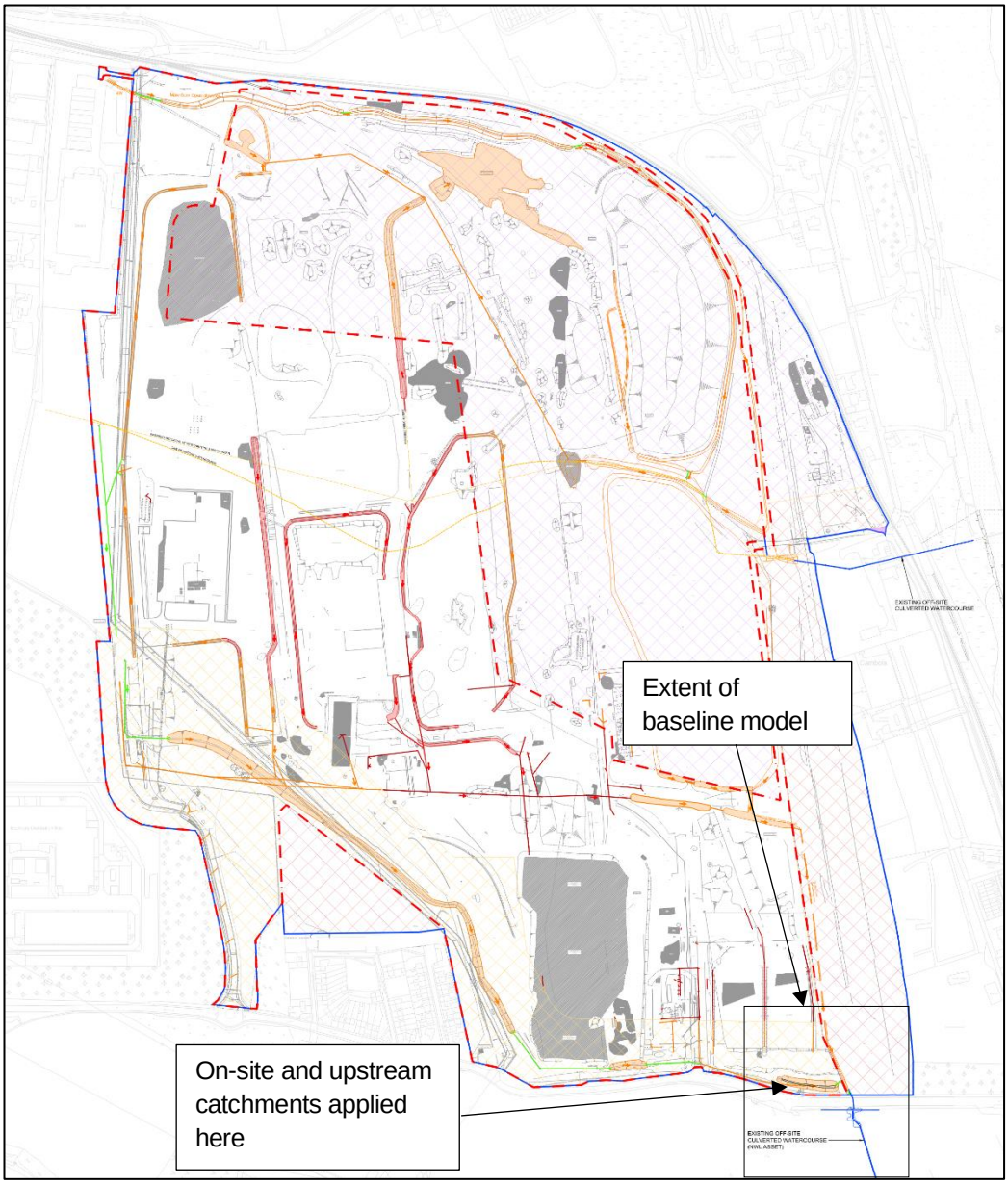


*Figure 3-5: Extent of baseline model to determine Cow Gut existing flows*

Figure 3-6 shows a plan view of the infodrainage model. The upstream catchment of 52.65Ha and on-site catchment of 76.6Ha (also refer to Figure 3-3) are highlighted. Two smaller catchments downstream of the site, as showing in Figure 3-3 are also modelled. Record information has been used to model the pipework to the discharge to the sea (refer to Figure 3-9 and Figure 3-10).

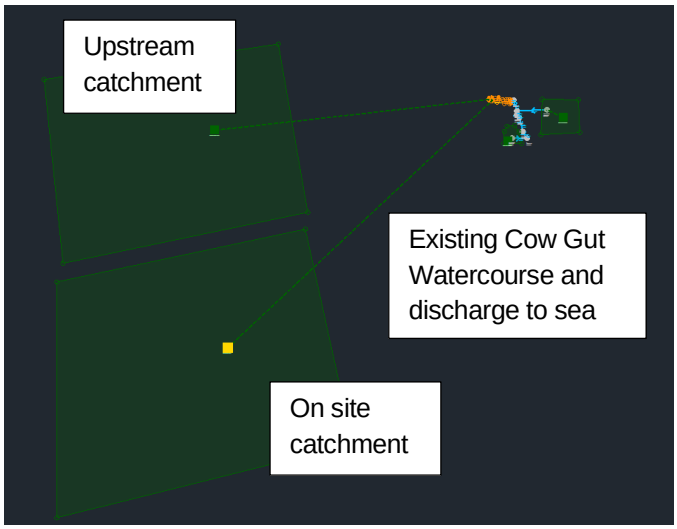


*Figure 3-6: Infodrainage Model - Plan*

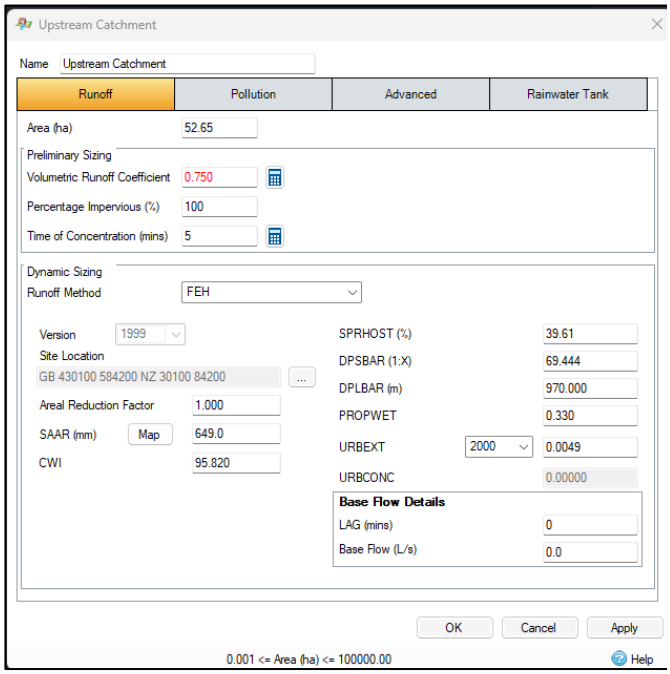


*Figure 3-7: Upstream catchment applied to Cow Gut*

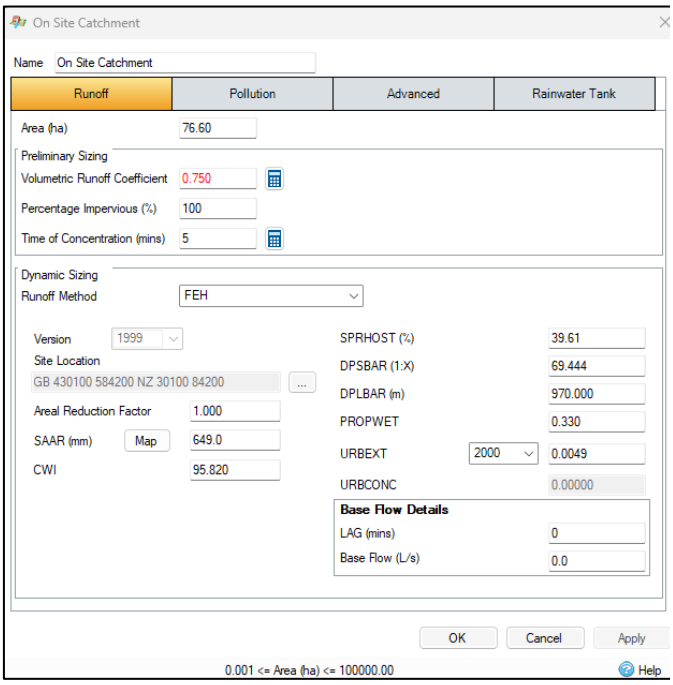


*Figure 3-8: On site catchment to Cow Gut*

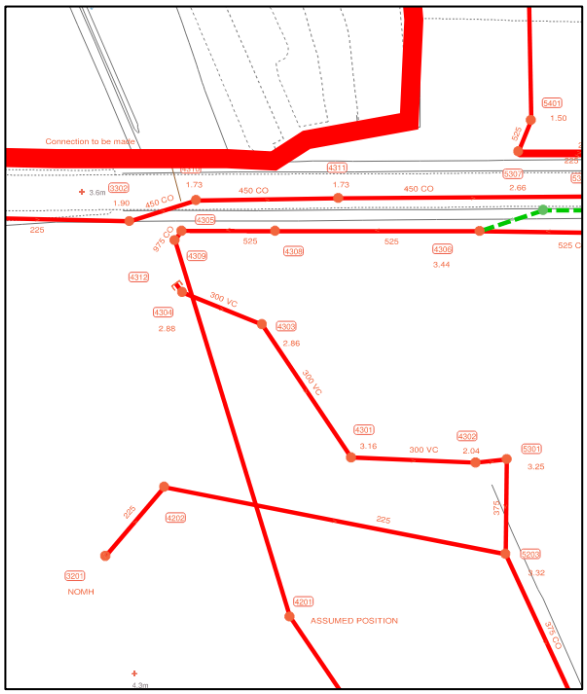


*Figure 3-9: Existing off site culvert*

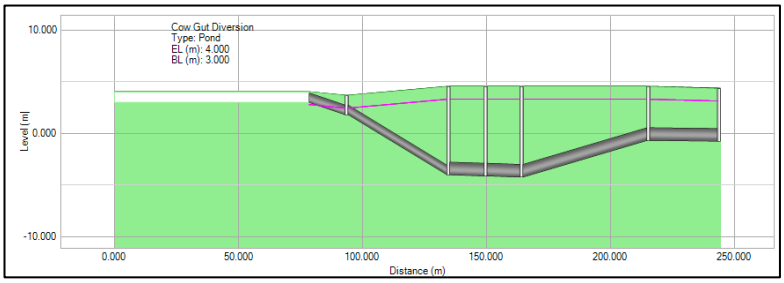


*Figure 3-10: Pipework long section*

The catchments generate a hydrograph for each storm, see Figure 3-11 for an example.

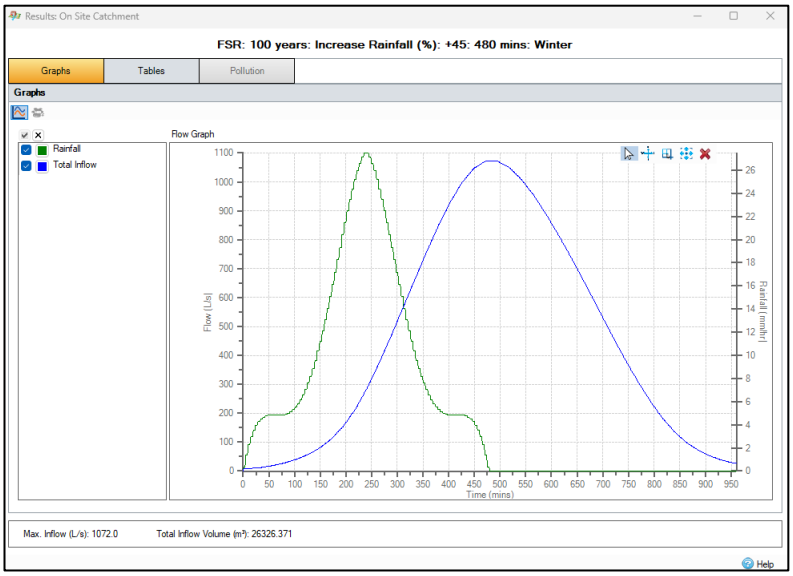


*Figure 3-11: Hydrograph for on-site catchment - 100 year +45% climate change 480 minute winter storm*

Cow Gut discharges to the south of the Site via a concrete headwall with an invert level of 1.65mAOD. The connection to the sea includes an inverted siphon. The invert level of Cow Gut at the limit of the Site is lower than the current Mean High Water Springs (MHWS) of 2.52mAOD and therefore the tidal boundary condition shall restrict flows. Table 3-1 indicates the increase in sea level allowance for the Northumbria River basin in mm for the higher central and upper end events. The higher central indicates a 70th percentile projection and upper end a 95th percentile. For tidal consideration, an overall design life has been assumed of 60 years, so the 2085 scenario has been considered. The higher central allowance gives an increase in sea level of 0.588m and MHWS of 3.108m. As a conservative assumption for, this level has been applied as the downstream boundary condition at the outfall in the drainage model for the duration of the storm (refer to Figure 3-12 for the modelled submerged outfall level).

| Allowance | 2000 to 2035 (mm) | 2036 to 2065 (mm) | 2066 to 2095 (mm) | 2096 to 2125 (mm) |
|---|---|---|---|---|
| Higher central | 4.6 | 7.5 | 10.1 | 11.2 |
| Upper end | 5.8 | 10 | 14.3 | 16.5 |

*Table 3-1: Sea level allowances for the Northumbria River basin district for each epoch in mm for each year (based on a 1981 to 2000 baseline). Source: Environment Agency*

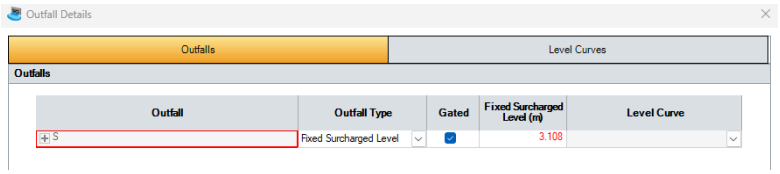


*Figure 3-12: Submerged outfall*

A summary of the base model results is provided in Table 3-2

| Return Period (Years) | Maximum Flow (l/s) | Flooded Volume at existing watercourse ($m^3$) | Comments |
|---|---|---|---|
| 1 | 368.7 | None | |
| 10 | 658.6 | None | |
| 100 | 1157 | None | |
| 100 + 45% Allowance for climate change | 1787 | 604$m^3$ | This is the total volume flooding from the open channel to the Cow Gut Diversion and the flooded volume at the inlet manhole where Cow Gut Discharges from the site |

*Table 3-2: Summary of existing discharge flows to Cow Gut*

# 4.0

# Proposed Drainage

# 4.0 Proposed Drainage

## 4.1 Full Site

The full site drainage strategy was submitted for outline planning. Refer to Cambois Data Centre Campus – Drainage Strategy – Technical Document 4.13 for the full site drainage strategy. This document outlines the strategy for the enabling works phase A only.

Figure 4-1 shows the phasing strategy for the site and the boundary to the phase A enabling works. It also highlights the permanent drainage that will be constructed as part of the enabling works package.

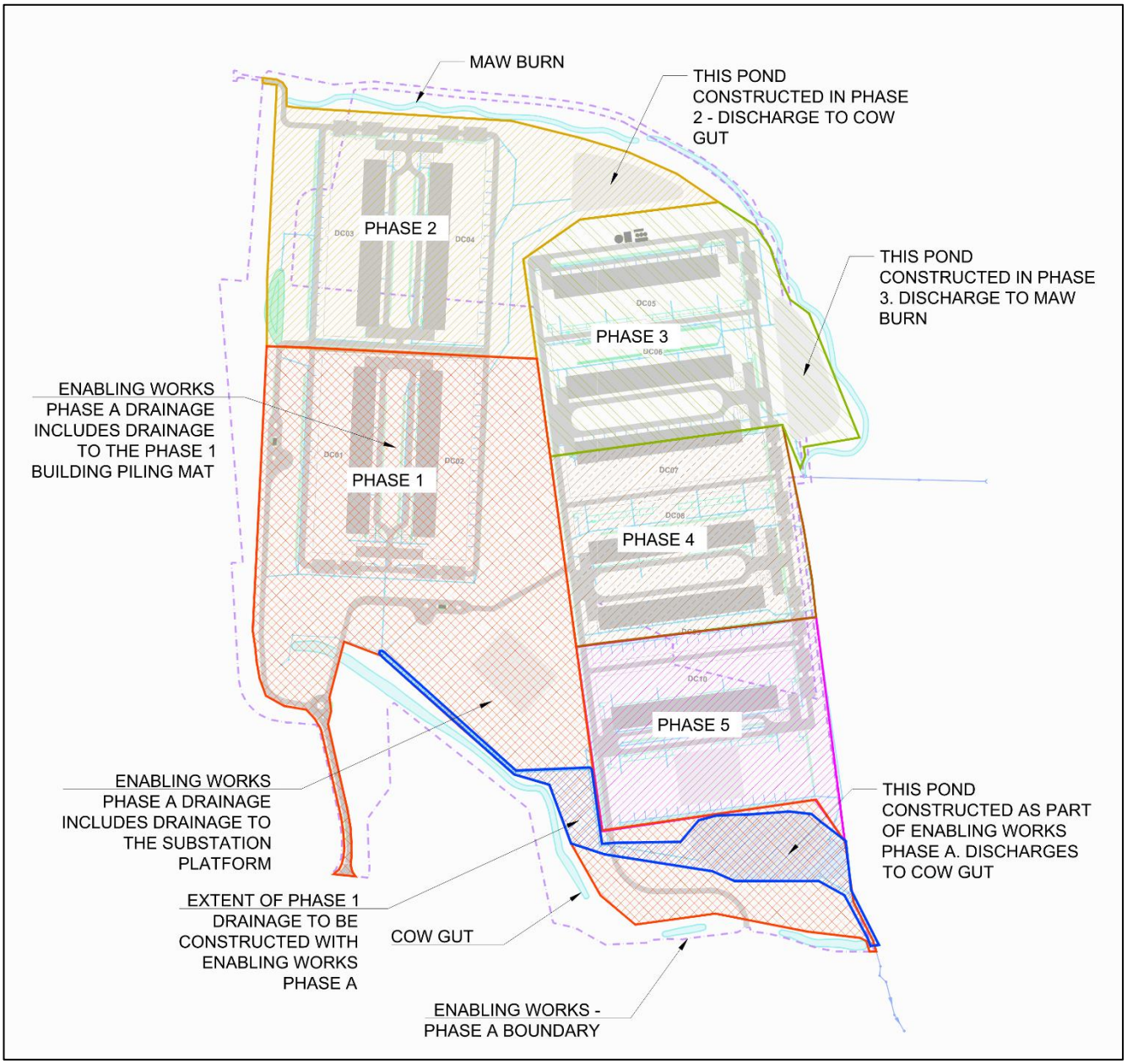


*Figure 4-1: Drainage Phasing*

As illustrated in the figure, the southern pond that discharges to Cow Gut will be constructed as part of the enabling works, as well as a length of pipework that extends to the phase 1 buildings to the west of the pond.

## 4.2 Enabling Works Phase A

### 4.2.1 Enabling Works Drainage Layout

Refer to drawing NCL1-RMAPA-STE-XX-DR-C-01-33, as well as Figure 4-2 for the enabling works phase A drainage layout.

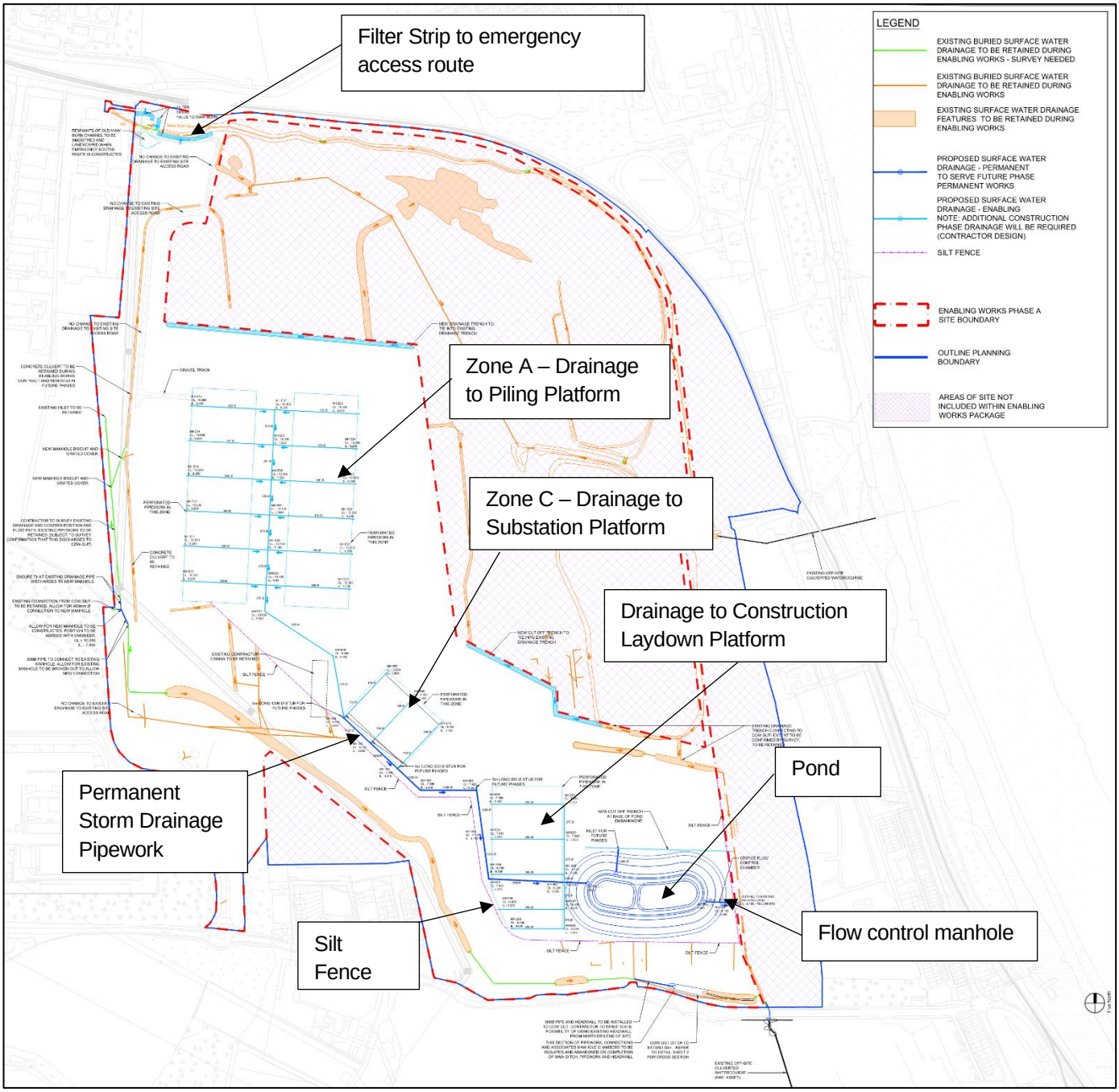


*Figure 4-2: Phase A enabling Works Drainage Layout*

A summary of the key features is illustrated in Figure 4-2, and described in the following paragraphs.

### 4.2.2 Works to existing Cow Gut Diversion

As part of the enabling package, works will be carried out to complete the Cow Gut Diversion.

Site investigation surveys indicate that the inlet from Cow Gut to the Cow Gut Diversion were not completed in the previous project. As part of the enabling package, the inlet is to be connected to the diversion. A snip of these works from the drainage layout drawing NCL1-RMAPA-STE-XX-DR-C-01-33 is presented in Figure 4-3.

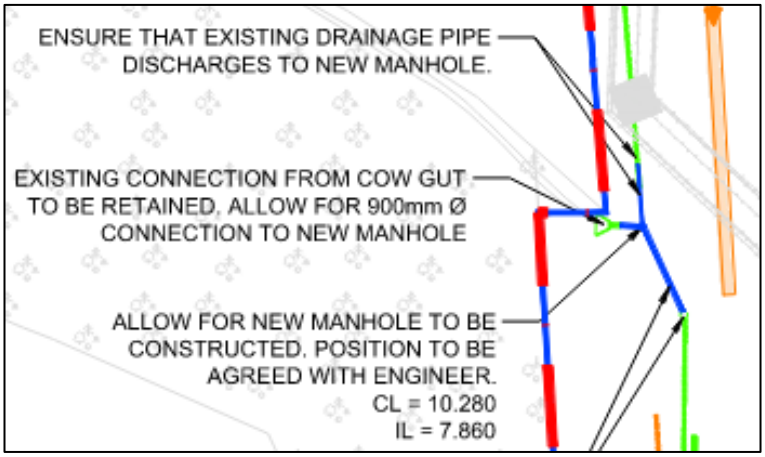


*Figure 4-3: Works to the Inlet to Cow Gut Diversion*

Site investigation surveys also indicate that the most downstream ditch to the Cow Gut Diversion was not completed. This will be completed as part of the enabling works package. A snip from the drainage layout drawing for these works is presented in Figure 4-4.

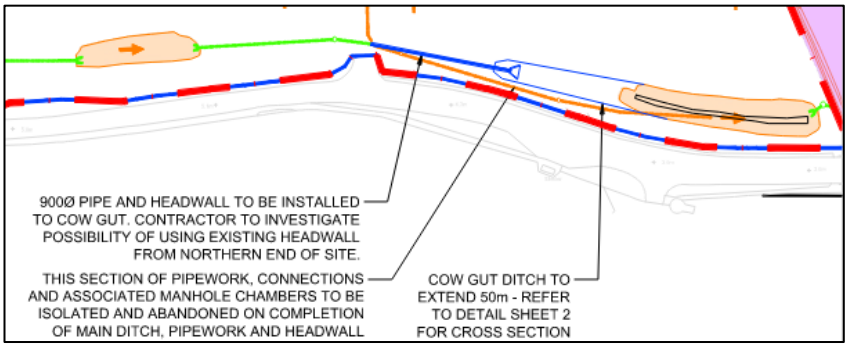


*Figure 4-4: Works to the most downstream ditch to the Cow Gut Diversion*

#### 4.2.2.1 Permanent Storm Drainage Pipework

A length of the permanent works drainage will be constructed as part of the enabling works package, as highlighted in Figure 4-2. This drainage allows the enabling works drainage to the piling platform in Zone A, the substation platform in Zone C and the Construction Laydown Area in Zone D to discharge to the Southern Pond.

Where appropriate, stubs of pipework will be installed to allow for the connection of future phases.

#### 4.2.2.2 Zone A – Drainage to piling Platform

Figure 4-5 shows a plan of the drainage to the piling platform. Inside this zone, perforated pipework inside a filter drain is proposed to drain the platform (Figure 4-6). This drainage is temporary in nature and will not form part of the permanent site drainage. It does discharge into the permanent drainage pipework to be constructed as part of the enabling works phase A package.

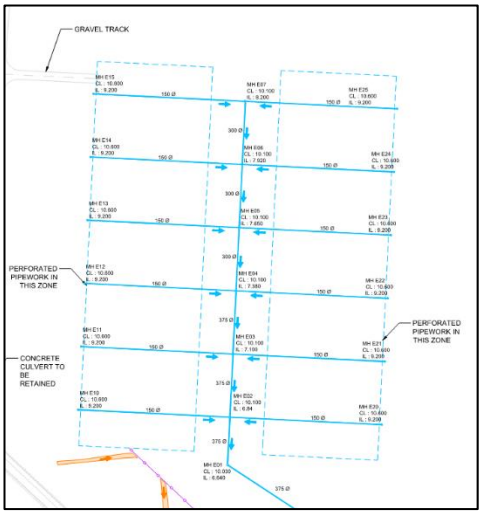


*Figure 4-5: Zone A Drainage to Piling Platform*

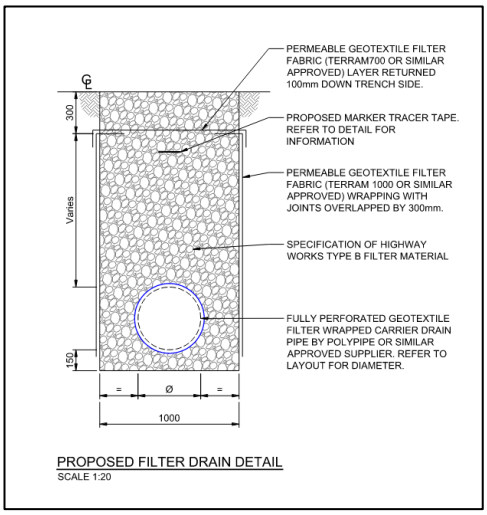


*Figure 4-6: Proposed Filter Drain Detail*

### 4.2.2.3 Zone C – Drainage to Substation Platform

Figure 4-7 shows the plan arrangement of the substation platform drainage. As with Zone A, this drainage is proposed to consist of filter drains to the platform and will not form part of the permanent works. Also, as per Zone A, the substation enabling works drainage will tie into the permanent works drainage that will be installed with the enabling works.

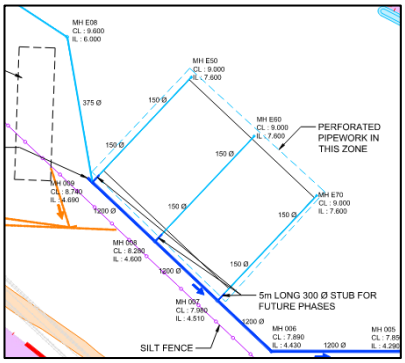


*Figure 4-7: Zone C - Drainage to substation*

### 4.2.2.4 Drainage to construction laydown platform

Figure 4-8 shows the plan arrangement of the construction laydown platform drainage. As with Zone A and C, this drainage is proposed to consist of filter drains to the platform and will not form part of the permanent works drainage. Also, as per Zone A and C, the construction laydown enabling works drainage will tie into the permanent works drainage that will be installed with the enabling works.

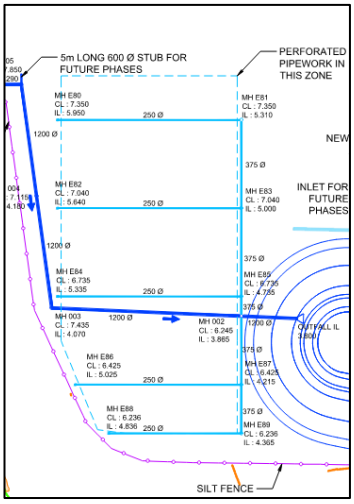


*Figure 4-8: Drainage to construction laydown platform*

### 4.2.2.5 Pond

The permanent works pond that discharges to Cow Gut will be installed as part of the enabling works package. Figure 4-9 shows the pond plan layout. As per the plan, the pond has a sediment forebay to allow the sediment to be captured from a defined area within the ponds for removal. The pond has a permanent water level, and this combined with the sediment forebay allows for the first flush to be treated within the pond.

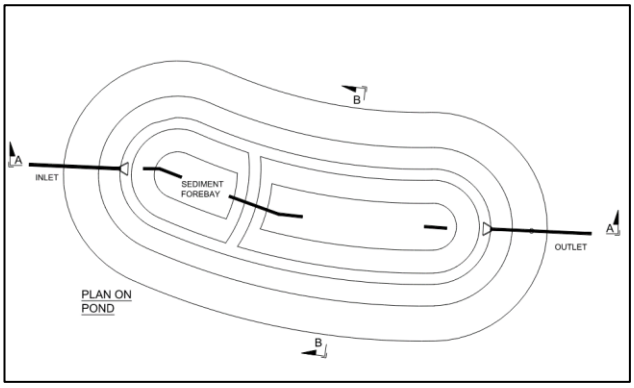


*Figure 4-9: Pond Layout – Plan*

Figure 4-10 shows a section to the pond inlet. As per the section, the pond has a permanent water level of 3.800m. During a 1 in 10 year storm, this water level will increase to 130mm during the enabling works phase. Because the permanent pond is being constructed in the enabling works phase, and the enabling works phase catchment is small compared to the full site, the pond attenuation volume is not highly utilised.

The pond has a shallow aquatic bench to its perimeter. This enables a zone for mass planting to provide a level of treatment to surface water runoff. The pond is clay lined.

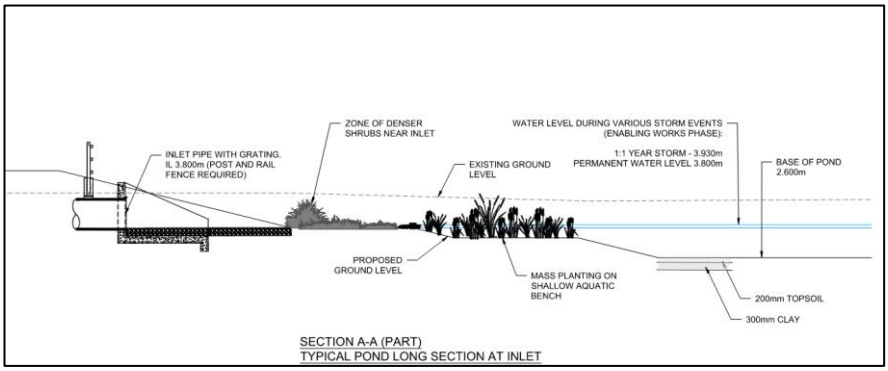


*Figure 4-10: Section at Pond Inlet*

In the middle of the pond, there is a submerged berm to separate the sediment forebay from the rest of the pond (Figure 4-11). This is to be planted.

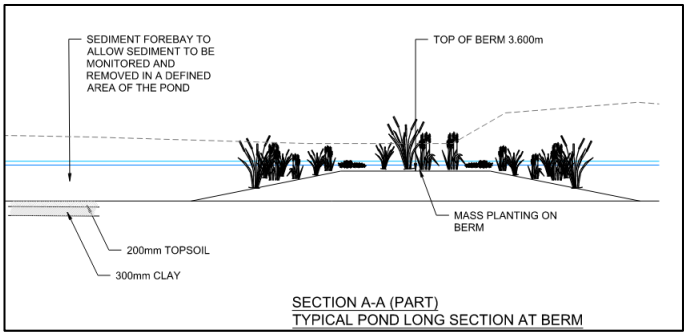


*Figure 4-11: Section at pond berm*

The pond outfalls to a flow control manhole. The flow control manhole is discussed in more detail in section 4.2.2.6. This manhole then discharges to the existing Cow Gut watercourse, as shown in Figure 4-12

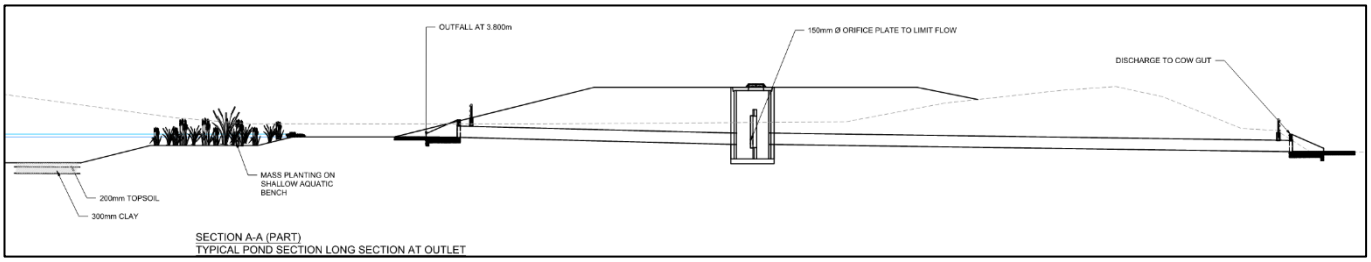


*Figure 4-12: Section at pond outlet*

Refer to NCL1-RMAPA-STE-XX-DR-C-05-05, Enabling Works – Phase A Drainage Details Sheet 3 for the pond detail drawing.

### 4.2.2.6 Flow Control Manhole

There is a manhole to the outlet to the pond, where an orifice plate will be installed to restrict flow during the enabling works phase to greenfield runoff. Figure 4-13 and Figure 4-14 show the manhole in plan and section.

The manhole is to be constructed to allow the plate to be removed as the works progress and replaced with alternative flow controls to suit the relevant phase of works. The manhole cover slab is to be constructed at ground level to enable removal of the slab to allow the flow control to be adjusted as required.

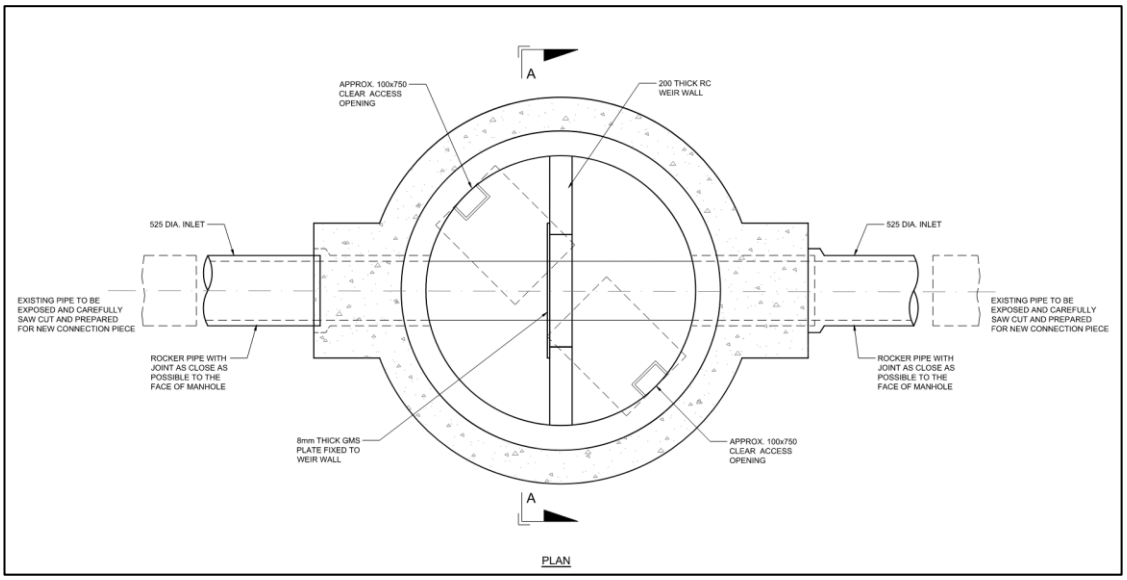


*Figure 4-13: Flow Control Manhole - Plan*

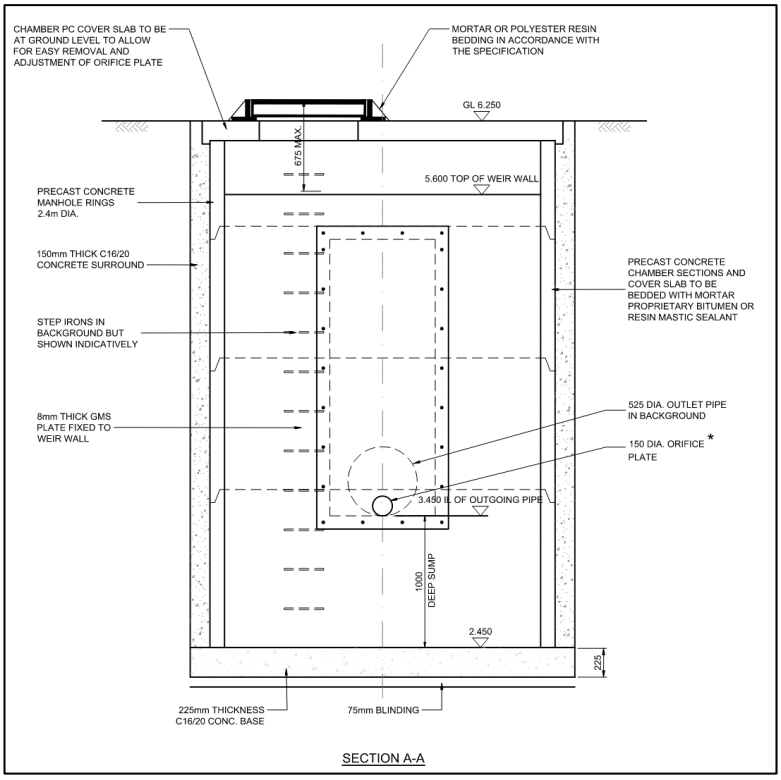


*Figure 4-14: Flow Control Manhole – Section*

#### 4.2.2.7 Silt Fence

As part of the enabling works, a silt fence will be constructed where there is runoff from the enabling works platforms to Cow Gut. This is to capture sediment from the enabling works prior to discharge to Cow Gut.

#### 4.2.2.8 Filter strip to emergency access route

A 5m wide filter strip is provided to the temporary emergency access route to the north of the enabling works, to provide a level of treatment to the surface water runoff prior to discharge to Maw Burn.

### 4.2.3 Enabling Works Design Return Period

The enabling works drainage is temporary in nature, and expected to be in place for a period of approximately 1 year. As such, a design return period of 1 in 10 years for the enabling works drainage has been selected. The pipework has been designed to ensure there is no flooding to the enabling works drainage in this return period.

### 4.2.4 Infiltration

Infiltration testing was undertaken as part of planning application 21/000818/FULES. Testing concluded that the ground was impermeable (<x10-6 i.e. Not viable) and offered minimal infiltration potential. No further infiltration testing has been commissions as part of ground investigation works as the geotechnical investigations determined the entire site was underlain with impermeable clay resulting in ineffective infiltration rates. Unless further testing contradicts previous results, this has been discounted.

| Summary of acceptable infiltration rates for development surface water drainage (m/sec) | | |
|---|---|---|
| | | Tests to undertake |
| > $x10^{-6}$ | Appropriate for soakaways | Infiltration tests to BRE 365 standards and information of the ground conditions and groundwater levels. |
| = $x10^{-6}$ | Borderline | Infiltration tests to BRE 365 standards, plus a comprehensive ground investigation report, with groundwater levels. Subject to approval |
| < $x10^{-6}$ | Not Viable | Seek alternative means of disposal of surface water |

*Table 4-1: Summary of acceptable infiltration rates*

### 4.2.5 Enabling Works Flow Restriction

For the enabling works phase A, discharge from the pond to Cow Gut has been limited to greenfield runoff for the equivalent return period event.

Refer to Figure 4-15 for the impermeable area plan (gravel platforms) for the enabling works, showing that the catchment to the pond is 10.2 Ha.

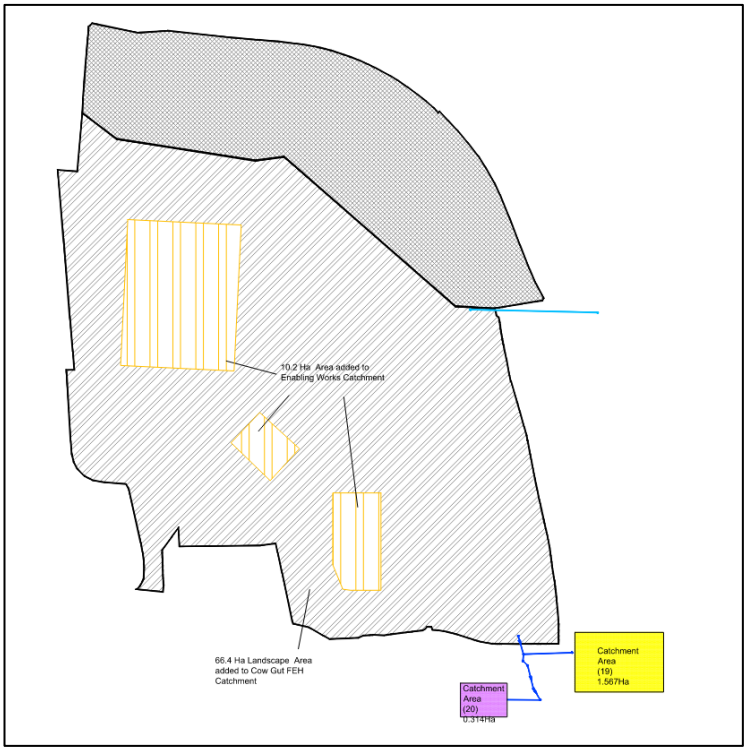


*Figure 4-15: Impermeable Area Plan*

Greenfield runoff for the site has been determined to be 37.79 l/s for a 1 in 1 year return and 43.94 l/s for Qbar (Refer to Appendix for HR Wallingford Greenfield Runoff Rate Estimation).

A 150mm orifice plate on the flow control manhole is to be constructed as part of the enabling works, and this limits the flow to 29.7 l/s for the critical 1 in 10 year storm.

Although the enabling works drainage has been designed for a 1 in 10 year storm, a check on the pond outflow rate has been carried out on the 1 in 100 year +45% climate change storm. During a 1 in 100 +45% allowance for climate change storm, the discharge from the pond is limited to 37.2 l/s, which is less than both the 1 in 1 year and Qbar greenfield runoff for the catchment area.

### 4.2.6 Exceedance flows

Figure 4-16 shows the overland exceedance flow route for the enabling works phase. New temporary cut off trenches have been formed to the north of the enabling works area to capture overland flow. Areas that have flow going to Maw Burn and Cow Gut pre development maintain an overland flow route to their respective watercourse during the enabling works phase A.

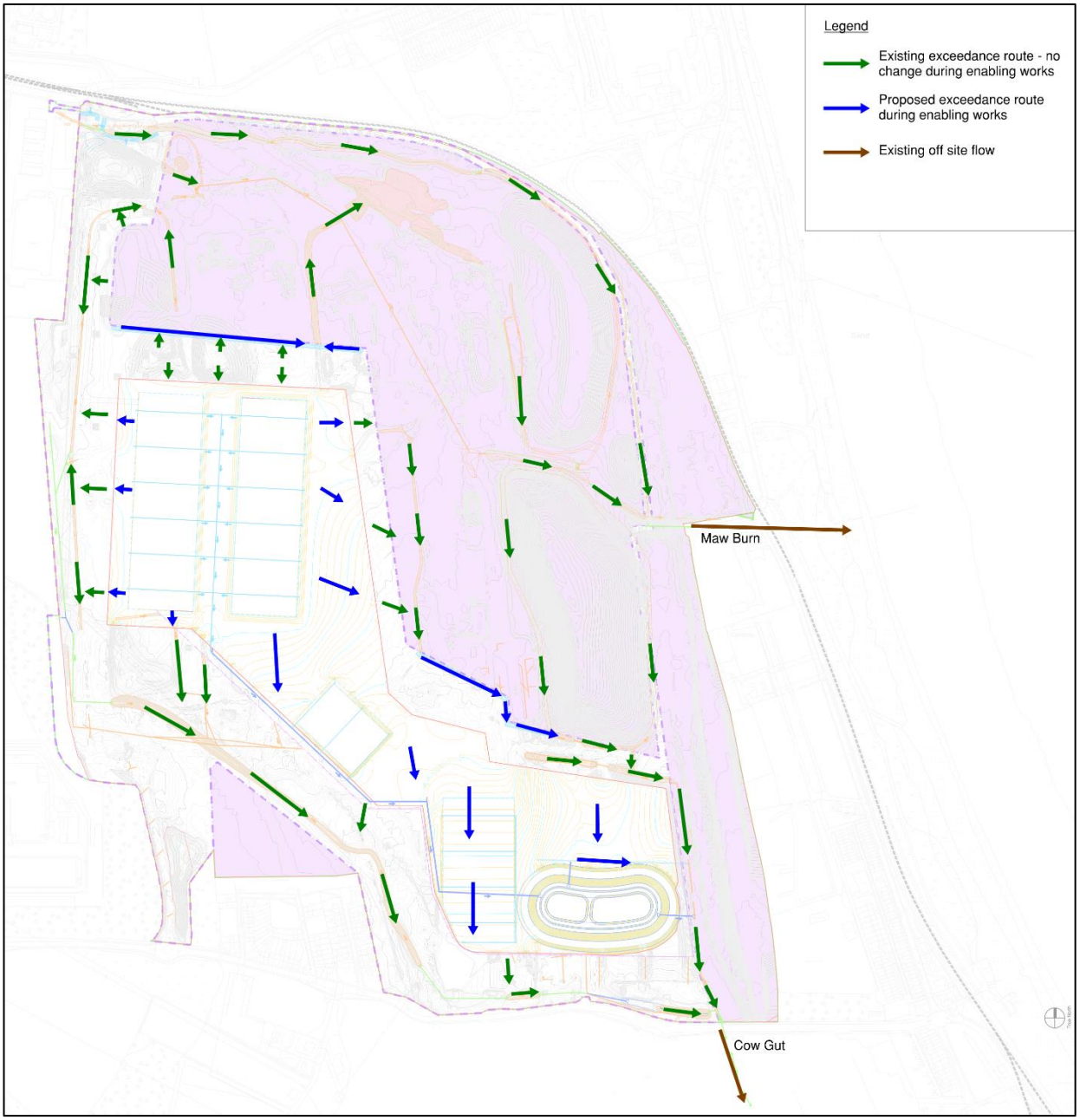


*Figure 4-16: Exceedance flow route during enabling works*

### 4.2.7 Surface Water Treatment

Water treatment to the full site drainage is as per Cambois Data Centre Campus – Drainage Strategy – Technical Document 4.13.

The Simple Index Approach as per the SuDS manual has been used to verify the water treatment regime during the enabling works phase.

For the construction phase of these works, the contractor will submit a separate construction phase surface water management plan for the construction works surface water treatment.

#### 4.2.7.1 Platforms in Zones A, C and D

Platforms in Zones A, C and D discharge through a filter drain through a gravity pipe network to a pond. This pond then discharges to Cow Gut.

During the enabling works phase, the permanent southern pond will be constructed, and this provides a mitigation index of 0.7 Total Suspended Solids, 0.7 Metals and 0.5 Hydrocarbons as defined in the SuDS manual Simple Index Approach.

Outside of construction works, these platforms are not trafficked. However, to check the level of treatment, a land use description of “Low Traffic Roads” has been selected.

As per Table 4-2, there is a sufficient level of treatment provided to these platforms.

| **Pollution Hazard Index for the Runoff Area discharging to the proposed SuDS Scheme** | | | | |
|---|---|---|---|---|
| Runoff Area Land Use Description | Hazard Level | Pollution Hazard Indices | | |
| | | Suspended Solids | Metals | Hydrocarbons |
| Low traffic roads (< 300 traffic movements/day) | Low | **0.5** | **0.4** | **0.4** |
| **Pollution Mitigation Index for the proposed SuDS components** | | | | |
| SuDS Component Description | | Pollution Hazard Indices | | |
| | | Suspended Solids | Metals | Hydrocarbons |
| Filter drain (where the trench is not designed as an infiltration component) | | 0.4 | 0.4 | 0.4 |
| Pond or Wetland | | 0.7 | 0.7 | 0.5 |
| Aggregated Surface Water Pollution Mitigation Index | | **0.75** | **0.75** | **0.65** |
| **Sufficiency of Pollution Mitigation Indices** | | | | |
| | | Suspended Solids | Metals | Hydrocarbons |
| | | **Sufficient** | **Sufficient** | **Sufficient** |

*Table 4-2 Surface Water Treatment to Platforms in Zones A, C and D*

#### 4.2.7.2 Emergency Access Road

A new emergency access route is proposed to the north western side of the site. Surface water from this road discharges to Maw Burn via a filter strip.

This road is expected to have extremely low traffic – it is for emergency access only and is expected to only have a few trips over its life. For this purpose a filter strip with mitigation indices of 0.4 for suspended solids, 0.4 for metals and 0.5 for hydrocarbons is proposed for treatment and is considered sufficient for this land use description.

### 4.2.8 Maintenance

Maintenance to the full site drainage is as per Cambois Data Centre Campus – Drainage Strategy – Technical Document 4.13.

For the construction phase, the contractor will submit a separate construction phase surface water management plan for the construction works maintenance.

The proposed pond arrangement has a 10m wide, flat zone to the top for maintenance access, and the side slopes are limited to 1 in 5 down to a dry bench.

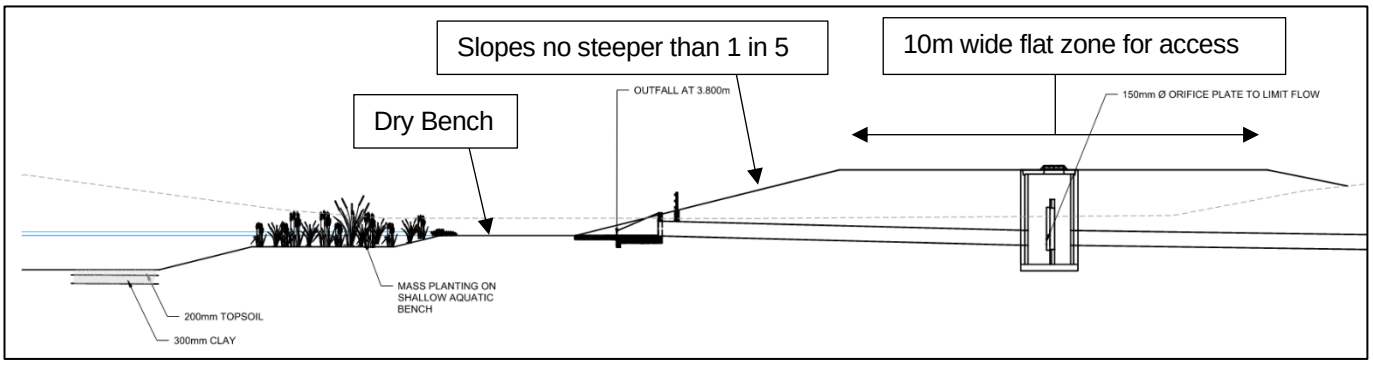


*Figure 4-17 Pond Maintenance Access*

### 4.2.9 Modelling features

A model has been prepared in infodrainage for the enabling works surface water drainage. A plan is shown in Figure 4-18.

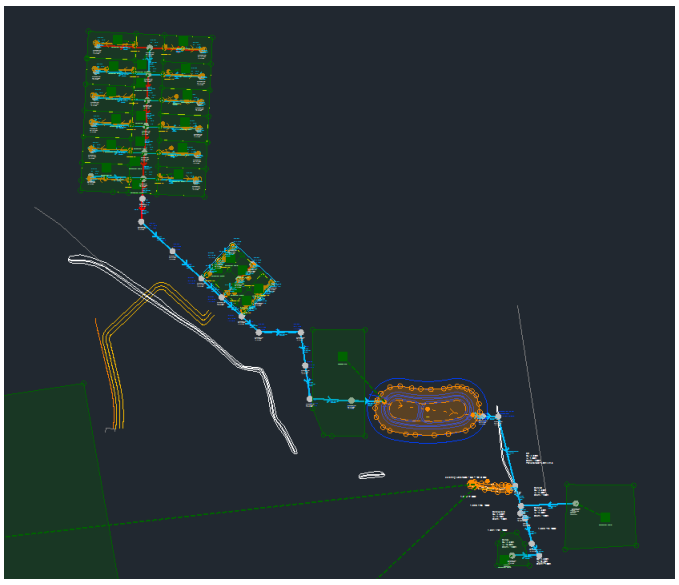

*Figure 4-18: Enabling works model - plan*

The model consists of;

- Surface water drainage to the proposed building piling platform and substation platform
- The pond discharging to Cow Gut
- The outfall from the pond to the sea
  - This includes on site and off site catchments to the cow-gut diversion.

These are discussed separately below.

#### 4.2.9.1 Surface water drainage to piling and substation platform

The surface water drainage to the piling platform is modelled as a series of soakaways discharging to buried pipework. Figure 4-19 shows a typical plan arrangement, and Figure 4-20 shows the model properties of a typical soakaway.

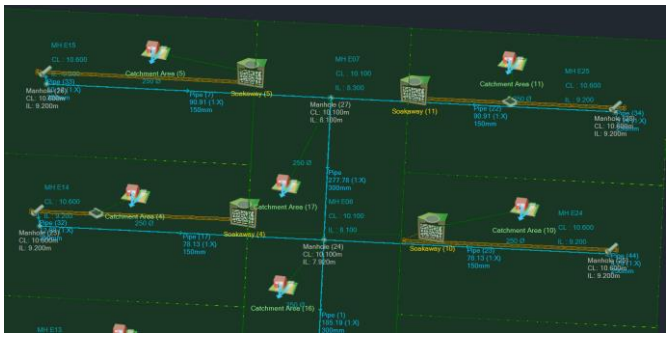

*Figure 4-19: Piling Platform Drainage Model – Plan*

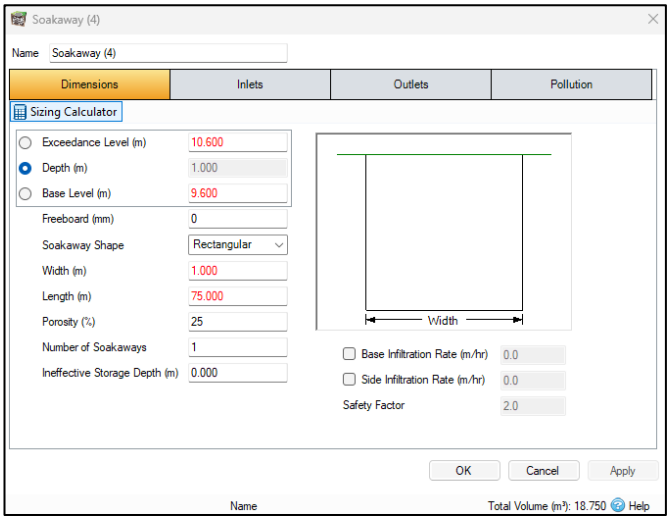


*Figure 4-20: Typical Soakaway Model Properties*

### 4.2.9.2 Pond discharging to cow gut

As part of the enabling works package, the full pond in the South-East of the site, discharging to Cow Gut, is proposed to be constructed. The modelled details of the pond are illustrated in Figure 4-21 and Figure 4-22. The pond outfalls to a manhole with a 150mm orifice to limit the discharge of the enabling works phase to Qbar. The orifice plate model properties are shown in Figure 4-23.

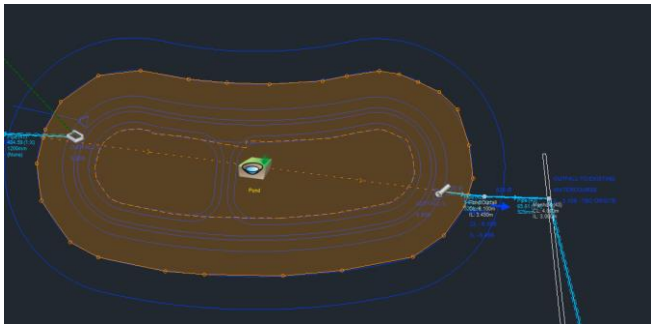

*Figure 4-21: Pond layout in model – Plan*

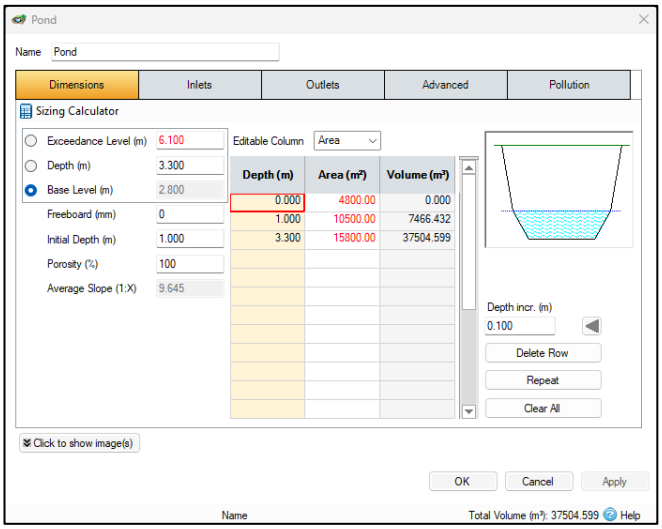


*Figure 4-22: Pond Model Properties*

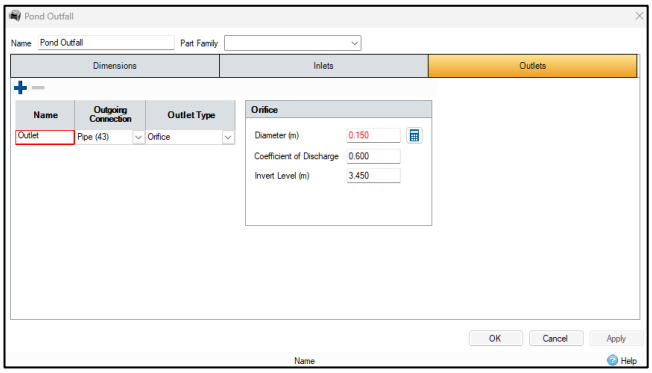


*Figure 4-23: Pond outfall - orifice properties*

### 4.2.9.3 Outfall from the pond to the sea

The discharge route from the pond is modelled to its discharge to the sea, as indicated in Figure 4-24.

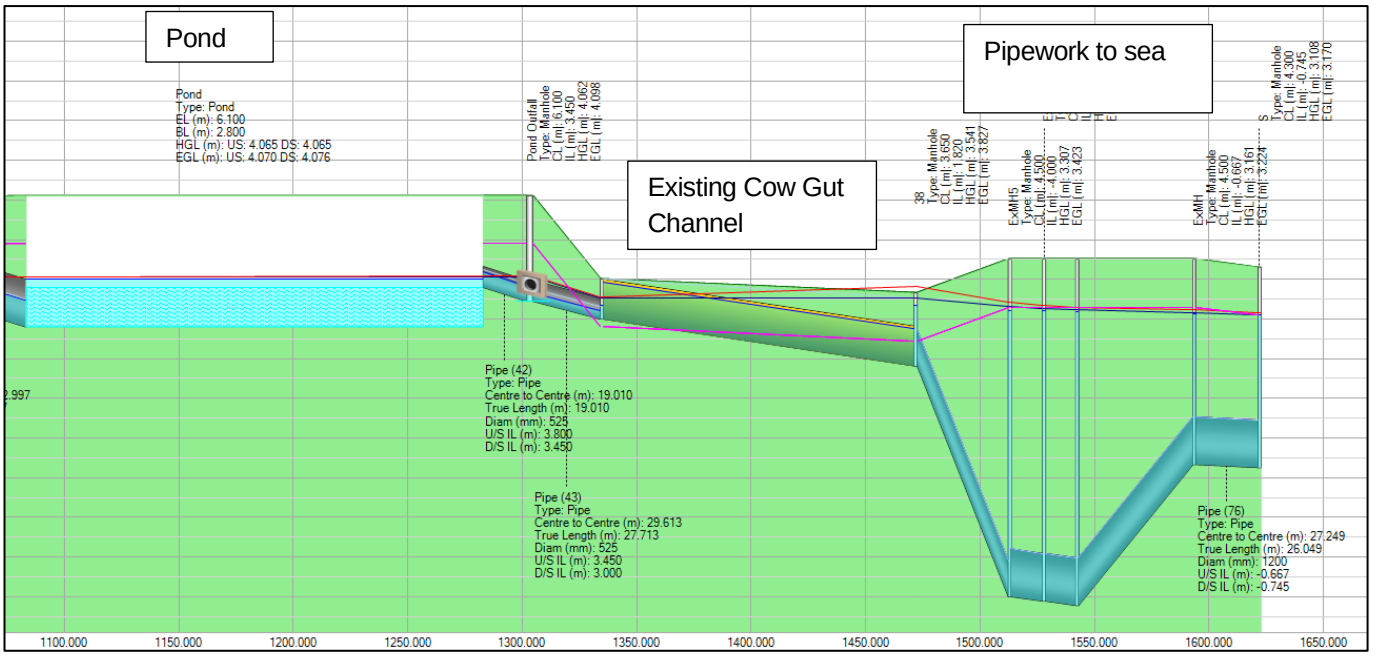


*Figure 4-24: Discharge from pond to the sea - long section in infodrainage model*

The greenfield catchment to cow gut is discharged to the network using two catchment areas – one for the on site and one for the offsite catchment. Refer to Figure 4-15 and 1043152-C-SK-EW002 in appendix F for the details of the on-site catchment. In summary, 10.2ha discharges to the pond and 66.4 ha is discharged to Cow Gut as an on-site catchment. The offsite catchment is 52.65 ha as per Figure 3-2.

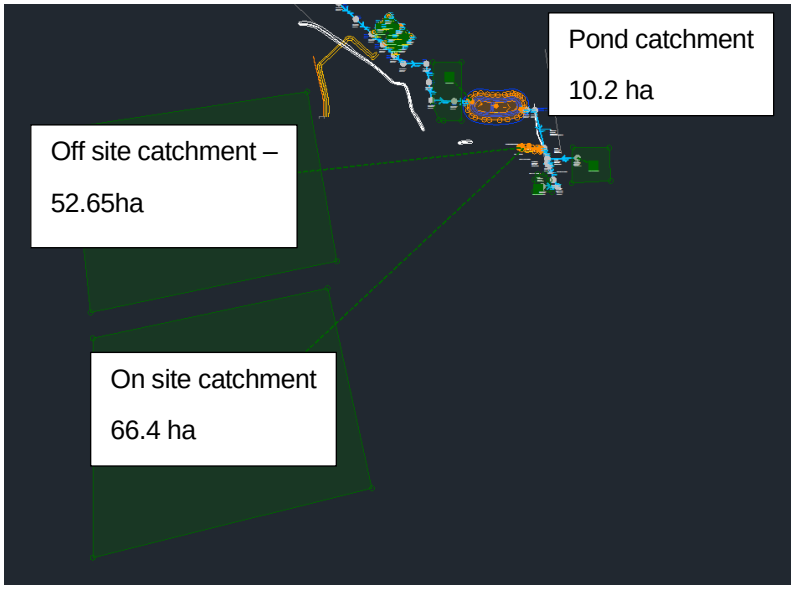


*Figure 4-25: On and Off site contribution areas to catchment*

The on and off site catchment properties are shown in Figure 4-26 and Figure 4-27, and a typical hydrograph shown in Figure 4-28.

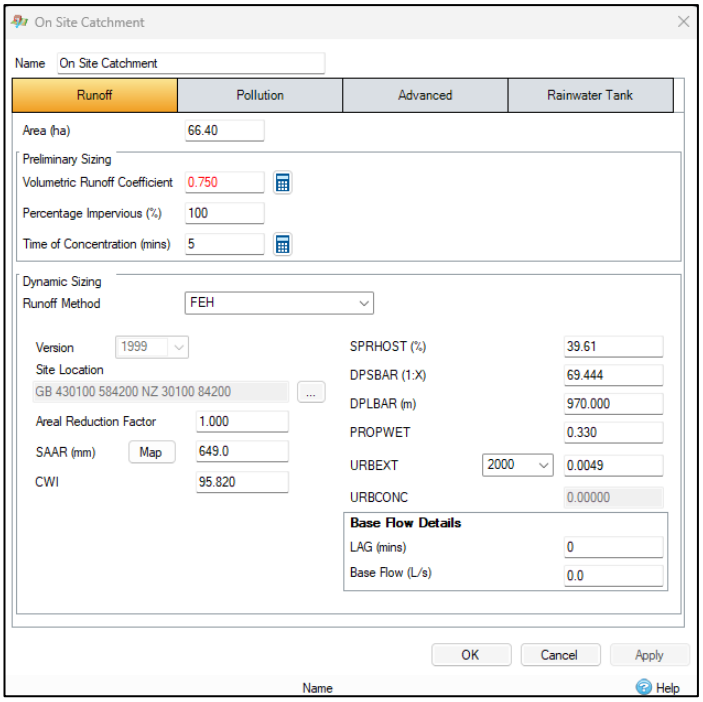


*Figure 4-26: On site catchment properties*

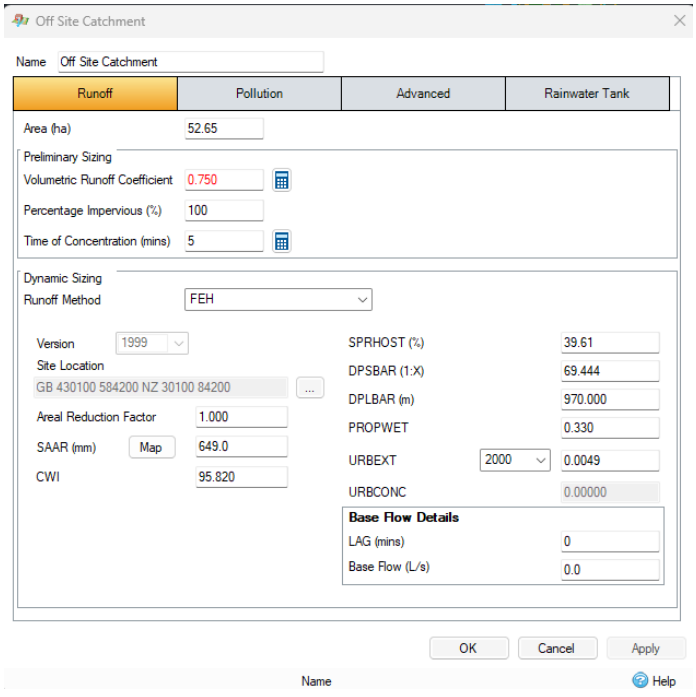


*Figure 4-27: Off site catchment properties*

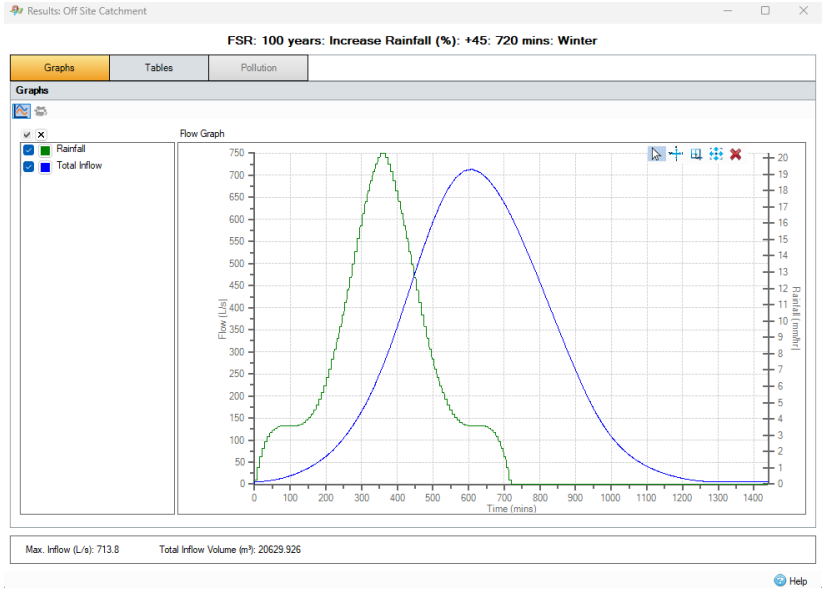


*Figure 4-28: Typical catchment hydrograph*

These discharge to a pond modelled to represent the lower end of the cow gut diversion works, and then this discharges to the downstream network – see Figure 4-29

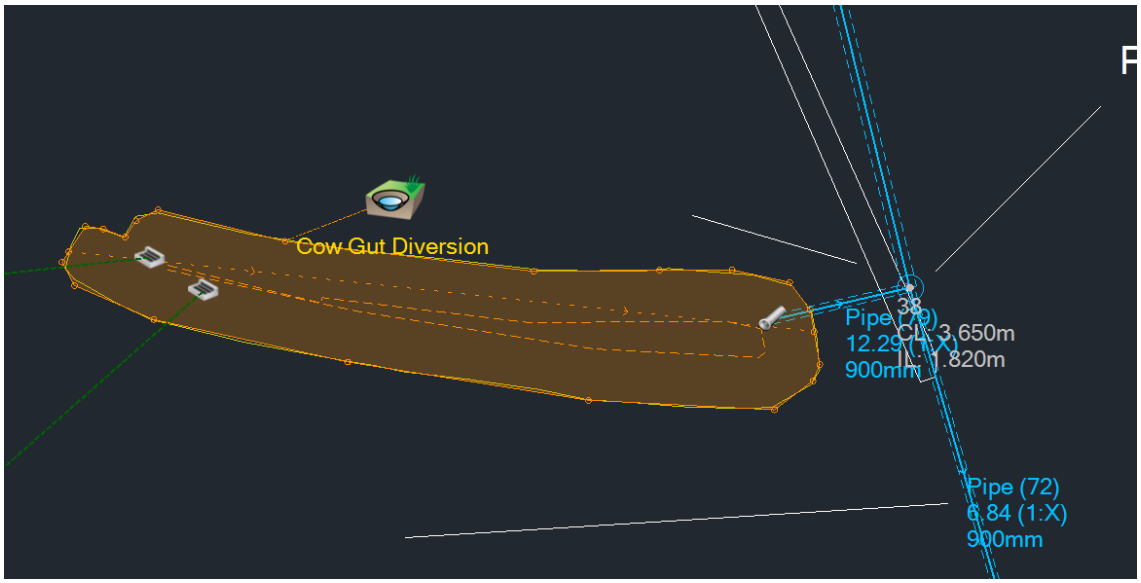


*Figure 4-29: Plan of cow gut diversion connection to downstream pipework*

### 4.2.10 Modelling results

Table 4-3 provides a summary of the stormwater modelling results for the enabling works drainage, and a commentary where appropriate.

| Return Period (Years) | Greenfield Runoff (l/s) | Maximum Flow From Pond (l/s) | Maximum Increase in Water Depth in Pond (m) | Flooding in Network with comments |
|---|---|---|---|---|
| 1 in 1 | 37.79 | 27.1 | 0.071 | No Flooding |
| 1 in 10 | 43.94 (Taken as Qbar) | 29.7 | 0.130 | No Flooding |
| 1 in 100 | 91.39 | 33.2 | 0.229 | Flooding at enabling works platforms. This is acceptable for these works. Very low chance of this occurring during the expected 1 year life of the enabling works drainage.<br>No flooding to the Cow Gut watercourse. |
| 1 in 100 plus 45% climate change | 133.29 (Taken by increasing 1 in 100 year by 45% | 37.2 | 0.359 | Note that climate change uplift is not relevant to the expected 1 year life of the enabling works drainage.<br>As per 1 in 100 year storm – acceptable flooding to enabling works platform.<br>There is 370m³ of flooding to the Cow Gut Watercourse in this scenario.<br>In the baseline scenario (ie no development to the site), the Cow Gut watercourse floods 604m³. Therefore the drainage to the site is a betterment when compared to the baseline. |

*Table 4-3: Summary of Stormwater Modelling Results*

### 4.2.11 Construction Phase Surface Water Management

The main surface water to dispose of during the construction phase will be surface water runoff during rainfall and dewatering of excavations. The main pollution type will be suspended solids – silt, sediments, “muddy” water. The primary receptor the be protected from the suspended solids will be the surface water feature of Cow Gut.

As part of the Enabling Works Phase A construction phase, additional surface water management will be implemented. The layout and detail of these features will be submitted as part of a Construction Phase Surface Water Management Plan and agreed prior to commencement of the works.

The primary features will be a series of cut off ditches and/or bunds around stock piles and working areas to contain and direct surface water to detention and settlement ponds. Additional measures will be deployed to filter storm water using hay bales and/or filter fabric wrapped gravel bunds within the existing concrete channels and temporary ditches around the site. Silt fences will be added to mitigate sediment running off directly into watercourses. Grip trenches will be used to direct water away from excavations, however dewatering may be required in deeper excavations and these will be pumped to the site features described above for treatment prior to discharge to the Cow Gut. Where existing site drainage features may present an outlet, such as gullies or drains, inlet controls will be provided to intercept flow/sediment.

Features will be designed in line with best practice guides such as:

CIRIA C532 Control of water pollution from construction sites: Guidance for Consultants and Contractors

CIRIA C648 Control of Water Pollution from Linear Construction Projects – Technical Guidance

CIRIA C649 Control of Water Pollution from Linear Construction Projects – Site Guide

CIRIA C741 Environmental Good Practice – Site Guide

CIRIA C753 The SuDS Manual

## 4.3 Enabling Works Drainage Summary

Surface water drainage is proposed for the enabling works phase A of Cambois Data Centre Campus.

Three platforms discharge through filter drains to a pond. This pond discharges to Cow Gut at less than greenfield runoff for the equivalent catchment, and this does not increase flood risk to Cow Gut.

The level of treatment to the surface water drainage is sufficient for the proposed land use.

# Appendices

# Appendices

## Appendix A Existing Drainage Plan


OWNER

QTS

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4. ALL DIMENSIONS STATED IN mm UNLESS OTHERWISE NOTED

LEGEND

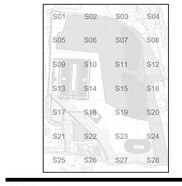
- EXISTING BURIED SURFACE WATER DRAINAGE TO BE RETAINED DURING ENABLING WORKS - SURVEY NEEDED
- EXISTING BURIED SURFACE WATER DRAINAGE TO BE RETAINED DURING ENABLING WORKS
- EXISTING SURFACE WATER DRAINAGE FEATURES TO BE RETAINED DURING ENABLING WORKS
- EXISTING BURIED SURFACE WATER DRAINAGE TO BE REMOVED DURING ENABLING WORKS
- AREAS OF SITE NOT INCLUDED WITHIN ENABLING WORKS PACKAGE
- ENABLING WORKS PHASE A SITE BOUNDARY
- SSER CABLE ROUTE EXCLUSION ZONE/WORKING ZON
- EXISTING OFF-SITE CULVERTED WATERCOURSE
- OUTLINE PLANNING BOUNDARY

REFER TO CIVIL AND GEOTECHNICAL DRAWINGS :
NCL1-ENA1-STE-XX-DR-C-01-01 EXISTING SERVICES
NCL1-ENA1-STE-XX-DR-C-01-02 EXISTING SITE CONSTRAINTS
NCL1-DCZZ-XXX-UG-DR-B-01-11 REMEDIATION AND EARTHWORKS STRATEGY-CONSTRAINTS PLAN

| Rev | Description | Date | Chk'd | Apr'd |
|---|---|---|---|---|
| P01 | ISSUE FOR RMA SUBMISSION | 25/04/25 | [Checker] | [Approver] |

**DRAWING ISSUES**

**KEY PLAN**




**PROJECT**

# CAMBOIS DATA CENTRE CAMPUS

Land at the Former Power Station Site on the Northern Side of Cambois, Cambois, Northumberland

DWG. TITLE

ENABLING WORKS - PHASE A
EXISTING SITE DRAINAGE
AND SURVEY SCHEDULE

PROJECT NO:

1043152

DWG. NO:

NCL1-RMAPA-STE-XX-DR-C-01-04

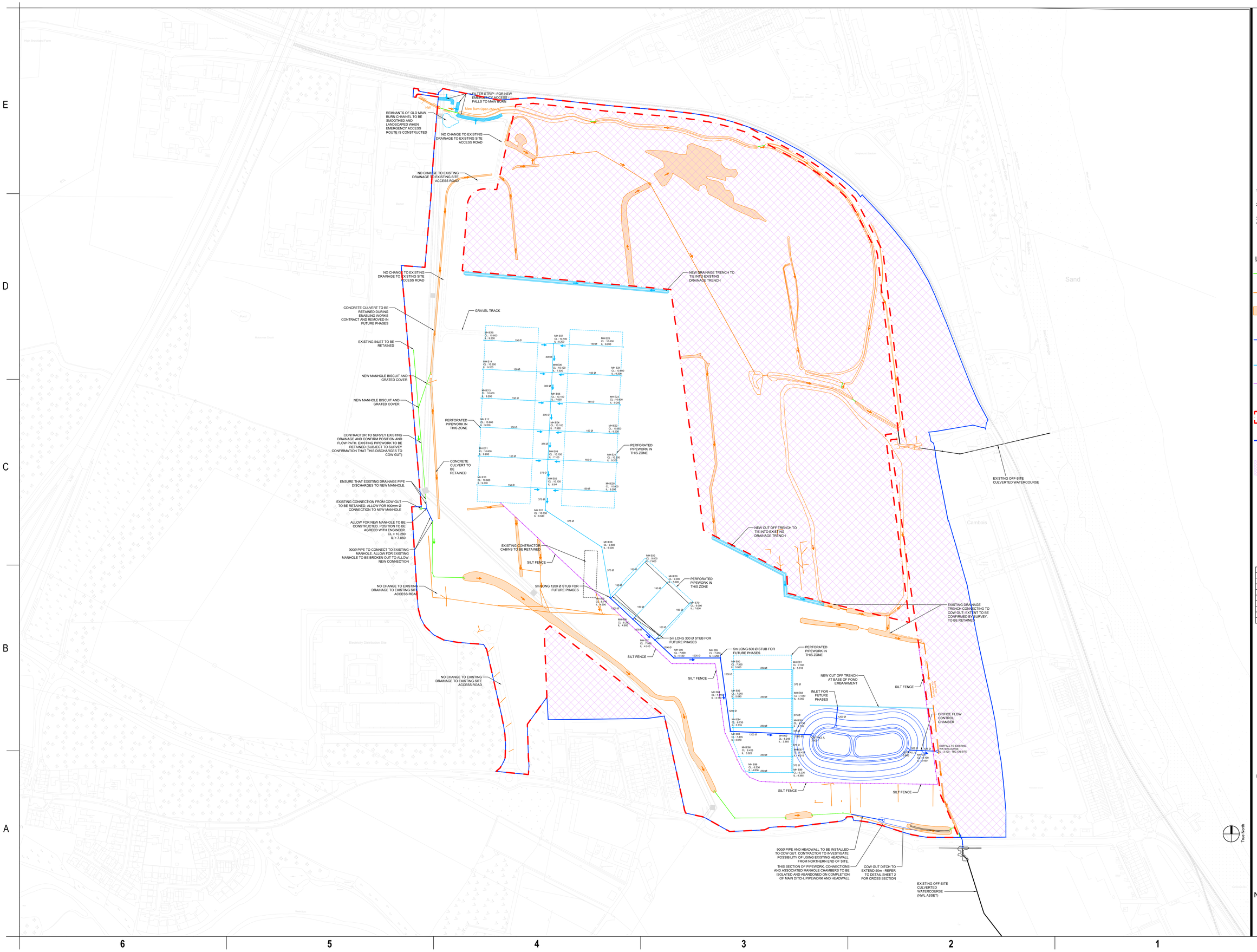
STATUS:

ISSUED FOR REVIEW

SCALE @ A0:

1:2000

## Appendix B Proposed Drainage Plan

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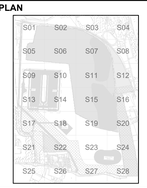
**LEGEND**

- EXISTING BURIED SURFACE WATER DRAINAGE TO BE RETAINED DURING ENABLING WORKS - SURVEY NEEDED
- EXISTING BURIED SURFACE WATER DRAINAGE TO BE RETAINED DURING ENABLING WORKS
- EXISTING SURFACE WATER DRAINAGE FEATURES TO BE RETAINED DURING ENABLING WORKS
- PROPOSED SURFACE WATER DRAINAGE - PERMANENT TO SERVE FUTURE PHASE PERMANENT WORKS
- PROPOSED SURFACE WATER DRAINAGE - ENABLING NOTE: ADDITIONAL CONSTRUCTION PHASE DRAINAGE WILL BE REQUIRED (CONTRACTOR DESIGN)
- SILT FENCE
- ENABLING WORKS PHASE A SITE BOUNDARY
- OUTLINE PLANNING BOUNDARY
- AREAS OF SITE NOT INCLUDED WITHIN ENABLING WORKS PACKAGE

| Rev | Description | Date | Chk'd | Apr'd |
|---|---|---|---|---|
| P01 | ISSUE FOR RMA SUBMISSION | 25/04/25 | [redacted] | [redacted] |

**DRAWING ISSUES**

**KEY PLAN**




**PROJECT**

# CAMBOIS DATA CENTRE CAMPUS

Land at the Former Power Station Site on the Northern Side of Cambois, Cambois, Northumberland

**DWG. TITLE**

ENABLING WORKS - PHASE A DRAINAGE LAYOUT

**PROJECT NO:** 1043152

**DWG. NO:** NCL1-RMAPA-STE-XX-DR-C-01-33

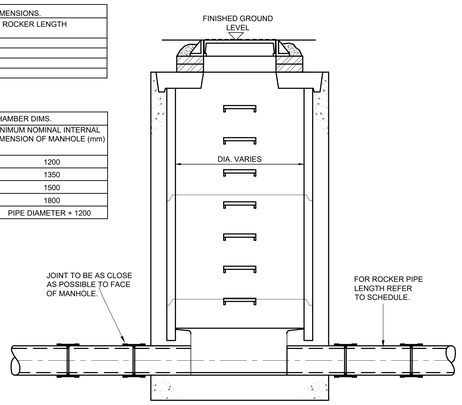
**STATUS:** ISSUED FOR REVIEW

**SCALE @ A0:** 1:2000

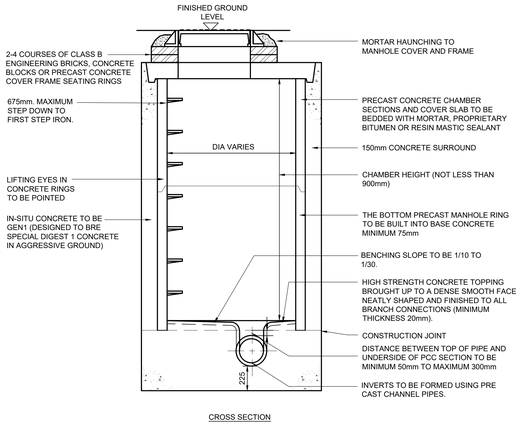
# Appendix C Proposed Details

| SCHEDULE OF ROCKER PIPE DIMENSIONS. | |
|---|---|
| PIPE DIA. (mm.) | EFFECTIVE ROCKER LENGTH (m.) |
| 150-600 | 0.600m |
| 675-750 | 1.000m |
| 825< | 1.250m |

| SCHEDULE OF MIN. CHAMBER DIMS. | |
|---|---|
| NOMINAL INTERNAL PIPE DIAMETER OF LARGEST PIPE IN MANHOLE (mm) | MINIMUM NOMINAL INTERNAL DIMENSION OF MANHOLE (mm) |
| LESS THAN 375mm. | 1200 |
| 375-450 | 1350 |
| 500-700 | 1500 |
| 750-900 | 1800 |
| GREATER THAN 900 | PIPE DIAMETER + 1200 |

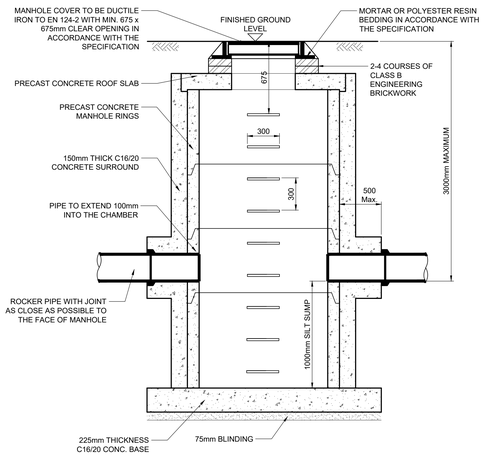



CROSS SECTION

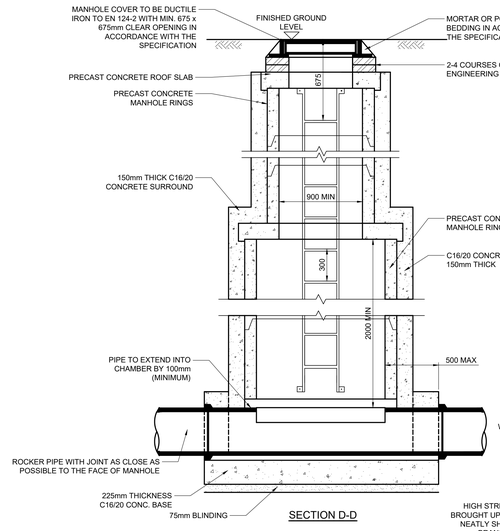



CROSS SECTION

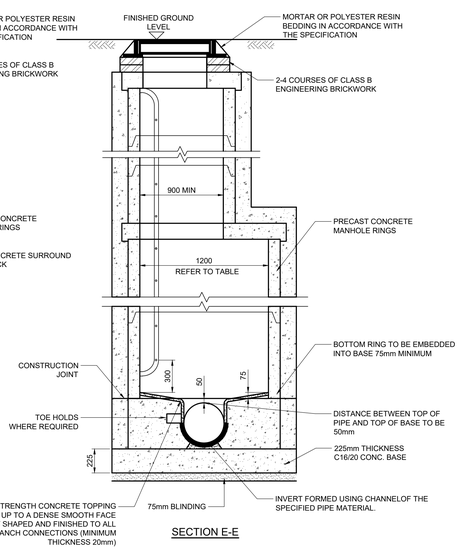
PRECAST CONCRETE MANHOLE: 3m MAXIMUM DEPTH
SCALE 1:20



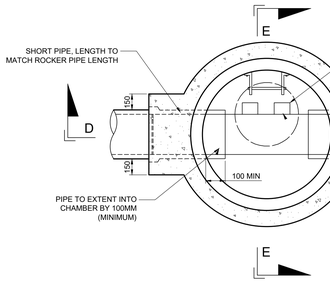

FILTER DRAIN CATCH PIT
SCALE 1:20




SECTION D-D

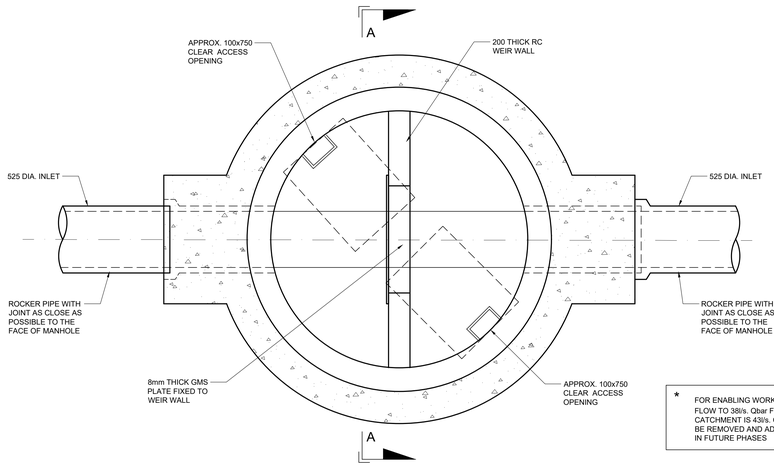



SECTION E-E



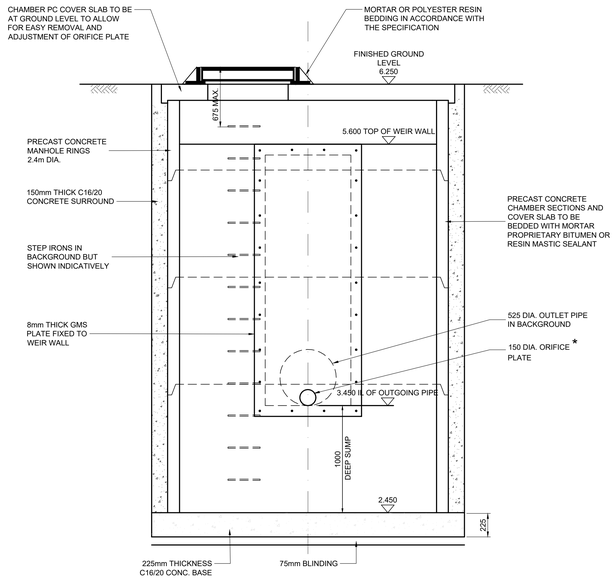

PLAN

DEEP PRECAST CONCRETE MANHOLE: FROM 3m TO 6m DEPTH
SCALE 1:20




PLAN

* FOR ENABLING WORKS PHASE, LIMITING FLOW TO 38l/s. Qbar FOR PHASE CATCHMENT IS 43l/s. ORIFICE PLATE CAN BE REMOVED AND ADJUSTED/REPLACED IN FUTURE PHASES




SECTION A-A

ORIFICE FLOW CONTROL CHAMBER DETAIL
SCALE 1:20

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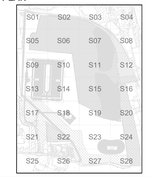
| Rev | Description | Date | Chk'd | Apr'd |
|---|---|---|---|---|
| P01 | ISSUE FOR RMA SUBMISSION | 25/04/25 | KDH/MF | KDH/BC |

DRAWING ISSUES

KEY PLAN




PROJECT

# CAMBOIS DATA CENTRE CAMPUS

Land at the Former Power Station Site on the Northern Side of Cambois, Cambois, Northumberland

DWG. TITLE

ENABLING WORKS - PHASE A
DRAINAGE DETAILS
SHEET 1

PROJECT NO:

1043152

DWG. NO:

NCL1-RMAPA-STE-XX-DR-C-05-03

STATUS:

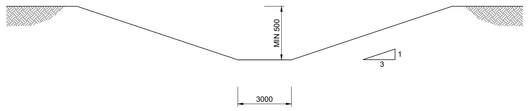
ISSUED FOR REVIEW

SCALE @ A0:

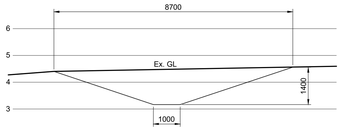
AS SHOWN

6 5 4 3 2 1

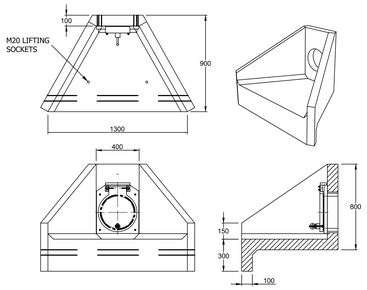
E D C B A



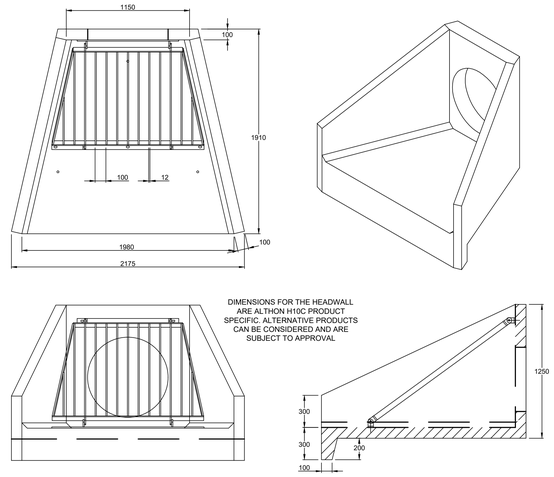

PROPOSED CUT OFF TRENCH DETAIL
SCALE 1:20



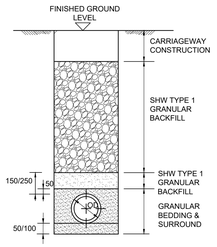

INDICATIVE CROSS SECTION TO EXTENDED DITCH AT COW GUT
SCALE 1:20



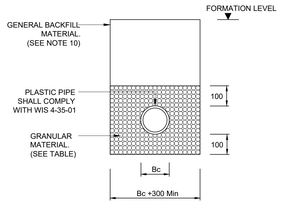

TYPICAL HEADWALL WITH FLAP VALVE
SCALE 1:20




SLOPED GRADING




BEDDING CLASS S
RIGID PIPES (CONCRETE)
VEHICLE AREAS GREATER THAN 1.2m COVER
PEDESTRIAN AREAS GREATER THAN 0.9m COVER




CLASS T DETAIL
SCALE 1:20

(plastic pipes shall comply with WIS 4-35-01 and shall be kitemarked)

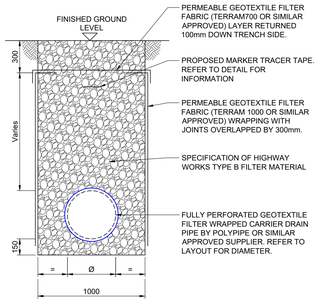
| NOMINAL PIPE DIA (mm) | SINGLE SIZED (mm) | GRADED (mm) |
|---|---|---|
| 100 | 10 | Not permitted |
| 110 to 150 | 10 or 14 | 14 to 5 graded |
| 160 to 300 | 10, 14 or 20 | Either 20 to 5 graded or 14 to 5 graded |
| 310 to 500 | 14 or 20 | Either 20 to 5 graded or 14 to 5 graded |
| Over 550 | 14, 20 or 40 | Either 40 to 5 graded or 20 to 5 graded or 14 to 5 graded |

GRANULAR BEDDING MATERIAL
Extract from Table A2 WIS 4-08-02
(all aggregates to table 4 of bs 882 :1983)

| MINIMUM RECOMMENDED TRENCH WIDTHS FOR PIPES IN POOR GROUND CONDITIONS | |
|---|---|
| NOM PIPE DIA (mm) | MIN TRENCH WIDTH (mm) |
| 150 | 450 |
| 225 | 525 |
| 300 And above | Two times nom. diameter |

| THE FOLLOWING UPVC PIPES ARE ACCEPTABLE FOR USE | |
|---|---|
| UPONOR ULTRA DRAIN | 110 & 160 (O.D.) |
| HEPWORTH PLASTIDRAIN | 110 & 160 (O.D.) |
| WAVIN OSMA DRAIN | 110 & 160 (O.D.) |
| WAVIN OSMA ULTRA RIB | 150 & 225 (I.D.) |
| MARLEY SOLID WALL | 110 & 160 (O.D.) |
| MARLEY QUANTUM | 150 & 225 (I.D.) |
| POLYPIPE RIDGISEWER | 150 & 225 (I.D.) |
| POLYPIPE UNDERGROUND DRAIN | 110 & 160 (O.D.) |

PLASTIC PIPE (u-PVC) TRENCH BEDDING DETAILS




PROPOSED FILTER DRAIN DETAIL
SCALE 1:20

BEDDING & BACKFILL SPECIFICATIONS FOR FLEXIBLE PIPES

PEDESTRIAN AREAS:-

- WITH COVER TO SOFFIT > 0.9m - CLASS T (UPVC)
- WITH COVER TO SOFFIT < 0.9m - CLASS Q (UPVC)
- WITH COVER TO SOFFIT > 0.9m - CLASS S (CONCRETE)
- WITH COVER TO SOFFIT < 0.9m - CLASS Z (UPVC OR CONCRETE)

VEHICULAR AREAS:-

- WITH COVER TO SOFFIT > 1.2m - CLASS T (UPVC)
- WITH COVER TO SOFFIT < 1.2m - CLASS Q (UPVC)
- WITH COVER TO SOFFIT > 1.2m - CLASS S (CONCRETE)
- WITH COVER TO SOFFIT < 1.2m - CLASS Z (UPVC OR CONCRETE)

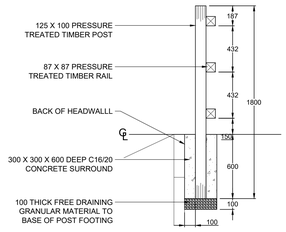
LANDSCAPING AREAS:-

CLASS O (UPVC)
CLASS B (CONCRETE)

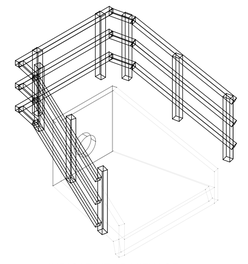
BUILDING AREAS:-

- WITH COVER TO SOFFIT > 0.3m - CLASS W (UPVC)
- WITH COVER TO SOFFIT < 0.3m - CLASS Y (UPVC)

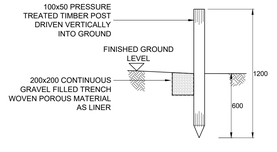
USE CLASS Z CONCRETE SURROUND WHERE PIPELINES CROSS WITHIN 300mm AND FOR WHERE PIPELINES PASS THROUGH STRUCTURES AND RUN NEAR FOUNDATIONS.




TIMBER FENCE FOR HEADWALL
SCALE 1:20



INDICATIVE 3D VIEW OF TIMBER FENCE




SILT FENCE
SCALE 1:20

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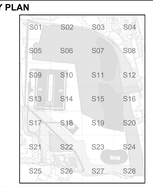
| Rev | Description | Date | Chk'd | Apr'd |
|---|---|---|---|---|
| P01 | ISSUE FOR RMA SUBMISSION | 25/04/25 | KC/GH/JH | KC/HT/DC |

**DRAWING ISSUES**

**KEY PLAN**




**PROJECT**

# CAMBOIS DATA CENTRE CAMPUS

Land at the Former Power Station Site on the Northern Side of Cambois, Cambois, Northumberland

**DWG. TITLE**
ENABLING WORKS - PHASE A
DRAINAGE DETAILS
SHEET 2

**PROJECT NO:**
1043152

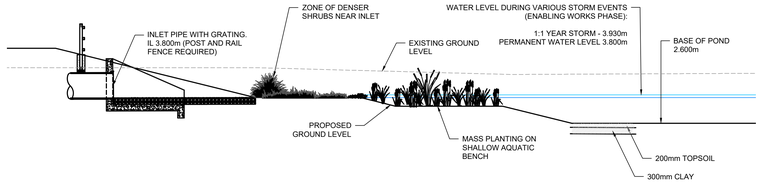
**DWG. NO:**
NCL1-RMAPA-STE-XX-DR-C-05-04

**STATUS:**
ISSUED FOR REVIEW

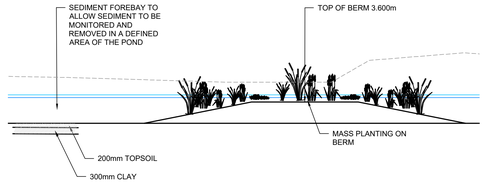
**SCALE @ A0:**
AS SHOWN

E D C B A

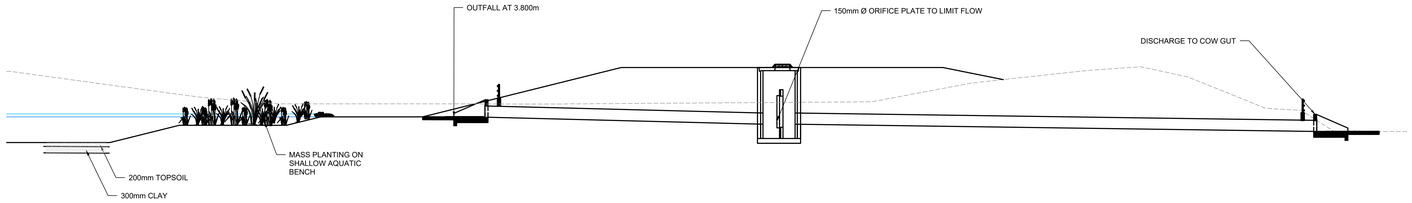
6 5 4 3 2 1



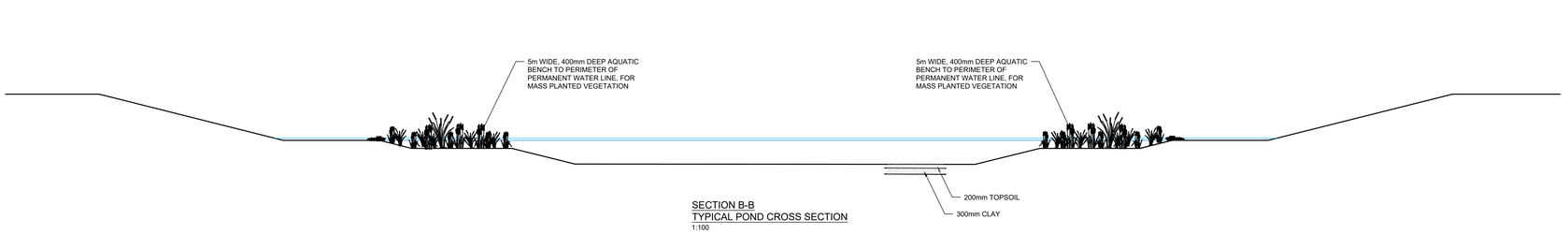

SECTION A-A (PART)
TYPICAL POND LONG SECTION AT INLET
1:100



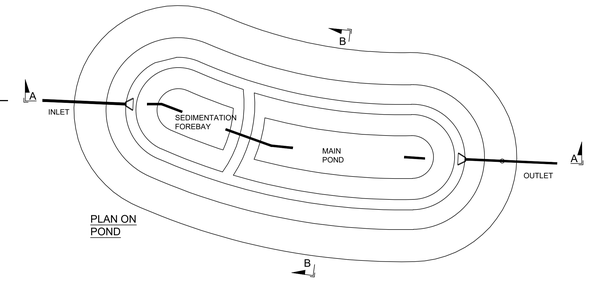

SECTION A-A (PART)
TYPICAL POND LONG SECTION AT BERM
1:100




SECTION A-A (PART)
TYPICAL POND SECTION LONG SECTION AT OUTLET
1:100




SECTION B-B
TYPICAL POND CROSS SECTION
1:100




PLAN ON
POND

| Rev | Description | Date | Chk'd | Apr'd |
|---|---|---|---|---|
| P01 | ISSUE FOR RMA SUBMISSION | 25/04/25 | KOHNH | EDARC |

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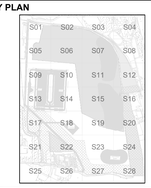
**KEY PLAN**




**PROJECT**

# CAMBOIS DATA CENTRE CAMPUS

Land at the Former Power Station Site on the Northern Side of Cambois, Cambois, Northumberland

**DWG. TITLE**

ENABLING WORKS - PHASE A
DRAINAGE DETAILS
SHEET 3

**PROJECT NO:** 1043152

**DWG. NO:** NCL1-RMAPA-STE-XX-DR-C-05-05

**STATUS:** ISSUED FOR REVIEW

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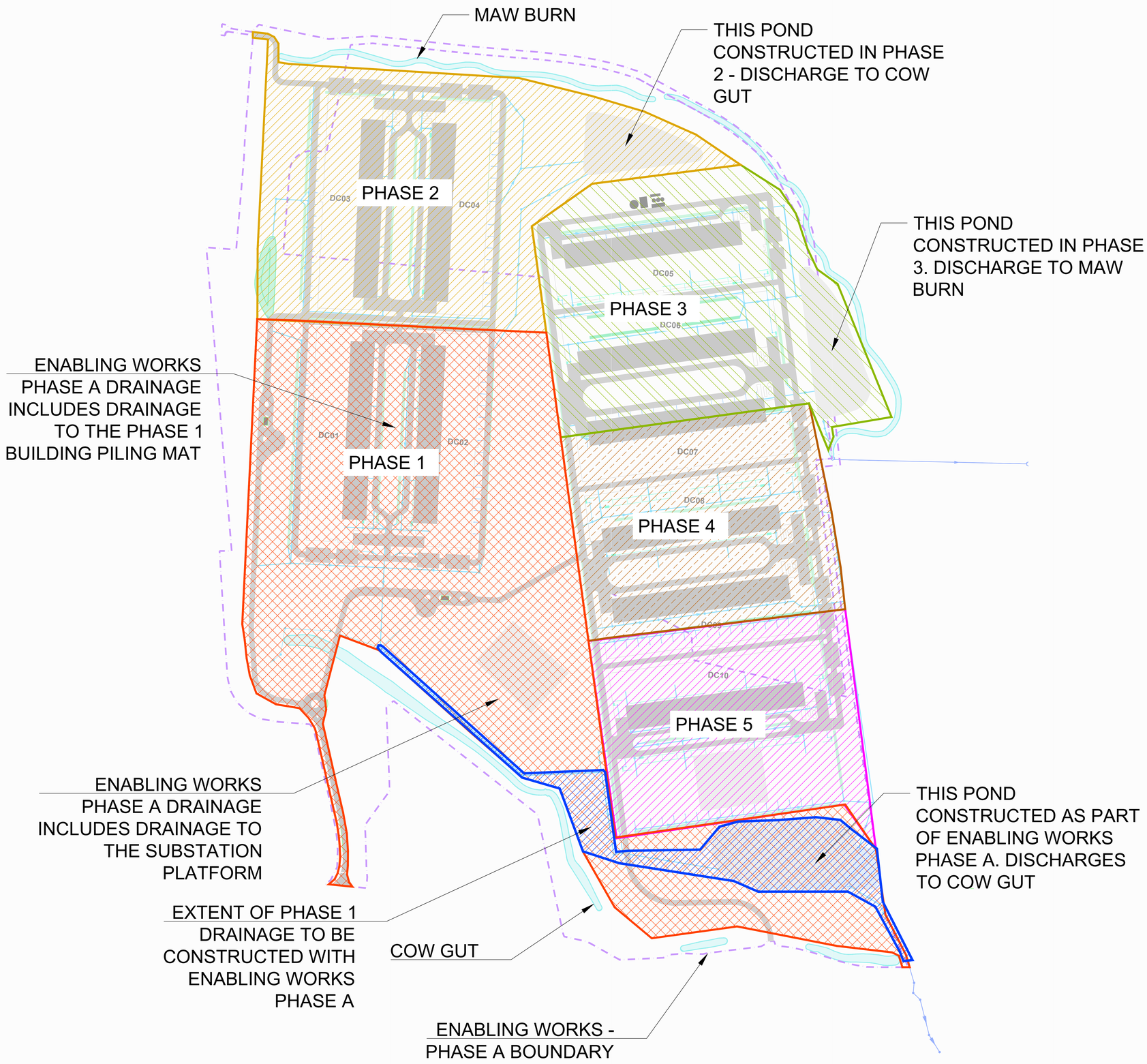
E
D
C
B
A

6 5 4 3 2 1

# Appendix D Drainage Phasing

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| Rev | Description | Date | Chk'd | Apr'd |
|---|---|---|---|---|
| P01 | ISSUE FOR RMA SUBMISSION | 25/04/25 | | |

DRAWING ISSUES

KEY PLAN


PROJECT

**CAMBOIS DATA CENTRE CAMPUS**

Land at the Former Power Station Site on the Northern Side of Cambois, Cambois, Northumberland

DWG. TITLE

ENABLING WORKS - PHASE A SURFACE WATER DRAINAGE PHASING

PROJECT NO: 1043152

DWG. NO: C-SK-EW001

STATUS: ISSUED FOR REVIEW

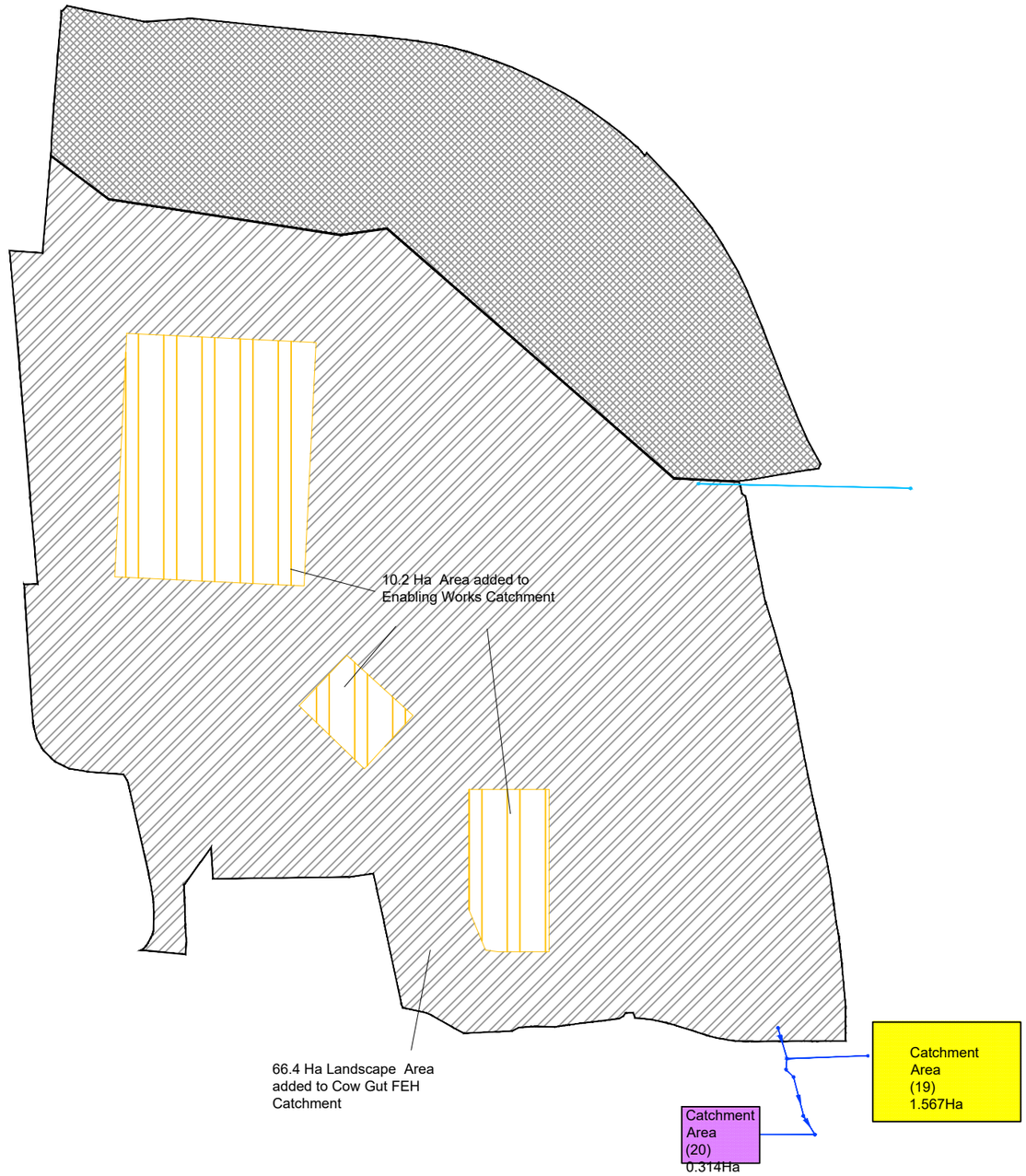
SCALE @ A0: 1:2000

True North

E D C B A

6 5 4 3 2 1

## Appendix E Impermeable Area Plan




Notes

A3

| Issue | Date | Description | By | Chkd | Verfd |
|---|---|---|---|---|---|
| P01 | 18.03.25. | FIRST ISSUE | BW | MLC | DD |

Project
Cambois Data Centre Campus

Client
Renaissance Land Limited

Title
# IMPERMEABLE AREA PLAN - PHASE A ENABLING

| Drawing No. | Drawing Status |
|---|---|
| 1043152-C-SK-EW002 | SKETCH |
| Job No. 1043152 | Scale N.T.S. |

CUNDALL
4th Floor, Partnership House
Regent Farm Road,
Gosforth,
Newcastle NE3 3AF
Telephone: +44 (0)191 213 1515

Website: www.cundall.com

# Appendix F Exceedance Flows


E
D
C
B
A

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| Rev | Description | Date | Chk'd | Apr'd |
|---|---|---|---|---|
| P01 | ISSUE FOR RMA SUBMISSION | 25/04/25 | | |

DRAWING ISSUES

KEY PLAN


PROJECT

# CAMBOIS DATA CENTRE CAMPUS

Land at the Former Power Station Site on the Northern Side of Cambois, Cambois, Northumberland

DWG. TITLE

ENABLING WORKS - PHASE A
EXCEEDANCE FLOW ROUTES

PROJECT NO:

1043152

DWG. NO:

C-SK-EW003

STATUS:

ISSUED FOR REVIEW

SCALE @ A0:

## Appendix G Greenfield Runoff Calculation

# Greenfield runoff rate estimation for sites

www.uksuds.com | Greenfield runoff tool

| | |
|---|---|
| **Calculated by:** | Barrie ONeill Williams |
| **Site name:** | QTS Enabling |
| **Site location:** | Cambois |

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013) , the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

## Site Details

| | |
|---|---|
| **Latitude:** | 55.14395° N |
| **Longitude:** | 1.52425° W |
| **Reference:** | 530329563 |
| **Date:** | Mar 18 2025 14:37 |

## Runoff estimation approach

IH124

## Site characteristics

| | |
|---|---|
| **Total site area (ha):** | 10.2 |

## Methodology

| | |
|---|---|
| **$Q_{BAR}$ estimation method:** | Calculate from SPR and SAAR |
| **SPR estimation method:** | Calculate from SOIL type |

## Soil characteristics

| | Default | Edited |
|---|---|---|
| **SOIL type:** | 4 | 4 |
| **HOST class:** | N/A | N/A |
| **SPR/SPRHOST:** | 0.47 | 0.47 |

## Hydrological characteristics

| | Default | Edited |
|---|---|---|
| **SAAR (mm):** | 635 | 635 |
| **Hydrological region:** | 3 | 3 |
| **Growth curve factor 1 year:** | 0.86 | 0.86 |
| **Growth curve factor 30 years:** | 1.75 | 1.75 |
| **Growth curve factor 100 years:** | 2.08 | 2.08 |
| **Growth curve factor 200 years:** | 2.37 | 2.37 |

## Notes

### (1) Is $Q_{BAR}$ < 2.0 l/s/ha?

When $Q_{BAR}$ is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

### (2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

### (3) Is SPR/SPRHOST ≤ 0.3?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

## Greenfield runoff rates

| | Default | Edited |
|---|---|---|

| | | |
|---|---|---|
| $Q_{BAR}$ (l/s): | 43.94 | 43.94 |
| 1 in 1 year (l/s): | 37.79 | 37.79 |
| 1 in 30 years (l/s): | 76.89 | 76.89 |
| 1 in 100 year (l/s): | 91.39 | 91.39 |
| 1 in 200 years (l/s): | 104.13 | 104.13 |

## Appendix H Infodrainage Calculations

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Junctions<br>Storm Phase: Phase | Company Address: | | |

| Name | Junction Type | Easting (m) | Northing (m) | Cover Level (m) | Depth (m) | Invert Level (m) | Chamber Shape | Diameter (m) |
|---|---|---|---|---|---|---|---|---|
| Manhole (9) | Manhole | 429778.829 | 583892.702 | 9.600 | 3.600 | 6.000 | Circular | 1.200 |
| Manhole (10) | Manhole | 429794.100 | 583804.134 | 8.740 | 4.050 | 4.690 | Circular | 1.200 |
| Manhole (11) | Manhole | 429832.342 | 583768.165 | 8.280 | 3.680 | 4.600 | Circular | 1.200 |
| Manhole (12) | Manhole | 429870.758 | 583732.041 | 7.980 | 3.470 | 4.510 | Circular | 1.200 |
| Manhole (13) | Manhole | 429903.336 | 583701.393 | 7.890 | 3.460 | 4.430 | Circular | 1.200 |
| Manhole (14) | Manhole | 429983.327 | 583701.393 | 7.850 | 3.560 | 4.290 | Circular | 1.200 |
| Manhole (15) | Manhole | 429991.991 | 583638.074 | 7.115 | 2.935 | 4.180 | Circular | 1.200 |
| Manhole (16) | Manhole | 430000.687 | 583574.525 | 7.435 | 3.365 | 4.070 | Circular | 1.200 |
| Manhole (17) | Manhole | 430108.203 | 583570.169 | 6.245 | 2.380 | 3.865 | Circular | 1.200 |
| Manhole (36) | Manhole | 429853.153 | 583866.866 | 9.000 | 1.400 | 7.600 | Circular | 1.200 |
| Manhole (37) | Manhole | 429827.106 | 583839.197 | 9.000 | 1.560 | 7.440 | Circular | 1.200 |
| Manhole (38) | Manhole | 429891.380 | 583830.881 | 9.000 | 1.400 | 7.600 | Circular | 1.200 |
| Manhole (39) | Manhole | 429865.334 | 583803.212 | 9.000 | 1.560 | 7.440 | Circular | 1.200 |
| Manhole (40) | Manhole | 429929.524 | 583794.808 | 9.000 | 1.400 | 7.600 | Circular | 1.200 |
| Manhole (41) | Manhole | 429903.561 | 583767.226 | 9.000 | 1.560 | 7.440 | Circular | 1.200 |
| Pond Outfall | Manhole | 430329.715 | 583541.581 | 6.100 | 2.650 | 3.450 | Circular | 2.600 |
| Manhole (43) | Manhole | 430359.315 | 583540.673 | 4.000 | 1.000 | 3.000 | Circular | 1.200 |
| 38 | Manhole | 430391.684 | 583408.662 | 3.690 | 1.870 | 1.820 | Circular | 1.200 |
| ExMH5 | Manhole | 430402.770 | 583370.408 | 4.500 | 8.500 | -4.000 | Circular | 1.200 |
| ExMH4a | Manhole | 430401.648 | 583356.602 | 4.500 | 8.610 | -4.110 | Circular | 1.200 |
| ExMH4 | Manhole | 430411.105 | 583347.312 | 4.500 | 8.720 | -4.220 | Circular | 1.200 |
| ExMH | Manhole | 430423.307 | 583298.821 | 4.500 | 5.167 | -0.667 | Circular | 1.200 |
| S | Manhole | 430437.629 | 583275.640 | 4.300 | 5.045 | -0.745 | Circular | 1.200 |
| Manhole (44) | Manhole | 430386.077 | 583275.948 | 4.000 | 1.500 | 2.500 | Circular | 1.200 |
| Manhole (45) | Manhole | 430507.332 | 583375.221 | 4.000 | 7.175 | -3.175 | Circular | 1.200 |
| Manhole | Manhole | 429681.529 | 583956.198 | 10.030 | 3.390 | 6.640 | Circular | 1.200 |
| Manhole (1) | Manhole | 429683.378 | 583993.989 | 10.100 | 3.260 | 6.840 | Circular | 1.200 |
| Manhole (2) | Manhole | 429583.498 | 583998.876 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (3) | Manhole | 429783.259 | 583989.103 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (4) | Manhole | 429585.941 | 584048.816 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (5) | Manhole | 429685.822 | 584043.930 | 10.100 | 3.000 | 7.100 | Circular | 1.200 |
| Manhole (6) | Manhole | 429785.702 | 584039.043 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (7) | Manhole | 429588.384 | 584098.757 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (18) | Manhole | 429688.265 | 584093.870 | 10.100 | 2.720 | 7.380 | Circular | 1.200 |
| Manhole (19) | Manhole | 429788.145 | 584088.983 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (20) | Manhole | 429590.828 | 584148.697 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (21) | Manhole | 429690.708 | 584143.810 | 10.100 | 2.450 | 7.650 | Circular | 1.200 |
| Manhole (22) | Manhole | 429790.589 | 584138.923 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (23) | Manhole | 429593.271 | 584198.637 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (24) | Manhole | 429693.151 | 584193.750 | 10.100 | 2.180 | 7.920 | Circular | 1.200 |
| Manhole (25) | Manhole | 429793.032 | 584188.864 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (26) | Manhole | 429595.714 | 584248.577 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |
| Manhole (27) | Manhole | 429695.595 | 584243.691 | 10.100 | 2.000 | 8.100 | Circular | 1.200 |
| Manhole (28) | Manhole | 429795.475 | 584238.804 | 10.600 | 1.400 | 9.200 | Circular | 1.200 |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Junctions<br>Storm Phase: Phase | Company Address: | | |

| Name | Lock |
|---|---|
| Manhole (9) | None |
| Manhole (10) | None |
| Manhole (11) | None |
| Manhole (12) | None |
| Manhole (13) | None |
| Manhole (14) | None |
| Manhole (15) | None |
| Manhole (16) | None |
| Manhole (17) | None |
| Manhole (36) | None |
| Manhole (37) | None |
| Manhole (38) | None |
| Manhole (39) | None |
| Manhole (40) | None |
| Manhole (41) | None |
| Pond Outfall | None |
| Manhole (43) | None |
| 38 | None |
| ExMH5 | None |
| ExMH4a | None |
| ExMH4 | None |
| ExMH | None |
| S | None |
| Manhole (44) | None |
| Manhole (45) | None |
| Manhole | None |
| Manhole (1) | None |
| Manhole (2) | None |
| Manhole (3) | None |
| Manhole (4) | None |
| Manhole (5) | None |
| Manhole (6) | None |
| Manhole (7) | None |
| Manhole (18) | None |
| Manhole (19) | None |
| Manhole (20) | None |
| Manhole (21) | None |
| Manhole (22) | None |
| Manhole (23) | None |
| Manhole (24) | None |
| Manhole (25) | None |
| Manhole (26) | None |
| Manhole (27) | None |
| Manhole (28) | None |

## Inlets

| Junction | Inlet Name | Incoming Item(s) | Bypass Destination | Capacity Type |
|---|---|---|---|---|
| Manhole (9) | Inlet | Pipe (6) | (None) | No Restriction |
| Manhole (10) | Inlet | Pipe (9) | (None) | No Restriction |
| | Inlet (1) | Pipe (36) | (None) | No Restriction |
| Manhole (11) | Inlet | Pipe (10) | (None) | No Restriction |
| | Inlet (1) | Pipe (38) | (None) | No Restriction |
| Manhole (12) | Inlet | Pipe (11) | (None) | No Restriction |
| | Inlet (1) | Pipe (40) | (None) | No Restriction |
| Manhole (13) | Inlet | Pipe (12) | (None) | No Restriction |
| Manhole (14) | Inlet | Pipe (13) | (None) | No Restriction |
| Manhole (15) | Inlet | Pipe (14) | (None) | No Restriction |
| Manhole (16) | Inlet | Pipe (15) | (None) | No Restriction |
| | Inlet | Pipe (16) | (None) | No Restriction |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Junctions<br>Storm Phase: Phase | Company Address: | | |

| Junction | Inlet Name | Incoming Item(s) | Bypass Destination | Capacity Type |
|---|---|---|---|---|
| Manhole (17) | Inlet (1) | Laydown Area | (None) | No Restriction |
| Manhole (36) | Inlet (1) | Pipe (67) | (None) | No Restriction |
| Manhole (37) | Inlet | Pipe (35) | (None) | No Restriction |
| | Inlet (1) | Pipe (66) | (None) | No Restriction |
| Manhole (38) | Inlet | Pipe (69) | (None) | No Restriction |
| Manhole (39) | Inlet | Pipe (37) | (None) | No Restriction |
| | Inlet (2) | Pipe (68) | (None) | No Restriction |
| Manhole (40) | Inlet (1) | Pipe (71) | (None) | No Restriction |
| Manhole (41) | Inlet | Pipe (39) | (None) | No Restriction |
| | Inlet (2) | Pipe (70) | (None) | No Restriction |
| Pond Outfall | Inlet | Pipe (42) | (None) | No Restriction |
| Manhole (43) | Inlet | Pipe (43) | (None) | No Restriction |
| 38 | Inlet | Trapezoidal Channel | (None) | No Restriction |
| | Inlet (3) | Pipe (79) | (None) | No Restriction |
| ExMH5 | Inlet | Pipe (72) | (None) | No Restriction |
| | Inlet (1) | Pipe (78) | (None) | No Restriction |
| ExMH4a | Inlet | Pipe (73) | (None) | No Restriction |
| ExMH4 | Inlet | Pipe (74) | (None) | No Restriction |
| ExMH | Inlet | Pipe (75) | (None) | No Restriction |
| S | Inlet | Pipe (76) | (None) | No Restriction |
| | Inlet (1) | Pipe (77) | (None) | No Restriction |
| Manhole (44) | Inlet | Catchment Area (29) | (None) | No Restriction |
| Manhole (45) | Inlet | Catchment Area (28) | (None) | No Restriction |
| Manhole | Inlet (1) | Pipe (5) | (None) | No Restriction |
| Manhole (1) | Inlet | Pipe (4) | (None) | No Restriction |
| | Inlet (1) | Pipe (21) | (None) | No Restriction |
| | Inlet (2) | Pipe (27) | (None) | No Restriction |
| | Inlet (3) | Catchment Area (12) | (None) | No Restriction |
| Manhole (2) | Inlet | Pipe (28) | (None) | No Restriction |
| Manhole (3) | Inlet | Pipe (48) | (None) | No Restriction |
| Manhole (4) | Inlet | Pipe (29) | (None) | No Restriction |
| Manhole (5) | Inlet | Pipe (3)<br>Pipe (20) | (None) | No Restriction |
| | Inlet (1) | Pipe (26) | (None) | No Restriction |
| | Inlet (2) | Catchment Area (13) | (None) | No Restriction |
| Manhole (6) | Inlet | Pipe (47) | (None) | No Restriction |
| Manhole (7) | Inlet | Pipe (30) | (None) | No Restriction |
| Manhole (18) | Inlet | Pipe (2)<br>Pipe (19) | (None) | No Restriction |
| | Inlet (1) | Pipe (25) | (None) | No Restriction |
| | Inlet (2) | Catchment Area (14) | (None) | No Restriction |
| Manhole (19) | Inlet | Pipe (46) | (None) | No Restriction |
| Manhole (20) | Inlet | Pipe (31) | (None) | No Restriction |
| Manhole (21) | Inlet | Pipe (1) | (None) | No Restriction |
| | Inlet (1) | Pipe (18) | (None) | No Restriction |
| | Inlet (2) | Pipe (24) | (None) | No Restriction |
| | Inlet (3) | Catchment Area (15) | (None) | No Restriction |
| Manhole (22) | Inlet | Pipe (45) | (None) | No Restriction |
| Manhole (23) | Inlet | Pipe (32) | (None) | No Restriction |
| Manhole (24) | Inlet | Pipe<br>Pipe (17) | (None) | No Restriction |
| | Inlet (1) | Pipe (23) | (None) | No Restriction |
| | Inlet (2) | Catchment Area (16) | (None) | No Restriction |
| Manhole (25) | Inlet | Pipe (44) | (None) | No Restriction |
| Manhole (26) | Inlet | Pipe (33) | (None) | No Restriction |
| Manhole (27) | Inlet | Pipe (7) | (None) | No Restriction |
| | Inlet (1) | Pipe (22) | (None) | No Restriction |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Junctions<br>Storm Phase: Phase | Company Address: | | |

| Junction | Inlet Name | Incoming Item(s) | Bypass Destination | Capacity Type |
|---|---|---|---|---|
| | Inlet (2) | Catchment Area (17) | (None) | No Restriction |
| Manhole (28) | Inlet | Pipe (34) | (None) | No Restriction |

## Outlets

| Junction | Outlet Name | Outgoing Connection | Outlet Type |
|---|---|---|---|
| Manhole (9) | Outlet | Pipe (9) | Free Discharge |
| Manhole (10) | Outlet | Pipe (10) | Free Discharge |
| Manhole (11) | Outlet | Pipe (11) | Free Discharge |
| Manhole (12) | Outlet | Pipe (12) | Free Discharge |
| Manhole (13) | Outlet | Pipe (13) | Free Discharge |
| Manhole (14) | Outlet | Pipe (14) | Free Discharge |
| Manhole (15) | Outlet | Pipe (15) | Free Discharge |
| Manhole (16) | Outlet | Pipe (16) | Free Discharge |
| Manhole (17) | Outlet | Pipe (41) | Free Discharge |
| Manhole (36) | Outlet | Pipe (35) | Free Discharge |
| Manhole (37) | Outlet | Pipe (36) | Free Discharge |
| Manhole (38) | Outlet | Pipe (37) | Free Discharge |
| Manhole (39) | Outlet | Pipe (38) | Free Discharge |
| Manhole (40) | Outlet | Pipe (39) | Free Discharge |
| Manhole (41) | Outlet | Pipe (40) | Free Discharge |
| Pond Outfall | Outlet | Pipe (43) | Orifice |
| | Diameter (m) | 0.150 | |
| | Coefficient of Discharge | 0.600 | |
| | Invert Level (m) | 3.450 | |
| Manhole (43) | Outlet | Trapezoidal Channel | Free Discharge |
| 38 | Outlet | Pipe (72) | Free Discharge |
| ExMH5 | Outlet | Pipe (73) | Free Discharge |
| ExMH4a | Outlet | Pipe (74) | Free Discharge |
| ExMH4 | Outlet | Pipe (75) | Free Discharge |
| ExMH | Outlet | Pipe (76) | Free Discharge |
| Manhole (44) | Outlet | Pipe (77) | Free Discharge |
| Manhole (45) | Outlet | Pipe (78) | Free Discharge |
| Manhole | Outlet | Pipe (6) | Free Discharge |
| Manhole (1) | Outlet | Pipe (5) | Free Discharge |
| Manhole (2) | Outlet | Pipe (21) | Free Discharge |
| Manhole (3) | Outlet | Pipe (27) | Free Discharge |
| Manhole (4) | Outlet | Pipe (20) | Free Discharge |
| Manhole (5) | Outlet | Pipe (4) | Free Discharge |
| Manhole (6) | Outlet | Pipe (26) | Free Discharge |
| Manhole (7) | Outlet | Pipe (19) | Free Discharge |
| Manhole (18) | Outlet | Pipe (3) | Free Discharge |
| Manhole (19) | Outlet | Pipe (25) | Free Discharge |
| Manhole (20) | Outlet | Pipe (18) | Free Discharge |
| Manhole (21) | Outlet | Pipe (2) | Free Discharge |
| Manhole (22) | Outlet | Pipe (24) | Free Discharge |
| Manhole (23) | Outlet | Pipe (17) | Free Discharge |
| Manhole (24) | Outlet | Pipe (1) | Free Discharge |
| Manhole (25) | Outlet | Pipe (23) | Free Discharge |
| Manhole (26) | Outlet | Pipe (7) | Free Discharge |
| Manhole (27) | Outlet | Pipe | Free Discharge |
| Manhole (28) | Outlet | Pipe (22) | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Pond**

Type : Pond

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 6.100 |
| Depth (m) | 3.300 |
| Base Level (m) | 2.800 |
| Freeboard (mm) | 0 |
| Initial Depth (m) | 1.000 |
| Porosity (%) | 100 |
| Average Slope (1:X) | 9.645 |
| Total Volume (m³) | 37504.599 |

| Depth (m) | Area (m²) | Volume (m³) |
|---|---|---|
| 0.000 | 4800.00 | 0.000 |
| 1.000 | 10500.00 | 7466.432 |
| 3.300 | 15800.00 | 37504.599 |

## Inlets

### Inlet

| | |
|---|---|
| Inlet Type | Point Inflow |
| Incoming Item(s) | Pipe (41) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (42) |
| Outlet Type | Free Discharge |

## Advanced

| | |
|---|---|
| Perimeter | Circular |
| Length (m) | 199.699 |
| Friction Scheme | Manning's n |
| n | 0.03 |

**Cow Gut Diversion**

Type : Pond

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 4.000 |
| Depth (m) | 1.000 |
| Base Level (m) | 3.000 |
| Freeboard (mm) | 0 |
| Initial Depth (m) | 0.000 |
| Porosity (%) | 100 |
| Average Slope (1:X) | 11.284 |
| Total Volume (m³) | 433.333 |

| Depth (m) | Area (m²) | Volume (m³) |
|---|---|---|
| 0.000 | 100.00 | 0.000 |
| 1.000 | 900.00 | 433.333 |

## Inlets

### Inlet

| | |
|---|---|
| Inlet Type | Point Inflow |
| Incoming Item(s) | Off Site Catchment |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

### Inlet (1)

| | |
|---|---|
| Inlet Type | Point Inflow |
| Incoming Item(s) | On Site Catchment |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (79) |
| Outlet Type | Free Discharge |

## Advanced

| | |
|---|---|
| Perimeter | Circular |
| Length (m) | 78.580 |
| Friction Scheme | Manning's n |
| n | 0.04 |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (20)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 8.850 |
| Depth (m) | 1.000 |
| Base Level (m) | 7.850 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 35.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 8.750 |

## Inlets

### Inlet (1)

| | |
|---|---|
| Incoming Item(s) | Catchment Area (22) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (66) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (21)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 8.850 |
| Depth (m) | 1.000 |
| Base Level (m) | 7.850 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 37.134 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 9.283 |

## Inlets

### Inlet (1)

| | |
|---|---|
| Incoming Item(s) | Catchment Area (23) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (67) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (22)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 8.850 |
| Depth (m) | 1.000 |
| Base Level (m) | 7.850 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 37.187 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 9.297 |

## Inlets

### Inlet (1)

| | |
|---|---|
| Incoming Item(s) | Catchment Area (24) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (68) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (23)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 8.850 |
| Depth (m) | 1.000 |
| Base Level (m) | 7.850 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 37.759 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 9.440 |

## Inlets

### Inlet

| | |
|---|---|
| Incoming Item(s) | Catchment Area (25) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (69) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (24)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 8.850 |
| Depth (m) | 1.000 |
| Base Level (m) | 7.850 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 37.648 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 9.412 |

## Inlets

### Inlet

| | |
|---|---|
| Incoming Item(s) | Catchment Area (26) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (70) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (25)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 8.850 |
| Depth (m) | 1.000 |
| Base Level (m) | 7.850 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 37.130 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 9.282 |

## Inlets

### Inlet

| | |
|---|---|
| Incoming Item(s) | Catchment Area (27) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (71) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

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

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (28) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (1)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

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

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (29) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (2)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

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

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (30) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (3)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

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

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (31) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (4)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

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

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (32) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (5)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

| | |
|---|---|
| Incoming Item(s) | Catchment Area (5) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (33) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (6)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

| | |
|---|---|
| Incoming Item(s) | Catchment Area (6) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (48) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (7)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

| | |
|---|---|
| Incoming Item(s) | Catchment Area (7) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (47) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (8)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

| | |
|---|---|
| Incoming Item(s) | Catchment Area (8) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (46) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (9)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

| | |
|---|---|
| Incoming Item(s) | Catchment Area (9) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (45) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (10)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

| | |
|---|---|
| Incoming Item(s) | Catchment Area (10) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (44) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls<br>Storm Phase: Phase | Company Address: | | |

**Soakaway (11)**

Type : Soakaway

## Dimensions

| | |
|---|---|
| Exceedance Level (m) | 10.600 |
| Depth (m) | 1.000 |
| Base Level (m) | 9.600 |
| Freeboard (mm) | 0 |
| Soakaway Shape | Rectangular |
| Diameter / Width (m) | 1.000 |
| Length (m) | 75.000 |
| Porosity (%) | 25 |
| Ineffective Storage Depth (m) | 0.000 |
| Number of Soakaways | 1 |
| Total Volume ($m^3$) | 18.750 |

## Inlets

### Inlet

| | |
|---|---|
| Incoming Item(s) | Catchment Area (11) |
| Bypass Destination | (None) |
| Capacity Type | No Restriction |

## Outlets

### Outlet

| | |
|---|---|
| Outgoing Connection | Pipe (34) |
| Outlet Type | Free Discharge |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Connections<br>Storm Phase: Phase | Company Address: | | |

| Name | Length (m) | Connection Type | Slope (1:X) | Manning's n | Colebrook-White Roughness (mm) | Diameter / Base Width (mm) | Height (mm) | Side Slope (1:X) |
|---|---|---|---|---|---|---|---|---|
| Pipe (9) | 89.874 | Pipe | 185.308 | | 0.3 | 375 | | |
| Pipe (10) | 52.500 | Pipe | 583.333 | | 0.3 | 1200 | | |
| Pipe (11) | 52.732 | Pipe | 585.916 | | 0.3 | 1200 | | |
| Pipe (12) | 44.728 | Pipe | 559.101 | | 0.3 | 1200 | | |
| Pipe (13) | 79.991 | Pipe | 571.368 | | 0.3 | 1200 | | |
| Pipe (14) | 63.909 | Pipe | 580.991 | | 0.3 | 1200 | | |
| Pipe (15) | 64.141 | Pipe | 583.100 | | 0.3 | 1200 | | |
| Pipe (16) | 107.604 | Pipe | 524.898 | | 0.3 | 1200 | | |
| Pipe (35) | 38.000 | Pipe | 237.500 | | 0.3 | 150 | | |
| Pipe (36) | 48.154 | Pipe | 17.511 | | 0.3 | 150 | | |
| Pipe (37) | 38.000 | Pipe | 237.500 | | 0.3 | 150 | | |
| Pipe (38) | 48.132 | Pipe | 16.948 | | 0.3 | 150 | | |
| Pipe (39) | 37.879 | Pipe | 236.745 | | 0.3 | 150 | | |
| Pipe (40) | 48.104 | Pipe | 16.418 | | 0.3 | 150 | | |
| Pipe (41) | 34.613 | Pipe | 532.504 | | 0.3 | 1200 | | |
| Pipe (42) | 19.010 | Pipe | 54.314 | | 0.3 | 525 | | |
| Pipe (43) | 29.613 | Pipe | 65.807 | | 0.3 | 525 | | |
| Pipe (66) | 3.426 | Pipe | 8.355 | | 0.6 | 250 | | |
| Pipe (67) | 2.450 | Pipe | 9.798 | | 0.6 | 250 | | |
| Pipe (68) | 2.971 | Pipe | 7.245 | | 0.6 | 250 | | |
| Pipe (69) | 2.768 | Pipe | 11.073 | | 0.6 | 250 | | |
| Pipe (70) | 4.248 | Pipe | 10.361 | | 0.6 | 250 | | |
| Pipe (71) | 3.180 | Pipe | 12.719 | | 0.6 | 250 | | |
| Pipe (72) | 39.828 | Pipe | 6.843 | | 0.6 | 900 | | |
| Pipe (73) | 13.852 | Pipe | 125.924 | | 0.6 | 1200 | | |
| Pipe (74) | 13.257 | Pipe | 120.517 | | 0.6 | 1200 | | |
| Pipe (75) | 50.003 | Pipe | -14.073 | | 0.6 | 1200 | | |
| Pipe (76) | 27.249 | Pipe | 349.341 | | 0.6 | 1200 | | |
| Pipe (77) | 51.553 | Pipe | 15.887 | | 0.6 | 300 | | |
| Pipe (78) | 104.673 | Pipe | 126.876 | | 0.6 | 525 | | |
| Trapezoidal Channel | 135.922 | Trapezoidal Channel | 115.188 | 0.040 | | 750 | 1000 | 3.00 |
| Pipe (79) | 14.502 | Pipe | 12.290 | | 0.6 | 900 | | |
| Pipe | 50.000 | Pipe | 277.778 | | 0.6 | 300 | | |
| Pipe (1) | 50.000 | Pipe | 185.185 | | 0.6 | 300 | | |
| Pipe (2) | 50.000 | Pipe | 185.185 | | 0.6 | 300 | | |
| Pipe (3) | 50.000 | Pipe | 178.571 | | 0.6 | 375 | | |
| Pipe (4) | 50.000 | Pipe | 192.308 | | 0.6 | 375 | | |
| Pipe (5) | 37.836 | Pipe | 189.181 | | 0.6 | 375 | | |
| Pipe (7) | 100.000 | Pipe | 90.910 | | 0.6 | 150 | | |
| Pipe (17) | 100.000 | Pipe | 78.125 | | 0.6 | 150 | | |
| Pipe (18) | 100.000 | Pipe | 64.516 | | 0.6 | 150 | | |
| Pipe (19) | 100.000 | Pipe | 54.945 | | 0.6 | 150 | | |
| Pipe (20) | 100.000 | Pipe | 47.619 | | 0.6 | 150 | | |
| Pipe (21) | 100.000 | Pipe | 42.373 | | 0.6 | 150 | | |
| Pipe (22) | 100.000 | Pipe | 90.909 | | 0.6 | 150 | | |
| Pipe (23) | 100.000 | Pipe | 78.125 | | 0.6 | 150 | | |
| Pipe (24) | 100.000 | Pipe | 64.516 | | 0.6 | 150 | | |
| Pipe (25) | 100.000 | Pipe | 54.945 | | 0.6 | 150 | | |
| Pipe (26) | 100.000 | Pipe | 47.619 | | 0.6 | 150 | | |
| Pipe (27) | 100.000 | Pipe | 42.373 | | 0.6 | 150 | | |
| Pipe (28) | 4.742 | Pipe | 11.856 | | 0.6 | 250 | | |
| Pipe (29) | 3.252 | Pipe | 8.129 | | 0.6 | 250 | | |
| Pipe (30) | 3.405 | Pipe | 8.513 | | 0.6 | 250 | | |
| Pipe (31) | 4.476 | Pipe | 11.191 | | 0.6 | 250 | | |
| Pipe (32) | 5.195 | Pipe | 12.987 | | 0.6 | 250 | | |
| Pipe (33) | 4.068 | Pipe | 10.171 | | 0.6 | 250 | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pipe (34) | 1.496 | Pipe | 3.739 | | 0.6 | 250 | | |
| Pipe (44) | 1.916 | Pipe | 4.790 | | 0.6 | 250 | | |
| Pipe (45) | 1.957 | Pipe | 4.893 | | 0.6 | 250 | | |
| Pipe (46) | 1.680 | Pipe | 4.199 | | 0.6 | 250 | | |
| Pipe (47) | 2.360 | Pipe | 5.901 | | 0.6 | 250 | | |
| Pipe (48) | 4.509 | Pipe | 11.272 | | 0.6 | 250 | | |
| Pipe (6) | 116.185 | Pipe | 181.540 | | 0.6 | 375 | | |

| Name | Upstream Cover Level (m) | Upstream Invert Level (m) | Downstream Cover Level (m) | Downstream Invert Level (m) | Part Family | Lock | Flow Restriction (L/s) | Culvert Type |
|---|---|---|---|---|---|---|---|---|
| Pipe (9) | 9.600 | 6.000 | 8.740 | 5.515 | | Levels | | (None) |
| Pipe (10) | 8.740 | 4.690 | 8.280 | 4.600 | | None | | (None) |
| Pipe (11) | 8.280 | 4.600 | 7.980 | 4.510 | | None | | (None) |
| Pipe (12) | 7.980 | 4.510 | 7.890 | 4.430 | | None | | (None) |
| Pipe (13) | 7.890 | 4.430 | 7.850 | 4.290 | | None | | (None) |
| Pipe (14) | 7.850 | 4.290 | 7.115 | 4.180 | | None | | (None) |
| Pipe (15) | 7.115 | 4.180 | 7.435 | 4.070 | | None | | (None) |
| Pipe (16) | 7.435 | 4.070 | 6.245 | 3.865 | | None | | (None) |
| Pipe (35) | 9.000 | 7.600 | 9.000 | 7.440 | | None | | (None) |
| Pipe (36) | 9.000 | 7.440 | 8.740 | 4.690 | | None | | (None) |
| Pipe (37) | 9.000 | 7.600 | 9.000 | 7.440 | | None | | (None) |
| Pipe (38) | 9.000 | 7.440 | 8.280 | 4.600 | | None | | (None) |
| Pipe (39) | 9.000 | 7.600 | 9.000 | 7.440 | | None | | (None) |
| Pipe (40) | 9.000 | 7.440 | 7.980 | 4.510 | | None | | (None) |
| Pipe (41) | 6.245 | 3.865 | 6.100 | 3.800 | | Levels | | (None) |
| Pipe (42) | 6.100 | 3.800 | 6.100 | 3.450 | | Levels | | (None) |
| Pipe (43) | 6.100 | 3.450 | 4.000 | 3.000 | | None | 400.0 | (None) |
| Pipe (66) | 8.850 | 7.850 | 9.000 | 7.440 | | None | | (None) |
| Pipe (67) | 8.850 | 7.850 | 9.000 | 7.600 | | None | | (None) |
| Pipe (68) | 8.850 | 7.850 | 9.000 | 7.440 | | None | | (None) |
| Pipe (69) | 8.850 | 7.850 | 9.000 | 7.600 | | None | | (None) |
| Pipe (70) | 8.850 | 7.850 | 9.000 | 7.440 | | None | | (None) |
| Pipe (71) | 8.850 | 7.850 | 9.000 | 7.600 | | None | | (None) |
| Pipe (72) | 3.690 | 1.820 | 4.500 | -4.000 | | None | | (None) |
| Pipe (73) | 4.500 | -4.000 | 4.500 | -4.110 | | None | | (None) |
| Pipe (74) | 4.500 | -4.110 | 4.500 | -4.220 | | None | | (None) |
| Pipe (75) | 4.500 | -4.220 | 4.500 | -0.667 | | None | | (None) |
| Pipe (76) | 4.500 | -0.667 | 4.300 | -0.745 | | None | | (None) |
| Pipe (77) | 4.000 | 2.500 | 4.300 | -0.745 | | None | | (None) |
| Pipe (78) | 4.000 | -3.175 | 4.500 | -4.000 | | None | | (None) |
| Trapezoidal Channel | 4.000 | 3.000 | 3.690 | 1.820 | | None | | |
| Pipe (79) | 4.000 | 3.000 | 3.690 | 1.820 | | None | | (None) |
| Pipe | 10.100 | 8.100 | 10.100 | 7.920 | | None | | (None) |
| Pipe (1) | 10.100 | 7.920 | 10.100 | 7.650 | | None | | (None) |
| Pipe (2) | 10.100 | 7.650 | 10.100 | 7.380 | | None | | (None) |
| Pipe (3) | 10.100 | 7.380 | 10.100 | 7.100 | | None | | (None) |
| Pipe (4) | 10.100 | 7.100 | 10.100 | 6.840 | | None | | (None) |
| Pipe (5) | 10.100 | 6.840 | 10.030 | 6.640 | | None | | (None) |
| Pipe (7) | 10.600 | 9.200 | 10.100 | 8.100 | | None | | (None) |
| Pipe (17) | 10.600 | 9.200 | 10.100 | 7.920 | | None | | (None) |
| Pipe (18) | 10.600 | 9.200 | 10.100 | 7.650 | | None | | (None) |
| Pipe (19) | 10.600 | 9.200 | 10.100 | 7.380 | | None | | (None) |
| Pipe (20) | 10.600 | 9.200 | 10.100 | 7.100 | | None | | (None) |
| Pipe (21) | 10.600 | 9.200 | 10.100 | 6.840 | | None | | (None) |
| Pipe (22) | 10.600 | 9.200 | 10.100 | 8.100 | | None | | (None) |
| Pipe (23) | 10.600 | 9.200 | 10.100 | 7.920 | | None | | (None) |
| Pipe (24) | 10.600 | 9.200 | 10.100 | 7.650 | | None | | (None) |
| Pipe (25) | 10.600 | 9.200 | 10.100 | 7.380 | | None | | (None) |
| Pipe (26) | 10.600 | 9.200 | 10.100 | 7.100 | | None | | (None) |
| Pipe (27) | 10.600 | 9.200 | 10.100 | 6.840 | | None | | (None) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pipe (28) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (29) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (30) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (31) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (32) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (33) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (34) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (44) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (45) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (46) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (47) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (48) | 10.600 | 9.600 | 10.600 | 9.200 | | None | | (None) |
| Pipe (6) | 10.030 | 6.640 | 9.600 | 6.000 | | None | | (None) |

| Name | Culvert Entrance |
|---|---|
| Pipe (9) | (None) |
| Pipe (10) | (None) |
| Pipe (11) | (None) |
| Pipe (12) | (None) |
| Pipe (13) | (None) |
| Pipe (14) | (None) |
| Pipe (15) | (None) |
| Pipe (16) | (None) |
| Pipe (35) | (None) |
| Pipe (36) | (None) |
| Pipe (37) | (None) |
| Pipe (38) | (None) |
| Pipe (39) | (None) |
| Pipe (40) | (None) |
| Pipe (41) | (None) |
| Pipe (42) | (None) |
| Pipe (43) | (None) |
| Pipe (66) | (None) |
| Pipe (67) | (None) |
| Pipe (68) | (None) |
| Pipe (69) | (None) |
| Pipe (70) | (None) |
| Pipe (71) | (None) |
| Pipe (72) | (None) |
| Pipe (73) | (None) |
| Pipe (74) | (None) |
| Pipe (75) | (None) |
| Pipe (76) | (None) |
| Pipe (77) | (None) |
| Pipe (78) | (None) |
| Trapezoidal Channel | |
| Pipe (79) | (None) |
| Pipe | (None) |
| Pipe (1) | (None) |
| Pipe (2) | (None) |
| Pipe (3) | (None) |
| Pipe (4) | (None) |
| Pipe (5) | (None) |
| Pipe (7) | (None) |
| Pipe (17) | (None) |
| Pipe (18) | (None) |
| Pipe (19) | (None) |
| Pipe (20) | (None) |
| Pipe (21) | (None) |
| Pipe (22) | (None) |

| | |
|---|---|
| Pipe (23) | (None) |
| Pipe (24) | (None) |
| Pipe (25) | (None) |
| Pipe (26) | (None) |
| Pipe (27) | (None) |
| Pipe (28) | (None) |
| Pipe (29) | (None) |
| Pipe (30) | (None) |
| Pipe (31) | (None) |
| Pipe (32) | (None) |
| Pipe (33) | (None) |
| Pipe (34) | (None) |
| Pipe (44) | (None) |
| Pipe (45) | (None) |
| Pipe (46) | (None) |
| Pipe (47) | (None) |
| Pipe (48) | (None) |
| Pipe (6) | (None) |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow**

| Junction | Storm Event | Cover Level (m) | Invert Level (m) | Max. Level (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manhole (9) | FSR: 1 years: +0 %: 15 mins: Winter | 9.600 | 6.000 | 6.732 | 0.732 | 215.3 | 0.828 | 0.000 | 206.7 | 176.545 | Surcharged |
| Manhole (10) | FSR: 1 years: +0 %: 15 mins: Winter | 8.740 | 4.690 | 4.984 | 0.294 | 212.9 | 0.332 | 0.000 | 213.5 | 181.414 | OK |
| Manhole (11) | FSR: 1 years: +0 %: 30 mins: Winter | 8.280 | 4.600 | 4.905 | 0.305 | 231.4 | 0.345 | 0.000 | 228.5 | 261.124 | OK |
| Manhole (12) | FSR: 1 years: +0 %: 30 mins: Winter | 7.980 | 4.510 | 4.814 | 0.304 | 234.5 | 0.344 | 0.000 | 232.7 | 267.629 | OK |
| Manhole (13) | FSR: 1 years: +0 %: 30 mins: Winter | 7.890 | 4.430 | 4.726 | 0.296 | 232.7 | 0.335 | 0.000 | 231.2 | 267.847 | OK |
| Manhole (14) | FSR: 1 years: +0 %: 30 mins: Winter | 7.850 | 4.290 | 4.588 | 0.298 | 231.2 | 0.337 | 0.000 | 228.0 | 267.745 | OK |
| Manhole (15) | FSR: 1 years: +0 %: 30 mins: Winter | 7.115 | 4.180 | 4.473 | 0.293 | 228.0 | 0.332 | 0.000 | 224.7 | 267.827 | OK |
| Manhole (16) | FSR: 1 years: +0 %: 30 mins: Winter | 7.435 | 4.070 | 4.350 | 0.280 | 224.7 | 0.316 | 0.000 | 222.2 | 266.750 | OK |
| Manhole (17) | FSR: 1 years: +0 %: 30 mins: Winter | 6.245 | 3.865 | 4.172 | 0.307 | 263.4 | 0.348 | 0.000 | 262.4 | 396.180 | OK |
| Manhole (36) | FSR: 1 years: +0 %: 15 mins: Winter | 9.000 | 7.600 | 7.670 | 0.070 | 5.2 | 0.079 | 0.000 | 5.1 | 2.438 | OK |
| Manhole (37) | FSR: 1 years: +0 %: 15 mins: Winter | 9.000 | 7.440 | 7.487 | 0.047 | 10.2 | 0.053 | 0.000 | 10.4 | 4.873 | OK |
| Manhole (38) | FSR: 1 years: +0 %: 15 mins: Winter | 9.000 | 7.600 | 7.920 | 0.320 | 22.3 | 0.362 | 0.000 | 18.4 | 9.795 | Surcharged |
| Manhole (39) | FSR: 1 years: +0 %: 15 mins: Winter | 9.000 | 7.440 | 7.524 | 0.084 | 28.5 | 0.095 | 0.000 | 28.6 | 14.617 | OK |
| Manhole (40) | FSR: 1 years: +0 %: 15 mins: Winter | 9.000 | 7.600 | 7.670 | 0.070 | 5.1 | 0.079 | 0.000 | 5.1 | 2.439 | OK |
| Manhole (41) | FSR: 1 years: +0 %: 15 mins: Winter | 9.000 | 7.440 | 7.487 | 0.047 | 10.2 | 0.053 | 0.000 | 10.2 | 4.862 | OK |
| Pond Outfall | FSR: 1 years: +0 %: 720 mins: Winter | 6.100 | 3.450 | 3.857 | 0.407 | 27.3 | 2.161 | 0.000 | 27.1 | 939.732 | OK |
| Manhole (43) | FSR: 1 years: +0 %: 180 mins: Winter | 4.000 | 3.000 | 3.134 | 0.134 | 68.5 | 0.152 | 0.000 | 56.2 | 328.482 | OK |
| 38 | FSR: 1 years: +0 %: 480 mins: Winter | 3.690 | 1.820 | 3.146 | 1.326 | 365.4 | 1.500 | 0.000 | 365.5 | 9086.266 | Surcharged |
| ExMH5 | FSR: 1 years: +0 %: 600 mins: Winter | 4.500 | -4.000 | 3.125 | 7.125 | 367.8 | 8.059 | 0.000 | 367.8 | 10168.705 | Surcharged |
| ExMH4a | FSR: 1 years: +0 %: 600 mins: Winter | 4.500 | -4.110 | 3.122 | 7.232 | 367.8 | 8.180 | 0.000 | 367.8 | 10087.577 | Surcharged |
| ExMH4 | FSR: 1 years: +0 %: 600 mins: Winter | 4.500 | -4.220 | 3.119 | 7.339 | 367.8 | 8.300 | 0.000 | 367.8 | 10023.710 | Surcharged |
| ExMH | FSR: 1 years: +0 %: 600 mins: Winter | 4.500 | -0.667 | 3.113 | 3.780 | 367.8 | 4.275 | 0.000 | 367.8 | 9994.229 | Surcharged |
| S | FSR: 1 years: +0 %: 600 mins: Winter | 4.300 | -0.745 | 3.108 | 3.853 | 368.5 | 0.000 | 0.000 | 368.5 | 10051.002 | OK |
| Manhole (44) | FSR: 1 years: +0 %: 15 mins: Winter | 4.000 | 2.500 | 3.159 | 0.659 | 33.3 | 0.746 | 0.000 | 33.0 | 13.699 | Surcharged |
| Manhole (45) | FSR: 1 years: +0 %: 30 mins: Winter | 4.000 | -3.175 | 3.117 | 6.292 | 90.3 | 7.116 | 0.000 | 90.2 | 91.324 | Surcharged |
| Manhole | FSR: 1 years: +0 %: 15 mins: Winter | 10.030 | 6.640 | 7.995 | 1.355 | 218.8 | 1.533 | 0.000 | 215.3 | 175.223 | Surcharged |
| Manhole (1) | FSR: 1 years: +0 %: 15 mins: Winter | 10.100 | 6.840 | 8.456 | 1.616 | 221.9 | 1.828 | 0.000 | 218.8 | 176.345 | Surcharged |
| Manhole (2) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.520 | 0.320 | 25.0 | 0.362 | 0.000 | 24.1 | 11.736 | Surcharged |
| Manhole (3) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.523 | 0.323 | 25.0 | 0.365 | 0.000 | 24.1 | 11.736 | Surcharged |
| Manhole (4) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.635 | 0.435 | 24.1 | 0.491 | 0.000 | 21.4 | 10.988 | Surcharged |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manhole (5) | FSR: 1 years: +0 %: 15 mins: Winter | 10.100 | 7.100 | 8.823 | 1.723 | 184.7 | 1.949 | 0.000 | 175.4 | 148.819 | Surcharged |
| Manhole (6) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.634 | 0.434 | 24.0 | 0.490 | 0.000 | 21.4 | 10.987 | Surcharged |
| Manhole (7) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.660 | 0.460 | 26.2 | 0.521 | 0.000 | 19.4 | 10.997 | Surcharged |
| Manhole (18) | FSR: 1 years: +0 %: 15 mins: Winter | 10.100 | 7.380 | 9.030 | 1.650 | 148.2 | 1.867 | 0.000 | 135.4 | 119.836 | Surcharged |
| Manhole (19) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.658 | 0.458 | 23.3 | 0.518 | 0.000 | 19.4 | 10.994 | Surcharged |
| Manhole (20) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.702 | 0.502 | 23.3 | 0.568 | 0.000 | 18.8 | 10.991 | Surcharged |
| Manhole (21) | FSR: 1 years: +0 %: 15 mins: Winter | 10.100 | 7.650 | 9.343 | 1.693 | 124.9 | 1.915 | 0.000 | 113.8 | 90.739 | Surcharged |
| Manhole (22) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.701 | 0.501 | 22.7 | 0.566 | 0.000 | 19.0 | 10.986 | Surcharged |
| Manhole (23) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.731 | 0.531 | 26.0 | 0.601 | 0.000 | 18.2 | 11.010 | Surcharged |
| Manhole (24) | FSR: 1 years: +0 %: 15 mins: Winter | 10.100 | 7.920 | 9.475 | 1.555 | 98.7 | 1.759 | 0.000 | 85.1 | 61.649 | Surcharged |
| Manhole (25) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.728 | 0.528 | 31.0 | 0.598 | 0.000 | 18.5 | 11.000 | Surcharged |
| Manhole (26) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.744 | 0.544 | 27.9 | 0.615 | 0.000 | 17.9 | 11.231 | Surcharged |
| Manhole (27) | FSR: 1 years: +0 %: 15 mins: Winter | 10.100 | 8.100 | 9.515 | 1.415 | 55.7 | 1.601 | 0.000 | 48.4 | 32.613 | Surcharged |
| Manhole (28) | FSR: 1 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 9.741 | 0.541 | 35.4 | 0.612 | 0.000 | 18.0 | 11.222 | Surcharged |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 10 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow**

| Junction | Storm Event | Cover Level (m) | Invert Level (m) | Max. Level (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manhole (9) | FSR: 10 years: +0 %: 15 mins: Winter | 9.600 | 6.000 | 6.969 | 0.969 | 236.4 | 1.096 | 0.000 | 228.5 | 341.767 | Surcharged |
| Manhole (10) | FSR: 10 years: +0 %: 15 mins: Winter | 8.740 | 4.690 | 5.013 | 0.323 | 246.6 | 0.365 | 0.000 | 244.1 | 351.212 | OK |
| Manhole (11) | FSR: 10 years: +0 %: 15 mins: Winter | 8.280 | 4.600 | 4.940 | 0.340 | 287.0 | 0.385 | 0.000 | 280.0 | 379.849 | OK |
| Manhole (12) | FSR: 10 years: +0 %: 30 mins: Winter | 7.980 | 4.510 | 4.855 | 0.345 | 292.0 | 0.390 | 0.000 | 290.6 | 517.827 | OK |
| Manhole (13) | FSR: 10 years: +0 %: 30 mins: Winter | 7.890 | 4.430 | 4.766 | 0.336 | 290.6 | 0.380 | 0.000 | 289.0 | 518.090 | OK |
| Manhole (14) | FSR: 10 years: +0 %: 30 mins: Winter | 7.850 | 4.290 | 4.631 | 0.341 | 289.0 | 0.386 | 0.000 | 286.8 | 517.990 | OK |
| Manhole (15) | FSR: 10 years: +0 %: 30 mins: Winter | 7.115 | 4.180 | 4.520 | 0.340 | 286.8 | 0.384 | 0.000 | 287.7 | 517.931 | OK |
| Manhole (16) | FSR: 10 years: +0 %: 30 mins: Winter | 7.435 | 4.070 | 4.399 | 0.329 | 287.7 | 0.372 | 0.000 | 289.0 | 519.121 | OK |
| Manhole (17) | FSR: 10 years: +0 %: 30 mins: Winter | 6.245 | 3.865 | 4.291 | 0.426 | 488.4 | 0.482 | 0.000 | 486.9 | 768.800 | OK |
| Manhole (36) | FSR: 10 years: +0 %: 15 mins: Winter | 9.000 | 7.600 | 7.705 | 0.105 | 9.9 | 0.119 | 0.000 | 10.0 | 4.722 | OK |
| Manhole (37) | FSR: 10 years: +0 %: 15 mins: Winter | 9.000 | 7.440 | 7.508 | 0.068 | 19.8 | 0.077 | 0.000 | 19.9 | 9.413 | OK |
| Manhole (38) | FSR: 10 years: +0 %: 15 mins: Winter | 9.000 | 7.600 | 8.298 | 0.698 | 26.3 | 0.790 | 0.000 | 25.8 | 18.962 | Surcharged |
| Manhole (39) | FSR: 10 years: +0 %: 15 mins: Winter | 9.000 | 7.440 | 7.557 | 0.117 | 44.1 | 0.133 | 0.000 | 44.0 | 28.301 | OK |
| Manhole (40) | FSR: 10 years: +0 %: 15 mins: Winter | 9.000 | 7.600 | 7.705 | 0.105 | 9.9 | 0.119 | 0.000 | 10.0 | 4.722 | OK |
| Manhole (41) | FSR: 10 years: +0 %: 15 mins: Winter | 9.000 | 7.440 | 7.507 | 0.067 | 19.8 | 0.076 | 0.000 | 19.8 | 9.388 | OK |
| Pond Outfall | FSR: 10 years: +0 %: 720 mins: Winter | 6.100 | 3.450 | 3.924 | 0.474 | 29.7 | 2.518 | 0.000 | 29.7 | 1680.548 | OK |
| Manhole (43) | FSR: 10 years: +0 %: 120 mins: Winter | 4.000 | 3.000 | 3.181 | 0.181 | 97.5 | 0.204 | 0.000 | 76.4 | 626.454 | OK |
| 38 | FSR: 10 years: +0 %: 480 mins: Winter | 3.690 | 1.820 | 3.214 | 1.394 | 614.9 | 1.577 | 0.000 | 615.1 | 15607.898 | Surcharged |
| ExMH5 | FSR: 10 years: +0 %: 480 mins: Winter | 4.500 | -4.000 | 3.157 | 7.157 | 617.0 | 8.094 | 0.000 | 617.0 | 15998.195 | Surcharged |
| ExMH4a | FSR: 10 years: +0 %: 480 mins: Winter | 4.500 | -4.110 | 3.147 | 7.257 | 617.0 | 8.208 | 0.000 | 617.0 | 15896.698 | Surcharged |
| ExMH4 | FSR: 10 years: +0 %: 480 mins: Winter | 4.500 | -4.220 | 3.138 | 7.358 | 617.0 | 8.322 | 0.000 | 617.0 | 15832.768 | Surcharged |
| ExMH | FSR: 10 years: +0 %: 480 mins: Winter | 4.500 | -0.667 | 3.121 | 3.788 | 617.0 | 4.284 | 0.000 | 617.0 | 15803.199 | Surcharged |
| S | FSR: 10 years: +0 %: 480 mins: Winter | 4.300 | -0.745 | 3.108 | 3.853 | 617.4 | 0.000 | 0.000 | 617.4 | 15896.822 | OK |
| Manhole (44) | FSR: 10 years: +0 %: 15 mins: Winter | 4.000 | 2.500 | 3.280 | 0.780 | 64.4 | 0.882 | 0.000 | 63.9 | 28.070 | Surcharged |
| Manhole (45) | FSR: 10 years: +0 %: 15 mins: Winter | 4.000 | -3.175 | 3.119 | 6.294 | 165.1 | 7.118 | 0.000 | 162.7 | 134.569 | Surcharged |
| Manhole | FSR: 10 years: +0 %: 15 mins: Winter | 10.030 | 6.640 | 8.490 | 1.850 | 242.0 | 2.092 | 0.000 | 236.4 | 340.192 | Surcharged |
| Manhole (1) | FSR: 10 years: +0 %: 15 mins: Winter | 10.100 | 6.840 | 9.033 | 2.193 | 250.6 | 2.481 | 0.000 | 242.0 | 341.413 | Surcharged |
| Manhole (2) | FSR: 10 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.011 | 0.811 | 33.9 | 0.918 | 0.000 | 24.7 | 22.854 | Surcharged |
| Manhole (3) | FSR: 10 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.011 | 0.811 | 33.9 | 0.918 | 0.000 | 24.7 | 22.855 | Surcharged |
| Manhole (4) | FSR: 10 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.043 | 0.843 | 31.5 | 0.953 | 0.000 | 22.0 | 21.410 | Surcharged |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manhole (5) | FSR: 10 years: +0 %: 15 mins: Winter | 10.100 | 7.100 | 9.452 | 2.352 | 211.3 | 2.660 | 0.000 | 191.9 | 288.086 | Surcharged |
| Manhole (6) | FSR: 10 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.042 | 0.842 | 31.2 | 0.952 | 0.000 | 22.0 | 21.408 | Surcharged |
| Manhole (7) | FSR: 10 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.101 | 0.901 | 31.6 | 1.019 | 0.000 | 20.4 | 21.412 | Surcharged |
| Manhole (18) | FSR: 10 years: +0 %: 30 mins: Winter | 10.100 | 7.380 | 9.632 | 2.252 | 151.3 | 2.547 | 0.000 | 155.6 | 308.812 | Surcharged |
| Manhole (19) | FSR: 10 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.099 | 0.899 | 32.6 | 1.017 | 0.000 | 20.4 | 21.404 | Surcharged |
| Manhole (20) | FSR: 10 years: +0 %: 30 mins: Winter | 10.600 | 9.200 | 10.260 | 1.060 | 26.8 | 1.198 | 0.000 | 20.3 | 28.673 | Surcharged |
| Manhole (21) | FSR: 10 years: +0 %: 30 mins: Winter | 10.100 | 7.650 | 9.948 | 2.298 | 121.2 | 2.599 | 0.000 | 125.1 | 233.721 | Flood Risk |
| Manhole (22) | FSR: 10 years: +0 %: 30 mins: Winter | 10.600 | 9.200 | 10.259 | 1.059 | 29.2 | 1.197 | 0.000 | 20.3 | 28.671 | Surcharged |
| Manhole (23) | FSR: 10 years: +0 %: 30 mins: Winter | 10.600 | 9.200 | 10.342 | 1.142 | 27.8 | 1.292 | 0.000 | 20.0 | 28.708 | Flood Risk |
| Manhole (24) | FSR: 10 years: +0 %: 60 mins: Winter | 10.100 | 7.920 | 9.945 | 2.025 | 84.0 | 2.290 | 0.000 | 89.4 | 203.228 | Flood Risk |
| Manhole (25) | FSR: 10 years: +0 %: 30 mins: Winter | 10.600 | 9.200 | 10.342 | 1.142 | 33.0 | 1.292 | 0.000 | 20.1 | 28.705 | Flood Risk |
| Manhole (26) | FSR: 10 years: +0 %: 30 mins: Winter | 10.600 | 9.200 | 10.382 | 1.182 | 28.7 | 1.337 | 0.000 | 19.9 | 29.253 | Flood Risk |
| Manhole (27) | FSR: 10 years: +0 %: 120 mins: Winter | 10.100 | 8.100 | 9.583 | 1.483 | 40.9 | 1.678 | 0.000 | 47.2 | 134.177 | Surcharged |
| Manhole (28) | FSR: 10 years: +0 %: 30 mins: Winter | 10.600 | 9.200 | 10.383 | 1.183 | 20.0 | 1.338 | 0.000 | 20.0 | 29.271 | Flood Risk |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow**

| Junction | Storm Event | Cover Level (m) | Invert Level (m) | Max. Level (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manhole (9) | FSR: 100 years: +0 %: 15 mins: Winter | 9.600 | 6.000 | 7.117 | 1.117 | 245.7 | 1.263 | 0.000 | 243.3 | 553.315 | Surcharged |
| Manhole (10) | FSR: 100 years: +0 %: 15 mins: Winter | 8.740 | 4.690 | 5.034 | 0.344 | 274.4 | 0.389 | 0.000 | 271.9 | 568.540 | OK |
| Manhole (11) | FSR: 100 years: +0 %: 15 mins: Winter | 8.280 | 4.600 | 4.969 | 0.369 | 321.1 | 0.418 | 0.000 | 316.0 | 614.543 | OK |
| Manhole (12) | FSR: 100 years: +0 %: 15 mins: Winter | 7.980 | 4.510 | 4.883 | 0.373 | 342.9 | 0.422 | 0.000 | 339.4 | 629.826 | OK |
| Manhole (13) | FSR: 100 years: +0 %: 30 mins: Winter | 7.890 | 4.430 | 4.796 | 0.366 | 337.0 | 0.414 | 0.000 | 335.7 | 858.155 | OK |
| Manhole (14) | FSR: 100 years: +0 %: 30 mins: Winter | 7.850 | 4.290 | 4.666 | 0.376 | 335.7 | 0.425 | 0.000 | 333.1 | 858.040 | OK |
| Manhole (15) | FSR: 100 years: +0 %: 30 mins: Winter | 7.115 | 4.180 | 4.565 | 0.385 | 333.1 | 0.435 | 0.000 | 337.0 | 857.845 | OK |
| Manhole (16) | FSR: 100 years: +0 %: 30 mins: Winter | 7.435 | 4.070 | 4.481 | 0.411 | 337.0 | 0.465 | 0.000 | 361.5 | 861.047 | OK |
| Manhole (17) | FSR: 100 years: +0 %: 30 mins: Winter | 6.245 | 3.865 | 4.404 | 0.539 | 760.5 | 0.610 | 0.000 | 754.1 | 1271.117 | OK |
| Manhole (36) | FSR: 100 years: +0 %: 15 mins: Winter | 9.000 | 7.600 | 7.834 | 0.234 | 18.9 | 0.265 | 0.000 | 15.9 | 7.613 | Surcharged |
| Manhole (37) | FSR: 100 years: +0 %: 15 mins: Winter | 9.000 | 7.440 | 7.532 | 0.092 | 31.8 | 0.104 | 0.000 | 31.9 | 15.183 | OK |
| Manhole (38) | FSR: 100 years: +0 %: 30 mins: Winter | 9.000 | 7.600 | 8.836 | 1.236 | 31.2 | 1.398 | 0.000 | 33.1 | 41.522 | Flood Risk |
| Manhole (39) | FSR: 100 years: +0 %: 15 mins: Winter | 9.000 | 7.440 | 8.040 | 0.600 | 54.0 | 0.679 | 0.000 | 49.3 | 45.627 | Surcharged |
| Manhole (40) | FSR: 100 years: +0 %: 15 mins: Winter | 9.000 | 7.600 | 7.825 | 0.225 | 18.1 | 0.255 | 0.000 | 15.6 | 7.614 | Surcharged |
| Manhole (41) | FSR: 100 years: +0 %: 15 mins: Winter | 9.000 | 7.440 | 7.529 | 0.089 | 31.4 | 0.101 | 0.000 | 31.5 | 15.144 | OK |
| Pond Outfall | FSR: 100 years: +0 %: 720 mins: Winter | 6.100 | 3.450 | 4.026 | 0.576 | 33.2 | 3.059 | 0.000 | 33.2 | 2245.499 | Surcharged |
| Manhole (43) | FSR: 100 years: +0 %: 240 mins: Winter | 4.000 | 3.000 | 3.396 | 0.396 | 129.4 | 0.448 | 0.000 | 81.9 | 673.836 | OK |
| 38 | FSR: 100 years: +0 %: 480 mins: Winter | 3.690 | 1.820 | 3.442 | 1.622 | 1097.9 | 1.835 | 0.000 | 1097.5 | 27514.611 | Flood Risk |
| ExMH5 | FSR: 100 years: +0 %: 480 mins: Winter | 4.500 | -4.000 | 3.260 | 7.260 | 1097.5 | 8.211 | 0.000 | 1097.5 | 28216.535 | Surcharged |
| ExMH4a | FSR: 100 years: +0 %: 480 mins: Winter | 4.500 | -4.110 | 3.231 | 7.341 | 1097.5 | 8.302 | 0.000 | 1097.5 | 28118.844 | Surcharged |
| ExMH4 | FSR: 100 years: +0 %: 480 mins: Winter | 4.500 | -4.220 | 3.201 | 7.421 | 1097.5 | 8.394 | 0.000 | 1097.5 | 28054.840 | Surcharged |
| ExMH | FSR: 100 years: +0 %: 480 mins: Winter | 4.500 | -0.667 | 3.148 | 3.815 | 1097.5 | 4.315 | 0.000 | 1097.5 | 28025.164 | Surcharged |
| S | FSR: 100 years: +0 %: 480 mins: Winter | 4.300 | -0.745 | 3.108 | 3.853 | 1097.5 | 0.000 | 0.000 | 1097.5 | 28181.016 | OK |
| Manhole (44) | FSR: 100 years: +0 %: 15 mins: Winter | 4.000 | 2.500 | 3.535 | 1.035 | 103.7 | 1.171 | 0.000 | 102.7 | 46.250 | Surcharged |
| Manhole (45) | FSR: 100 years: +0 %: 30 mins: Winter | 4.000 | -3.175 | 3.145 | 6.320 | 287.7 | 7.148 | 0.000 | 281.7 | 308.758 | Surcharged |
| Manhole | FSR: 100 years: +0 %: 15 mins: Winter | 10.030 | 6.640 | 8.806 | 2.166 | 254.8 | 2.450 | 0.000 | 245.7 | 551.660 | Surcharged |
| Manhole (1) | FSR: 100 years: +0 %: 15 mins: Winter | 10.100 | 6.840 | 9.404 | 2.564 | 261.9 | 2.899 | 0.000 | 254.8 | 552.926 | Surcharged |
| Manhole (2) | FSR: 100 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.586 | 1.386 | 50.1 | 1.567 | 0.000 | 24.9 | 36.949 | Flood Risk |
| Manhole (3) | FSR: 100 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.586 | 1.386 | 50.8 | 1.567 | 0.000 | 25.0 | 36.947 | Flood Risk |
| Manhole (4) | FSR: 100 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.594 | 1.394 | 51.8 | 1.576 | 0.000 | 22.1 | 34.612 | Flood Risk |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manhole (5) | FSR: 100 years: +0 %: 15 mins: Winter | 10.100 | 7.100 | 9.830 | 2.730 | 218.7 | 3.088 | 0.000 | 201.1 | 466.937 | Flood Risk |
| Manhole (6) | FSR: 100 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.594 | 1.394 | 54.0 | 1.577 | 0.000 | 22.2 | 34.610 | Flood Risk |
| Manhole (7) | FSR: 100 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.595 | 1.395 | 39.0 | 1.578 | 0.000 | 21.2 | 34.606 | Flood Risk |
| Manhole (18) | FSR: 100 years: +0 %: 60 mins: Winter | 10.100 | 7.380 | 9.889 | 2.509 | 171.9 | 2.838 | 0.000 | 173.1 | 661.514 | Flood Risk |
| Manhole (19) | FSR: 100 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.596 | 1.396 | 25.6 | 1.579 | 0.000 | 21.5 | 34.598 | Flood Risk |
| Manhole (20) | FSR: 100 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.600 | 1.400 | 25.4 | 1.587 | 0.003 | 20.8 | 35.321 | Flood |
| Manhole (21) | FSR: 100 years: +0 %: 60 mins: Winter | 10.100 | 7.650 | 10.090 | 2.440 | 153.7 | 2.760 | 0.000 | 154.3 | 500.618 | Flood Risk |
| Manhole (22) | FSR: 100 years: +0 %: 15 mins: Winter | 10.600 | 9.200 | 10.600 | 1.400 | 25.5 | 1.585 | 0.001 | 21.1 | 35.053 | Flood |
| Manhole (23) | FSR: 100 years: +0 %: 60 mins: Winter | 10.600 | 9.200 | 10.596 | 1.396 | 22.2 | 1.579 | 0.000 | 21.2 | 61.673 | Flood Risk |
| Manhole (24) | FSR: 100 years: +0 %: 60 mins: Winter | 10.100 | 7.920 | 10.124 | 2.204 | 123.5 | 26.617 | 24.152 | 123.8 | 339.836 | Flood |
| Manhole (25) | FSR: 100 years: +0 %: 60 mins: Winter | 10.600 | 9.200 | 10.597 | 1.397 | 20.0 | 1.581 | 0.000 | 21.2 | 61.682 | Flood Risk |
| Manhole (26) | FSR: 100 years: +0 %: 60 mins: Winter | 10.600 | 9.200 | 10.599 | 1.399 | 20.7 | 1.582 | 0.000 | 22.0 | 62.799 | Flood Risk |
| Manhole (27) | FSR: 100 years: +0 %: 60 mins: Winter | 10.100 | 8.100 | 10.148 | 2.048 | 63.0 | 50.400 | 48.138 | 101.3 | 179.264 | Flood |
| Manhole (28) | FSR: 100 years: +0 %: 60 mins: Winter | 10.600 | 9.200 | 10.599 | 1.399 | 20.7 | 1.582 | 0.000 | 22.0 | 62.812 | Flood Risk |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Outflow**

| Junction | Storm Event | Cover Level (m) | Invert Level (m) | Max. Level (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manhole (9) | FSR: 100 years: +45 %: 15 mins: Winter | 9.600 | 6.000 | 7.202 | 1.202 | 253.8 | 1.360 | 0.000 | 251.7 | 807.359 | Surcharged |
| Manhole (10) | FSR: 100 years: +45 %: 15 mins: Winter | 8.740 | 4.690 | 5.050 | 0.360 | 293.7 | 0.407 | 0.000 | 291.2 | 829.433 | OK |
| Manhole (11) | FSR: 100 years: +45 %: 15 mins: Winter | 8.280 | 4.600 | 4.986 | 0.386 | 342.5 | 0.437 | 0.000 | 338.0 | 896.008 | OK |
| Manhole (12) | FSR: 100 years: +45 %: 15 mins: Winter | 7.980 | 4.510 | 4.905 | 0.395 | 376.9 | 0.447 | 0.000 | 372.0 | 918.139 | OK |
| Manhole (13) | FSR: 100 years: +45 %: 30 mins: Winter | 7.890 | 4.430 | 4.819 | 0.389 | 370.1 | 0.440 | 0.000 | 367.0 | 1242.287 | OK |
| Manhole (14) | FSR: 100 years: +45 %: 15 mins: Winter | 7.850 | 4.290 | 4.714 | 0.424 | 361.6 | 0.480 | 0.000 | 376.7 | 918.095 | OK |
| Manhole (15) | FSR: 100 years: +45 %: 15 mins: Winter | 7.115 | 4.180 | 4.642 | 0.462 | 376.7 | 0.523 | 0.000 | 393.7 | 922.414 | OK |
| Manhole (16) | FSR: 100 years: +45 %: 15 mins: Winter | 7.435 | 4.070 | 4.564 | 0.494 | 393.7 | 0.559 | 0.000 | 440.0 | 957.083 | OK |
| Manhole (17) | FSR: 100 years: +45 %: 30 mins: Winter | 6.245 | 3.865 | 4.503 | 0.638 | 1024.9 | 0.721 | 0.000 | 1013.5 | 1839.501 | OK |
| Manhole (36) | FSR: 100 years: +45 %: 15 mins: Winter | 9.000 | 7.600 | 7.967 | 0.367 | 19.6 | 0.416 | 0.000 | 19.2 | 11.050 | Surcharged |
| Manhole (37) | FSR: 100 years: +45 %: 15 mins: Winter | 9.000 | 7.440 | 7.554 | 0.114 | 42.1 | 0.129 | 0.000 | 42.0 | 22.034 | OK |
| Manhole (38) | FSR: 100 years: +45 %: 60 mins: Winter | 9.000 | 7.600 | 8.838 | 1.238 | 33.2 | 1.400 | 0.000 | 34.2 | 78.343 | Flood Risk |
| Manhole (39) | FSR: 100 years: +45 %: 15 mins: Winter | 9.000 | 7.440 | 8.349 | 0.909 | 69.1 | 1.028 | 0.000 | 52.3 | 66.188 | Surcharged |
| Manhole (40) | FSR: 100 years: +45 %: 15 mins: Winter | 9.000 | 7.600 | 7.966 | 0.366 | 19.6 | 0.414 | 0.000 | 19.2 | 11.051 | Surcharged |
| Manhole (41) | FSR: 100 years: +45 %: 15 mins: Winter | 9.000 | 7.440 | 7.551 | 0.111 | 42.0 | 0.126 | 0.000 | 42.0 | 21.981 | OK |
| Pond Outfall | FSR: 100 years: +45 %: 960 mins: Winter | 6.100 | 3.450 | 4.157 | 0.707 | 37.2 | 3.753 | 0.000 | 37.2 | 3319.693 | Surcharged |
| Manhole (43) | FSR: 100 years: +45 %: 60 mins: Winter | 4.000 | 3.000 | 3.395 | 0.395 | 220.3 | 0.446 | 0.000 | 99.3 | 802.291 | OK |
| 38 | FSR: 100 years: +45 %: 480 mins: Winter | 3.690 | 1.820 | 3.853 | 2.033 | 1662.5 | 284.441 | 282.326 | 1646.5 | 42203.512 | Flood |
| ExMH5 | FSR: 100 years: +45 %: 480 mins: Winter | 4.500 | -4.000 | 3.449 | 7.449 | 1646.5 | 8.424 | 0.000 | 1646.5 | 43261.422 | Surcharged |
| ExMH4a | FSR: 100 years: +45 %: 480 mins: Winter | 4.500 | -4.110 | 3.382 | 7.492 | 1646.5 | 8.474 | 0.000 | 1646.5 | 43164.895 | Surcharged |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ExMH4 | FSR: 100 years: +45 %: 480 mins: Winter | 4.500 | -4.220 | 3.317 | 7.537 | 1646.5 | 8.524 | 0.000 | 1646.5 | 43100.762 | Surcharged |
| ExMH | FSR: 100 years: +45 %: 480 mins: Winter | 4.500 | -0.667 | 3.199 | 3.866 | 1646.5 | 4.372 | 0.000 | 1646.5 | 43070.898 | Surcharged |
| S | FSR: 100 years: +45 %: 600 mins: Winter | 4.300 | -0.745 | 3.108 | 3.853 | 1647.4 | 0.000 | 0.000 | 1647.4 | 46912.879 | OK |
| Manhole (44) | FSR: 100 years: +45 %: 15 mins: Winter | 4.000 | 2.500 | 3.976 | 1.476 | 150.4 | 1.669 | 0.000 | 148.5 | 67.797 | Flood Risk |
| Manhole (45) | FSR: 100 years: +45 %: 30 mins: Winter | 4.000 | -3.175 | 3.452 | 6.627 | 417.2 | 7.495 | 0.000 | 415.6 | 455.514 | Surcharged |
| Manhole | FSR: 100 years: +45 %: 15 mins: Winter | 10.030 | 6.640 | 8.994 | 2.354 | 262.5 | 2.663 | 0.000 | 253.8 | 805.759 | Surcharged |
| Manhole (1) | FSR: 100 years: +45 %: 15 mins: Winter | 10.100 | 6.840 | 9.624 | 2.784 | 277.2 | 3.148 | 0.000 | 262.5 | 806.960 | Surcharged |
| Manhole (2) | FSR: 100 years: +45 %: 15 mins: Winter | 10.600 | 9.200 | 10.599 | 1.399 | 40.7 | 1.582 | 0.000 | 26.0 | 53.674 | Flood Risk |
| Manhole (3) | FSR: 100 years: +45 %: 15 mins: Winter | 10.600 | 9.200 | 10.599 | 1.399 | 41.0 | 1.582 | 0.000 | 26.0 | 53.673 | Flood Risk |
| Manhole (4) | FSR: 100 years: +45 %: 15 mins: Winter | 10.600 | 9.200 | 10.600 | 1.400 | 39.4 | 1.587 | 0.003 | 23.4 | 50.376 | Flood |
| Manhole (5) | FSR: 100 years: +45 %: 15 mins: Winter | 10.100 | 7.100 | 10.011 | 2.911 | 233.4 | 3.293 | 0.000 | 209.7 | 682.186 | Flood Risk |
| Manhole (6) | FSR: 100 years: +45 %: 15 mins: Winter | 10.600 | 9.200 | 10.600 | 1.400 | 40.6 | 1.584 | 0.000 | 23.5 | 50.554 | Flood |
| Manhole (7) | FSR: 100 years: +45 %: 15 mins: Winter | 10.600 | 9.200 | 10.600 | 1.400 | 51.4 | 1.585 | 0.002 | 22.4 | 50.547 | Flood |
| Manhole (18) | FSR: 100 years: +45 %: 120 mins: Winter | 10.100 | 7.380 | 9.932 | 2.552 | 179.7 | 2.887 | 0.000 | 180.3 | 1210.207 | Flood Risk |
| Manhole (19) | FSR: 100 years: +45 %: 15 mins: Winter | 10.600 | 9.200 | 10.597 | 1.397 | 55.3 | 1.580 | 0.000 | 22.6 | 50.336 | Flood Risk |
| Manhole (20) | FSR: 100 years: +45 %: 15 mins: Winter | 10.600 | 9.200 | 10.600 | 1.400 | 26.9 | 1.588 | 0.004 | 19.7 | 51.367 | Flood |
| Manhole (21) | FSR: 100 years: +45 %: 120 mins: Winter | 10.100 | 7.650 | 10.104 | 2.454 | 162.5 | 6.583 | 3.812 | 162.9 | 915.470 | Flood |
| Manhole (22) | FSR: 100 years: +45 %: 15 mins: Winter | 10.600 | 9.200 | 10.600 | 1.400 | 24.6 | 1.586 | 0.003 | 19.8 | 51.520 | Flood |
| Manhole (23) | FSR: 100 years: +45 %: 30 mins: Winter | 10.600 | 9.200 | 10.600 | 1.400 | 20.5 | 1.588 | 0.004 | 21.7 | 71.725 | Flood |
| Manhole (24) | FSR: 100 years: +45 %: 120 mins: Winter | 10.100 | 7.920 | 10.159 | 2.239 | 141.6 | 61.577 | 59.112 | 141.9 | 620.833 | Flood |
| Manhole (25) | FSR: 100 years: +45 %: 15 mins: Winter | 10.600 | 9.200 | 10.600 | 1.400 | 24.6 | 1.589 | 0.006 | 21.5 | 53.414 | Flood |
| Manhole (26) | FSR: 100 years: +45 %: 180 mins: Winter | 10.600 | 9.200 | 10.597 | 1.397 | 21.9 | 1.580 | 0.000 | 23.3 | 130.265 | Flood Risk |
| Manhole (27) | FSR: 100 years: +45 %: 120 mins: Winter | 10.100 | 8.100 | 10.188 | 2.088 | 61.3 | 90.239 | 87.977 | 116.8 | 328.238 | Flood |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manhole (28) | FSR: 100 years: +45 %: 60 mins: Winter | 10.600 | 9.200 | 10.600 | 1.400 | 22.3 | 1.585 | 0.002 | 23.7 | 96.464 | Flood |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by:<br>BOW | Checked by:<br>DD | Approved By:<br>DD |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth**

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase | Company Address: | | |

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pond | FSR: 1 years: +0 %: 720 mins: Winter | 3.871 | 3.871 | 1.071 | 1.071 | 70.0 | 8220.134 | 0.000 | 0.000 | 27.3 | 940.222 | 78.082 | OK |
| Soakaway (20) | FSR: 1 years: +0 %: 15 mins: Winter | 7.875 | 7.875 | 0.025 | 0.025 | 5.3 | 0.221 | 0.000 | 0.000 | 5.2 | 2.455 | 97.469 | OK |
| Soakaway (21) | FSR: 1 years: +0 %: 15 mins: Winter | 7.876 | 7.876 | 0.026 | 0.026 | 5.3 | 0.244 | 0.000 | 0.000 | 5.2 | 2.440 | 97.375 | OK |
| Soakaway (22) | FSR: 1 years: +0 %: 15 mins: Winter | 7.884 | 7.884 | 0.034 | 0.034 | 10.6 | 0.318 | 0.000 | 0.000 | 10.5 | 4.904 | 96.580 | OK |
| Soakaway (23) | FSR: 1 years: +0 %: 15 mins: Winter | 7.923 | 7.923 | 0.073 | 0.073 | 21.2 | 0.687 | 0.000 | 0.000 | 22.3 | 9.788 | 92.724 | OK |
| Soakaway (24) | FSR: 1 years: +0 %: 15 mins: Winter | 7.877 | 7.877 | 0.027 | 0.027 | 5.3 | 0.250 | 0.000 | 0.000 | 5.2 | 2.446 | 97.345 | OK |
| Soakaway (25) | FSR: 1 years: +0 %: 15 mins: Winter | 7.878 | 7.878 | 0.028 | 0.028 | 5.3 | 0.259 | 0.000 | 0.000 | 5.1 | 2.440 | 97.208 | OK |
| Cow Gut Diversion | FSR: 1 years: +0 %: 480 mins: Winter | 3.386 | 3.174 | 0.386 | 0.174 | 339.6 | 57.916 | 0.000 | 0.000 | 339.6 | 8636.320 | 86.635 | OK |
| Soakaway | FSR: 1 years: +0 %: 15 mins: Winter | 9.664 | 9.664 | 0.064 | 0.064 | 25.9 | 1.202 | 0.000 | 0.000 | 25.0 | 11.940 | 93.588 | OK |
| Soakaway (1) | FSR: 1 years: +0 %: 15 mins: Winter | 9.658 | 9.658 | 0.058 | 0.058 | 24.3 | 1.085 | 0.000 | 0.000 | 24.1 | 11.191 | 94.214 | OK |
| Soakaway (2) | FSR: 1 years: +0 %: 15 mins: Winter | 9.666 | 9.666 | 0.066 | 0.066 | 24.3 | 1.233 | 0.000 | 0.000 | 26.2 | 11.191 | 93.421 | OK |
| Soakaway (3) | FSR: 1 years: +0 %: 15 mins: Winter | 9.706 | 9.706 | 0.106 | 0.106 | 24.3 | 1.994 | 0.000 | 0.000 | 23.3 | 11.193 | 89.366 | OK |
| Soakaway (4) | FSR: 1 years: +0 %: 15 mins: Winter | 9.734 | 9.734 | 0.134 | 0.134 | 24.3 | 2.517 | 0.000 | 0.000 | 26.0 | 11.192 | 86.575 | OK |
| Soakaway (5) | FSR: 1 years: +0 %: 15 mins: Winter | 9.746 | 9.746 | 0.146 | 0.146 | 24.6 | 2.740 | 0.000 | 0.000 | 27.9 | 11.363 | 85.384 | OK |
| Soakaway (6) | FSR: 1 years: +0 %: 15 mins: Winter | 9.664 | 9.664 | 0.064 | 0.064 | 25.9 | 1.192 | 0.000 | 0.000 | 25.0 | 11.940 | 93.644 | OK |
| Soakaway (7) | FSR: 1 years: +0 %: 15 mins: Winter | 9.656 | 9.656 | 0.056 | 0.056 | 24.3 | 1.045 | 0.000 | 0.000 | 24.0 | 11.193 | 94.426 | OK |
| Soakaway (8) | FSR: 1 years: +0 %: 15 mins: Winter | 9.663 | 9.663 | 0.063 | 0.063 | 24.3 | 1.180 | 0.000 | 0.000 | 23.3 | 11.190 | 93.705 | OK |
| Soakaway (9) | FSR: 1 years: +0 %: 15 mins: Winter | 9.703 | 9.703 | 0.103 | 0.103 | 24.3 | 1.928 | 0.000 | 0.000 | 22.7 | 11.193 | 89.718 | OK |
| Soakaway (10) | FSR: 1 years: +0 %: 15 mins: Winter | 9.730 | 9.730 | 0.130 | 0.130 | 24.3 | 2.444 | 0.000 | 0.000 | 31.0 | 11.195 | 86.963 | OK |
| Soakaway (11) | FSR: 1 years: +0 %: 15 mins: Winter | 9.743 | 9.743 | 0.143 | 0.143 | 24.6 | 2.680 | 0.000 | 0.000 | 35.4 | 11.365 | 85.708 | OK |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 10 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth**

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pond | FSR: 10 years: +0 %: 720 mins: Winter | 3.930 | 3.930 | 1.130 | 1.130 | 120.7 | 8850.976 | 0.000 | 0.000 | 29.7 | 1681.466 | 76.400 | OK |
| Soakaway (20) | FSR: 10 years: +0 %: 15 mins: Winter | 7.885 | 7.885 | 0.035 | 0.035 | 10.3 | 0.308 | 0.000 | 0.000 | 10.1 | 4.751 | 96.479 | OK |
| Soakaway (21) | FSR: 10 years: +0 %: 15 mins: Winter | 7.889 | 7.889 | 0.039 | 0.039 | 10.2 | 0.360 | 0.000 | 0.000 | 9.9 | 4.723 | 96.123 | OK |
| Soakaway (22) | FSR: 10 years: +0 %: 15 mins: Winter | 7.901 | 7.901 | 0.051 | 0.051 | 20.5 | 0.478 | 0.000 | 0.000 | 20.2 | 9.484 | 94.859 | OK |
| Soakaway (23) | FSR: 10 years: +0 %: 15 mins: Winter | 8.309 | 8.309 | 0.459 | 0.459 | 41.0 | 4.333 | 0.000 | 0.000 | 26.3 | 18.938 | 54.100 | OK |
| Soakaway (24) | FSR: 10 years: +0 %: 15 mins: Winter | 7.887 | 7.887 | 0.037 | 0.037 | 10.2 | 0.346 | 0.000 | 0.000 | 10.1 | 4.735 | 96.328 | OK |
| Soakaway (25) | FSR: 10 years: +0 %: 15 mins: Winter | 7.890 | 7.890 | 0.040 | 0.040 | 10.2 | 0.374 | 0.000 | 0.000 | 9.9 | 4.723 | 95.974 | OK |
| Cow Gut Diversion | FSR: 10 years: +0 %: 480 mins: Winter | 3.476 | 3.248 | 0.476 | 0.248 | 585.2 | 82.172 | 0.000 | 0.000 | 585.2 | 14609.578 | 81.037 | OK |
| Soakaway | FSR: 10 years: +0 %: 15 mins: Winter | 10.019 | 10.019 | 0.419 | 0.419 | 50.0 | 7.866 | 0.000 | 0.000 | 33.9 | 23.094 | 58.049 | OK |
| Soakaway (1) | FSR: 10 years: +0 %: 30 mins: Winter | 10.050 | 10.050 | 0.450 | 0.450 | 36.9 | 8.444 | 0.000 | 0.000 | 24.4 | 28.825 | 54.963 | OK |
| Soakaway (2) | FSR: 10 years: +0 %: 30 mins: Winter | 10.125 | 10.125 | 0.525 | 0.525 | 36.9 | 9.845 | 0.000 | 0.000 | 24.3 | 28.828 | 47.492 | OK |
| Soakaway (3) | FSR: 10 years: +0 %: 30 mins: Winter | 10.263 | 10.263 | 0.663 | 0.663 | 36.9 | 12.426 | 0.000 | 0.000 | 26.8 | 28.831 | 33.730 | OK |
| Soakaway (4) | FSR: 10 years: +0 %: 30 mins: Winter | 10.345 | 10.345 | 0.745 | 0.745 | 36.8 | 13.968 | 0.000 | 0.000 | 27.8 | 28.829 | 25.505 | OK |
| Soakaway (5) | FSR: 10 years: +0 %: 30 mins: Winter | 10.384 | 10.384 | 0.784 | 0.784 | 37.4 | 14.711 | 0.000 | 0.000 | 28.7 | 29.266 | 21.543 | OK |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soakaway (6) | FSR: 10 years: +0 %: 15 mins: Winter | 10.019 | 10.019 | 0.419 | 0.419 | 50.0 | 7.861 | 0.000 | 0.000 | 33.9 | 23.094 | 58.077 | OK |
| Soakaway (7) | FSR: 10 years: +0 %: 30 mins: Winter | 10.049 | 10.049 | 0.449 | 0.449 | 36.9 | 8.423 | 0.000 | 0.000 | 24.4 | 28.828 | 55.076 | OK |
| Soakaway (8) | FSR: 10 years: +0 %: 30 mins: Winter | 10.123 | 10.123 | 0.523 | 0.523 | 36.8 | 9.805 | 0.000 | 0.000 | 24.1 | 28.825 | 47.708 | OK |
| Soakaway (9) | FSR: 10 years: +0 %: 30 mins: Winter | 10.261 | 10.261 | 0.661 | 0.661 | 36.9 | 12.391 | 0.000 | 0.000 | 29.2 | 28.830 | 33.915 | OK |
| Soakaway (10) | FSR: 10 years: +0 %: 30 mins: Winter | 10.344 | 10.344 | 0.744 | 0.744 | 36.9 | 13.944 | 0.000 | 0.000 | 33.0 | 28.835 | 25.634 | OK |
| Soakaway (11) | FSR: 10 years: +0 %: 30 mins: Winter | 10.384 | 10.384 | 0.784 | 0.784 | 37.4 | 14.710 | 0.000 | 0.000 | 20.0 | 29.270 | 21.545 | OK |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth**

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pond | FSR: 100 years: +0 %: 720 mins: Winter | 4.029 | 4.029 | 1.229 | 1.229 | 197.1 | 9924.854 | 0.000 | 0.000 | 33.2 | 2249.715 | 73.537 | OK |
| Soakaway (20) | FSR: 100 years: +0 %: 15 mins: Winter | 7.896 | 7.896 | 0.046 | 0.046 | 16.6 | 0.406 | 0.000 | 0.000 | 16.3 | 7.652 | 95.363 | OK |
| Soakaway (21) | FSR: 100 years: +0 %: 15 mins: Winter | 7.900 | 7.900 | 0.050 | 0.050 | 16.5 | 0.464 | 0.000 | 0.000 | 18.9 | 7.608 | 94.998 | OK |
| Soakaway (22) | FSR: 100 years: +0 %: 15 mins: Winter | 8.045 | 8.045 | 0.195 | 0.195 | 33.1 | 1.812 | 0.000 | 0.000 | 29.1 | 15.278 | 80.510 | OK |
| Soakaway (23) | FSR: 100 years: +0 %: 15 mins: Winter | 8.898 | 8.898 | 1.048 | 1.048 | 66.0 | 11.268 | 1.827 | 0.000 | 31.5 | 30.497 | -19.364 | Flood |
| Soakaway (24) | FSR: 100 years: +0 %: 15 mins: Winter | 7.898 | 7.898 | 0.048 | 0.048 | 16.5 | 0.453 | 0.000 | 0.000 | 16.3 | 7.628 | 95.185 | OK |
| Soakaway (25) | FSR: 100 years: +0 %: 15 mins: Winter | 7.902 | 7.902 | 0.052 | 0.052 | 16.5 | 0.479 | 0.000 | 0.000 | 18.1 | 7.609 | 94.836 | OK |
| Cow Gut Diversion | FSR: 100 years: +0 %: 480 mins: Winter | 3.618 | 3.487 | 0.618 | 0.487 | 1065.4 | 143.818 | 0.000 | 0.000 | 1065.1 | 26287.422 | 66.811 | OK |
| Soakaway | FSR: 100 years: +0 %: 30 mins: Winter | 10.625 | 10.625 | 1.025 | 1.025 | 64.7 | 20.633 | 1.881 | 0.000 | 27.8 | 50.626 | -10.044 | Flood |
| Soakaway (1) | FSR: 100 years: +0 %: 30 mins: Winter | 10.638 | 10.638 | 1.038 | 1.038 | 60.7 | 21.605 | 2.853 | 0.000 | 25.7 | 47.465 | -15.229 | Flood |
| Soakaway (2) | FSR: 100 years: +0 %: 30 mins: Winter | 10.665 | 10.665 | 1.065 | 1.065 | 60.7 | 23.598 | 4.846 | 0.000 | 32.5 | 47.468 | -25.856 | Flood |
| Soakaway (3) | FSR: 100 years: +0 %: 30 mins: Winter | 10.704 | 10.704 | 1.104 | 1.104 | 60.7 | 26.568 | 7.816 | 0.000 | 26.3 | 47.467 | -41.695 | Flood |
| Soakaway (4) | FSR: 100 years: +0 %: 30 mins: Winter | 10.726 | 10.726 | 1.126 | 1.126 | 60.7 | 28.220 | 9.468 | 0.000 | 20.5 | 47.467 | -50.506 | Flood |
| Soakaway (5) | FSR: 100 years: +0 %: 60 mins: Winter | 10.738 | 10.738 | 1.138 | 1.138 | 42.7 | 29.085 | 10.333 | 0.000 | 20.7 | 62.718 | -55.120 | Flood |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soakaway (6) | FSR: 100 years: +0 %: 30 mins: Winter | 10.625 | 10.625 | 1.025 | 1.025 | 64.7 | 20.630 | 1.878 | 0.000 | 27.8 | 50.630 | -10.026 | Flood |
| Soakaway (7) | FSR: 100 years: +0 %: 30 mins: Winter | 10.638 | 10.638 | 1.038 | 1.038 | 60.7 | 21.578 | 2.826 | 0.000 | 25.5 | 47.463 | -15.085 | Flood |
| Soakaway (8) | FSR: 100 years: +0 %: 30 mins: Winter | 10.664 | 10.664 | 1.064 | 1.064 | 60.7 | 23.551 | 4.799 | 0.000 | 35.5 | 47.464 | -25.605 | Flood |
| Soakaway (9) | FSR: 100 years: +0 %: 30 mins: Winter | 10.710 | 10.710 | 1.110 | 1.110 | 60.7 | 27.007 | 8.255 | 0.000 | 20.6 | 47.468 | -44.038 | Flood |
| Soakaway (10) | FSR: 100 years: +0 %: 30 mins: Winter | 10.728 | 10.728 | 1.128 | 1.128 | 60.7 | 28.379 | 9.627 | 0.000 | 20.5 | 47.471 | -51.356 | Flood |
| Soakaway (11) | FSR: 100 years: +0 %: 60 mins: Winter | 10.737 | 10.737 | 1.137 | 1.137 | 42.7 | 29.056 | 10.304 | 0.000 | 20.7 | 62.725 | -54.965 | Flood |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Avg. Depth**

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pond | FSR: 100 years: +45 %: 960 mins: Winter | 4.159 | 4.159 | 1.359 | 1.359 | 230.7 | 11370.967 | 0.000 | 0.000 | 37.2 | 3324.609 | 69.681 | OK |
| Soakaway (20) | FSR: 100 years: +45 %: 15 mins: Winter | 7.908 | 7.908 | 0.058 | 0.058 | 24.0 | 0.509 | 0.000 | 0.000 | 23.7 | 11.092 | 94.183 | OK |
| Soakaway (21) | FSR: 100 years: +45 %: 15 mins: Winter | 7.970 | 7.970 | 0.120 | 0.120 | 23.9 | 1.114 | 0.000 | 0.000 | 19.6 | 11.027 | 88.005 | OK |
| Soakaway (22) | FSR: 100 years: +45 %: 15 mins: Winter | 8.363 | 8.363 | 0.513 | 0.513 | 47.9 | 4.769 | 0.000 | 0.000 | 45.2 | 22.141 | 48.701 | OK |
| Soakaway (23) | FSR: 100 years: +45 %: 30 mins: Winter | 9.258 | 9.258 | 1.408 | 1.408 | 76.9 | 24.857 | 15.416 | 0.000 | 32.4 | 60.173 | -163.324 | Flood |
| Soakaway (24) | FSR: 100 years: +45 %: 15 mins: Winter | 7.910 | 7.910 | 0.060 | 0.060 | 23.9 | 0.566 | 0.000 | 0.000 | 23.6 | 11.055 | 93.989 | OK |
| Soakaway (25) | FSR: 100 years: +45 %: 15 mins: Winter | 7.970 | 7.970 | 0.120 | 0.120 | 23.9 | 1.111 | 0.000 | 0.000 | 19.6 | 11.030 | 88.026 | OK |
| Cow Gut Diversion | FSR: 100 years: +45 %: 480 mins: Winter | 4.151 | 4.108 | 1.151 | 1.108 | 1666.1 | 550.265 | 116.932 | 0.000 | 1645.8 | 40896.762 | -26.984 | Flood |
| Soakaway | FSR: 100 years: +45 %: 30 mins: Winter | 10.874 | 10.874 | 1.274 | 1.274 | 93.9 | 39.321 | 20.569 | 0.000 | 26.0 | 73.405 | -109.713 | Flood |
| Soakaway (1) | FSR: 100 years: +45 %: 30 mins: Winter | 10.885 | 10.885 | 1.285 | 1.285 | 88.0 | 40.145 | 21.393 | 0.000 | 24.2 | 68.815 | -114.108 | Flood |
| Soakaway (2) | FSR: 100 years: +45 %: 60 mins: Winter | 10.948 | 10.948 | 1.348 | 1.348 | 61.0 | 44.873 | 26.121 | 0.000 | 24.0 | 89.583 | -139.321 | Flood |
| Soakaway (3) | FSR: 100 years: +45 %: 60 mins: Winter | 11.012 | 11.012 | 1.412 | 1.412 | 61.0 | 49.692 | 30.940 | 0.000 | 19.3 | 89.587 | -165.023 | Flood |
| Soakaway (4) | FSR: 100 years: +45 %: 60 mins: Winter | 11.035 | 11.035 | 1.435 | 1.435 | 61.0 | 51.394 | 32.642 | 0.000 | 20.3 | 89.572 | -174.100 | Flood |
| Soakaway (5) | FSR: 100 years: +45 %: 60 mins: Winter | 11.044 | 11.044 | 1.444 | 1.444 | 62.0 | 52.025 | 33.273 | 0.000 | 21.2 | 90.927 | -177.469 | Flood |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soakaway (6) | FSR: 100 years: +45 %: 30 mins: Winter | 10.874 | 10.874 | 1.274 | 1.274 | 93.8 | 39.314 | 20.561 | 0.000 | 26.0 | 73.401 | -109.672 | Flood |
| Soakaway (7) | FSR: 100 years: +45 %: 30 mins: Winter | 10.888 | 10.888 | 1.288 | 1.288 | 88.0 | 40.377 | 21.625 | 0.000 | 24.0 | 68.817 | -115.345 | Flood |
| Soakaway (8) | FSR: 100 years: +45 %: 60 mins: Winter | 10.933 | 10.933 | 1.333 | 1.333 | 61.0 | 43.729 | 24.977 | 0.000 | 28.5 | 89.569 | -133.219 | Flood |
| Soakaway (9) | FSR: 100 years: +45 %: 60 mins: Winter | 11.017 | 11.017 | 1.417 | 1.417 | 61.0 | 50.026 | 31.274 | 0.000 | 18.9 | 89.589 | -166.807 | Flood |
| Soakaway (10) | FSR: 100 years: +45 %: 60 mins: Winter | 11.036 | 11.036 | 1.436 | 1.436 | 61.0 | 51.465 | 32.713 | 0.000 | 21.3 | 89.589 | -174.481 | Flood |
| Soakaway (11) | FSR: 100 years: +45 %: 60 mins: Winter | 11.066 | 11.066 | 1.466 | 1.466 | 62.0 | 53.741 | 34.989 | 0.000 | 22.3 | 90.939 | -186.617 | Flood |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow**

| Connection | Storm Event | Connection Type | From | To | Upstream Cover Level (m) | Max. US Water Level (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (9) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (9) | Manhole (10) | 9.600 | 6.732 | 0.375 | 176.545 | 1.9 | 1.3 | 206.7 | Surcharged |
| Pipe (10) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (10) | Manhole (11) | 8.740 | 4.984 | 0.297 | 181.414 | 1.0 | 0.11 | 213.5 | OK |
| Pipe (11) | FSR: 1 years: +0 %: 30 mins: Winter | Pipe | Manhole (11) | Manhole (12) | 8.280 | 4.905 | 0.304 | 261.124 | 1.0 | 0.12 | 228.5 | OK |
| Pipe (12) | FSR: 1 years: +0 %: 30 mins: Winter | Pipe | Manhole (12) | Manhole (13) | 7.980 | 4.814 | 0.300 | 267.629 | 1.1 | 0.12 | 232.7 | OK |
| Pipe (13) | FSR: 1 years: +0 %: 30 mins: Winter | Pipe | Manhole (13) | Manhole (14) | 7.890 | 4.726 | 0.296 | 267.847 | 1.1 | 0.12 | 231.2 | OK |
| Pipe (14) | FSR: 1 years: +0 %: 30 mins: Winter | Pipe | Manhole (14) | Manhole (15) | 7.850 | 4.588 | 0.295 | 267.745 | 1.1 | 0.12 | 228.0 | OK |
| Pipe (15) | FSR: 1 years: +0 %: 30 mins: Winter | Pipe | Manhole (15) | Manhole (16) | 7.115 | 4.473 | 0.286 | 267.827 | 1.1 | 0.12 | 224.7 | OK |
| Pipe (16) | FSR: 1 years: +0 %: 30 mins: Winter | Pipe | Manhole (16) | Manhole (17) | 7.435 | 4.350 | 0.293 | 266.314 | 1.0 | 0.11 | 222.2 | OK |
| Pipe (35) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (36) | Manhole (37) | 9.000 | 7.670 | 0.059 | 2.438 | 0.8 | 0.41 | 5.1 | OK |
| Pipe (36) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (37) | Manhole (10) | 9.000 | 7.487 | 0.150 | 4.873 | 1.8 | 0.22 | 10.4 | OK |
| Pipe (37) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (38) | Manhole (39) | 9.000 | 7.920 | 0.150 | 9.795 | 1.0 | 1.48 | 18.4 | Surcharged |
| Pipe (38) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (39) | Manhole (11) | 9.000 | 7.524 | 0.150 | 14.617 | 2.4 | 0.6 | 28.6 | OK |
| Pipe (39) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (40) | Manhole (41) | 9.000 | 7.670 | 0.059 | 2.439 | 0.8 | 0.41 | 5.1 | OK |
| Pipe (40) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (41) | Manhole (12) | 9.000 | 7.487 | 0.150 | 4.862 | 1.4 | 0.21 | 10.2 | OK |
| Pipe (41) | FSR: 1 years: +0 %: 30 mins: Winter | Pipe | Manhole (17) | Pond | 6.245 | 4.172 | 0.289 | 395.744 | 1.3 | 0.13 | 262.4 | OK |
| Pipe (42) | FSR: 1 years: +0 %: 600 mins: Winter | Pipe | Pond | Pond Outfall | 6.100 | 3.871 | 0.239 | 839.300 | 0.5 | 0.04 | 27.3 | OK |
| Pipe (43) | FSR: 1 years: +0 %: 720 mins: Winter | Pipe | Pond Outfall | Manhole (43) | 6.100 | 3.857 | 0.108 | 939.601 | 0.9 | 0.04 | 27.1 | OK |
| Pipe (66) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (20) | Manhole (37) | 8.850 | 7.875 | 0.036 | 2.455 | 1.2 | 0.02 | 5.2 | OK |
| Pipe (67) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (21) | Manhole (36) | 8.850 | 7.876 | 0.048 | 2.440 | 0.8 | 0.02 | 5.2 | OK |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (68) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (22) | Manhole (39) | 8.850 | 7.884 | 0.059 | 4.904 | 1.2 | 0.04 | 10.5 | OK |
| Pipe (69) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (23) | Manhole (38) | 8.850 | 7.923 | 0.196 | 9.788 | 1.0 | 0.11 | 22.3 | OK |
| Pipe (70) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (24) | Manhole (41) | 8.850 | 7.877 | 0.037 | 2.446 | 1.2 | 0.02 | 5.2 | OK |
| Pipe (71) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (25) | Manhole (40) | 8.850 | 7.878 | 0.049 | 2.440 | 0.8 | 0.03 | 5.1 | OK |
| Pipe (72) | FSR: 1 years: +0 %: 480 mins: Winter | Pipe | 38 | ExMH5 | 3.690 | 3.146 | 0.900 | 8998.982 | 1.3 | 0.05 | 365.5 | Surcharged |
| Pipe (73) | FSR: 1 years: +0 %: 600 mins: Winter | Pipe | ExMH5 | ExMH4a | 4.500 | 3.125 | 1.200 | 10112.114 | 0.8 | 0.1 | 367.8 | Surcharged |
| Pipe (74) | FSR: 1 years: +0 %: 600 mins: Winter | Pipe | ExMH4a | ExMH4 | 4.500 | 3.122 | 1.200 | 10086.643 | 0.5 | 0.1 | 367.8 | Surcharged |
| Pipe (75) | FSR: 1 years: +0 %: 600 mins: Winter | Pipe | ExMH4 | ExMH | 4.500 | 3.119 | 1.200 | 0.000 | 0.3 | 0.43 | 367.8 | Surcharged |
| Pipe (76) | FSR: 1 years: +0 %: 600 mins: Winter | Pipe | ExMH | S | 4.500 | 3.113 | 1.200 | 9993.991 | 0.3 | 0.16 | 367.8 | Surcharged |
| Pipe (77) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (44) | S | 4.000 | 3.159 | 0.300 | 13.699 | 0.5 | 0.12 | 33.0 | Surcharged |
| Pipe (78) | FSR: 1 years: +0 %: 30 mins: Winter | Pipe | Manhole (45) | ExMH5 | 4.000 | 3.117 | 0.525 | 89.687 | 1.1 | 0.21 | 90.2 | Surcharged |
| Trapezoidal Channel | FSR: 1 years: +0 %: 180 mins: Winter | Trapezoidal Channel | Manhole (43) | 38 | 4.000 | 3.134 | 0.724 | 319.412 | 0.0 | 0.01 | 56.2 | OK |
| Pipe (79) | FSR: 1 years: +0 %: 480 mins: Winter | Pipe | Cow Gut Diversion | 38 | 4.000 | 3.317 | 0.750 | 8636.320 | 2.7 | 0.06 | 339.6 | OK |
| Pipe | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (27) | Manhole (24) | 10.100 | 9.515 | 0.300 | 32.613 | 0.9 | 0.73 | 48.4 | Surcharged |
| Pipe (1) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (24) | Manhole (21) | 10.100 | 9.475 | 0.300 | 61.649 | 1.2 | 1.05 | 85.1 | Surcharged |
| Pipe (2) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (21) | Manhole (18) | 10.100 | 9.343 | 0.300 | 90.739 | 1.6 | 1.4 | 113.8 | Surcharged |
| Pipe (3) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (18) | Manhole (5) | 10.100 | 9.030 | 0.375 | 119.836 | 1.3 | 0.91 | 135.4 | Surcharged |
| Pipe (4) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (5) | Manhole (1) | 10.100 | 8.823 | 0.375 | 148.819 | 1.6 | 1.22 | 175.4 | Surcharged |
| Pipe (5) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (1) | Manhole | 10.100 | 8.456 | 0.375 | 176.345 | 2.0 | 1.51 | 218.8 | Surcharged |
| Pipe (7) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (26) | Manhole (27) | 10.600 | 9.744 | 0.150 | 11.231 | 1.0 | 0.96 | 17.9 | Surcharged |
| Pipe (17) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (23) | Manhole (24) | 10.600 | 9.731 | 0.150 | 11.010 | 1.0 | 0.91 | 18.2 | Surcharged |
| Pipe (18) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (20) | Manhole (21) | 10.600 | 9.702 | 0.150 | 10.991 | 1.1 | 0.85 | 18.8 | Surcharged |
| Pipe (19) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (7) | Manhole (18) | 10.600 | 9.660 | 0.150 | 10.997 | 1.1 | 0.81 | 19.4 | Surcharged |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (20) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (4) | Manhole (5) | 10.600 | 9.635 | 0.150 | 10.988 | 1.2 | 0.83 | 21.4 | Surcharged |
| Pipe (21) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (2) | Manhole (1) | 10.600 | 9.520 | 0.150 | 11.736 | 1.4 | 0.88 | 24.1 | Surcharged |
| Pipe (22) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (28) | Manhole (27) | 10.600 | 9.741 | 0.150 | 11.222 | 1.0 | 0.97 | 18.0 | Surcharged |
| Pipe (23) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (25) | Manhole (24) | 10.600 | 9.728 | 0.150 | 11.000 | 1.0 | 0.92 | 18.5 | Surcharged |
| Pipe (24) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (22) | Manhole (21) | 10.600 | 9.701 | 0.150 | 10.986 | 1.1 | 0.86 | 19.0 | Surcharged |
| Pipe (25) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (19) | Manhole (18) | 10.600 | 9.658 | 0.150 | 10.994 | 1.1 | 0.81 | 19.4 | Surcharged |
| Pipe (26) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (6) | Manhole (5) | 10.600 | 9.634 | 0.150 | 10.987 | 1.2 | 0.83 | 21.4 | Surcharged |
| Pipe (27) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole (3) | Manhole (1) | 10.600 | 9.523 | 0.150 | 11.736 | 1.4 | 0.88 | 24.1 | Surcharged |
| Pipe (28) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway | Manhole (2) | 10.600 | 9.664 | 0.183 | 11.940 | 1.7 | 0.12 | 25.0 | OK |
| Pipe (29) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (1) | Manhole (4) | 10.600 | 9.658 | 0.242 | 11.191 | 1.7 | 0.1 | 24.1 | OK |
| Pipe (30) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (2) | Manhole (7) | 10.600 | 9.666 | 0.250 | 11.191 | 1.6 | 0.11 | 26.2 | OK |
| Pipe (31) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (3) | Manhole (20) | 10.600 | 9.706 | 0.250 | 11.193 | 1.5 | 0.11 | 23.3 | OK |
| Pipe (32) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (4) | Manhole (23) | 10.600 | 9.734 | 0.250 | 11.192 | 1.5 | 0.14 | 26.0 | OK |
| Pipe (33) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (5) | Manhole (26) | 10.600 | 9.746 | 0.250 | 11.363 | 1.4 | 0.13 | 27.9 | OK |
| Pipe (34) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (11) | Manhole (28) | 10.600 | 9.743 | 0.250 | 11.365 | 1.8 | 0.1 | 35.4 | OK |
| Pipe (44) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (10) | Manhole (25) | 10.600 | 9.730 | 0.250 | 11.195 | 1.6 | 0.1 | 31.0 | OK |
| Pipe (45) | FSR: 1 years: +0 %: 30 mins: Winter | Pipe | Soakaway (9) | Manhole (22) | 10.600 | 9.678 | 0.250 | 14.902 | 1.5 | 0.07 | 22.8 | OK |
| Pipe (46) | FSR: 1 years: +0 %: 30 mins: Winter | Pipe | Soakaway (8) | Manhole (19) | 10.600 | 9.646 | 0.230 | 14.897 | 1.6 | 0.07 | 24.3 | OK |
| Pipe (47) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (7) | Manhole (6) | 10.600 | 9.656 | 0.241 | 11.193 | 1.7 | 0.08 | 24.0 | OK |
| Pipe (48) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Soakaway (6) | Manhole (3) | 10.600 | 9.664 | 0.184 | 11.940 | 1.7 | 0.12 | 25.0 | OK |
| Pipe (6) | FSR: 1 years: +0 %: 15 mins: Winter | Pipe | Manhole | Manhole (9) | 10.030 | 7.995 | 0.375 | 175.223 | 1.9 | 1.45 | 215.3 | Surcharged |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 10 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow**

| Connection | Storm Event | Connection Type | From | To | Upstream Cover Level (m) | Max. US Water Level (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (9) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (9) | Manhole (10) | 9.600 | 6.969 | 0.375 | 341.767 | 2.1 | 1.44 | 228.5 | Surcharged |
| Pipe (10) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (10) | Manhole (11) | 8.740 | 5.013 | 0.331 | 351.212 | 1.0 | 0.13 | 244.1 | OK |
| Pipe (11) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (11) | Manhole (12) | 8.280 | 4.940 | 0.341 | 379.849 | 1.1 | 0.15 | 280.0 | OK |
| Pipe (12) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (12) | Manhole (13) | 7.980 | 4.855 | 0.340 | 517.827 | 1.1 | 0.15 | 290.6 | OK |
| Pipe (13) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (13) | Manhole (14) | 7.890 | 4.766 | 0.338 | 518.090 | 1.1 | 0.15 | 289.0 | OK |
| Pipe (14) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (14) | Manhole (15) | 7.850 | 4.631 | 0.340 | 517.990 | 1.1 | 0.15 | 286.8 | OK |
| Pipe (15) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (15) | Manhole (16) | 7.115 | 4.520 | 0.334 | 517.931 | 1.1 | 0.15 | 287.7 | OK |
| Pipe (16) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (16) | Manhole (17) | 7.435 | 4.399 | 0.378 | 516.078 | 1.1 | 0.15 | 289.0 | OK |
| Pipe (35) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (36) | Manhole (37) | 9.000 | 7.705 | 0.087 | 4.722 | 0.9 | 0.8 | 10.0 | OK |
| Pipe (36) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (37) | Manhole (10) | 9.000 | 7.508 | 0.150 | 9.413 | 1.9 | 0.42 | 19.9 | OK |
| Pipe (37) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (38) | Manhole (39) | 9.000 | 8.298 | 0.150 | 18.962 | 1.5 | 2.07 | 25.8 | Surcharged |
| Pipe (38) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (39) | Manhole (11) | 9.000 | 7.557 | 0.150 | 28.301 | 2.6 | 0.92 | 44.0 | OK |
| Pipe (39) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (40) | Manhole (41) | 9.000 | 7.705 | 0.086 | 4.722 | 0.9 | 0.8 | 10.0 | OK |
| Pipe (40) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (41) | Manhole (12) | 9.000 | 7.507 | 0.150 | 9.388 | 1.6 | 0.41 | 19.8 | OK |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (41) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (17) | Pond | 6.245 | 4.291 | 0.399 | 765.758 | 1.5 | 0.25 | 486.9 | OK |
| Pipe (42) | FSR: 10 years: +0 %: 180 mins: Winter | Pipe | Pond | Pond Outfall | 6.100 | 3.912 | 0.284 | 637.915 | 0.5 | 0.04 | 31.1 | OK |
| Pipe (43) | FSR: 10 years: +0 %: 720 mins: Winter | Pipe | Pond Outfall | Manhole (43) | 6.100 | 3.924 | 0.141 | 1680.299 | 1.1 | 0.05 | 29.7 | OK |
| Pipe (66) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (20) | Manhole (37) | 8.850 | 7.885 | 0.052 | 4.751 | 1.4 | 0.04 | 10.1 | OK |
| Pipe (67) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (21) | Manhole (36) | 8.850 | 7.889 | 0.072 | 4.723 | 1.0 | 0.05 | 9.9 | OK |
| Pipe (68) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (22) | Manhole (39) | 8.850 | 7.901 | 0.084 | 9.484 | 1.5 | 0.08 | 20.2 | OK |
| Pipe (69) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (23) | Manhole (38) | 8.850 | 8.309 | 0.250 | 18.938 | 1.2 | 0.13 | 26.3 | Surcharged |
| Pipe (70) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (24) | Manhole (41) | 8.850 | 7.887 | 0.052 | 4.735 | 1.4 | 0.05 | 10.1 | OK |
| Pipe (71) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (25) | Manhole (40) | 8.850 | 7.890 | 0.073 | 4.723 | 0.9 | 0.05 | 9.9 | OK |
| Pipe (72) | FSR: 10 years: +0 %: 480 mins: Winter | Pipe | 38 | ExMH5 | 3.690 | 3.214 | 0.900 | 15515.806 | 1.2 | 0.08 | 615.1 | Surcharged |
| Pipe (73) | FSR: 10 years: +0 %: 480 mins: Winter | Pipe | ExMH5 | ExMH4a | 4.500 | 3.157 | 1.200 | 15921.034 | 0.8 | 0.16 | 617.0 | Surcharged |
| Pipe (74) | FSR: 10 years: +0 %: 480 mins: Winter | Pipe | ExMH4a | ExMH4 | 4.500 | 3.147 | 1.200 | 15895.560 | 0.5 | 0.16 | 617.0 | Surcharged |
| Pipe (75) | FSR: 10 years: +0 %: 480 mins: Winter | Pipe | ExMH4 | ExMH | 4.500 | 3.138 | 1.200 | 0.000 | 0.5 | 0.73 | 617.0 | Surcharged |
| Pipe (76) | FSR: 10 years: +0 %: 480 mins: Winter | Pipe | ExMH | S | 4.500 | 3.121 | 1.200 | 15802.913 | 0.5 | 0.27 | 617.0 | Surcharged |
| Pipe (77) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (44) | S | 4.000 | 3.280 | 0.300 | 28.070 | 0.9 | 0.23 | 63.9 | Surcharged |
| Pipe (78) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (45) | ExMH5 | 4.000 | 3.119 | 0.525 | 133.219 | 1.7 | 0.38 | 162.7 | Surcharged |
| Trapezoidal Channel | FSR: 10 years: +0 %: 120 mins: Winter | Trapezoidal Channel | Manhole (43) | 38 | 4.000 | 3.181 | 0.770 | 619.071 | 0.1 | 0.01 | 76.4 | OK |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (79) | FSR: 10 years: +0 %: 480 mins: Winter | Pipe | Cow Gut Diversion | 38 | 4.000 | 3.398 | 0.821 | 14609.578 | 2.8 | 0.1 | 585.2 | OK |
| Pipe | FSR: 10 years: +0 %: 120 mins: Winter | Pipe | Manhole (27) | Manhole (24) | 10.100 | 9.583 | 0.300 | 134.177 | 0.8 | 0.71 | 47.2 | Surcharged |
| Pipe (1) | FSR: 10 years: +0 %: 60 mins: Winter | Pipe | Manhole (24) | Manhole (21) | 10.100 | 9.945 | 0.300 | 203.228 | 1.3 | 1.1 | 89.4 | Flood Risk |
| Pipe (2) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (21) | Manhole (18) | 10.100 | 9.948 | 0.300 | 233.721 | 1.8 | 1.54 | 125.1 | Flood Risk |
| Pipe (3) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (18) | Manhole (5) | 10.100 | 9.632 | 0.375 | 308.812 | 1.4 | 1.04 | 155.6 | Surcharged |
| Pipe (4) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (5) | Manhole (1) | 10.100 | 9.452 | 0.375 | 288.086 | 1.7 | 1.33 | 191.9 | Surcharged |
| Pipe (5) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (1) | Manhole | 10.100 | 9.033 | 0.375 | 341.413 | 2.2 | 1.67 | 242.0 | Surcharged |
| Pipe (7) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (26) | Manhole (27) | 10.600 | 10.382 | 0.150 | 29.253 | 1.1 | 1.07 | 19.9 | Flood Risk |
| Pipe (17) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (23) | Manhole (24) | 10.600 | 10.342 | 0.150 | 28.708 | 1.1 | 1 | 20.0 | Flood Risk |
| Pipe (18) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (20) | Manhole (21) | 10.600 | 10.260 | 0.150 | 28.673 | 1.1 | 0.92 | 20.3 | Surcharged |
| Pipe (19) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (7) | Manhole (18) | 10.600 | 10.101 | 0.150 | 21.412 | 1.2 | 0.85 | 20.4 | Surcharged |
| Pipe (20) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (4) | Manhole (5) | 10.600 | 10.043 | 0.150 | 21.410 | 1.2 | 0.85 | 22.0 | Surcharged |
| Pipe (21) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (2) | Manhole (1) | 10.600 | 10.011 | 0.150 | 22.854 | 1.4 | 0.9 | 24.7 | Surcharged |
| Pipe (22) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (28) | Manhole (27) | 10.600 | 10.383 | 0.150 | 29.264 | 1.1 | 1.07 | 20.0 | Flood Risk |
| Pipe (23) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (25) | Manhole (24) | 10.600 | 10.342 | 0.150 | 28.705 | 1.1 | 1 | 20.1 | Flood Risk |
| Pipe (24) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Manhole (22) | Manhole (21) | 10.600 | 10.259 | 0.150 | 28.671 | 1.1 | 0.92 | 20.3 | Surcharged |
| Pipe (25) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (19) | Manhole (18) | 10.600 | 10.099 | 0.150 | 21.404 | 1.2 | 0.85 | 20.4 | Surcharged |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (26) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (6) | Manhole (5) | 10.600 | 10.042 | 0.150 | 21.408 | 1.2 | 0.85 | 22.0 | Surcharged |
| Pipe (27) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole (3) | Manhole (1) | 10.600 | 10.011 | 0.150 | 22.855 | 1.4 | 0.9 | 24.7 | Surcharged |
| Pipe (28) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Soakaway | Manhole (2) | 10.600 | 10.000 | 0.250 | 30.746 | 1.6 | 0.18 | 35.7 | Surcharged |
| Pipe (29) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (1) | Manhole (4) | 10.600 | 10.047 | 0.250 | 21.656 | 1.7 | 0.13 | 31.5 | Surcharged |
| Pipe (30) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (2) | Manhole (7) | 10.600 | 10.105 | 0.250 | 21.665 | 1.7 | 0.13 | 31.6 | Surcharged |
| Pipe (31) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (3) | Manhole (20) | 10.600 | 10.214 | 0.250 | 21.661 | 1.6 | 0.19 | 38.9 | Surcharged |
| Pipe (32) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (4) | Manhole (23) | 10.600 | 10.289 | 0.250 | 21.660 | 1.5 | 0.19 | 35.8 | Surcharged |
| Pipe (33) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Soakaway (5) | Manhole (26) | 10.600 | 10.384 | 0.250 | 29.266 | 1.5 | 0.13 | 28.7 | Surcharged |
| Pipe (34) | FSR: 10 years: +0 %: 60 mins: Winter | Pipe | Soakaway (11) | Manhole (28) | 10.600 | 10.270 | 0.250 | 37.489 | 1.5 | 0.07 | 25.6 | Surcharged |
| Pipe (44) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Soakaway (10) | Manhole (25) | 10.600 | 10.344 | 0.250 | 28.835 | 1.6 | 0.1 | 33.0 | Surcharged |
| Pipe (45) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Soakaway (9) | Manhole (22) | 10.600 | 10.261 | 0.250 | 28.830 | 1.6 | 0.09 | 29.2 | Surcharged |
| Pipe (46) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (8) | Manhole (19) | 10.600 | 10.102 | 0.250 | 21.654 | 1.9 | 0.1 | 32.6 | Surcharged |
| Pipe (47) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Soakaway (7) | Manhole (6) | 10.600 | 10.046 | 0.250 | 21.659 | 1.8 | 0.11 | 31.2 | Surcharged |
| Pipe (48) | FSR: 10 years: +0 %: 30 mins: Winter | Pipe | Soakaway (6) | Manhole (3) | 10.600 | 10.000 | 0.250 | 30.746 | 1.6 | 0.17 | 35.7 | Surcharged |
| Pipe (6) | FSR: 10 years: +0 %: 15 mins: Winter | Pipe | Manhole | Manhole (9) | 10.030 | 8.490 | 0.375 | 340.192 | 2.1 | 1.6 | 236.4 | Surcharged |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow**

| Connection | Storm Event | Connection Type | From | To | Upstream Cover Level (m) | Max. US Water Level (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (9) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (9) | Manhole (10) | 9.600 | 7.117 | 0.375 | 553.315 | 2.2 | 1.53 | 243.3 | Surcharged |
| Pipe (10) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (10) | Manhole (11) | 8.740 | 5.034 | 0.357 | 568.540 | 1.0 | 0.15 | 271.9 | OK |
| Pipe (11) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (11) | Manhole (12) | 8.280 | 4.969 | 0.371 | 614.543 | 1.1 | 0.17 | 316.0 | OK |
| Pipe (12) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (12) | Manhole (13) | 7.980 | 4.883 | 0.368 | 629.826 | 1.2 | 0.18 | 339.4 | OK |
| Pipe (13) | FSR: 100 years: +0 %: 30 mins: Winter | Pipe | Manhole (13) | Manhole (14) | 7.890 | 4.796 | 0.371 | 858.155 | 1.2 | 0.18 | 335.7 | OK |
| Pipe (14) | FSR: 100 years: +0 %: 30 mins: Winter | Pipe | Manhole (14) | Manhole (15) | 7.850 | 4.666 | 0.380 | 858.040 | 1.1 | 0.18 | 333.1 | OK |
| Pipe (15) | FSR: 100 years: +0 %: 30 mins: Winter | Pipe | Manhole (15) | Manhole (16) | 7.115 | 4.565 | 0.397 | 857.845 | 1.1 | 0.18 | 337.0 | OK |
| Pipe (16) | FSR: 100 years: +0 %: 30 mins: Winter | Pipe | Manhole (16) | Manhole (17) | 7.435 | 4.481 | 0.475 | 855.927 | 1.1 | 0.18 | 361.5 | OK |
| Pipe (35) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (36) | Manhole (37) | 9.000 | 7.834 | 0.150 | 7.613 | 1.0 | 1.28 | 15.9 | Surcharged |
| Pipe (36) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (37) | Manhole (10) | 9.000 | 7.532 | 0.150 | 15.183 | 2.1 | 0.68 | 31.9 | OK |
| Pipe (37) | FSR: 100 years: +0 %: 30 mins: Winter | Pipe | Manhole (38) | Manhole (39) | 9.000 | 8.836 | 0.150 | 41.522 | 1.9 | 2.66 | 33.1 | Flood Risk |
| Pipe (38) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (39) | Manhole (11) | 9.000 | 8.040 | 0.150 | 45.627 | 2.8 | 1.03 | 49.3 | Surcharged |
| Pipe (39) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (40) | Manhole (41) | 9.000 | 7.825 | 0.150 | 7.614 | 1.0 | 1.25 | 15.6 | Surcharged |
| Pipe (40) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (41) | Manhole (12) | 9.000 | 7.529 | 0.150 | 15.144 | 1.8 | 0.65 | 31.5 | OK |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (41) | FSR: 100 years: +0 %: 30 mins: Winter | Pipe | Manhole (17) | Pond | 6.245 | 4.404 | 0.503 | 1265.997 | 1.7 | 0.39 | 754.1 | OK |
| Pipe (42) | FSR: 100 years: +0 %: 720 mins: Winter | Pipe | Pond | Pond Outfall | 6.100 | 4.029 | 0.403 | 2249.715 | 0.5 | 0.05 | 33.2 | OK |
| Pipe (43) | FSR: 100 years: +0 %: 720 mins: Winter | Pipe | Pond Outfall | Manhole (43) | 6.100 | 4.026 | 0.250 | 2245.046 | 1.2 | 0.05 | 33.2 | Surcharged |
| Pipe (66) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (20) | Manhole (37) | 8.850 | 7.896 | 0.069 | 7.652 | 1.5 | 0.07 | 16.3 | OK |
| Pipe (67) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (21) | Manhole (36) | 8.850 | 7.900 | 0.138 | 7.608 | 1.0 | 0.09 | 18.9 | OK |
| Pipe (68) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (22) | Manhole (39) | 8.850 | 8.045 | 0.250 | 15.278 | 1.6 | 0.11 | 29.1 | OK |
| Pipe (69) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (23) | Manhole (38) | 8.850 | 8.898 | 0.250 | 30.497 | 1.3 | 0.15 | 31.5 | Flood |
| Pipe (70) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (24) | Manhole (41) | 8.850 | 7.898 | 0.068 | 7.628 | 1.5 | 0.08 | 16.3 | OK |
| Pipe (71) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (25) | Manhole (40) | 8.850 | 7.902 | 0.135 | 7.609 | 1.0 | 0.09 | 18.1 | OK |
| Pipe (72) | FSR: 100 years: +0 %: 480 mins: Winter | Pipe | 38 | ExMH5 | 3.690 | 3.442 | 0.900 | 27426.355 | 1.7 | 0.14 | 1097.5 | Flood Risk |
| Pipe (73) | FSR: 100 years: +0 %: 480 mins: Winter | Pipe | ExMH5 | ExMH4a | 4.500 | 3.260 | 1.200 | 28142.934 | 1.0 | 0.29 | 1097.5 | Surcharged |
| Pipe (74) | FSR: 100 years: +0 %: 480 mins: Winter | Pipe | ExMH4a | ExMH4 | 4.500 | 3.231 | 1.200 | 28117.457 | 1.0 | 0.28 | 1097.5 | Surcharged |
| Pipe (75) | FSR: 100 years: +0 %: 480 mins: Winter | Pipe | ExMH4 | ExMH | 4.500 | 3.201 | 1.200 | 0.000 | 1.0 | 1.29 | 1097.5 | Surcharged |
| Pipe (76) | FSR: 100 years: +0 %: 480 mins: Winter | Pipe | ExMH | S | 4.500 | 3.148 | 1.200 | 28024.813 | 1.0 | 0.49 | 1097.5 | Surcharged |
| Pipe (77) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (44) | S | 4.000 | 3.535 | 0.300 | 46.250 | 1.5 | 0.37 | 102.7 | Surcharged |
| Pipe (78) | FSR: 100 years: +0 %: 30 mins: Winter | Pipe | Manhole (45) | ExMH5 | 4.000 | 3.145 | 0.525 | 308.629 | 1.3 | 0.65 | 281.7 | Surcharged |
| Trapezoidal Channel | FSR: 100 years: +0 %: 240 mins: Winter | Trapezoidal Channel | Manhole (43) | 38 | 4.000 | 3.396 | 0.986 | 661.420 | 0.1 | 0.01 | 81.9 | OK |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (79) | FSR: 100 years: +0 %: 480 mins: Winter | Pipe | Cow Gut Diversion | 38 | 4.000 | 3.562 | 0.900 | 26287.422 | 3.0 | 0.19 | 1065.1 | OK |
| Pipe | FSR: 100 years: +0 %: 60 mins: Winter | Pipe | Manhole (27) | Manhole (24) | 10.100 | 10.148 | 0.300 | 179.264 | 1.4 | 1.53 | 101.3 | Flood |
| Pipe (1) | FSR: 100 years: +0 %: 60 mins: Winter | Pipe | Manhole (24) | Manhole (21) | 10.100 | 10.124 | 0.300 | 339.836 | 1.8 | 1.52 | 123.8 | Flood |
| Pipe (2) | FSR: 100 years: +0 %: 60 mins: Winter | Pipe | Manhole (21) | Manhole (18) | 10.100 | 10.090 | 0.300 | 500.618 | 2.2 | 1.89 | 154.3 | Flood Risk |
| Pipe (3) | FSR: 100 years: +0 %: 60 mins: Winter | Pipe | Manhole (18) | Manhole (5) | 10.100 | 9.889 | 0.375 | 661.514 | 1.6 | 1.16 | 173.1 | Flood Risk |
| Pipe (4) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (5) | Manhole (1) | 10.100 | 9.830 | 0.375 | 466.937 | 1.8 | 1.4 | 201.1 | Flood Risk |
| Pipe (5) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (1) | Manhole | 10.100 | 9.404 | 0.375 | 552.926 | 2.3 | 1.76 | 254.8 | Surcharged |
| Pipe (7) | FSR: 100 years: +0 %: 60 mins: Winter | Pipe | Manhole (26) | Manhole (27) | 10.600 | 10.599 | 0.150 | 62.799 | 1.2 | 1.18 | 22.0 | Flood Risk |
| Pipe (17) | FSR: 100 years: +0 %: 60 mins: Winter | Pipe | Manhole (23) | Manhole (24) | 10.600 | 10.596 | 0.150 | 61.673 | 1.2 | 1.06 | 21.2 | Flood Risk |
| Pipe (18) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (20) | Manhole (21) | 10.600 | 10.600 | 0.150 | 35.223 | 1.2 | 0.94 | 20.8 | Flood |
| Pipe (19) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (7) | Manhole (18) | 10.600 | 10.595 | 0.150 | 34.606 | 1.2 | 0.88 | 21.2 | Flood Risk |
| Pipe (20) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (4) | Manhole (5) | 10.600 | 10.594 | 0.150 | 34.612 | 1.2 | 0.85 | 22.1 | Flood Risk |
| Pipe (21) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (2) | Manhole (1) | 10.600 | 10.586 | 0.150 | 36.949 | 1.4 | 0.91 | 24.9 | Flood Risk |
| Pipe (22) | FSR: 100 years: +0 %: 60 mins: Winter | Pipe | Manhole (28) | Manhole (27) | 10.600 | 10.599 | 0.150 | 62.812 | 1.2 | 1.18 | 22.0 | Flood Risk |
| Pipe (23) | FSR: 100 years: +0 %: 60 mins: Winter | Pipe | Manhole (25) | Manhole (24) | 10.600 | 10.597 | 0.150 | 61.682 | 1.2 | 1.06 | 21.2 | Flood Risk |
| Pipe (24) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (22) | Manhole (21) | 10.600 | 10.600 | 0.150 | 34.939 | 1.2 | 0.95 | 21.1 | Flood |
| Pipe (25) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (19) | Manhole (18) | 10.600 | 10.596 | 0.150 | 34.598 | 1.2 | 0.89 | 21.5 | Flood Risk |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (26) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (6) | Manhole (5) | 10.600 | 10.594 | 0.150 | 34.610 | 1.3 | 0.86 | 22.2 | Flood Risk |
| Pipe (27) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole (3) | Manhole (1) | 10.600 | 10.586 | 0.150 | 36.947 | 1.4 | 0.91 | 25.0 | Flood Risk |
| Pipe (28) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway | Manhole (2) | 10.600 | 10.596 | 0.250 | 37.207 | 1.8 | 0.25 | 50.1 | Surcharged |
| Pipe (29) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (1) | Manhole (4) | 10.600 | 10.604 | 0.250 | 34.879 | 1.8 | 0.21 | 51.8 | Flood |
| Pipe (30) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (2) | Manhole (7) | 10.600 | 10.622 | 0.250 | 34.891 | 1.8 | 0.16 | 39.0 | Flood |
| Pipe (31) | FSR: 100 years: +0 %: 30 mins: Winter | Pipe | Soakaway (3) | Manhole (20) | 10.600 | 10.704 | 0.250 | 47.467 | 1.5 | 0.13 | 26.3 | Flood |
| Pipe (32) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (4) | Manhole (23) | 10.600 | 10.665 | 0.250 | 34.882 | 1.7 | 0.13 | 25.3 | Flood |
| Pipe (33) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (5) | Manhole (26) | 10.600 | 10.670 | 0.250 | 35.412 | 1.7 | 0.12 | 25.7 | Flood |
| Pipe (34) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (11) | Manhole (28) | 10.600 | 10.674 | 0.250 | 35.416 | 2.2 | 0.07 | 25.6 | Flood |
| Pipe (44) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (10) | Manhole (25) | 10.600 | 10.665 | 0.250 | 34.889 | 2.0 | 0.08 | 25.4 | Flood |
| Pipe (45) | FSR: 100 years: +0 %: 60 mins: Winter | Pipe | Soakaway (9) | Manhole (22) | 10.600 | 10.699 | 0.250 | 61.789 | 1.6 | 0.09 | 27.2 | Flood |
| Pipe (46) | FSR: 100 years: +0 %: 30 mins: Winter | Pipe | Soakaway (8) | Manhole (19) | 10.600 | 10.664 | 0.250 | 47.464 | 1.9 | 0.11 | 35.5 | Flood |
| Pipe (47) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (7) | Manhole (6) | 10.600 | 10.604 | 0.250 | 34.881 | 1.9 | 0.19 | 54.0 | Flood |
| Pipe (48) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Soakaway (6) | Manhole (3) | 10.600 | 10.596 | 0.250 | 37.207 | 1.8 | 0.25 | 50.8 | Surcharged |
| Pipe (6) | FSR: 100 years: +0 %: 15 mins: Winter | Pipe | Manhole | Manhole (9) | 10.030 | 8.806 | 0.375 | 551.660 | 2.2 | 1.66 | 245.7 | Surcharged |

| Project Wind: | Date: | | |
|---|---|---|---|
| Phase 1<br>Enabling Works | 16/04/2025 | | |
| | Designed by: | Checked by: | Approved By: |
| | BOW | DD | DD |
| Report Details:<br>Type: Connections Summary<br>Storm Phase: Phase | Company Address: | | |

**FSR: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow**

| Connection | Storm Event | Connection Type | From | To | Upstream Cover Level (m) | Max. US Water Level (m) | Max. Flow Depth (m) | Discharge Volume (m³) | Max. Velocity (m/s) | Flow / Capacity | Max. Flow (L/s) | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (9) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (9) | Manhole (10) | 9.600 | 7.202 | 0.375 | 807.359 | 2.3 | 1.59 | 251.7 | Surcharged |
| Pipe (10) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (10) | Manhole (11) | 8.740 | 5.050 | 0.373 | 829.433 | 1.1 | 0.16 | 291.2 | OK |
| Pipe (11) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (11) | Manhole (12) | 8.280 | 4.986 | 0.390 | 896.008 | 1.1 | 0.18 | 338.0 | OK |
| Pipe (12) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (12) | Manhole (13) | 7.980 | 4.905 | 0.392 | 918.139 | 1.3 | 0.2 | 372.0 | OK |
| Pipe (13) | FSR: 100 years: +45 %: 30 mins: Winter | Pipe | Manhole (13) | Manhole (14) | 7.890 | 4.819 | 0.401 | 1242.287 | 1.2 | 0.19 | 367.0 | OK |
| Pipe (14) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (14) | Manhole (15) | 7.850 | 4.714 | 0.438 | 918.095 | 1.1 | 0.2 | 376.7 | OK |
| Pipe (15) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (15) | Manhole (16) | 7.115 | 4.642 | 0.476 | 916.910 | 1.1 | 0.21 | 393.7 | OK |
| Pipe (16) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (16) | Manhole (17) | 7.435 | 4.564 | 0.546 | 915.436 | 1.2 | 0.22 | 440.0 | OK |
| Pipe (35) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (36) | Manhole (37) | 9.000 | 7.967 | 0.150 | 11.050 | 1.1 | 1.54 | 19.2 | Surcharged |
| Pipe (36) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (37) | Manhole (10) | 9.000 | 7.554 | 0.150 | 22.034 | 2.4 | 0.9 | 42.0 | OK |
| Pipe (37) | FSR: 100 years: +45 %: 60 mins: Winter | Pipe | Manhole (38) | Manhole (39) | 9.000 | 8.838 | 0.150 | 78.343 | 1.9 | 2.75 | 34.2 | Flood Risk |
| Pipe (38) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (39) | Manhole (11) | 9.000 | 8.349 | 0.150 | 66.188 | 3.0 | 1.1 | 52.3 | Surcharged |
| Pipe (39) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (40) | Manhole (41) | 9.000 | 7.966 | 0.150 | 11.051 | 1.1 | 1.54 | 19.2 | Surcharged |
| Pipe (40) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (41) | Manhole (12) | 9.000 | 7.551 | 0.150 | 21.981 | 2.4 | 0.87 | 42.0 | OK |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (41) | FSR: 100 years: +45 %: 30 mins: Winter | Pipe | Manhole (17) | Pond | 6.245 | 4.503 | 0.591 | 1832.958 | 1.8 | 0.52 | 1013.5 | OK |
| Pipe (42) | FSR: 100 years: +45 %: 960 mins: Winter | Pipe | Pond | Pond Outfall | 6.100 | 4.159 | 0.525 | 3324.609 | 0.5 | 0.05 | 37.2 | OK |
| Pipe (43) | FSR: 100 years: +45 %: 960 mins: Winter | Pipe | Pond Outfall | Manhole (43) | 6.100 | 4.157 | 0.525 | 3319.215 | 1.3 | 0.06 | 37.3 | Surcharged |
| Pipe (66) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (20) | Manhole (37) | 8.850 | 7.908 | 0.086 | 11.092 | 1.6 | 0.1 | 23.7 | OK |
| Pipe (67) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (21) | Manhole (36) | 8.850 | 7.970 | 0.244 | 11.027 | 1.1 | 0.09 | 19.6 | OK |
| Pipe (68) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (22) | Manhole (39) | 8.850 | 8.363 | 0.250 | 22.141 | 1.6 | 0.18 | 45.2 | Surcharged |
| Pipe (69) | FSR: 100 years: +45 %: 60 mins: Winter | Pipe | Soakaway (23) | Manhole (38) | 8.850 | 9.093 | 0.250 | 78.322 | 1.1 | 0.16 | 33.2 | Flood |
| Pipe (70) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (24) | Manhole (41) | 8.850 | 7.910 | 0.085 | 11.055 | 1.6 | 0.11 | 23.6 | OK |
| Pipe (71) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (25) | Manhole (40) | 8.850 | 7.970 | 0.243 | 11.030 | 1.0 | 0.1 | 19.6 | OK |
| Pipe (72) | FSR: 100 years: +45 %: 480 mins: Winter | Pipe | 38 | ExMH5 | 3.690 | 3.853 | 0.900 | 42116.879 | 2.6 | 0.22 | 1646.5 | Flood |
| Pipe (73) | FSR: 100 years: +45 %: 480 mins: Winter | Pipe | ExMH5 | ExMH4a | 4.500 | 3.449 | 1.200 | 43188.559 | 1.5 | 0.44 | 1646.5 | Surcharged |
| Pipe (74) | FSR: 100 years: +45 %: 480 mins: Winter | Pipe | ExMH4a | ExMH4 | 4.500 | 3.382 | 1.200 | 43163.082 | 1.5 | 0.43 | 1646.5 | Surcharged |
| Pipe (75) | FSR: 100 years: +45 %: 480 mins: Winter | Pipe | ExMH4 | ExMH | 4.500 | 3.317 | 1.200 | 0.000 | 1.5 | 1.94 | 1646.5 | Surcharged |
| Pipe (76) | FSR: 100 years: +45 %: 480 mins: Winter | Pipe | ExMH | S | 4.500 | 3.199 | 1.200 | 43070.438 | 1.5 | 0.73 | 1646.5 | Surcharged |
| Pipe (77) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (44) | S | 4.000 | 3.976 | 0.300 | 67.797 | 2.1 | 0.53 | 148.5 | Flood Risk |
| Pipe (78) | FSR: 100 years: +45 %: 30 mins: Winter | Pipe | Manhole (45) | ExMH5 | 4.000 | 3.452 | 0.525 | 455.342 | 1.9 | 0.97 | 415.6 | Surcharged |
| Trapezoidal Channel | FSR: 100 years: +45 %: 60 mins: Winter | Trapezoidal Channel | Manhole (43) | 38 | 4.000 | 3.395 | 0.985 | 779.980 | 0.0 | 0.02 | 99.3 | OK |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (79) | FSR: 100 years: +45 %: 480 mins: Winter | Pipe | Cow Gut Diversion | 38 | 4.000 | 4.130 | 0.900 | 40896.762 | 3.1 | 0.29 | 1645.8 | Flood |
| Pipe | FSR: 100 years: +45 %: 120 mins: Winter | Pipe | Manhole (27) | Manhole (24) | 10.100 | 10.188 | 0.300 | 328.238 | 1.7 | 1.76 | 116.8 | Flood |
| Pipe (1) | FSR: 100 years: +45 %: 120 mins: Winter | Pipe | Manhole (24) | Manhole (21) | 10.100 | 10.159 | 0.300 | 620.833 | 2.0 | 1.74 | 141.9 | Flood |
| Pipe (2) | FSR: 100 years: +45 %: 120 mins: Winter | Pipe | Manhole (21) | Manhole (18) | 10.100 | 10.104 | 0.300 | 915.470 | 2.3 | 2 | 162.9 | Flood |
| Pipe (3) | FSR: 100 years: +45 %: 120 mins: Winter | Pipe | Manhole (18) | Manhole (5) | 10.100 | 9.932 | 0.375 | 1210.207 | 1.6 | 1.21 | 180.3 | Flood Risk |
| Pipe (4) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (5) | Manhole (1) | 10.100 | 10.011 | 0.375 | 682.186 | 1.9 | 1.46 | 209.7 | Flood Risk |
| Pipe (5) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (1) | Manhole | 10.100 | 9.624 | 0.375 | 806.960 | 2.4 | 1.81 | 262.5 | Surcharged |
| Pipe (7) | FSR: 100 years: +45 %: 180 mins: Winter | Pipe | Manhole (26) | Manhole (27) | 10.600 | 10.597 | 0.150 | 130.265 | 1.3 | 1.25 | 23.3 | Flood Risk |
| Pipe (17) | FSR: 100 years: +45 %: 30 mins: Winter | Pipe | Manhole (23) | Manhole (24) | 10.600 | 10.600 | 0.150 | 71.456 | 1.2 | 1.08 | 21.7 | Flood |
| Pipe (18) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (20) | Manhole (21) | 10.600 | 10.600 | 0.150 | 51.198 | 1.1 | 0.89 | 19.7 | Flood |
| Pipe (19) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (7) | Manhole (18) | 10.600 | 10.600 | 0.150 | 50.547 | 1.3 | 0.93 | 22.4 | Flood |
| Pipe (20) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (4) | Manhole (5) | 10.600 | 10.600 | 0.150 | 50.376 | 1.3 | 0.91 | 23.4 | Flood |
| Pipe (21) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (2) | Manhole (1) | 10.600 | 10.599 | 0.150 | 53.674 | 1.5 | 0.95 | 26.0 | Flood Risk |
| Pipe (22) | FSR: 100 years: +45 %: 60 mins: Winter | Pipe | Manhole (28) | Manhole (27) | 10.600 | 10.600 | 0.150 | 96.464 | 1.3 | 1.27 | 23.7 | Flood |
| Pipe (23) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (25) | Manhole (24) | 10.600 | 10.600 | 0.150 | 52.979 | 1.2 | 1.07 | 21.5 | Flood |
| Pipe (24) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (22) | Manhole (21) | 10.600 | 10.600 | 0.150 | 51.338 | 1.1 | 0.89 | 19.8 | Flood |
| Pipe (25) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (19) | Manhole (18) | 10.600 | 10.597 | 0.150 | 50.336 | 1.3 | 0.94 | 22.6 | Flood Risk |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe (26) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (6) | Manhole (5) | 10.600 | 10.600 | 0.150 | 50.554 | 1.3 | 0.91 | 23.5 | Flood |
| Pipe (27) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole (3) | Manhole (1) | 10.600 | 10.599 | 0.150 | 53.673 | 1.5 | 0.95 | 26.0 | Flood Risk |
| Pipe (28) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway | Manhole (2) | 10.600 | 10.800 | 0.250 | 53.928 | 1.8 | 0.2 | 40.7 | Flood |
| Pipe (29) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (1) | Manhole (4) | 10.600 | 10.799 | 0.250 | 50.549 | 1.9 | 0.16 | 39.4 | Flood |
| Pipe (30) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (2) | Manhole (7) | 10.600 | 10.822 | 0.250 | 50.568 | 1.9 | 0.22 | 51.4 | Flood |
| Pipe (31) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (3) | Manhole (20) | 10.600 | 10.849 | 0.250 | 50.564 | 1.8 | 0.13 | 26.9 | Flood |
| Pipe (32) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (4) | Manhole (23) | 10.600 | 10.857 | 0.250 | 50.560 | 1.7 | 0.13 | 24.4 | Flood |
| Pipe (33) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (5) | Manhole (26) | 10.600 | 10.869 | 0.250 | 51.314 | 1.8 | 0.11 | 24.9 | Flood |
| Pipe (34) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (11) | Manhole (28) | 10.600 | 10.872 | 0.250 | 51.328 | 2.3 | 0.07 | 24.9 | Flood |
| Pipe (44) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (10) | Manhole (25) | 10.600 | 10.858 | 0.250 | 50.556 | 2.2 | 0.08 | 24.6 | Flood |
| Pipe (45) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (9) | Manhole (22) | 10.600 | 10.850 | 0.250 | 50.570 | 2.2 | 0.08 | 24.6 | Flood |
| Pipe (46) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (8) | Manhole (19) | 10.600 | 10.818 | 0.250 | 50.560 | 2.2 | 0.16 | 55.3 | Flood |
| Pipe (47) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (7) | Manhole (6) | 10.600 | 10.801 | 0.250 | 50.553 | 2.1 | 0.14 | 40.6 | Flood |
| Pipe (48) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Soakaway (6) | Manhole (3) | 10.600 | 10.800 | 0.250 | 53.926 | 1.8 | 0.2 | 41.0 | Flood |
| Pipe (6) | FSR: 100 years: +45 %: 15 mins: Winter | Pipe | Manhole | Manhole (9) | 10.030 | 8.994 | 0.375 | 805.759 | 2.3 | 1.71 | 253.8 | Surcharged |

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