Sharston Industrial Estate: Drainage Strategy

333701647-STN-XX-XX-RP-D-0001 P04 Drainage Strategy

Prepared for:
Kier Sharston Limited

Date:
25 March 2026

Prepared by:
Natasha Mehmood

Project/File:
Trade City Sharston



Stantec UK Limited

Revision Schedule

Revision	Description	Author	Date	Quality Check	Date	Independent Review	Date
P01	Planning Issue	NM	31.07.25	JK	31.07.25	NB	31.07.25
P02	Planning Issue	NM	07.08.25	JK	07.08.25	NB	07.08.25
P03	Planning Issue	NM	25.11.25	JK	25.11.25	NB	25.11.25
P04	Planning Issue	JK	25.03.26	NM	25.03.26	VC	25.03.26

Disclaimer

The conclusions in the Report titled Sharston Industrial Estate Drainage Strategy are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Kier Sharston Limited (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by: _____

Signature

NATASHA MEHMOOD

Printed Name

Reviewed by: _____

Signature

JAY KARA

Printed Name

Approved by: _____

Signature

NEIL BYRNE

Printed Name

Table of Contents

Executive Summary ..... **ii**
1 Chapter 1 ..... **3**
1.1 Introduction 3

2 Development Description and Location **4**
2.1 Site Location 4

3 Drainage Strategy **6**
3.1 Existing Site Drainage 6
3.2 Infiltration 7
3.3 Sustainable Drainage Systems (SuDS) 7
3.4 Prevention and Source Control – Principles and Objectives 8
3.5 Surface Water Drainage Strategy 14
3.6 Water Quality 16
3.7 Foul Drainage Strategy 18
3.8 Management, Maintenance and Residual Risk 18

List of Tables

Table 1 - Site Referencing Information 4
Table 2 - SuDS Consideration 9
Table 3 - CIRCA C753 Table 26.2 16
Table 4 - CIRIA C753 table 26.3 17
Table 5 - Below ground drainage (pipe works, manholes, catchpits etc.) 19
Table 6 - Flow Control Chamber 20
Table 7 - Permeable pavements 21
Table 8 - Below Ground Attenuation Tank 22

List of Figures

Figure 1 - Site Location 5
Figure 2 – Extract from United Utilites Sewer Records 6
Figure 3 – Climate Change Allowance 15
Figure 4 - Total SuDS mitigation index 18

List of Appendices

Appendix A – Site Plan
Appendix B – Topographical Survey
Appendix C – GPR Survey
Appendix D – Existing Drainage Layout
Appendix E – United Utilites Sewer Records
Appendix F – HR Wallingford Greenfield Rate Calculation
Appendix G – United Utilites Correspondence
Appendix H – Proposed Drainage Plan
Appendix I – Hydraulic Calculations
Appendix J – Overland Flow Plan

Executive Summary

The Site comprises land and buildings on Sharston Road, within Sharston Industrial Estate, outlined in red on the submitted Site Location Plan. It measures approximately 1.6ha and is predominantly flat and broadly rectangular in shape.

The Site was until recently occupied by Electrium Sales Ltd (a subsidiary of Siemens) and comprises a collection of industrial buildings developed over time for the purposes of manufacturing and distribution (Class B2/ B8). Buildings occupy almost the entirety of the Site, with limited areas of parking and landscaping provided to the northern, western and southern borders. Access to the Site is made from two principal access points from Sharston Road and Harper Road.

The Site is bound by Harper Road, to the south, Sharston Road to the west, Longley Lane to the north and existing industrial buildings to the east. To the south, east and west of the Site are predominantly commercial uses within Sharston Industrial Estate. To the north, across Longley Lane, lies residential uses, a nursery, medical centre and primary school.

The proposed foul and surface water drainage networks will combine on site to form a single combined system. This combined drain will discharge via a single point of connection into the existing 750mm combined sewer within Sharston Road, which is operated by United Utilities. An agreement in principle for this connection has been provided by United Utilities, with surface water discharge restricted to 3.6 l/s, equivalent to the calculated greenfield runoff rate. Formal agreement will be secured through submission of a Section 106 application.

All drainage elements will be regularly maintained by a nominated management company on behalf of the client/occupier.

1 Chapter 1

1.1 Introduction

This report has been prepared by Stantec on behalf of Kier Sharston Limited to support the planning application. The proposed development seeks full planning permission for the development of industrial and logistic units. The proposed development site plan is included in Appendix A.

The site measures approximately 1.6ha and is predominantly flat and broadly rectangular in shape. The site was occupied by Electrium Sales Ltd (a subsidiary of Siemens) and comprises a collection of industrial buildings developed over time for the purpose of manufacturing and distribution (Class B2/B8).

This document sets out the proposed strategy for surface water and foul drainage for the development.

2 Development Description and Location

2.1 Site Location

The site is referenced in Table 1, and a location plan is provided in Figure 1.

Table 1 - Site Referencing Information

Site Referencing Information	
Site Name	Sharston Industrial Estate
Site Address & Location	Former Electrium Sales Ltd SAITE, 1934 Sharston Road, Wythenshawe
Local Planning Authority	Manchester City Council
Approximate Grid Reference	E 383253 N 389328
Site Area	1.6 hectares
Topography	The site is generally level with no significant slopes. See Appendix B for full topographical survey.
Description of development	Erection of two storey warehouse units (Use Class B2/B8), including ancillary office and trade counters, with all associated works including landscaping, car parking and alterations to access arrangements.
Proposed use	Nine industrial warehouse units (Class B2/B8) including provision for ancillary offices
Boundaries and Surrounding Land	The site is bound by Harper Road, to the south, Sharston Road to the west, Longley Lane to the north and existing industrial buildings to the east. To the south, east and west of the site are predominantly commercial uses within Sharston Industrial Estate. To the north, across Longley Lane, lies residential uses, a nursery, medical centre and primary school.



Figure 1 - Site Location

.

3 Drainage Strategy

3.1 Existing Site Drainage

The total site area is 1.6 hectares, which will all be developed area. The site was previously occupied by Electrium Sales Ltd (a subsidiary of Siemens) and comprises a collection of industrial buildings developed over time for the purpose of manufacturing and distribution (Class B2/B8) therefore the existing site is considered as brownfield.

The GPR survey (Appendix C) and the Existing Drainage layout drawing (Appendix D), shows the arrangement of the existing drainage network.

Review of United Utilities sewer records (refer to Figure 2 below) indicates the presence of a 750 mm diameter combined sewer within Sharston Road and a 900 mm diameter combined sewer within Longley Lane. The sewer records also identify a 600 mm diameter culverted watercourse within Sharston Road. The full United Utilites sewer records can be found in Appendix E.

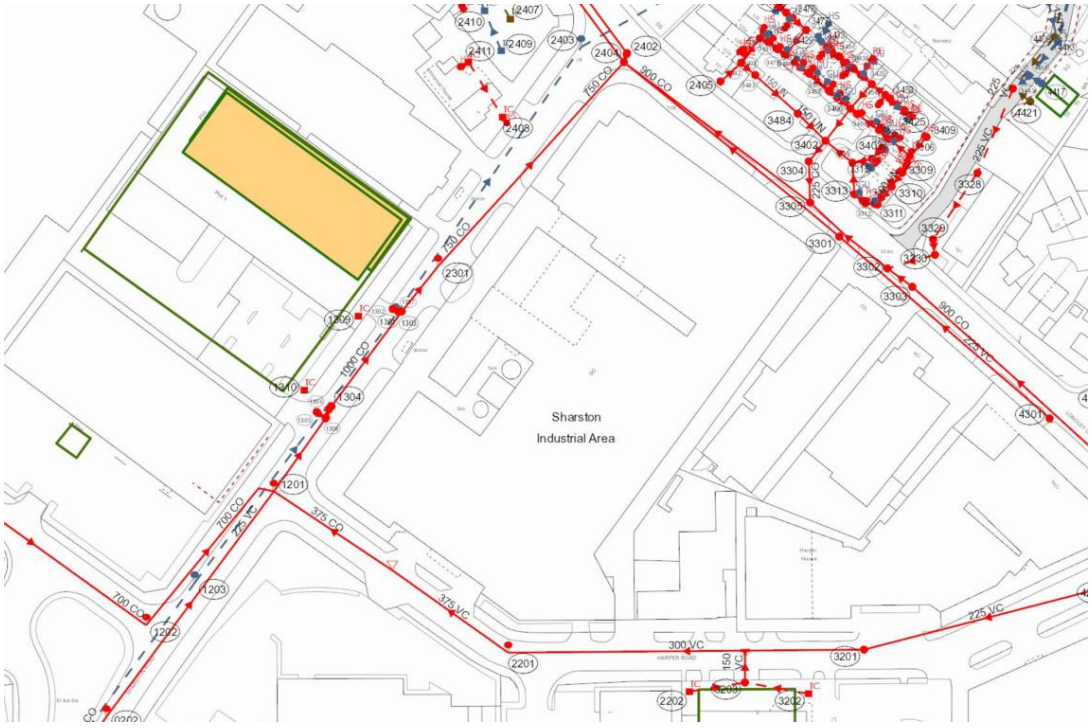


Figure 2 – Extract from United Utilites Sewer Records

Existing foul and surface water flows from the site are understood to discharge to the 900 mm diameter combined sewer within Longley Lane, operated by United Utilities.

3.2 Infiltration

A ground investigation was conducted by Hydrock (now Stantec) document reference 35838-HYD-XX-XX-RP-GE-0001. The report states that '*The post fieldwork monitoring between those boreholes where levels were obtained appear to show the shallow groundwater in the Glaciofluvial Sheet Deposits, is flowing towards the northeast from 33.26m AOD to 32.84m AOD.*' Therefore, infiltration into the ground is not considered feasible due to the high groundwater levels.

3.3 Sustainable Drainage Systems (SuDS)

Sustainable drainage developed in line with the ideals of sustainable development is collectively referred to as Sustainable Drainage Systems (SuDS). At a particular site, these systems are designed to manage both the environmental risks resulting from the urban runoff and to contribute, wherever possible, to environmental enhancement. Therefore, SuDS objectives are to minimise the impacts from the development on the quantity and quality of the runoff and maximise amenity and biodiversity opportunities (CIRIA C753, 2015).

SuDS help to mimic the natural flow of water ensuring that both the quantity and quality of the surface water is dealt with before feeding it into the drainage network. SuDS features usually come with added maintenance; however, the benefits they reap are considered to outweigh this. The selection of the most appropriate SuDS features should consider constraints, requirements and maintenance of the site. It should be remembered that Local Planning Authorities expect SuDS to be investigated on construction projects. The implementation of SuDS features can assist in achieving the drainage requirements set out in the National Planning Policy Framework.

A strong design theme is essential if maximum aesthetic benefits are to be gained from the SuDS approach. At a more local scale SuDS should be linked with the individual plot structure, planting and amenity areas, gaining multiple benefits from a limited area of land.

The 'Management Train Approach' should be central to the surface water drainage strategy of a proposed site. The main objective is the treatment and control of runoff as near to source as possible, thus protecting downstream habitats and further enhancing the amenity value of the site. This concept uses a hierarchy of drainage techniques to incrementally reduce pollution, flow rates and volumes of storm water discharge from the site, and is as follows:

- Prevention - The use of good site design and housekeeping measures to prevent runoff and pollution (e.g. rainwater re-use).
- Source Control - Control of runoff at source or as close to source as possible (e.g. soakaways, green roofs, pervious pavements).
- Site Control - Management of water in a local area (e.g. ground storage/attenuation, detention ponds/basins).
- Regional Control - Management of water from a site or various sites (e.g. wetlands, balancing ponds).

The SuDS philosophy for a development site is the promotion of Pollution Prevention and Site Control Techniques. The following design philosophy is proposed:

- » Surface water treatment using the 'Management Train' approach to remove and isolate contamination at all SuDS facilities prior to conveyance.
- » Surface water discharge into the United Utilites combined sewer network located within Sharston Road
- » Site Control features (attenuation) to accommodate the additional surface water runoff generated by the development site before discharging into the private surface water network.
- » Provision of suitable oil separators in line with Pollution Prevention Guidance 3 criteria (where applicable).
- » Aim to limit, where possible, the impermeable fraction of development.

A review of the possible SuDS solutions that are feasible include:

- » Permeable Paving
- » Attenuation Tanks

3.4 Prevention and Source Control – Principles and Objectives

The main objective of prevention and source control is the treatment and control of runoff as near to source as possible. Application of these techniques will require reduction of impermeable areas and techniques to restrict the runoff rates.

Prevention measures to be considered, where possible, as part of the overall approach to the management train at this site include rainwater harvesting. Typical examples are given in the SuDS Manual (Ciria C697) and are briefly described in Table 2 below. It must be noted that the effectiveness of each system is dependent on the final design as well as the actual site conditions.

Table 2 - SuDS Consideration

SuDS Group	Technique	Image	Description	Advantages	Disadvantages	Suitable for use on site?
Retention	Balancing Pond/Swale		Provides both storm water attenuation and treatment. Run-off from each rain event is detained and treated in the pool. The retention time promotes pollutant removal through sedimentation.	Good removal of pollutants, can be used where groundwater is vulnerable, good community acceptability, high ecological, and amenity benefits.	No reduction in run-off volume, land take may limit use in high density sites.	Unsuitable due to lack of available land.
	Sub-Surface Attenuation		Oversized pipes, tank systems and modular geo-cellular systems that can be used to create a below ground storage structure.	Modular and flexible, dual usage (infiltration/storage, high void ratios), can be installed beneath trafficked and soft landscaped areas.	No water quality treatment.	Sub-surface storage can be used.
Infiltration	Infiltration Trench		Surface water run-off can be discharged directly to ground for infiltration by soakaways,	Reduces the volume of run-off, effective at pollutant removal,	Requires appropriate pre-treatment, basins require a	Infiltration is not considered to be feasible die to
	Infiltration Basin					

	Soakaway		basins, or trenches. A prerequisite is that both groundwater and ground conditions are appropriate to receive the quality and quantity of water generated.	contributes to groundwater recharge, simple and cost effective, easy performance observation.	large flat area, offset from foundations.	shallow groundwater
	Porous Paving Permeable Paving		Block or porous paving allows run-off to infiltrate through to sub base layer. Water can then be infiltrated into ground or conveyed into storage or drainage systems.	Reduces the volume of run-off and if designed for infiltration contributes towards groundwater recharge. Easy to install and retrofit. Simple to manage. If lined can be used where groundwater is sensitive.	Not suitable for heavily trafficked areas or adoptable roads. Requires regular sweeping to prevent clogging with dirt.	Permeable paving with a liner may be used which will be conveyed into the proposed drainage system.
Detention	Detention Basin		Surface storage basins that provide flow control through attenuation. Normally dry and in certain situations the land may also function as a recreational facility.	Cater for a wide range of rainfall events, can be used where groundwater is vulnerable, potential for dual land use, easy to maintain.	Land take, little reduction in run-off volume, detention depths constrained by levels.	Unsuitable due to lack of available land.

	Enhanced Dry Swale Enhanced Wet Swale		Swales are linear vegetated drainage features in which surface water can be stored or conveyed. They can be designed to allow infiltration, where appropriate.	Incorporate into landscaping, good removal of pollutants, reduces run-off rates and volumes, low cost.	Not suitable for steep areas, significant land take, not suitable in areas with roadside parking.	Unsuitable due to lack of available land.
Source Control	Green/Brown Roof		Multi-layered system that covers the roof of a building with vegetation cover/landscaping over a drainage layer. Designed to intercept and retain precipitation, reducing the volume of run-off and attenuating peak flows.	Mimics greenfield state of building footprint for high density developments, good removal of pollutants, ecological benefits, insulates buildings, sound absorption.	Additional weight, not appropriate for steep roofs, maintenance of roof vegetation.	Unsuitable due to the additional weight on the large span structure.
	Rainwater Harvesting		Like the use of water butts this prevention method stores rainwater runoff from roofs and external areas in below ground tanks. The water can then be used for irrigation purposes to the soft landscaping areas or alternatively pumped to an internal storage tank where the 'Grey' water can be used for WC's and washing machines.	Harvested grey water will collect and automatically be used for various systems, such as toilet flushing, outside taps etc. The result will be less water usage and cheaper bills and a greener building or commercial premises.	Rainfall is hard to predict and sometimes little or no rainfall can limit the supply of rainwater. It also should have a "mains water" top up to ensure that you don't run out of water.	Unsuitable due to lack of available land.
Filtration	Surface Sand Filter		Structures designed to treat surface water run-off through	Flexibility of design, efficient in removing	Not for high sediment content,	There is no requirement for

	Sub-surface Sand Filter Perimeter Sand Filter		filtration using a sand bed filter medium. The filters can be designed with or without infiltration. Temporary storage of run-off is achieved through ponding above the filter layer. They are used where particularly high pollutant removal is required.	pollutants, suitable for retrofits and in tightly constrained urban locations.	detention times can support algae growth, minimum hydraulic head of 1.2m required, possible odour problems, high capital and maintenance cost.	high pollution reduction at this site.
	Bioretention/ filter swale		Vegetated strips of land designed to accept run-off as overland sheet flow between a hard-surfaced area and a receiving system.	Landscaping features, effective in removing pollutants, flexible layout to fit into landscape, suited for highly impervious areas, good retrofit, capability, effective pre-treatment option.	Requires landscaping and management, large land required, not suitable for steep sites; no significant attenuation or reduction of flows.	No requirement for high pollution reduction; large land areas not available.
	Filter trench/drain		Shallow excavations filled with rubble or stone that create temporary subsurface storage for filtration of storm water run-off. Receive lateral inflow from an adjacent impermeable surface.	Hydraulic benefits achieved with filter trenches; trenches can be incorporated into site landscaping and fit well beside roads and car parks.	High clogging potential without effective pre-treatment, limited to small catchments, high cost of replacing filter material.	Filter drains can be used.

Conveyance	Conveyance Swales		Formal linear drainage features in which surface water can be stored or conveyed. They can be incorporated with water features such as ponds or waterfalls where appropriate.	Negate the need for underground pipework. Can provide some attenuation. Possible reduction in run-off volume via plant uptake and infiltration.	Potential trip/wheel hazard, disabled access issues.	Could be used where conveyance is required but the lack of formal outside spaces at the site makes the aesthetic aspects unnecessary.
	Rills					
Wetland	Shallow Wetland		Wetlands provide storm water attenuation and treatment. They comprise shallow ponds and marshy areas, covered in aquatic vegetation. Wetlands detail flows for an extended period to allow sediments to settle and to remove contaminants. They can provide significant ecological benefits.	Good pollutant removal and if lined can be used where groundwater is vulnerable. Good community acceptability, ecological and amenity benefits.	Land take is high, requires base flow, little reduction in run-off volume, not suitable for steep sites.	Unsuitable due to lack of available land.
	Extended Detention Wetland					
	Pond Wetland					
	Pocket Wetland					
	Submerged Gravel Wetland					
	Wetland Channel					

3.5 Surface Water Drainage Strategy

The site was previously used occupied by Electrium Sales Ltd (a subsidiary of Siemens) and comprises a collection of industrial buildings developed over time for the purpose of manufacturing and distribution (Class B2/B8) therefore the existing site is considered as brownfield. However, in accordance with the DEFRA non-statutory guidance for SuDs (2015) the surface water drainage discharge rate shall mimic the natural greenfield characteristics of the site as it is a new connection into the culverted watercourse.

1.3.7 Non-statutory guidance for SuDS

The non-statutory guidance[6] for SuDS published by DeFRA (2015), sets out the technical Standards for SuDS systems in England. For greenfield developments, the peak runoff rate from the development to any highway drain, sewer or surface water body for the 1 in 1 year and 1 in 100-year rainfall event should never exceed the peak greenfield runoff rate for the same event. For developments which were previously developed, the peak runoff rate from the development must be as close as reasonably practicable to the equivalent greenfield runoff rate over the same area; never exceeding the rate of discharge from the development prior to redevelopment for any event.

The total greenfield runoff rate for the proposed developed area is 3.6l/s based on Qbar (see Appendix F). The greenfield runoff rate has been produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com.

Surface Water Drainage Strategies must follow the hierarchy of surface water disposal as set out in Building Regulations – Approved Document H, as listed below.

- Option 1 - Into the ground (infiltration)
- Option 2 - To a watercourse
- Option 3 - To a public/private sewer

Due the presence of shallow groundwater infiltration into the ground is not considered feasible.

A 600 mm diameter culverted watercourse is understood to be present within Sharston Road, with its outfall to the River Mersey initially identified through onsite dye testing. This asset was subsequently considered as a potential point of discharge for the proposed development.

Following consultation, Manchester City Council, acting as the Lead Local Flood Authority (LLFA) advised that a condition survey of the culvert would be required to support any proposed connection. The feasibility of undertaking a CCTV survey was therefore assessed; however, due to limited access points, the potential for the culvert to pass beneath third-party land, and its likely extent, it was concluded that such a survey would not be practicable.

In the absence of a condition survey, Manchester City Council have not approved a connection to the culverted watercourse.

As Manchester City Council, acting as the Lead Local Flood Authority (LLFA), have not approved a connection to the culverted watercourse, discharge to a public sewer (Option 3) has been identified as the preferred drainage strategy. Accordingly, surface water from the development will discharge into the existing 750mm combined sewer within Sharston Road, operated by United Utilities.

United Utilities have provided an agreement in principle for this connection, subject to a restricted discharge rate of 3.6 l/s (refer to Appendix G). An application under Section 106 will be submitted to secure formal approval for the connection to the combined sewer network.

Surface water run-off from roof and external areas will be directed to the below ground gravity network, run-off from car parks will pass through an oil interceptor before joining the wider private drainage network of carrier drains and will be attenuated prior to outfall, where it will discharge at a restricted rate of 3.6l/s into the United Utilites combined sewer. (See Appendix H for Proposed Drainage drawing).

A hydraulic model has been created using drainage software as part of the preliminary drainage design, which defines pipe sizes and attenuation volumes. Hydraulic calculations have been provided in Appendix I. It is noted that these rates and volumes are preliminary and may change at detailed design stage when more specific information is available.

An allowance for 45% climate change is to be incorporated into the surface water drainage design for the 1 in 100 year storm event in accordance with local and national planning policy as seen in Figure 3 below.

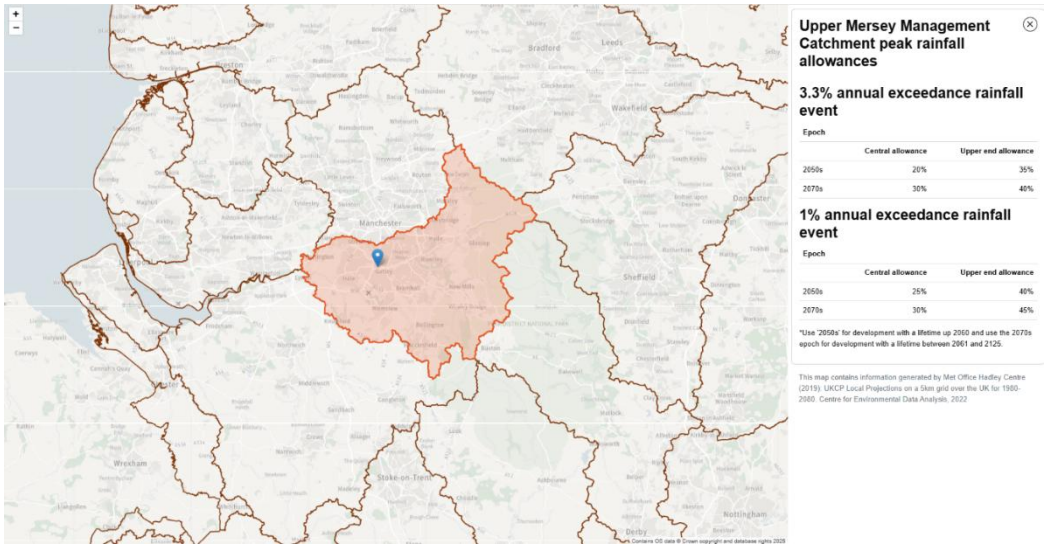


Figure 3 – Climate Change Allowance

The proposed drainage layout is designed in accordance with Design and Construction Guidance. No above ground flooding should occur for the 1 in 30-year storm event and the 1 in 100-year + 45% climate change events. There is no exceedance for 100 years + 45%. An overland flow plan has been produced to show the outcome in the event of a major blockage at the outfall. (Appendix J).

The surface water below ground gravity drainage system is to provide connections from all new rainwater pipes, channels, gullies and road gullies at ground floor level. The locations of the drainage components are to be fully coordinated with all relevant architectural, landscaping and services drawings.

HGV yards are considered to have a high pollution hazard level. To mitigate this, the use of suitable oil separators has been considered.

Gullies and drainage channels will be specified with silt traps and catch pits will be incorporated in the drainage system to reduce the risk of silt getting into the surface water network.

The drainage system should be designed so that flooding does not occur during the 1 in 100-year rainfall event in any part of the building.

3.6 Water Quality

The primary pollution control measure for the infrastructure elements will be in the form of an oil interceptor. Additionally, SuDS features (filter drain and permeable paving) have been integrated into the design to manage pollution for a portion of the site. Further pollution control will be provided in the form of trapped gullies.

The site mainly comprises of commercial/industry roof, commercial yard, access roads, and parking, which have pollution hazard levels ranging from low to high in accordance with CIRIA C753 table 26.2 as below.

Table 3 - CIRCA C753 Table 26.2

Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydro-carbons
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/ industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways[1]	Medium	0.7	0.6	0.7
Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways[1]	High	0.8[2]	0.8[2]	0.9[2]

Appropriate SuDS mitigation indices will be provided for each area of the development in accordance with CIRIA C753 table 26.3, as below

Table 4 - CIRIA C753 table 26.3

	Mitigation indices[1]		
Type of SuDS component	**TSS**	**Metals**	**Hydrocarbons**
Filter strip	0.4	0.4	0.5
Filter drain	0.4[2]	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable pavement	0.7	0.6	0.7
Detention basin	0.5	0.5	0.6
Pond[4]	0.7[3]	0.7	0.5
Wetland	0.8[3]	0.8	0.8
Proprietary treatment systems[5,6]	These must demonstrate that they can address each of the contaminant types to acceptable levels for frequent events up to approximately the 1 in 1 year return period event, for inflow concentrations relevant to the contributing drainage area.		

Table 5 - SPEL Oil Interceptor SuDS mitigation

SPEL ESR Full Flow Treatment System

Certified Mitigation Index

TSS	0.8
Metals	0.6
Hydrocarbons	0.9*

**H R Wallingford test results to BS EN 858: tested to it's maximum designed flow rate*

In line with C753 where two or more components in series, the total SuDS mitigation index can be calculated as:

$$\text{Total SuDS mitigation index} = \text{mitigation index}_1 + 0.5\ (\text{mitigation index}_2)$$

Where:

$\text{mitigation Index}_n$ = mitigation index for component n

A factor of 0.5 is used to account for the reduced performance of secondary or tertiary components associated with already reduced inflow concentrations.

Figure 4 - Total SuDS mitigation index

Therefore, following the calculation for Total SuDS mitigation index in CIRIA C753, the carpark has sufficient mitigation from the permeable paving, and the yard will have petrol interceptors to ensure there is sufficient mitigation.

3.7 Foul Drainage Strategy

The proposed foul and surface water drainage networks will combine on site to form a single combined system.

This combined drain will discharge via a single point of connection into the existing 750mm combined sewer within Sharston Road, which is operated by United Utilities.

An agreement in principle for this connection has been provided by United Utilities (see Appendix G), and a formal agreement will be secured through submission of a Section 106 application.

3.8 Management, Maintenance and Residual Risk

The proposed drainage layout will be designed in accordance with building regulations. SuDS guidance will be taken from Ciria C753.

Run-off from roofs is generally clean with limited contamination and will be discharged directly to SuDS planters before entering the proposed drainage infrastructure. Silt is to be prevented from entering the drainage system using trapped gullies, interceptors or using sustainable drainage techniques.

Run-off from car park and other external areas will be treated via proprietary treatment system of a full-retention oil interceptor.

Flood risk to people and property can be managed but it can never be completely removed. Residual risk remains after flood management or mitigation measures have been put in place. This relates to a rainfall event beyond what can be fully quantified.

A private management company will maintain the drainage infrastructure as part of a site-wide management and maintenance schedule as shown in Table 6 - 9.

Table 6 - Below ground drainage (pipe works, manholes, catchpits etc.)

MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
REGULAR MAINTENANCE	Inspection and identification of any areas that are not operating correctly. remedial action should be taken if required.	Monthly for the first 3 months and then annually
	Where it may cause risks to performance the removal of debris from the catchment surface is required.	Monthly
	Removal of sediments	Annually, As required
REMEDIAL ACTIONS	Rehabilitation/repair/replace of gratings/covers, inlets, outlets, overflows and vents.	As required
MONITORING	Inspection of inlets, outlets, vents and overflows for the insurance of good condition and operation according to design.	Annually

Table 7 - Flow Control Chamber

MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
REGULAR MAINTENANCE	Remove litter and debris and inspect for sediment, oil and grease accumulation	Six monthly
	Remove sediment, oil, grease and floatable	As necessary - indicated by system inspections or immediately following significant rainfall event
REMEDIAL ACTIONS	Replace malfunctioning parts or structures	As required
MONITORING	Inspect for evidence of poor operation	Every six months
	Inspect device and establish appropriate replacement frequencies	Every six months
	Inspect sediment accumulation rates in sump and establish appropriate removal frequencies	Monthly during first half year of operation, then every six months

Table 8 - Permeable pavements

MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
REGULAR MAINTENANCE	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency As required, based on site-specific observations of clogging or manufacturer's recommendations - pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
OCCASIONAL MAINTENANCE	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an application rather than spraying	As required - once per year on less frequently used pavements.
	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving	As required
REMEDIAL ACTIONS	Remediate work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an application rather than spraying	Every 10 to 15 years or As required (if infiltration performance is reduced due to significant clogging)
MONITORING	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth - if required, take remedial action	Three Monthly, 48h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

Table 9 - Below Ground Attenuation Tank

MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
REGULAR MAINTENANCE	Inspection and identification of any areas that are not operating correctly. remedial action should be taken if required.	Monthly for the first 3 months and then annually
	Where it may cause risks to performance the removal of debris from the catchment surface is required.	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Removal of sediments from pre-treatment structures and/or internal forebays.	Annually, As required
REMEDIAL ACTIONS	Rehabilitation/repair of inlets, outlets, overflows and vents.	As required
MONITORING	Inspection of inlets, outlets, vents and overflows for the insurance of good condition and operation according to design.	Annually
	Structural and sediment survey to be conducted in the interior of the tank for structural condition and sediment build-up and remedial action, silt removal if necessary.	Every 5 years or As required

Appendix A – Site Plan

0m 10m 20m 30m 40m

VISUAL SCALE 1:500 @ A1

N

05-XX_Site Finishes Key Copy 1

- Proposed Planning boundary
- Reinforced concrete service yard inc. dock ramp. Refer to Civil Engineers details for construction / sub-base build ups
- Tarmacadam surface to vehicular access road. Refer to Civil Engineers details for construction / sub-base build ups
- Traffic Island. Refer to Civil Engineers details for further information
- Proposed areas of soft landscaping (trees / planting / hedgerows) in accordance with Landscape Architect details
- T01 — Extent of existing trees and root protection zones (dashed orange) in accordance with Arboricultural Survey to BS5837:2012. Reference number as outlined in tree survey
- G01 — Extent of existing groups of trees/planting with root protection zones (dashed orange) in accordance with Arboricultural Survey to BS5837:2012. Reference number as outlined in tree survey
- H01 — Extent of existing hedgerows with root protection zones (dashed orange) in accordance with Arboricultural Survey to BS5837:2012. Reference number as outlined in tree survey
- New trees in accordance with Landscape Architects details
- Extent of first floor accommodation space to each unit (office & core)
- Proposed Native Scrub Planting Mix
  To be planted as bare root stock, 60-80cm, planted at 1 shrub per 2–3m² including dog rose, bramble, elder, guelder rose.
- Bollards



1 **05-ZZ_Site Plan as Proposed Copy 1**
1 : 500

92-XX_Gross Internal Area (GIA)

Name	Area Metric	Area Imperial
Unit 1		
Warehouse	2,790 m²	30,032 ft²
First Floor	279 m²	3,003 ft²
	3,069 m²	33,035 ft²
Unit 2		
Warehouse	698 m²	7,513 ft²
First Floor	125 m²	1,345 ft²
	823 m²	8,859 ft²
Unit 3		
Warehouse	558 m²	6,006 ft²
First Floor	139.5 m²	1,502 ft²
	697.5 m²	7,508 ft²
Unit 4		
Warehouse	465 m²	5,005 ft²
First Floor	116.3 m²	1,251 ft²
	581.3 m²	6,257 ft²
Unit 5		
Warehouse	871 m²	9,375 ft²
First Floor	142 m²	1,528 ft²
	1,013 m²	10,904 ft²
Unit 6		
Warehouse	585.5 m²	6,302 ft²
First Floor	104.3 m²	1,122 ft²
	689.8 m²	7,425 ft²
Unit 7		
Warehouse	343.5 m²	3,698 ft²
First Floor	119.5 m²	1,286 ft²
	463 m²	4,984 ft²
Unit 8		
Warehouse	513 m²	5,521 ft²
First Floor	96.9 m²	1,043 ft²
	609.9 m²	6,564 ft²
Unit 9		
Warehouse	435.2 m²	4,684 ft²
First Floor	146.7 m²	1,579 ft²
	581.9 m²	6,263 ft²
Total:	8,528.3 m²	91,798 ft²

92-XX_Gross External Area (GEA)

Name	Area Metric	Area Imperial
Unit 1		
Ground Floor	2,899 m²	31,205 ft²
First Floor	314 m²	3,379 ft²
	3,213 m²	34,584 ft²
Unit 2		
Ground Floor	741 m²	7,977 ft²
First Floor	145 m²	1,558 ft²
	886 m²	9,535 ft²
Unit 3		
Ground Floor	585 m²	6,300 ft²
First Floor	157 m²	1,687 ft²
	742 m²	7,987 ft²
Unit 4		
Ground Floor	489 m²	5,265 ft²
First Floor	131 m²	1,410 ft²
	620 m²	6,675 ft²
Unit 5		
Ground Floor	920 m²	9,901 ft²
First Floor	164 m²	1,763 ft²
	1,084 m²	11,664 ft²
Unit 6		
Ground Floor	625 m²	6,727 ft²
First Floor	116 m²	1,244 ft²
	741 m²	7,971 ft²
Unit 7		
Ground Floor	364 m²	3,918 ft²
First Floor	132 m²	1,420 ft²
	496 m²	5,338 ft²
Unit 8		
Ground Floor	541 m²	5,820 ft²
First Floor	108 m²	1,158 ft²
	648 m²	6,978 ft²
Unit 9		
Ground Floor	444 m²	4,778 ft²
First Floor	161 m²	1,736 ft²
	605 m²	6,514 ft²
Total:	9,034 m²	97,246 ft²

Parking Schedule

Description	Count
Unit 1	
Standard car parking bay	25
Standard car sharing parking bay	2
Standard electric vehicle charging parking bay	4
Accessible car parking bay	2
Motorcycle bay	4
	37
Unit 2	
Standard car parking bay	4
Standard car sharing parking bay	1
Standard electric vehicle charging parking bay	1
Accessible car parking bay	1
Accessible electric vehicle parking bay	1
	8
Unit 3	
Standard car parking bay	2
Standard car sharing parking bay	1
Standard electric vehicle charging parking bay	1
Accessible electric vehicle parking bay	1
	5
Unit 4	
Standard car parking bay	2
Standard car sharing parking bay	1
Standard electric vehicle charging parking bay	1
Accessible electric vehicle parking bay	1
	5
Unit 5	
Standard car parking bay	5
Standard car sharing parking bay	1
Standard electric vehicle charging parking bay	1
Accessible car parking bay	1
Accessible electric vehicle parking bay	1
	9
Unit 6	
Standard car parking bay	6
Standard car sharing parking bay	1
Standard electric vehicle charging parking bay	1
Accessible electric vehicle parking bay	1
	9
Unit 7	
Standard car parking bay	1
Standard car sharing parking bay	1
Standard electric vehicle charging parking bay	1
Accessible electric vehicle parking bay	1
	4
Unit 8	
Standard car parking bay	4
Standard car sharing parking bay	1
Standard electric vehicle charging parking bay	1
Accessible car parking bay	1
Accessible electric vehicle parking bay	1
	8
Unit 9	
Standard car parking bay	2
Standard car sharing parking bay	1
Standard electric vehicle charging parking bay	1
Accessible electric vehicle parking bay	1
	5
Total: 90	90

Bicycle Provision

Count
Unit 1
18
Unit 2-5
20
Unit 6
6
Unit 7
4
Unit 8
6
Unit 9
4
58

General Notes:

This drawing is the property of Fletcher-Rae (UK) Limited and copyright is reserved by them. The drawing is not to be copied, reproduced or re-distributed either in whole or in part without the prior written consent of Fletcher-Rae (UK) Limited.

The originator shall have no responsibility for any liability, loss, cost, damage or expense arising from or relating to any use of this document other than for its intended purpose on this project.

This drawing shall be read in conjunction with all other relevant drawings, specifications and associated documentation. Any discrepancies, errors or omissions are to be reported to the originator before proceeding with work.

All dimensions are to be checked on site by the contractor prior to proceeding with any work. This drawing shall not be scaled to ascertain any dimensions Work to figured dimensions only.

DISCLAIMER
When this drawing is issued in CAD, it is an uncontrolled version issued for information only, to enable the recipient to prepare their own documents/ drawings for which they are solely responsible.

SOFTWARE INTEROPERABILITY
Fletcher-Rae (UK) Limited prepared this drawing using Autodesk REVIT.

Fletcher-Rae (UK) Limited does not accept liability for any loss or degradation of any information held in the drawing resulting from the translation from the original file format to any other file format or from the recipients reading of it in any other programme.

Rev	Revision Details	Drawn	Date	Chk'd
P09	Issued in support of full Planning Application	AD	19.11.25	BB
P08	Issued in support of full Planning Application	AD	11.11.25	BB
P07	Issued in support of full Planning - Existing Trees T02,03,04,12 proposed to be retained,Block 3 location amended, drawing number amended.	AD	20.10.25	BB
P06	Issued in support of full Planning Application	PM	30.07.25	BB
P05	Final draft issue for approval prior to formal Planning issue	PM	25.07.25	BB
P04	Parking provision and designation of spaces updated. Existing trees to be removed ommitted for this issue.	PM	13.05.25	ME
P03	Dock ramp retaining wall reduced. Unit 2 moved to increase Unit 3 yard depth and incorporate safe pedestrian route. Trees to be removed indicated	PM	06.05.25	ME
P02	Updated to incorporate comments received. Unit 2 location moved to increase Unit 3 yard depth. General updates to finishes	PM	25.04.25	ME
P01	Issued for information purposes	PM	16.04.25	ME

Project No. **25006**
Suitability **A APPROVED FOR STAGE 3**
Status **Planning**

Client:
Kier Sharston Ltd

Project:
Sharston Industrial Estate
Sharston Road,
Wythenshawe,
Manchester

Sheet Name:
Site Plan as Proposed

Drawing No. **25006-HFR-AV-XX-DR-A-0502** Rev. **P09**
Drawn By **PM** Scale **As indicated @ A1**
Created **16.04.25**

HORIZON
fletcher | rae

Level 12, Tower 12, 18-22 Bridge Street, Manchester, M3 3BZ

t +44 (0) 161 242 1140
w www.fletcher-rae.com
e info@fletcher-rae.com

Appendix B – Topographical Survey


HARPER ROAD
HARPER ROAD
HARPER ROAD

Appendix C – GPR Survey

©Survey & Engineering Projects Ltd. 2025
Reproduction in whole or in part by any means is prohibited without the prior permission of Survey & Engineering Projects Ltd.
T. (01492) 729830 F. (01492) 725566 W. www.seprunner.com E. info@seprunner.com

PLAN GRID NORTH

File Name: S26239-d.dwg

LEGEND

AV	AIR VALVE	BT	BT STAT RECORD
BP	BOLLARD	CABLE	CABLE DUCT
CCTV	CCTV CAMERA POLE	CATV	CABLE STAT RECORD
COV	COVER/HATCHING COVER	CTV	CABLE TV
DI	DRAIN INSPECTION	DNO	DNO STAT RECORD
DC	DRAINAGE CHANNEL	CCTV	CCTV
DP	DOWN PIPE	CCTV	CCTV STAT RECORD
EB	ELEC BOX	TELECOMS	TELECOMS (GENERAL) (Comms)
EIC	ELEC INSPECTION COVER	TELECOMS	TELECOMS
EB	ELECTRIC BOX	TELECOMS	TELECOMS STAT RECORD
EP	ELECTRIC POLE	CATV	CABLE TV STAT RECORD
EP	ELECTRICITY POLE	CATV	CATV STAT RECORD
FL	FINISHED FLOOR LEVEL	ELECTRIC	ELECTRIC
G	GAS MARKER	ELECTRIC	ELECTRIC STAT RECORD
G	GULLY	FIBRE OPTICS	FIBRE OPTICS
GLO	GROUND LIGHT	FIBRE OPTICS	FIBRE OPTICS STAT RECORD
GO	GAS OUTLET	FUEL LINE	FUEL LINE
GV	GAS VALVE	FUEL LINE	FUEL LINE STAT RECORD
HC	HANDHOLE/CORNER	GAS	GAS/GAS JUNCTION LINE
HL	HAND HOLE	GAS	GAS STAT RECORD
HO	HOSE OUTLET	MAINS	MAINS STAT RECORD
MH	MANHOLE	MAINS	MAINS WATER
MP	MARKER POST	MAINS	MAINS WATER STAT RECORD
MP	MARKER	SEWER	SEWER
OP	OUTSIDE PIPE	SEWER	SEWER CW
PM	PYLON	SEWER	SEWER CW STAT RECORD
PO	PHOTO POINT	SEWER	SEWER FW
RE	RODDING EYE	SEWER	SEWER FW STAT RECORD
RWP	RAINWATER PIPE	SEWER	SEWER SW
SC	SOFT COVER	SEWER	SEWER SW STAT RECORD
SL	SOFT LEVEL	TRAFFIC	TRAFFIC SIGNAL CABLE
TCB	TELEPHONE CALL BOX	TRAFFIC	TRAFFIC STAT RECORD
TL	TRAFFIC LIGHT	UNIDENTIFIED	UNIDENTIFIED
TLB	TRAFFIC LIGHT BOX	UNIDENTIFIED	UNIDENTIFIED CABLE
TP	TELEGRAPH POLE	UNIDENTIFIED	UNIDENTIFIED PIPES
TP	TELEPHONE POLE	VDC	VIRGIN MEDIA CABLE
WO	WATER OUTLET	VDC	VDC STAT RECORD
WSO	WATER STOP TAP		SURVEY BOUNDARY
WSV	WATER STOP VALVE		S.P.E® Post Processed Boundary (point pt or centre of pipe)

EOT	END OF TRACE
NAD	NO ACCESS/DIFF. AREA
UOL	UNABLE TO LIFT
UTS	UNABLE TO SEALE
VOL	VOLUME TO ENHANCE
S/L	SIGNAL LOSS
BLK	BLOCKED
VP	VISIBLE PIPE
NVP	NO VISIBLE PIPE
TOP	TOP OF PIPE
?	UNKNOWN UTILITY SYMBOL
M	FITTING FROM RECORDS

QUALITY LEVEL

A – Verification (eg Mh-Mh)
B1 – Horizontal/Vertical location using multiple techniques
B2 – Horizontal/Vertical location using a single technique
B3 – Horizontal location using a single technique
C – Detection only
C – Site Reconnaissance
D – Desktop utility records search
P – Post Processed Ground Penetrating Radar Data

NOTES:

All levels relate to O.S (Newlyn) Datum. Established using network RTK. Survey plotted on a plane local grid, orientated to National Grid using Survey control established from baseline.

This Underground Utilities survey was conducted in compliance with the BSI PAS128:2022 standards.

Services linetypes display text indicating first an abbreviation of the services' function (eg. EL = Electric Cable) followed by the Quality Level to which that service was located (eg. B4 = Electric Cable B4).

Services Pratt have been viewed and recorded in all lifted manholes are classified as QL-A.

Quality Level descriptions shown in the above legend are for reference purposes only and are not intended as detailed descriptions.

For full information on Quality Levels, please consult the BSI PAS128:2022 standards document.

Statutory Record services aligned using best fit method.

Lamp post feeds throughout site have not been located thus denoted as a Quality Level B4 finding and shown in a assumed location. The feeds that have been located are clearly visible on the surface but the feeds between the lamp posts are unable to be traced due to material of the casing or potentially being redundant.

For full PAS128 compliance the utility survey must be used in conjunction with Statutory Records. The combination of on-site survey data and Statutory Record information is necessary to provide a comprehensive representation of underground utilities. Reliance on either source alone may lead to incomplete or inaccurate findings.

All Gullies throughout the survey boundary have been investigated and measured, with a 6mm hose applied to locate the outfall pipe. Depending on the condition of the gully impacts how much investigation can happen due to silt, water levels, depth or offset. If the Outfall has been located and measured then this will be denoted as Quality Level B1. If a 6mm hose could not be applied this will be denoted as Quality Level B3. If the Outfall is not visible then it MAY not will be applied and where possible a Quality Level B4 line shown.

Lines annotated as GPR indicate a series of consistent subsurface anomalies located using the Ground Penetrating Radar (G.P.R) technique. These are based on interpretations made during onsite acquisition and marked on the ground. The nature of these anomalies could not be determined by non-intrusive means. GPR lines that were identifiable as a service are shown as their respective service.

DISCLAIMER:

At SEP we use skilled and experienced staff, modern up to date techniques and top of the range electromagnetic and radar technology to locate and trace sub-surface utilities. However the performance of the equipment employed in non-intrusive surveys can be adversely affected by factors outside the control of SEP. Therefore SEP cannot guarantee that all utilities present on site have been located. It is the responsibility of the Client to consult regional authority records and undertake trial digs where appropriate.

Where similar services run in close proximity it may be impossible to separately trace individual services as the trace signal can experience interference. In such cases, services will be shown as a single, annotated line. The displayed depth will refer to the shallowest detected utility.

Successful tracing of non-conductive materials may be limited. Drainage gulleys are dye tested where possible to prove connectivity but it is not always possible to introduce the sonde due to narrow pipe sizes and/or accumulated silt.

Depth information of underground services/features are generally accurate to within +/- 10% (i.e. a pipe at 2m deep may be accurate to +/-200mm) but this cannot be guaranteed. Depths shown usually refer to the top of the service. Gravity sewer and drain depths are usually to invert (base of drainage channel) unless otherwise stated.

Some above ground features may have been obscured at time of survey. It is not always possible to operate the Ground Penetrating Radar in areas including, but not limited to, dense vegetation, rubble, debris and/or rough/uneven ground.

Existing record information that was made available to SEP by the Client or by the statutory utility provider should be regarded only as an indication and cannot be guaranteed.

Excavation in the vicinity of services shown should be carried out with due diligence (Ref. HSG47).

SHEET LAYOUT



0 2m 4m 8m 12m 16m
SCALE BAR

REV	DATE	DESCRIPTION

SURVEY & ENGINEERING PROJECTS

Client
Kier Property Developments Limited
2nd Floor,
Optimum House,
Clippers Quay,
Salford,
M50 3XP

Project Title
Utility Survey of Land at:
Sharston Industrial Estate,
Sharston,
Wythenshawe,
Manchester,
M22 4RA

Surveyed	Drawn	Checked
B.Squires	C.Duthie	B.Squires

Scale	Date	Drawing Ref.	No.	Size	Rev
1:200	June 25	S26239-U	(1)/2	A0	

©Survey & Engineering Projects Ltd. 2025
Reproduction in whole or in part by any means is prohibited without the prior permission of Survey & Engineering Projects Ltd.
T. (01492) 729263 F. (01492) 725566 W. www.sepsurvey.com E. info@sepsurvey.com

PLAN GRID NORTH

File Name: S26239-U.dwg

LEGEND

AV	AIR VALVE	BT	BT STAT RECORD
BH	BOREHOLE	CABLE	CABLE (UNO)
CCTV	CCTV CAMERA POST	CABLE	CABLE STAT RECORD
COV	COVER/MANHOLE COVER	CABLE	CABLE TV
CP	CAR PARK SPACE	CABLE	CABLE TV STAT RECORD
DI	DRAINAGE CHANNEL	CCTV	CCTV
DP	DOWN PIPE	CCTV	CCTV STAT RECORD
EC	EARTH	ELEC	ELECTRIC (TUNNEL)
EIC	ELEC INSPECTION COVER	TELECOMS	TELECOMS
ELB	ELECTRIC BOX	TELECOMS	TELECOMS STAT RECORD
EP	ELECTRIC POLE	CAPITA	CAPITA (NGC)
EP	ELECTRICITY POLE	CAPITA	CAPITA (NGC) STAT RECORD
FL	FINISHED FLOOR LEVEL	ELEC	ELECTRIC
FP	FENCE POST	ELEC	ELECTRIC STAT RECORD
G	GULLY	FIBRE	FIBRE OPTICS
GLO	GROUND LIGHT	FIBRE	FIBRE OPTICS STAT RECORD
GP	GAS POST	FUEL	FUEL LINE
GV	GAS VALVE	FUEL	FUEL LINE STAT RECORD
HC	HANDRAIL CORNER	GAS	GAS DISTRIBUTION LINE
HL	HIGHT LEVEL	GAS	GAS
HP	HAND POST	GAS	GAS STAT RECORD
HV	HOSE OUTLET	MAINS	MAINS WATER
LP	LAMP POST	MAINS	MAINS WATER STAT RECORD
MH	MANHOLE	SEWER	SEWER
MP	MARKER POST	SEWER	SEWER CW
OP	OUTFALL PIPE	SEWER	SEWER CW STAT RECORD
PM	PYLON	SEWER	SEWER FW
PP	PEDESTAL PUMP	SEWER	SEWER FW STAT RECORD
RC	RODDING EYE	SEWER	SEWER SW
RWP	RAINWATER PIPE	SEWER	SEWER SW STAT RECORD
SC	SOFT COVER	TRAFFIC	TRAFFIC SIGNAL CABLE
SV	SOFT VERGE	TRAFFIC	TRAFFIC SIGNAL CABLE STAT RECORD
TCB	TELEPHONE CALL BOX	UNC	UNC STAT RECORD
TL	TRAFFIC LIGHT	UNIDENTIFIED	UNIDENTIFIED CABLE
TLB	TRAFFIC LIGHT BOX	UNIDENTIFIED	UNIDENTIFIED CABLE
TP	TELEGRAPH POLE	UNIDENTIFIED	UNIDENTIFIED PIPES
TR	TRIAL HOLE	VDC	VDC STAT RECORD CABLE
WO	WATER OUTLET	VDC	VDC STAT RECORD
WSO	WATER STOP TAP		SURVEY BOUNDARY
WV	WATER STOP VALVE		S.P.R. Post Processed Boundary

EOT	END OF TRACE
UOS	UNABLE TO SURVEY AREA
UTL	UNABLE TO LOCATE
UTS	UNABLE TO SENSE
UTT	UNABLE TO TRACE
S/L	SIGNAL LOSS
BLK	BLOCKED
NVP	NO VISIBLE PIPE
NSP	NO VISIBLE PIPE
TOP	TOP OF PIPE
?	UNKNOWN PIPE SYMBOL
FM	FITTING FROM RECORDS

QUALITY LEVEL

A – Verification e.g. MH–DU

B1 – Horizontal/Vertical location using multiple techniques

B2 – Horizontal/Vertical location using a single technique

B3 – Horizontal location using a single technique

C – Electromagnetic

D – Site Reconnaissance

O – Desktop utility records search

P – Post Processed Ground Penetrating Radar Data

NOTES:

All levels relate to O.S (Newlyn) Datum. Established using network RTK. Survey plotted on a plane local grid, orientated to National Grid using Survey control established from baseline.

This Underground Utilities survey was conducted in compliance with the BSI PAS128:2022 standards.

Services linetypes display text indicating first an abbreviation of the services' function (eg. EL = Electric Cable) followed by the Quality Level to which that service was located (eg. B4 = Horizontal location using a single technique).

Services Post holes been viewed and recorded on all West manholes are classified as QL-A.

Quality Level descriptions shown in the above legend are for reference purposes only and are not intended as detailed descriptions.

For full information on Quality Levels, please consult the BSI PAS128:2022 standards document.

Statutory Record services aligned using best fit method.

Lamp post heads throughout site have not been located thus denoted as a Quality Level B4 finding and shown in a assumed location. The heads that have been located are clearly identified as B1 findings. Lamp post heads that are not located or points are unable to be traced due to material of the casing or potentially being redundant.

For full PAS128 compliance the utility survey must be used in conjunction with Statutory Records. The combination of on-site survey data and Statutory Record information is necessary to provide a comprehensive representation of underground utilities. Reliance on either source alone may lead to incomplete or inaccurate findings.

All Gullies throughout the survey boundary have been investigated and measured, with a 4mm brace applied to locate the outfall pipe. Depending on the condition of the gully impacts how much investigation can happen due to silt, water levels, depth or offset. If the outfall has been located and measured, a Quality Level B1 finding will be applied. If the outfall is not located, a tape will be applied this will be denoted as Quality Level B3. If the Outfall is not visible then a NVP note will be applied and where possible a Quality Level B4 line shown.

Lines annotated as GPR indicate a series of consistent subsurface anomalies located using the Ground Penetrating Radar (G.P.R) technique. These are based on interpretations made during onsite acquisition and marked on the ground. The nature of these anomalies could not be determined by non-intrusive means. GPR lines that were identifiable as a service are shown as their respective service.

DISCLAIMER:

At SEP we use skilled and experienced staff, modern up to date techniques and top of the range electromagnetic and radar technology to locate and trace sub-surface utilities. However the performance of the equipment employed in non-intrusive surveys can be adversely affected by factors outside the control of SEP. Therefore SEP cannot guarantee that all utilities present on site have been located. It is the responsibility of the Client to consult regional authority records and undertake trial digs where appropriate.

Where similar services run in close proximity it may be impossible to separately trace individual services as the trace signal can experience interference. In such cases, services will be shown as a single, annotated line. The displayed depth will refer to the shallowest detected utility.

Succesful tracing of non-conductive materials may be limited. Drainage gullies are dye tested where possible to prove connectivity but it is not always possible to introduce the sonde due to narrow pipe sizes and/or accumulated silt.

Depth information of underground services/features are generally accurate to within +/- 10% (i.e. a pipe at 2m deep may be accurate to +/-200mm) but this cannot be guaranteed. Depths shown usually refer to the top of the service. Gravity sewer and drain depths are usually to invert (base of drainage channel) unless otherwise stated.

Some above ground features may have been obscured at time of survey. It is not always possible to operate the Ground Penetrating Radar in areas including, but not limited to, dense vegetation, rubble, debris and/or rough/uneven ground.

Existing record information that was made available to SEP by the Client or by the statutory utility provider should be regarded only as an indication and cannot be guaranteed.

Excavation in the vicinity of services shown should be carried out with due diligence (Ref. HSG47).

SHEET LAYOUT



0 2m 4m 8m 12m 16m
SCALE BAR

REV	DATE	DESCRIPTION

SURVEY & ENGINEERING PROJECTS

Client
Kier Property Developments Limited
2nd Floor,
Optimum House,
Clippers Quay,
Salford,
M50 3XP

Project Title
Utility Survey of Land at:
Sharston Industrial Estate,
Sharston,
Wythenshawe,
Manchester,
M22 4RA

Surveyed	Drawn	Checked
B.Squires	C.Duthie	B.Squires

Scale	Date	Drawing Ref.	No.	Size	Rev.
1:200	June 25	S26239-U	(2) /2	A0	

Appendix D – Existing Drainage Layout

EXISTING UNITED UTILITES COMBINED SEWER (2301)
CL 35.110
IL 29.330

EXISTING UNITED UTILITES COMBINED SEWER (2404)
CL 35.190
IL 28.750

UNABLE TO SURVEY BEYOND THIS POINT. PIPE ROUTE BEYOND THIS POINT IS ASSUMED AND INDICATIVE ONLY

UNABLE TO SURVEY BEYOND THIS POINT. PIPE ROUTE BEYOND THIS POINT IS ASSUMED AND INDICATIVE ONLY

UNABLE TO SURVEY BEYOND THIS POINT. PIPE ROUTE BEYOND THIS POINT IS ASSUMED AND INDICATIVE ONLY

UNABLE TO SURVEY BEYOND THIS POINT. PIPE ROUTE BEYOND THIS POINT IS ASSUMED AND INDICATIVE ONLY

2402

3305

EXCOM02
CL:35.130
IL:31.63

EXISTING UNITED UTILITES COMBINED SEWER (3301)
CL 35.360
IL 32.200

225Ø CONNECTION

EXCOM01
CL:34.99
IL:32.47

3302

3303

HARPER ROAD

MANSER ROAD

0 4 8 12 16 20m
SCALE 1:200

Stantec

Stantec Hydrock Limited
100 Barbirolli Square
Manchester
M2 3PW
Tel. +44 161 245 8900
www.stantec.com/uk

Copyright Reserved

The Copyrights to all designs and drawings are the property of Stantec Hydrock Limited. Reproduction or use for any purpose other than that authorised by Stantec is forbidden.

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. Any errors or omissions shall be reported to Stantec without delay.

Colour Disclaimer

This drawing has been documented in colour. This drawing is required to be printed in colour. Failure to do so may result in loss of information. Black and white printing may be used if specific black and white documents have been obtained from Stantec.

Notes

1. THIS DRAWING IS JUST FOR INFORMATION PURPOSES ONLY AND UNDER NO CIRCUMSTANCES SHALL IT BE USED FOR CONSTRUCTION.
2. ALL DIMENSIONS ARE TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORKS. WORK TO FIGURED DIMENSIONS ONLY. DO NOT SCALE OFF THIS DRAWING. ANY DISCREPANCIES ARE TO BE REPORTED TO STANTEC FOR CLARIFICATION.
3. DRAWING BASED ON GPR SURVEY S26239-U BY SURVEY & ENGINEERING PROJECTS

Legend

- EXISTING UNITED UTILITES COMBINED SEWER
- EXISTING PRIVATE COMBINED SEWER
- EXISTING PRIVATE SURFACE WATER SEWER
- EXISTING PRIVATE FOUL WATER SEWER
- EXISTING CULVERTED WATERCOURSE

P01 FIRST ISSUE	JK	NB	02.02.2026
Issued/Revision	By	Appd	DD.MM.YYYY
	JK	JK	NB	02.02.2026
	Dwn.	Dsgn.	Chkd.	DD.MM.YYYY

Issue Status

S2 - FOR INFORMATION

This document is suitable only for the purpose noted above. Use of this document for any other purpose is not permitted.

Client/Project Logo

KIER

Client/Project

KIER SHARSTON Ltd

SHARSTON INDUSTRIAL ESTATE

SHARSTON ROAD
WYTHENSHAWE, MANCHESTER

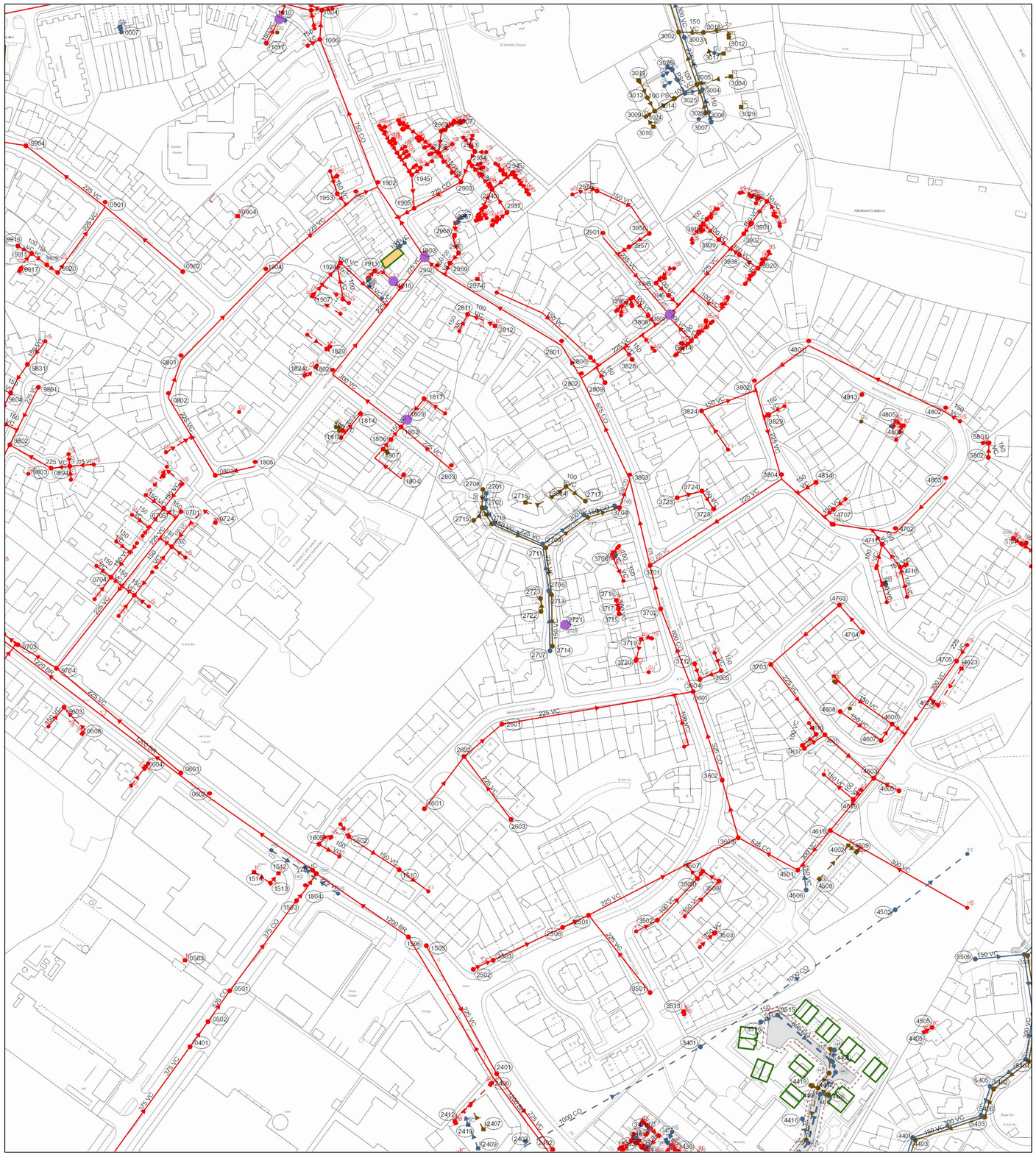
Title

EXISTING DRAINAGE LAYOUT

Project No.	A0 Scale
35838	1:200
Revision	Drawing No.
P01	**25006-STN-EX-XX-DR-C-00501**

Plotted: 02.02.2026 10:02:21 AM By: Kyle Jay
Drawing: 35838 - EXCAD - \\gb1-fs06.global1.stantec.com\uki-projects\35000\35838\Civil\Drawings\2d models\2026-stn-ex-xx-00501 ddf1 existing drainage.dwg

Appendix E – United Utilites Sewer Records



Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
1916		CO		150			VC	5.464429	
1809		CO		150			VC	5.044962	
0801	34.35	CO	31.96	225			VC	67.17886	1 in 80
3507		CO		150			VC	4.916429	
0601	34.27	CO	31.5	225			VC	90.13878	1 in 644
3003	34.63	SW	31.61	300			VC	37.36308	1 in 133
4801	36.12	CO	33.85	225			VC	37.20215	1 in 109
9803	34.19	CO	32.15	225			VC	26.41969	1 in 43
3506		CO		150			VC	10.7517	
1802	33.91	CO	31.67	300			VC	42.0119	1 in 52
1810		CO		100			VC	2.050489	
5406		SW	0	300			VC	39.75471	
5406		SW	0	300			VC	39.75471	
5406		SW	0	300			VC	39.75471	
5405		SW	0	300			VC	39.75471	
5401		FO	0	150			VC	24.92351	
5401		FO	0	150			VC	24.92351	
5401		FO	0	150			VC	24.92351	
5401		FO	0	150			VC	24.92351	
3601	34.81	CO	31.1	600			CO	49.39635	1 in 150
9831		CO	0	150			VC	18.60152	
5403		FO	0	150			VC	40.61946	
5403		FO	0	150			VC	40.61946	
5403		FO	0	150			VC	40.61946	
5403		FO	0	150			VC	40.61946	
4615		CO		100			VC	13.67058	
4616		CO		100			VC	9.728452	
1804		CO		150			VC	28.01562	
2708		FO		150			VC	9.994598	
3025		SW		100			PSC	9.886889	
4814		CO		150			VC	12.24842	
0702		CO	0	150			VC	8.12602	
2402	35.25	CO	31.96	225			VC	3.124356	1 in 1
2402	35.25	CO	31.96	225			VC	3.124356	1 in 1
3038		CO		150			VC	5.092239	
3018		FO		150			VC	13.59489	
3479		CO		100			UN	3.689238	
3479		CO		100			UN	3.689238	
1905		CO	0	225			CO	10.36412	
2404	35.19	CO	28.75	1200			BR	144.6663	
2711		FO		150			VC	28.71566	
3004	34.7	SW	31.91	300			VC	30.67572	1 in 110
0501		CO	0.15	375			CO	62.20129	
0501		CO	0.15	375			CO	62.20129	
3808		CO		100			VC	6.80323	
1016		CO		150			VC	9.366618	
1303	35.02	SW	31.1	1000			CO	107.1125	1 in 428
5508		SW	0	300			VC	25.49573	
5508		SW	0	300			VC	25.49573	
2501	35.33	CO	32.55	225			VC	93.47727	1 in 156
2501	35.33	CO	32.55	225			VC	93.47727	1 in 156
2806		CO		150			VC	6.386861	
0402	34.42	CO	30.76	375			VC	87.41853	1 in 250
0803	34.32	CO	32.51	225			VC	50.24938	1 in 144
1902	33.63	CO	29.6	750			CO	88.02273	1 in 326
3480		CO		100			UN	3.442082	
3480		CO		100			UN	3.442082	
4605	35.72	CO	33.08	225			VC	15.65248	1 in 87
2809		CO		150			VC	9.743485	
2603		CO	0	225			VC	43.60046	
1504	34.46	CO	29.13	450			CO	10.81665	
1924		CO		150			VC	34.98961	
5506		SW	0	225			VC	22.13988	
5506		SW	0	225			VC	22.13988	
3939		CO		100			VC	8.069164	
3024		FO		100			PSC	12.94817	
3481		CO		100			UN	10.11255	
3481		CO		100			UN	10.11255	
3804	35.4	CO	32.12	225			VC	87.36704	
3803	34.45	CO	30.44	675			CO	62.41991	1 in 520
3603	35.19	CO	31.61	525			CO	33.24154	1 in 316
1005	33.01	CO	29.42	300			VC	73.24618	1 in 156
4704	36.1	CO	33.71	225			VC	19.84943	1 in 86
5504		FO	0	150			VC	27.05526	
5504		FO	0	150			VC	27.05526	
0802	34.14	CO	32.14	225			VC	22.13594	1 in 138
2704		SW		300			VC	28.01959	
4603	35.59	CO	32.86	300			VC	37.64306	1 in 157
4506		SW		150			VC	14.49526	
3505		CO		150			VC	9.938245	
4606		CO		150			VC	9.030158	
1917		CO		150			VC	15.13364	
3920		CO		100			VC	12.67548	
2901	35.4	CO	33.96	225			VC	56.70801	1 in 46
1501		CO	0	1200			BR	69.58166	
3605		CO		150			VC	12.59608	
1003	33.11	CO	27.71	970			BR	73.4983	
2980		CO		100			VC	7.325577	
9915		CO		150			VC	10.42389	
4710		CO		150			VC	16.17321	
4610	35.42	CO	32.5	300			VC	28.43308	1 in 66
4607		CO		150			VC	11.01038	
1503		CO	30.95	375			CO	7.81025	1 in 4
3401	35.17	CO	30.78	1000			CO	132.0606	
3401	35.17	SW	30.78	1000			CO	132.0606	
3956		CO		150			VC	13.50708	
3014		FO		100			VC	14.7689	
0602	34.35	CO	28.23	1200			BR	74.20242	1 in 618
1602		CO		150			VC	33.5471	
3705		CO		300			VC	16.55336	
1505	34.73	CO	33.13	225			VC	81.09072	1 in 123
1505	34.73	CO	33.13	225			VC	81.09072	1 in 123
4617		CO		100			VC	1.946544	
5405		SW	0	300			VC	16.91249	
5405		SW	0	300			VC	16.91249	
5405		SW	0	300			VC	16.91249	
5405		SW	0	300			VC	16.91249	
2506		CO		225			VC	15.9402	
2506		CO		225			VC	15.9402	
1507		CO	0	1200			BR	2.88359	
3701	34.58	CO	30.68	675			CO	48.93715	1 in 222
3702	34.52	CO	30.75	600			CO	24.73863	
3502		CO		100			VC	32.05422	
3502		CO		100			VC	32.05422	
1904	33.87	CO	31.1	225			VC	65.94695	1 in 86
3602	34.95	CO	31.37	525			CO	51.5461	1 in 206
3478		CO		100			UN	2.994506	
3478		CO		100			UN	2.994506	
3706		CO		100			VC	5.190486	
5704		CO		150			VC	1.290034	
5704		CO		150			VC	1.290034	
1601	35.2	CO	32.42	225			VC	36.40055	1 in 303
2803	34.27	CO	32.96	225			VC	36.87818	1 in 108
3945		CO		100			VC	9.669041	
0703		CO	0	150			VC	8.653961	
2401	35.19	CO	32.45	225			VC	52.14297	1 in 111
2401	35.19	CO	32.45	225			VC	52.14297	1 in 111
9916		CO		100			VC	8.667126	
1945		CO		0			UN	18.57197	
9920		CO		225			VC	9.17872	
0401	34.45	CO	30.28	525			CO	17.20465	
0401	34.45	CO	30.28	525			CO	17.20465	
5503		FO	0	150			VC	32.33073	
5503		FO	0	150			VC	32.33073	
5503		FO	0	150			VC	32.33073	
5503		FO	0	150			VC	32.33073	
3824		CO		150			VC	32.18192	
4711		CO		150			VC	9.67929	
2976		CO		150			VC	38.77777	
0705		CO	0	150			VC	8.565721	
2713		FO		150			VC	26.26325	
1803	34.25	CO	32.59	300			VC	47.80167	1 in 54
4802	37.14	CO	35.48	225			VC	84.5281	1 in 53
4802	37.14	CO	35.48	225			VC	84.5281	1 in 53
1807		CO		150			VC	6.637478	
1953		CO		150			VC	7.761478	
0701	34.47	CO	33.24	225			VC	111.0405	1 in 55
3013		FO		100			PSC	8.322952	
1806		CO		150			VC	9.174136	
2706		SW		225			VC	26.23349	
3712		CO		100			VC	8.948717	
2602	34.93	CO	32.28	225			VC	27.65863	1 in 163
3946		CO		100			VC	7.878983	
4702	36.62	CO	35.15	225			VC	72.89199	1 in 43
4601	34.97	CO	33.13	225			VC	36.12478	1 in 157
3501	35.11	CO	33.25	225			VC	54.81788	1 in 79
3501	35.11	CO	33.25	225			VC	54.81788	1 in 79
3475		CO	0				UN	2.673246	
3475		CO	0				UN	2.673246	
1903	33.64	CO	29.75	750			CO	46.87217	1 in 361
5404		SW	0	300			VC	24.72137	
5404		SW	0	300			VC	24.72137	
5404		SW	0	300			VC	24.72137	
5404		SW	0	300			VC	24.72137	
1805	34.28	CO	32.81	225			VC	22.56103	1 in 119
2801	34.08	CO	30.1	675			CO	80.77747	1 in 337
2702		SW		225			VC	9.618055	
2933		CO		150			UN	0.601655	
1006	33.32	CO	29.31	750			CO	16.03122	1 in 107
5703		CO		150			VC	7.424601	
2966		CO		150			VC	6.917339	
1004	33.02	CO	27.73	750			CO	6.708204	
1901	33.49	CO	30.31	225			VC	13	1 in 42
3814		CO		100			VC	18.78792	
3957		CO		150			VC	7.464749	
9801	34.01	CO	31.91	225			VC	35.77709	1 in 94
3801	35.22	CO	32.73	225			VC	60.23186	1 in 30
2701		SW		150			VC	8.200762	
5507		SW	0	225			VC	33.46882	
5507		SW	0	225			VC	33.46882	
5507		SW	0	225			VC	33.46882	
5507		SW	0	225			VC	33.46882	
2707		SW		225			VC	33.13618	
3906		CO		150			VC	14.6199	
5509		SW	0	150			VC	27.21098	
5509		SW	0	150			VC	27.21098	
5509		SW	0	150			VC	27.21098	
5509		SW	0	150			VC	27.21098	
4803	37.22	CO	35.68	225			VC	39.59798	1 in 78
4803	37.22	CO	35.68	225			VC	39.59798	1 in 78
2710		FO		150			VC	32.62624	
5502		FO	0	150			VC	20.44271	
5502		FO	0	150			VC	20.44271	
2703		SW		225			VC	29.18816	
4403		SW	0	300			VC	32.05935	
4403		SW	0	300			VC	32.05935	
4403		SW	0	300			VC	32.05935	
4403		SW	0	300			VC	32.05935	
2802	34.22	CO	30.3	675			CO	21.09502	1 in 117
3902	34.75	CO	33.36	225			VC	60.87693	1 in 100
2403	35.11	SW	30.82	1000			CO	111.4662	1 in 5573

Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
0502		CO	30.12	525			CO	20.80865	
0502		CO	30.12	525			CO	20.80865	
2705		SW		300			VC	17.56845	
2709		FO		150			VC	10.60212	
1913		CO		150			VC	13.84761	
3919		CO		100			VC	12.30014	
4707		CO		150			VC	6.554101	
9919		CO		225			VC	7.397673	
0704		CO	0	150			VC	7.698309	
3901	34.7	CO	33.47	150			VC	3.808403	1 in 63
4608		CO		150			VC	27.76409	
2503	35.18	CO	32.99	225			VC	42.66014	
2503	35.18	CO	32.99	225			VC	42.66014	
3951		CO		100			VC	13.2103	
4501	35.37	CO	31.8	525			CO	37.58072	1 in 221
2601	34.81	CO	32.09	225			VC	107.5174	1 in 269
9804		CO	0	150			VC	16.60743	
1510		CO		150			VC	19.99358	
2712		FO		150			CO	18.47819	
2502	35.1	CO	33.16	150			VC	6.71044	1 in 96
2502	35.1	CO	33.16	150			VC	6.71044	1 in 96
0904		CO	0	225			VC	10.37698	
2715		FO		100			VC	8.852213	
3002	34.59	FO	32.12	225			VC	34.48188	1 in 144
1502	34.47	SW	31.29	225			VC	4.101109	
4503	35.28	SW		1000			CO	50.60632	
4503	35.28	SW		1000			CO	50.60632	
4401	35.86	CO	33.47	225			VC	50.32892	1 in 629
3717		CO		100			VC	2.854597	
2714		FO		150			VC	28.65252	
2804		FO		100			PVC	13.36162	
3005	34.7	FO	32.4	225			VC	30.67572	1 in 118
2902	33.68	CO	29.84	675			CO	9.899405	
5402		FO	0	150			VC	16.2029	
5402		FO	0	150			VC	16.2029	
5402		FO	0	150			VC	16.2029	
5402		FO	0	150			VC	16.2029	
3704		SW		300			VC	3.013652	
3477		CO		100			UN	10.65595	
3477		CO		100			UN	10.65595	
3703	34.82	CO	33.38	225			VC	49.20366	1 in 214
4401		FO	0	150			VC	33.49485	
4401		FO	0	150			VC	33.49485	
4401		FO	0	150			VC	33.49485	
4401		FO	0	150			VC	33.49485	
0902	34.14	CO	32.63	225			VC	56.0803	1 in 110
3503		CO		150			VC	7.7689824	
3503		CO		150			VC	0.7689824	
1506		CO		300			BR	61.85467	
1506	34.58	CO	28.77	1200			BR	61.85467	
4416	35.27	SW	33.93	150			VC	13.62353	1 in 80
4416	35.27	SW	33.93	150			VC	13.62353	1 in 80
4419	35.51	FO	33.49	150			VC	4.21772	1 in 23
4419	35.51	FO	33.49	150			VC	4.21772	1 in 23
4705	36.9	CO	33.55	300			VC	79.63039	1 in 119
4705	36.9	CO	33.55	300			VC	79.63039	1 in 119
2902		CO		0			UN	12.235	
4413	35.01	FO	32.94	225			VC	21.66227	1 in 57
4413	35.01	FO	32.94	225			VC	21.66227	1 in 57
4619		CO		150			VC	21.38827	
9703	34.02	CO	30.72	225			VC	9.90583	1 in 991
0901	34.24	CO	32.1	225			VC	55.60575	1 in 139
3476		CO		100			UN	5.92941	
3476		CO		100			UN	5.92941	
4409	35.03	SW	32.77	600			CO	14.57307	1 in 291
4409	35.03	SW	32.77	600			CO	14.57307	1 in 291
5802		CO		150			VC	8.056728	
5802		CO		150			VC	8.056728	
3802	35.69	CO	33.49	225			VC	54.12027	1 in 155
1817		CO		150			VC	15.08218	
4418	35.8	FO	34.07	150			VC	13.49142	1 in 50
4418	35.8	FO	34.07	150			VC	13.49142	1 in 50
5801		CO		150			VC	3.328461	
5801		CO		150			VC	3.328461	
2940		CO		150			UN	2.170679	
3516	35.47	SW	34.29	150			VC	10.00935	1 in 29
3516	35.47	SW	34.29	150			VC	10.00935	1 in 29
4414	35.72	SW	34.13	150			VC	6.729095	1 in 35
4414	35.72	SW	34.13	150			VC	6.729095	1 in 35
3515	35.43	SW	33.01	600			CO	39.98976	1 in 400
3515	35.43	SW	33.01	600			CO	39.98976	1 in 400
3723		CO		150			VC	14.35839	
2903		CO	0	225			CO	29.89718	
2945		CO		0			UN	3.951781	
4408	35.33	SW	32.85	600			CO	27.89656	1 in 349
4408	35.33	SW	32.85	600			CO	27.89656	1 in 349
2958		CO		150			VC	5.582453	
4411	35.5	FO	33.8	150			VC	10.29608	1 in 21
4411	35.5	FO	33.8	150			VC	10.29608	1 in 21
2934		CO		150			UN	11.76205	
3828		CO		150			VC	7.853434	
4415	35.43	SW	33.7	150			VC	5.11876	1 in 85
4415	35.43	SW	33.7	150			VC	5.11876	1 in 85
2722		FO		100			VC	7.728803	
2007		CO		0			UN	2.585571	
3829		CO		150			VC	3.202144	
3039		SW		300			CO	12.94037	
4406	35.61	SW	32.91	600			CO	6.147098	1 in 307
4406	35.61	SW	32.91	600			CO	6.147098	1 in 307
2937		CO		150			VC	15.28121	
9802	34.02	CO	31.51	225			VC	87.23531	1 in 104
3724		CO		150			VC	11.73117	
3007	34.7	SW	32.1	300			VC	5.741167	
3436		CO		100			UN	3.298711	
3436		CO		100			UN	3.298711	
9704	34.09	CO		225			VC	25.16443	1 in 47
9904	34.09	CO	31.68	225			VC	52.61179	1 in 88
3006		FO	0	150			VC	8.246211	
3026		SW		100			PSC	14.7381	
4420	35.47	FO	34.11	150			VC	6.728104	1 in 26
4420	35.47	FO	34.11	150			VC	6.728104	1 in 26
4412	35.34	FO	33.31	150			VC	29.63298	1 in 80
4412	35.34	FO	33.31	150			VC	29.63298	1 in 80
1605		CO		100			VC	13.19464	
4407	35.52	SW	32.89	600			CO	14.7397	1 in 368
4407	35.52	SW	32.89	600			CO	14.7397	1 in 368

LEGEND

Abandoned · Foul · Surface Water · Combined

- Public Sewer
- Private Sewer
- Section 104
- Rising Main
- Sludge Main
- Overflow
- Water Course
- Highway Drain

All point assets follow the standard colour convention:
red - combined · blue - surface water
brown - foul · purple - overflow

- Manhole
- Head of System
- Extent of Survey
- Rodding Eye
- Inlet
- Discharge Point
- Vortex
- Penstock
- Washout Chamber
- Valve
- Air Valve
- Non Return Valve
- Soakaway
- Gully
- Cascade
- Flow Meter
- Hatch Box
- Oil Interceptor
- Summit
- Drop Shaft
- Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- Inspection Chamber
- Bifurcation Chamber
- Lamp Hole
- T Junction / Saddle
- Catchpit
- Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- Network Storage Tank
- Sewer Overflow
- Ww Treatment Works
- Ww Pumping Station
- Septic Tank
- Control Kiosk
- DNM Network Monitoring Point
- Change of Characteristic

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
CSU	Concrete Segment Unbolted
CC	Concrete Box Culverted
PSC	Plastic / Steel Composite
GRC	Glass Reinforced Plastic
DI	Ductile Iron
PVC	Polyvinyl Chloride
CI	Cast Iron
SI	Spun Iron
ST	Steel
VC	Vitrified Clay
PP	Polypropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

Address or Site Reference:

Sharston Industrial Estate,

OS sheet Number: SJ8389NW
Scale: 1:1250 **Date:** 07/01/2026
Nodes: 317
Sheet: 1 of 4

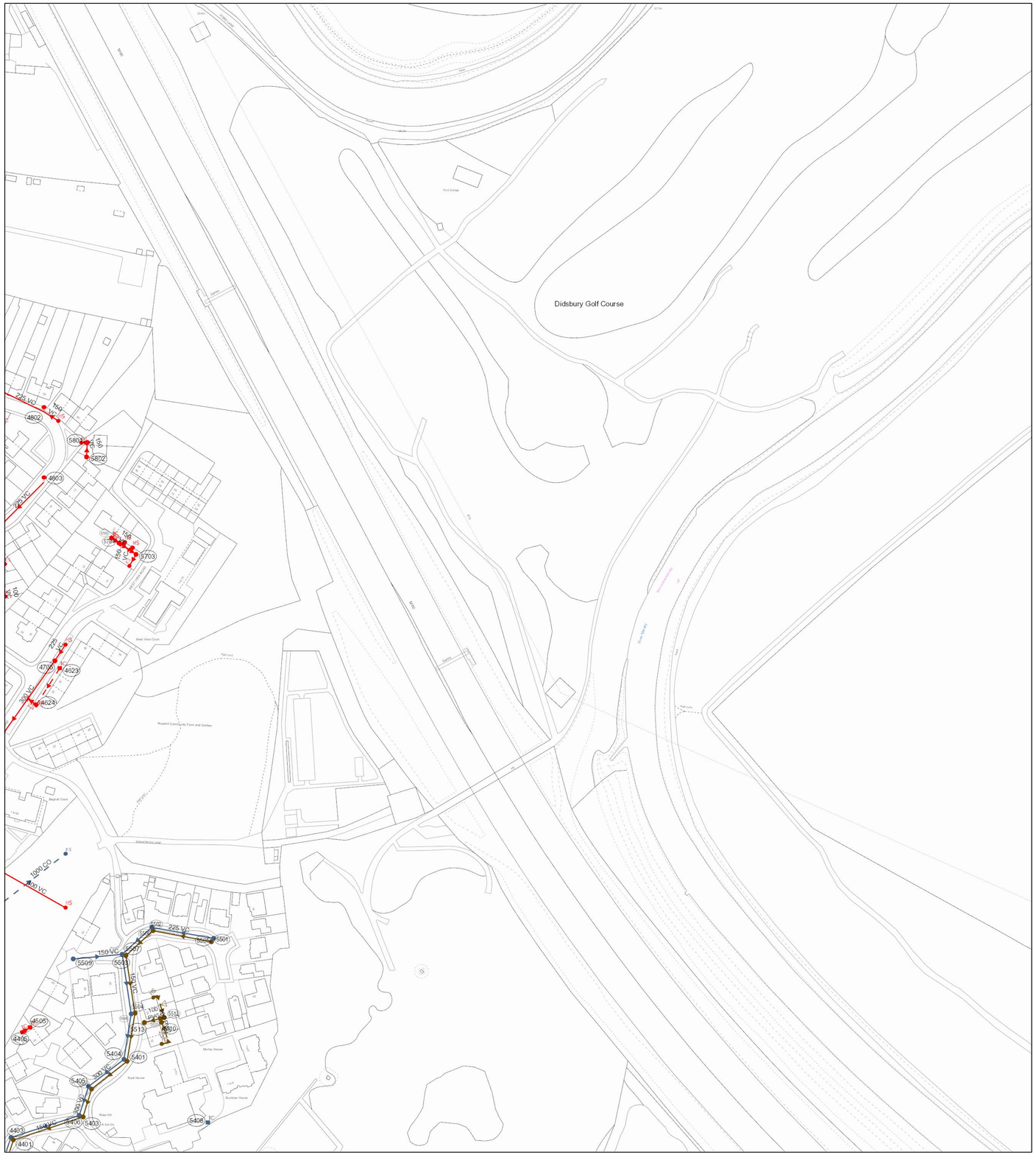
Printed by: Property Searches

SEWER RECORDS

United Utilities
Water for the North West

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

Crown copyright and database rights 2025 Ordnance Survey 0000813445. Unauthorised reproduction will infringe these copyrights.



Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
5504		FO	0	150			VC	27.05526	
5504		FO	0	150			VC	27.05526	
5404		SW	0	300			VC	24.72137	
5404		SW	0	300			VC	24.72137	
5404		SW	0	300			VC	24.72137	
5404		SW	0	300			VC	24.72137	
4503	35.28	SW		1000			CO	50.60632	
4503	35.28	SW		1000			CO	50.60632	
4403		SW	0	300			VC	32.05935	
4403		SW	0	300			VC	32.05935	
4403		SW	0	300			VC	32.05935	
4403		SW	0	300			VC	32.05935	
5405		SW	0	300			VC	16.91249	
5405		SW	0	300			VC	16.91249	
5405		SW	0	300			VC	16.91249	
5405		SW	0	300			VC	16.91249	
5703		CO		150			VC	7.424601	
5503		FO	0	150			VC	32.33073	
5503		FO	0	150			VC	32.33073	
5503		FO	0	150			VC	32.33073	
5503		FO	0	150			VC	32.33073	
5501		FO	0	150			VC	32.9839	
5501		FO	0	150			VC	32.9839	
5508		SW	0	300			VC	25.49573	
5508		SW	0	300			VC	25.49573	
5402		FO	0	150			VC	16.2029	
5402		FO	0	150			VC	16.2029	
5402		FO	0	150			VC	16.2029	
5402		FO	0	150			VC	16.2029	
4802	37.14	CO	35.48	225			VC	84.5281	1 in 53
4802	37.14	CO	35.48	225			VC	84.5281	1 in 53
5406		SW	0	300			VC	39.75471	
5406		SW	0	300			VC	39.75471	
5406		SW	0	300			VC	39.75471	
5406		SW	0	300			VC	39.75471	
5510		FO		100			PVC	2.267099	
5510		FO		100			PVC	2.267099	
5401		FO	0	150			VC	24.92351	
5401		FO	0	150			VC	24.92351	
5401		FO	0	150			VC	24.92351	
5401		FO	0	150			VC	24.92351	
5506		SW	0	225			VC	22.13988	
5506		SW	0	225			VC	22.13988	
5403		FO	0	150			VC	40.61946	
5403		FO	0	150			VC	40.61946	
5403		FO	0	150			VC	40.61946	
5403		FO	0	150			VC	40.61946	
5507		SW	0	225			VC	33.46882	
5507		SW	0	225			VC	33.46882	
5507		SW	0	225			VC	33.46882	
5507		SW	0	225			VC	33.46882	
5505		SW	0	225			VC	34.93074	
5505		SW	0	225			VC	34.93074	
5704		CO		150			VC	1.290034	
5704		CO		150			VC	1.290034	
5509		SW	0	150			VC	27.21098	
5509		SW	0	150			VC	27.21098	
5509		SW	0	150			VC	27.21098	
5509		SW	0	150			VC	27.21098	
5511		FO		100			PVC	9.071838	
5511		FO		100			PVC	9.071838	
4803	37.22	CO	35.68	225			VC	39.59798	1 in 78
4803	37.22	CO	35.68	225			VC	39.59798	1 in 78
5512		FO		100			PVC	2.264166	
5512		FO		100			PVC	2.264166	
4401		FO	0	150			VC	33.49485	
4401		FO	0	150			VC	33.49485	
4401		FO	0	150			VC	33.49485	
4401		FO	0	150			VC	33.49485	
5502		FO	0	150			VC	20.44271	
5502		FO	0	150			VC	20.44271	
5802		CO		150			VC	8.056728	
5802		CO		150			VC	8.056728	
5801		CO		150			VC	3.328461	
5801		CO		150			VC	3.328461	
4705	36.9	CO	33.55	300			VC	79.63039	1 in 119
4705	36.9	CO	33.55	300			VC	79.63039	1 in 119

Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad

LEGEND

Abandoned | Foul | Surface Water | Combined

- Public Sewer
- Private Sewer
- Section 104
- Rising Main
- Sludge Main
- Overflow
- Water Course
- Highway Drain

All point assets follow the standard colour convention:
red - combined blue - surface water
brown - foul purple - overflow

- Manhole
- Head of System
- Extent of Survey
- Rodding Eye
- Inlet
- Discharge Point
- Vortex
- Penstock
- Washout Chamber
- Valve
- Air Valve
- Non Return Valve
- Soakaway
- Gully
- Cascade
- Flow Meter
- Hatch Box
- Oil Interceptor
- Summit
- Drop Shaft
- Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- Inspection Chamber
- Bifurcation Chamber
- Lamp Hole
- T Junction / Saddle
- Catchpit
- Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- Network Storage Tank
- Sewer Overflow
- Ww Treatment Works
- Ww Pumping Station
- Septic Tank
- Control Kiosk
- DNM Network Monitoring Point
- Change of Characteristic

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
CSU	Concrete Segment Unbolted
CC	Concrete Box Culverted
PSC	Plastic / Steel Composite
GRC	Glass Reinforced Plastic
DI	Ductile Iron
PVC	Polyvinyl Chloride
CI	Cast Iron
SI	Spun Iron
ST	Steel
VC	Vitrified Clay
PP	Polypropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

Address or Site Reference:

Sharston Industrial Estate,

OS sheet Number: SJ8389NE
Scale: 1:1250 **Date:** 07/01/2026
Nodes: 77
Sheet: 2 of 4

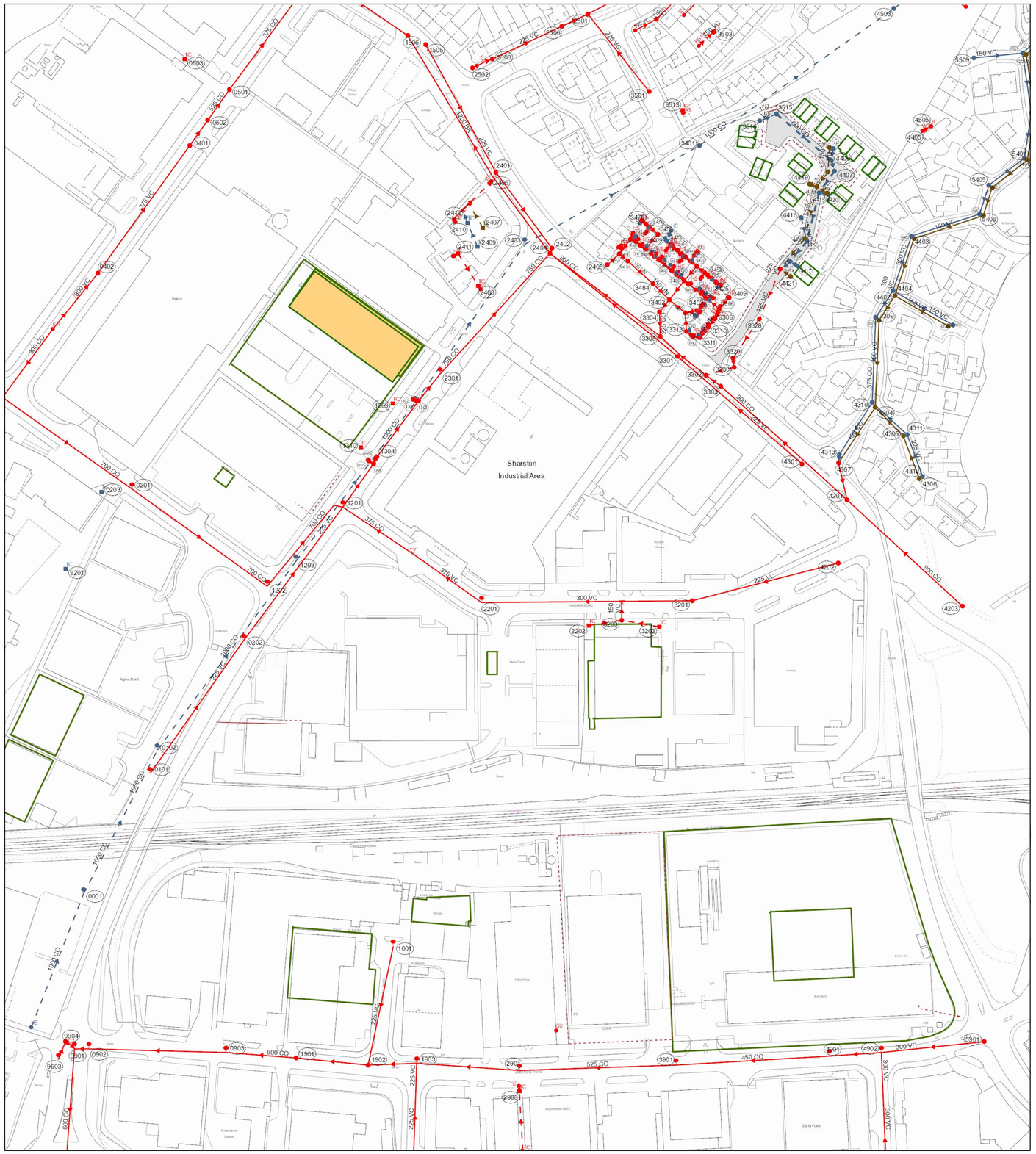
Printed by: Property Searches

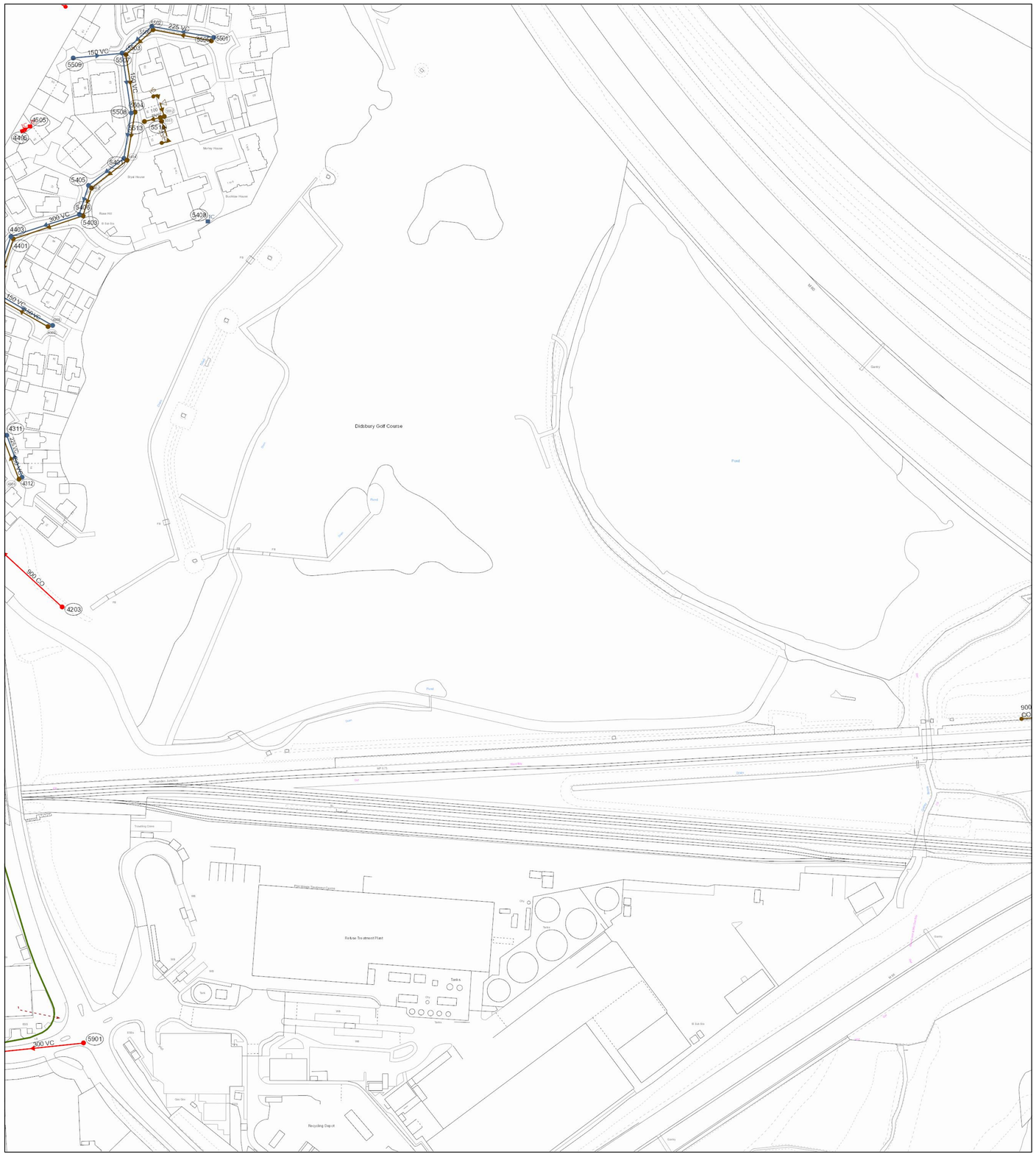
SEWER RECORDS

United Utilities
Water for the North West

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

Crown copyright and database rights 2025 Ordnance Survey 0000813445. Unauthorised reproduction will infringe these copyrights.


Sharston
Industrial Area
Alpha Poset
Depot
Factory
Dairy Crest
Delta Poset
Northenden RMX
Ambulance Station
Sharston Road
Wythenshawe Road
Styal Line
Manchester Ship Canal
Rose Hill
Sale Sluice
Sale Water Park
Sale Waterside
Sale Ees
Sale Ees Nature Reserve
Sale Ees Country Park
Sale Ees Pond
Sale Ees Pond Nature Reserve
Sale Ees Pond Country Park
Sale Ees Pond Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve
Sale Ees Pond Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park Nature Reserve Country Park



The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

Crown copyright and database rights 2025 Ordnance Survey 0000813445. Unauthorised reproduction will infringe these copyrights.

Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
5504		FO	0	150			VC	27.05526	
5504		FO	0	150			VC	27.05526	
5404		SW	0	300			VC	24.72137	
5404		SW	0	300			VC	24.72137	
5404		SW	0	300			VC	24.72137	
5404		SW	0	300			VC	24.72137	
4403		SW	0	300			VC	32.05935	
4403		SW	0	300			VC	32.05935	
4403		SW	0	300			VC	32.05935	
4403		SW	0	300			VC	32.05935	
5901		CO	0	300			VC	57.31492	
5901		CO	0	300			VC	57.31492	
5405		SW	0	300			VC	16.91249	
5405		SW	0	300			VC	16.91249	
5405		SW	0	300			VC	16.91249	
5503		FO	0	150			VC	32.33073	
5503		FO	0	150			VC	32.33073	
5503		FO	0	150			VC	32.33073	
5501		FO	0	150			VC	32.9839	
5501		FO	0	150			VC	32.9839	
5508		SW	0	300			VC	25.49573	
5508		SW	0	300			VC	25.49573	
4311		SW	0	225			VC	26.39258	
4311		SW	0	225			VC	26.39258	
4203		CO	0	900			CO	87.06718	
4203		CO	0	900			CO	87.06718	
5402		FO	0	150			VC	16.2029	
5402		FO	0	150			VC	16.2029	
5402		FO	0	150			VC	16.2029	
5402		FO	0	150			VC	16.2029	
4308		SW	0	150			VC	38.421	
4308		SW	0	150			VC	38.421	
5406		SW	0	300			VC	39.75471	
5406		SW	0	300			VC	39.75471	
5406		SW	0	300			VC	39.75471	
5406		SW	0	300			VC	39.75471	
5510		FO		100			PVC	2.267099	
5510		FO		100			PVC	2.267099	
5401		FO	0	150			VC	24.92351	
5401		FO	0	150			VC	24.92351	
5401		FO	0	150			VC	24.92351	
5401		FO	0	150			VC	24.92351	
5506		SW	0	225			VC	22.13988	
5506		SW	0	225			VC	22.13988	
5403		FO	0	150			VC	40.61946	
5403		FO	0	150			VC	40.61946	
5403		FO	0	150			VC	40.61946	
5403		FO	0	150			VC	40.61946	
5507		SW	0	225			VC	33.46882	
5507		SW	0	225			VC	33.46882	
5507		SW	0	225			VC	33.46882	
5507		SW	0	225			VC	33.46882	
5505		SW	0	225			VC	34.93074	
5505		SW	0	225			VC	34.93074	
4306		FO	0	150			VC	25.26428	
4306		FO	0	150			VC	25.26428	
5509		SW	0	150			VC	27.21098	
5509		SW	0	150			VC	27.21098	
5509		SW	0	150			VC	27.21098	
5509		SW	0	150			VC	27.21098	
5511		FO		100			PVC	9.071838	
5511		FO		100			PVC	9.071838	
5512		FO		100			PVC	2.264166	
5512		FO		100			PVC	2.264166	
4401		FO	0	150			VC	33.49485	
4401		FO	0	150			VC	33.49485	
4401		FO	0	150			VC	33.49485	
4401		FO	0	150			VC	33.49485	
4312		SW	0	225			VC	24.74211	
4312		SW	0	225			VC	24.74211	
4303		FO	0	150			VC	34.23367	
4303		FO	0	150			VC	34.23367	
5502		FO	0	150			VC	20.44271	
5502		FO	0	150			VC	20.44271	

Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad

LEGEND

Abandoned | Foul | Surface Water | Combined

- Public Sewer
- Private Sewer
- Section 104
- Rising Main
- Sludge Main
- Overflow
- Water Course
- Highway Drain

All point assets follow the standard colour convention:

red - combined blue - surface water

brown - foul purple - overflow

- Manhole
- Head of System
- Extent of Survey
- Rodding Eye
- Inlet
- Discharge Point
- Vortex
- Penstock
- Washout Chamber
- Valve
- Air Valve
- Non Return Valve
- Soakaway
- Gully
- Cascade
- Flow Meter
- Hatch Box
- Oil Interceptor
- Summit
- Drop Shaft
- Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- Inspection Chamber
- Bifurcation Chamber
- Lamp Hole
- T Junction / Saddle
- Catchpit
- Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- Network Storage Tank
- Sewer Overflow
- Ww Treatment Works
- Ww Pumping Station
- Septic Tank
- Control Kiosk
- DNM Network Monitoring Point
- Change of Characteristic

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
CSU	Concrete Segment Unbolted
CC	Concrete Box Culverted
PSC	Plastic / Steel Composite
GRC	Glass Reinforecd Plastic
DI	Ductile Iron
PVC	Polyvinyl Chloride
CI	Cast Iron
SI	Spun Iron
ST	Steel
VC	Vitrified Clay
PP	Polypropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

Address or Site Reference:

Sharston Industrial Estate,

OS sheet Number: SJ8389SE

Scale: 1:1250 **Date:** 07/01/2026

Nodes: 76

Sheet: 4 of 4

Printed by: Property Searches

SEWER RECORDS

United Utilities
Water for the North West

Appendix F – HR Wallingford Greenfield Rate Calculations

Greenfield runoff rate estimation tool

www.uksuds.com | Greenfield runoff rate estimation tool (https://www.uksuds.com/)

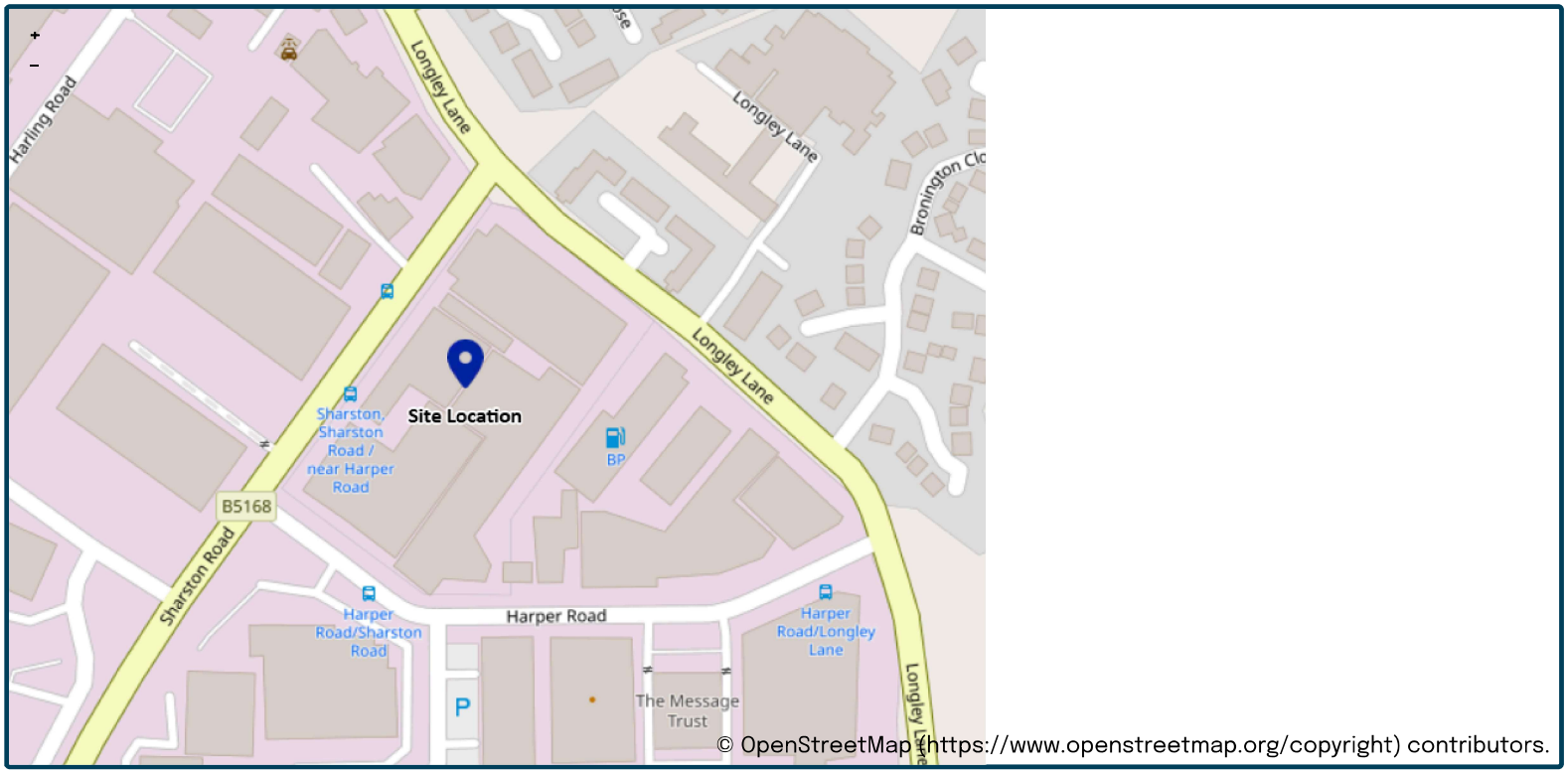
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015).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

Project details

Date	08/07/2025
Calculated by	Natasha Mehmood
Reference	Sharston
Model version	2.0.1

Location

Site name	Trade City Sharston
Site location	Former Electrium Sales Ltd SAITE, 1934 Sharston Road, Wythenshawe



Site easting	383250
Site northing	389331

Site details

Total site area (ha)	1.6 ha

Greenfield runoff

Method

Method	IH124

IH124

	My value		Map value
SAAR (mm)	830 mm		830
How should SPR be derived?	WRAP soil type		
WRAP soil type	2		2
SPR	0.3		
QBar (IH124) (l/s)	3.6 l/s		

Growth curve factors

	My value		Map value
Hydrological region	10		10
1 year growth factor	0.87		
2 year growth factor	0.93		
10 year growth factor	1.38		
30 year growth factor	1.7		
100 year growth factor	2.08		
200 year growth factor	2.37		

Results

Method	IH124
Flow rate 1 year (l/s)	3.1 l/s
Flow rate 2 year (l/s)	3.3 l/s
Flow rate 10 years (l/s)	4.9 l/s
Flow rate 30 years (l/s)	6.1 l/s
Flow rate 100 years (l/s)	7.4 l/s
Flow rate 200 years (l/s)	8.4 l/s

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.0.1) developed by HR Wallingford and available at uksuds.com (https://www.uksuds.com/). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (https://www.uksuds.com/terms-conditions). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Appendix G – United Utilites Correspondence

Kara, Jay

From: Checkley, Victoria
Sent: 24 March 2026 17:09
To: Vallipuram Suresh; Hannah Hogan; Flood Risk Management
Cc: Brad Wiseman; Butler, Oliver; Byrne, Neil; Kara, Jay
Subject: RE: Sharston - UU REF: 07867880 - Sharston Industrial Estate, M22 4RA

Hi Vkay,

It is common practice that acceptance of connection from UU is done via email, so whilst, as requested, we will ask UU for a formal letter, we trust this will not hold up the approval process once we submit the updated drainage strategy?

Regards

Victoria

Victoria Checkley, BEng (Hons), CEng MIStructE
Director

Stantec

From: Vallipuram Suresh <Vallipuram.Suresh@manchester.gov.uk>
Sent: 24 March 2026 16:54
To: Checkley, Victoria <Victoria.Checkley@stantec.com>; Hannah Hogan <Hannah.Hogan@manchester.gov.uk>; Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Cc: Brad Wiseman <brwiseman@savills.com>; Butler, Oliver <oliver.butler@kier.co.uk>; Byrne, Neil <Neil.Byrne@stantec.com>
Subject: RE: Sharston - UU REF: 07867880 - Sharston Industrial Estate, M22 4RA

Hi Victoria,

Thank you for confirming this via email. However, we kindly request a formal letter of confirmation from the United Utilities for our record.

We are looking forward to receiving a copy of your revised drainage strategy for our review.

Kind Regards,
Vkay

Vallipuram Suresh
Flood Risk Team (LLFA) Flood Risk Engineer
Email: vallipuram.suresh@manchester.gov.uk

Highways Service
Neighbourhoods Directorate
Manchester City Council
PO Box 532
Town Hall
Manchester
M60 2LA
Web: http://www.manchester.gov.uk

****
This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to whom they are addressed.
If you have received this email in error, please notify the system manager.
The full text of the Council's email disclaimer is available at www.manchester.gov.uk/emaildisclaimer.
Your personal data is very important to us. Please refer to our privacy notice at www.manchester.gov.uk/privacy for further information.

This footnote also confirms that this email message has been swept for the presence of computer viruses.
****

From: Checkley, Victoria <Victoria.Checkley@stantec.com>
Sent: 24 March 2026 16:44
To: Hannah Hogan <Hannah.Hogan@manchester.gov.uk>; Flood Risk Management <floodriskmanagement@manchester.gov.uk>; Vallipuram Suresh <Vallipuram.Suresh@manchester.gov.uk>
Cc: Brad Wiseman <brwiseman@savills.com>; Butler, Oliver <oliver.butler@kier.co.uk>; Byrne, Neil <Neil.Byrne@stantec.com>
Subject: FW: Sharston - UU REF: 07867880 - Sharston Industrial Estate, M22 4RA

ALERT This message originated outside of the Manchester City Council network. **BE CAUTIOUS** before clicking any links or opening any attachments. Please remember your Cyber Training and report anything suspicious.

Hi,

Just as an updated, UU have confirmed they will accept a surface water connection onto their combined sewer for our Sharston site – see email below.

We will be issuing the updated drainage strategy to the planners to allow this planning condition to be signed off.

Regards

Victoria

Victoria Checkley, BEng (Hons), CEng MIStructE
Director

Stantec

From: McDermott, Daniel <Daniel.McDermott@uuplc.co.uk>
Sent: 24 March 2026 16:04
To: Butler, Oliver <Oliver.Butler@kier.co.uk>; Byrne, Neil <Neil.Byrne@stantec.com>
Cc: Checkley, Victoria <Victoria.Checkley@stantec.com>
Subject: RE: Sharston - UU REF: 07867880 - Sharston Industrial Estate, M22 4RA

Hi all,

As the combined network has no CSO United Utilities would agree to permit a connection to it.

If I can be of any further assistance please don't hesitate to contact me.

Regards,

Daniel McDermott
Customer Area Manager WW
Developer Services & Metering
Customer Services
M: 07795046445
unitedutilities.com

If you have received a great service today why not tell us?
Visit: unitedutilities.com/wow

Disclaimer: The content of this email is the confidential property of Stantec and should not be copied, modified, retransmitted, or used for any purpose except with Stantec's written authorization. If you are not the intended recipient, please delete all copies and notify us immediately. This communication may come from a variety of legal entities within or associated with the Stantec group. For a full list of details for these entities please see our website at www.stantec.com. Where business communications relate to the Stantec UK Limited entity, the registered office is Stantec House, Kelburn Court, Birchwood, Warrington, Cheshire WA3 6UT Tel: 01925 845000 and the company is registered in England as registration number 01188070.

****
This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to whom they are addressed.
If you have received this email in error, please notify the sender, or dpo@manchester.gov.uk, and then permanently delete the email, attachments and all copies.
The full text of the Council's email disclaimer is available at: www.manchester.gov.uk/emaildisclaimer.
Your personal data is very important to us. Please refer to our privacy notice at: www.manchester.gov.uk/privacy for further information.

This footnote also confirms that this email message has been swept for the presence of computer viruses.
****

Caution: This email originated from outside of Stantec. Please take extra precaution.

Attention: Ce courriel provient de l'extérieur de Stantec. Veuillez prendre des précautions supplémentaires.

Atención: Este correo electrónico proviene de fuera de Stantec. Por favor, tome precauciones adicionales.

Appendix H – Proposed Drainage Plan

SHARSTON ROAD

LONGLEY LANE

HARPER

EXISTING UNITED UTILITES COMBINED SEWER (2301) CL 35.110 IL 29.330

EXISTING UNITED UTILITES COMBINED SEWER (2404) CL 35.190 IL 28.750

EXISTING UNITED UTILITES COMBINED SEWER (3301) CL 35.360 IL 32.200

2402

3305

3302

3303

Unit 1 FFL 35.450m

Units 2, 3, 4, 5 FFL 35.530m

Units 6, 7, 8, 9 FFL 35.665m

FW01 CL 35.398 IL 34.545 PPIC 600ØI

FW02 CL 35.378 IL 34.020 PPIC 600ØI

FW03 CL 35.076 IL 33.745 PPIC 600ØI

FW04 CL 34.981 IL 33.500 PPIC 600ØI

FW05 CL 35.475 IL 34.225 PPIC 600ØI

FW06 CL 35.478 IL 33.790 PPIC 600ØI

FW07 CL 35.432 IL 33.610 PPIC 600ØI

FW08 CL 35.477 IL 33.225 PPIC 600ØI

FW09 CL 35.598 IL 34.745 PPIC 600ØI

FW10 CL 35.597 IL 34.205 PPIC 600ØI

FW11 CL 35.596 IL 34.030 PPIC 600ØI

SWMH01 CL 35.103 IL 33.975 MH 1200Ø

SWMH02 CL 35.132 IL 33.920 MH 1200Ø

SWMH03 CL: 34.998 IL: 33.610 PPIC 1200Ø

SWMH04 CL 35.480 IL 33.300 MH 1200Ø

SWMH05 CL 35.483 IL 33.105 MH 1200Ø

SWMH06 CL 35.352 IL 32.995 MH 1200Ø

SWMH07 CL 35.358 IL 34.000 MH 1200Ø

SWMH08 CL 35.244 IL 34.115 MH 1200Ø

SWMH09 CL 34.913 IL 33.775 MH 1200Ø

SWMH10 CL 34.829 IL 33.145 MH 1200Ø

SWMH11 CL 34.829 IL 33.105 MH 1200Ø

SWMH12 CL 35.377 IL 32.950 MH 1200Ø

SWMH13 CL 35.377 IL 32.925 MH 1200Ø

SWMH14 CL 35.483 IL 34.430 MH 600Ø

SWMH15 CL 35.336 IL 34.211 PPIC 600ØI

SWMH16 CL 35.384 IL 34.140 PPIC 600ØI

SWMH17 CL 35.480 IL 34.355 PPIC 600ØI

SWMH18 CL 35.064 IL 31.740 MH 1200Ø Hydrobrake @ 1.8l/s Design Depth: 2.500m SHE-0051-1800-2500-1800

SWMH19 CL 35.438 IL 34.360 MH 1200Ø

SWMH21 CL 35.428 IL 34.300 MH 1200Ø

SWMH22 CL 35.616 IL 34.498 PPIC 600ØI

SWMH23 CL 35.614 IL 34.123 MH 1200Ø

SWMH24 CL 35.614 IL 34.489 PPIC 600ØI

SWMH25 CL 35.557 IL 34.507 PPIC 600ØI

SWMH26 CL 35.557 IL 33.550 CP 1200Ø

SWMH27 CL 35.554 IL 34.210 MH 1200Ø

SWMH28 CL 35.244 IL 33.840 MH 1200Ø

SWMH29 CL 35.291 IL 33.315 MH 1200Ø Hydrobrake @ 1.8l/s Design Depth: 1.000m SHE-0063-1800-1000-1800

SWMH30 CL 35.327 IL 33.015 MH 1200Ø

SWMH31 CL 35.327 IL 32.965 MH 1200Ø

SWMH32 CL 35.120 IL 31.700 MH 1200Ø

SWMH33 CL 35.474 IL 31.690 MH 1200Ø

SWMH34 CL 35.477 IL 31.565 MH 1200Ø

COMMH30 CL 35.327 IL 33.015 MH 1200Ø

COMMH31 CL 35.327 IL 32.965 MH 1200Ø

COMMH32 CL 35.120 IL 31.700 MH 1200Ø

COMMH33 CL 35.474 IL 31.690 MH 1200Ø

COMMH34 CL 35.477 IL 31.565 MH 1200Ø

ATTENUATION TANK 01 TOP OF TANK: 33.255 IL 31.755 VOL 660m³ 95% POROSITY

ATTENUATION TANK 02 TOP OF TANK: 34.362 IL 33.362 VOL 560m³ 95% POROSITY

SPEL FULL RETENTION SEPARATOR MODEL: P050 1C/SC OR SIMILAR APPROVED HEAVY TANK

SPEL FULL RETENTION SEPARATOR MODEL: P065 1C/SC OR SIMILAR APPROVED. HEAVY TANK

SPEL BYPASS SEPARATOR MODEL: 103 C1/SC OR SIMILAR APPROVED. HEAVY TANK

FW CHANNEL (TRAPPED)

DN300 CONCRETE PIPE, WITH CONCRETE BED AND SURROUND (FULL TRENCH) TO PASS UNDER BUILDING AND AVOID FOUNDATIONS

RWP

SCALE 1:200

0 4 8 12 16 20m

Stantec

Stantec Hydrock Limited
100 Barbirolli Square
Manchester
M2 3PW
tel. +44 161 245 8900
www.stantec.com/uk

Copyright Reserved

The Copyrights to all designs and drawings are the property of Stantec Hydrock Limited. Reproduction or use for any purpose other than that authorised by Stantec is forbidden.

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. Any errors or omissions shall be reported to Stantec without delay.

Colour Disclaimer

This drawing has been documented in colour. This drawing is required to be printed in colour. Failure to do so may result in loss of information. Black and white printing may be used if specific black and white documents have been obtained from Stantec.

Notes

1. THIS DRAWING IS JUST FOR INFORMATION PURPOSES ONLY AND UNDER NO CIRCUMSTANCES SHALL IT BE USED FOR CONSTRUCTION.
2. ALL DIMENSIONS ARE TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORKS. WORK TO FIGURED DIMENSIONS ONLY. DO NOT SCALE OFF THIS DRAWING. ANY DISCREPANCIES ARE TO BE REPORTED TO STANTEC FOR CLARIFICATION.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT STANTEC DRAWINGS AND SPECIFICATIONS.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL AND M&E SERVICES DRAWINGS AND SPECIFICATIONS.
5. ALL SURFACE WATER DRAINAGE PIPES TO BE LAID SOFFIT TO SOFFIT UNLESS STATED OTHERWISE
6. REFER TO DRAINAGE NOTES DRAWING FOR FURTHER REQUIREMENTS.

Legend

- PLANNING BOUNDARY
- PROPOSED SURFACE WATER PIPE
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED LINEAR DRAIN (CHANNEL/SLOT)
- PROPOSED KERB DRAIN
- PROPOSED PERMEABLE PAVING (REFER TO STANDARD DETAILS DRAWING 25006-STN-EX-XX-DR-C-01100-01104)
- PROPOSED FOUL PIPE
- PROPOSED FOUL MANHOLE
- PROPOSED INTERCEPTOR
- PROPOSED PERFORATED PIPE
- PROPOSED ATTENUATION TANK
- PROPOSED COMBINED SEWER
- PROPOSED GULLY
- PROPOSED FILTER DRAIN
- EXISTING SW DRAIN (FROM GPR)
- EXISTING UU COMBINED SEWER (FROM GPR AND UU SEWER RECORDS)
- EXISTING PRIVATE COMBINED SEWER (FROM GPR SURVEY)
- PROPOSED RAINWATER PIPE
- ROOT PROTECTION AREAS (REFER TO DRAWING 25006-HFR-AV-XXDR-A0101 PRODUCED BY ARBTECH)

P06	DRAINAGE UPDATES. NEW DISCHARGE POINT FOR SURFACE AND FOUL WATER DRAINAGE	JK	NB	05.03.26
P05	DRAINAGE UPDATES	NM	NB	28.11.25
P04	LAYOUT AND DRAINAGE UPDATES	NM	NB	25.11.25
P03	LAYOUT AND DRAINAGE UPDATES	TF	NB	17.10.25
P02	LAYOUT UPDATED	JM	CF	07.08.25
P01	PLANNING ISSUE	NM	NB	31.07.25
Issued/Revision		By	Appd	DD.MM.YYYY
		NM	NB	JK	25.11.25
		Dwn.	Dsgn.	Chkd.	DD.MM.YYYY

Issue Status

S4 - SUITABLE FOR STAGE APPROVAL

This document is suitable only for the purpose noted above. Use of this document for any other purpose is not permitted.

Client/Project Logo

KIER

Client/Project

KIER SHARSTON Ltd

SHARSTON INDUSTRIAL ESTATE

SHARSTON ROAD
WYTHENSHAWE, MANCHESTER

Title

PROPOSED DRAINAGE LAYOUT

Project No.	A0 Scale
35838	1:200
Revision	Drawing No.
P06	25006-STN-EX-XX-DR-C-00500

Plotted: 05.03.2026 08:53:54 | Author: Kate_Ellis
C:\Users\kate.ellis\Desktop\Sharston\25006-STN-EX-XX-DR-C-00500-P06-proposed-drainage-layout.dwg

Appendix I – Hydraulic Calculations

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		



Tank Unit 1

Type : Tank

Dimensions

Exceedance Level (m)	34.942
Depth (m)	3.187
Base Level (m)	31.755
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	660.393

Depth (m)	Area (m²)	Volume (m³)
0.000	462.25	86.000
1.500	462.25	86.000

Inlets

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	SW1.005
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (4)

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (22)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (5)

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

Outlets

Outlet

Outgoing Connection	Pipe (6)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	21.500



Tank Unit 2 and 3

Type : Tank

Dimensions

Exceedance Level (m)	35.327
Depth (m)	1.965
Base Level (m)	33.362
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	559.565

Depth (m)	Area (m²)	Volume (m³)
0.000	588.00	0.000
1.000	588.00	558.600

Inlets

Inlet (4)

Inlet Type	Point Inflow
Incoming Item(s)	SW11.000
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (2)

Inlet Type	Point Inflow
Incoming Item(s)	SW9.007
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (3)

Inlet Type	Point Inflow
Incoming Item(s)	SW7.002
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (11)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	28.000

Porous Paving

Type : Porous Paving

Dimensions

Exceedance Level (m)	35.220
Depth (m)	0.500
Base Level (m)	34.720
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	42.624
Long. Slope (1:X)	10000.00
Width (m)	5.119
Total Volume (m³)	24.747

Under Drain

Height Above Base (m)	0.100
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet (1)

Inlet Type	Lateral Inflow
Incoming Item(s)	Car Park 6
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (13)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	216.0

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

Name	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)
SW1.001	7.828	Pipe	7.420		0.6	225	35.480	34.355
SW4.000	20.755	Pipe	20.651		0.6	225	35.358	34.000
SW8.000	22.719	Pipe	49.933		0.6	150	35.438	34.360
SW1.004	8.647	Pipe	78.605		0.6	300	35.483	33.105
SW5.001	9.043	Pipe	226.086		0.6	300	34.829	33.145
SW6.001	33.888	Pipe	99.671		0.6	225	35.244	34.115
Pipe (1)	16.492	Pipe	149.929		0.6	225	35.336	34.200
SW1.000	8.441	Pipe	153.479		0.6	225	35.103	33.975
Pipe (5)	28.133	Pipe	21.232		0.6	150	35.483	34.430
Pipe (10)	26.869	Pipe	46.892		0.6	300	35.614	34.123
Pipe (4)	30.987	Pipe	99.959		0.6	225	35.132	33.920
Pipe (12)	9.462	Pipe	30.521		0.6	225	34.998	33.610
Pipe (13)	3.737	Pipe	3.088		0.6	150	35.224	34.820
Pipe (14)	90.441	Pipe	155.932		0.6	750	35.110	29.330
SW1.008	13.631	Pipe	143.480		0.6	225	35.471	31.660
Pipe (15)	59.149	Pipe	149.745		0.6	225	35.428	34.300
Pipe (16)	36.239	Pipe	37.867		0.6	225	35.557	34.507
Pipe (17)	45.711	Pipe	69.260		0.6	225	35.556	34.210
Pipe (18)	46.077	Pipe	122.871		0.6	225	35.614	34.498
Pipe (8)	35.507	Pipe	97.013		0.6	225	35.614	34.489
Pipe (9)	11.342	Pipe	5.075		0.6	150	35.400	31.565
Pipe (19)	29.739	Pipe	21.242		0.6	225	35.365	32.965
SW11.000	10.211	Pipe	72.938		0.6	300	35.244	33.840
Pipe (20)	47.911	Pipe	245.699		0.6	300	35.480	33.300
Pipe (6)	2.911	Pipe	194.083		0.6	300	34.942	31.755
Pipe (7)	18.823	Pipe	121.437		0.6	300	34.829	33.105
Pipe (21)	6.080	Pipe	243.211		0.6	300	35.377	32.950
Pipe (23)	3.768	Pipe	94.200		0.6	150	35.064	31.740
Pipe (24)	5.819	Pipe	145.464		0.6	225	35.117	31.700
Pipe (11)	5.165	Pipe	109.897		0.6	300	35.327	33.362
Pipe (25)	6.220	Pipe	20.733		0.6	150	35.291	33.315
Pipe (26)	7.384	Pipe	147.688		0.6	225	35.289	33.015
Pipe (2)	47.350	Pipe	59.937		0.6	225	35.384	34.090
SW9.007	6.868	Pipe	137.350		0.6	300	35.557	33.550
SW7.002	6.342	Pipe	97.562		0.6	225	35.432	33.905
SW1.005	4.448	Pipe	22.809		0.6	375	35.352	32.995
Pipe (22)	2.410	Pipe	13.389		0.6	300	35.377	32.980
Pipe	12.719	Pipe	14.132		0.6	225	34.913	33.775

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Lock	Flow Restriction (L/s)	Culvert Type	Culvert Entrance
SW1.001	35.480	33.300	None		(None)	(None)
SW4.000	35.352	32.995	None		(None)	(None)
SW8.000	35.432	33.905	None		(None)	(None)
SW1.004	35.352	32.995	None		(None)	(None)
SW5.001	34.829	33.105	None		(None)	(None)
SW6.001	34.913	33.775	None		(None)	(None)
Pipe (1)	35.384	34.090	None		(None)	(None)
SW1.000	35.132	33.920	None		(None)	(None)
Pipe (5)	35.483	33.105	None		(None)	(None)
Pipe (10)	35.557	33.550	None		(None)	(None)
Pipe (4)	34.998	33.610	None		(None)	(None)
Pipe (12)	35.480	33.300	None		(None)	(None)
Pipe (13)	34.998	33.610	None	0.0	(None)	(None)
Pipe (14)	35.190	28.750	None		(None)	(None)
SW1.008	35.400	31.565	None		(None)	(None)
Pipe (15)	35.432	33.905	None		(None)	(None)
Pipe (16)	35.557	33.550	None		(None)	(None)
Pipe (17)	35.557	33.550	None		(None)	(None)
Pipe (18)	35.614	34.123	None		(None)	(None)
Pipe (8)	35.614	34.123	None		(None)	(None)
Pipe (9)	35.110	29.330	None		(None)	(None)
Pipe (19)	35.400	31.565	None		(None)	(None)
SW11.000	35.327	33.700	All		(None)	(None)
Pipe (20)	35.483	33.105	None		(None)	(None)
Pipe (6)	35.064	31.740	None		(None)	(None)
Pipe (7)	35.377	32.950	None		(None)	(None)
Pipe (21)	35.377	32.925	None		(None)	(None)
Pipe (23)	35.117	31.700	None	2.0	(None)	(None)
Pipe (24)	35.471	31.660	None		(None)	(None)
Pipe (11)	35.291	33.315	None		(None)	(None)
Pipe (25)	35.289	33.015	None	2.0	(None)	(None)
Pipe (26)	35.365	32.965	None		(None)	(None)
Pipe (2)	35.480	33.300	None		(None)	(None)
SW9.007	35.327	33.500	All		(None)	(None)
SW7.002	35.327	33.840	All		(None)	(None)
SW1.005	34.942	32.800	All		(None)	(None)
Pipe (22)	34.942	32.800	All		(None)	(None)
Pipe	34.942	32.875	All		(None)	(None)

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Car Park 1	SWMH16		Time of Concentration	0.026	100	0	100	0.026
Car Park 2	SWMH01		Time of Concentration	0.058	100	0	100	0.058
Car Park 3	SWMH02		Time of Concentration	0.016	100	0	100	0.016
Car Park 4	SWMH17		Time of Concentration	0.014	100	0	100	0.014
Car Park 5	SWMH02		Time of Concentration	0.017	100	0	100	0.017
Car Park 6	Porous Paving		Time of Concentration	0.022	100	0	100	0.022
Main Yard 1	SWMH28		Time of Concentration	0.087	100	0	100	0.087
Main Yard 2	SWMH28		Time of Concentration	0.089	100	0	100	0.089
Main Yard 3	SWMH28		Time of Concentration	0.094	100	0	100	0.094
Main Yard 4	SWMH28		Time of Concentration	0.079	100	0	100	0.079
Unit 1 Roof 1	SWMH08		Time of Concentration	0.075	100	0	100	0.075
Unit 1 Roof 2	SWMH07		Time of Concentration	0.079	100	0	100	0.079
Unit 1 Roof 3	SWMH04		Time of Concentration	0.079	100	0	100	0.079
Unit 1 Roof 4	SWMH15		Time of Concentration	0.075	100	0	100	0.075
Unit 1 Yard 1	SWMH10		Time of Concentration	0.078	100	0	100	0.078
Unit 1 Yard 2	SWMH10		Time of Concentration	0.045	100	0	100	0.045
Unit 1 Yard 3	SWMH10		Time of Concentration	0.112	100	0	100	0.112
Unit 2 Roof 1	SWMH19		Time of Concentration	0.037	100	0	100	0.037
Unit 2 Roof 2	SWMH14		Time of Concentration	0.037	100	0	100	0.037
Unit 3 Roof 1	SWMH20		Time of Concentration	0.029	100	0	100	0.029
Unit 3 Roof 2	SWMH14		Time of Concentration	0.029	100	0	100	0.029
Unit 4 Roof 1	SWMH21		Time of Concentration	0.025	100	0	100	0.025
Unit 4 Roof 2	SWMH04		Time of Concentration	0.025	100	0	100	0.025
Unit 5 Roof 1	SWMH21		Time of Concentration	0.046	100	0	100	0.046
Unit 5 Roof 2	SWMH17		Time of Concentration	0.046	100	0	100	0.046
Unit 6 Roof 1	SWMH22		Time of Concentration	0.040	100	0	100	0.040
Unit 6 Roof 2	SWMH27		Time of Concentration	0.034	100	0	100	0.034
Unit 7 Roof 1	SWMH22		Time of Concentration	0.022	100	0	100	0.022
Unit 7 Roof 2	SWMH26		Time of Concentration	0.018	100	0	100	0.018
Unit 8 Roof 1	SWMH24		Time of Concentration	0.032	100	0	100	0.032
Unit 8 Roof 2	SWMH25		Time of Concentration	0.027	100	0	100	0.027
Unit 9 Roof 1	SWMH24		Time of Concentration	0.029	100	0	100	0.029

Unit 9 Roof 2	SWMH25		Time of Concentration	0.025	100	0	100	0.025
TOTAL		**0.0**		**1.545**				**1.545**

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

Flow Options

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

Pipe Options

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

Manhole Options

Apply Offset	☐

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Outfall Details Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
UU 2404	Free Discharge			

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Title: Rainfall Analysis Criteria	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FSR

Type: FSR

Region	England And Wales
M5-60 (mm)	18.0
Ratio R	0.385
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	0.000
100.0	0.000
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

FSR: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

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
SWMH01	FSR: 2 years: +0 %: 15 mins: Winter	35.103	33.975	34.054	0.079	9.4	0.089	0.000	9.1	4.327	OK
SWMH17	FSR: 2 years: +0 %: 15 mins: Winter	35.480	34.355	34.387	0.032	9.6	0.009	0.000	9.6	4.461	OK
SWMH04	FSR: 2 years: +0 %: 15 mins: Winter	35.480	33.300	33.497	0.197	55.2	0.223	0.000	49.6	26.488	OK
COMMH33	FSR: 2 years: +0 %: 1440 mins: Winter	35.471	31.660	31.686	0.026	1.0	0.029	0.000	1.0	150.372	OK
COMMH31	FSR: 2 years: +0 %: 960 mins: Winter	35.365	32.965	32.984	0.019	1.7	0.022	0.000	1.7	161.885	OK
SWMH22	FSR: 2 years: +0 %: 15 mins: Winter	35.614	34.498	34.568	0.070	9.9	0.020	0.000	9.4	4.575	OK
SWMH27	FSR: 2 years: +0 %: 15 mins: Winter	35.556	34.210	34.252	0.042	5.5	0.048	0.000	5.2	2.557	OK
SWMH26	FSR: 2 years: +0 %: 15 mins: Winter	35.557	33.550	33.680	0.130	33.9	0.147	0.000	30.1	16.776	OK
SWMH21	FSR: 2 years: +0 %: 15 mins: Winter	35.428	34.300	34.377	0.077	11.4	0.087	0.000	10.6	5.274	OK
SWMH28	FSR: 2 years: +0 %: 15 mins: Winter	35.244	33.840	33.996	0.156	56.5	0.176	0.000	55.4	26.070	OK
SWMH23	FSR: 2 years: +0 %: 15 mins: Winter	35.614	34.123	34.189	0.066	18.8	0.075	0.000	17.6	9.072	OK
SWMH20	FSR: 2 years: +0 %: 15 mins: Winter	35.432	33.905	34.010	0.105	21.1	0.119	0.000	19.1	10.154	OK
SWMH25	FSR: 2 years: +0 %: 15 mins: Winter	35.557	34.507	34.553	0.046	8.3	0.013	0.000	8.1	3.853	OK
SWMH05	FSR: 2 years: +0 %: 15 mins: Winter	35.483	33.105	33.265	0.160	60.1	0.181	0.000	56.9	31.353	OK
SWMH08	FSR: 2 years: +0 %: 15 mins: Winter	35.244	34.115	34.194	0.079	12.1	0.089	0.000	11.6	5.589	OK
SWMH10	FSR: 2 years: +0 %: 15 mins: Winter	34.829	33.145	33.305	0.160	37.8	0.181	0.000	37.2	17.456	OK
SWMH07	FSR: 2 years: +0 %: 15 mins: Winter	35.358	34.000	34.050	0.050	12.7	0.057	0.000	12.5	5.868	OK
SWMH06	FSR: 2 years: +0 %: 15 mins: Winter	35.352	32.995	33.120	0.125	69.4	0.141	0.000	68.0	37.195	OK
SWMH15	FSR: 2 years: +0 %: 15 mins: Winter	35.336	34.200	34.286	0.086	12.1	0.024	0.000	11.9	5.605	OK
SWMH19	FSR: 2 years: +0 %: 15 mins: Winter	35.438	34.360	34.409	0.049	5.9	0.055	0.000	5.8	2.744	OK
SWMH24	FSR: 2 years: +0 %: 15 mins: Winter	35.614	34.489	34.555	0.066	9.8	0.019	0.000	9.4	4.520	OK
SWMH09	FSR: 2 years: +0 %: 15 mins: Winter	34.913	33.775	33.820	0.045	11.6	0.050	0.000	11.2	5.581	OK
SWMH11	FSR: 2 years: +0 %: 15 mins: Winter	34.829	33.105	33.242	0.137	37.2	0.155	0.000	36.0	17.457	OK
SWMH16	FSR: 2 years: +0 %: 15 mins: Winter	35.384	34.090	34.162	0.072	16.1	0.020	0.000	15.4	7.566	OK
SWMH02	FSR: 2 years: +0 %: 15 mins: Winter	35.132	33.920	34.005	0.085	14.5	0.097	0.000	13.9	6.826	OK
SWMH14	FSR: 2 years: +0 %: 15 mins: Winter	35.483	34.430	34.483	0.053	10.7	0.015	0.000	10.5	4.934	OK
FC SWMH18	FSR: 2 years: +0 %: 1440 mins: Winter	35.064	31.740	32.154	0.414	1.0	0.468	0.000	1.0	150.492	Surcharged
SWMH03	FSR: 2 years: +0 %: 15 mins: Winter	34.998	33.610	33.665	0.055	13.9	0.063	0.000	13.5	6.815	OK
UU 2310	FSR: 2 years: +0 %: 360 mins: Winter	35.110	29.330	29.358	0.028	2.7	0.072	0.000	2.7	98.869	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

UU 2404	FSR: 2 years: +0 %: 360 mins: Winter	35.190	28.750	28.779	0.029	2.7	0.000	0.000	2.7	98.869	OK
COMMH34	FSR: 2 years: +0 %: 360 mins: Winter	35.400	31.565	31.584	0.019	2.7	0.021	0.000	2.7	99.180	OK
SWMH12	FSR: 2 years: +0 %: 15 mins: Winter	35.377	32.950	33.112	0.162	36.0	0.183	0.000	35.0	17.358	OK
SWMH13	FSR: 2 years: +0 %: 15 mins: Winter	35.377	32.925	33.065	0.140	35.0	0.159	0.000	34.7	17.258	OK
COMMH32	FSR: 2 years: +0 %: 1440 mins: Winter	35.117	31.700	31.725	0.025	1.0	0.028	0.000	1.0	150.425	OK
FC SWMH29	FSR: 2 years: +0 %: 480 mins: Winter	35.291	33.315	33.579	0.264	1.7	0.299	0.000	1.7	83.417	Surcharged
COMMH30	FSR: 2 years: +0 %: 360 mins: Winter	35.289	33.015	33.047	0.032	1.7	0.036	0.000	1.7	62.279	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

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
SWMH01	FSR: 30 years: +0 %: 15 mins: Winter	35.103	33.975	34.092	0.117	17.7	0.132	0.000	17.4	8.187	OK
SWMH17	FSR: 30 years: +0 %: 15 mins: Winter	35.480	34.355	34.400	0.045	18.2	0.013	0.000	18.2	8.429	OK
SWMH04	FSR: 30 years: +0 %: 15 mins: Winter	35.480	33.300	33.728	0.428	96.3	0.484	0.000	89.7	50.154	Surcharged
COMMH33	FSR: 30 years: +0 %: 1440 mins: Winter	35.471	31.660	31.685	0.025	1.1	0.029	0.000	1.1	157.874	OK
COMMH31	FSR: 30 years: +0 %: 1440 mins: Winter	35.365	32.965	32.984	0.019	1.7	0.022	0.000	1.7	261.291	OK
SWMH22	FSR: 30 years: +0 %: 15 mins: Winter	35.614	34.498	34.598	0.100	18.7	0.028	0.000	17.9	8.645	OK
SWMH27	FSR: 30 years: +0 %: 15 mins: Winter	35.556	34.210	34.269	0.059	10.4	0.066	0.000	10.0	4.830	OK
SWMH26	FSR: 30 years: +0 %: 960 mins: Winter	35.557	33.550	33.816	0.266	4.7	0.301	0.000	4.6	104.953	OK
SWMH21	FSR: 30 years: +0 %: 15 mins: Winter	35.428	34.300	34.410	0.110	21.6	0.124	0.000	20.3	9.969	OK
SWMH28	FSR: 30 years: +0 %: 15 mins: Winter	35.244	33.840	34.084	0.244	106.8	0.276	0.000	104.9	49.322	OK
SWMH23	FSR: 30 years: +0 %: 15 mins: Winter	35.614	34.123	34.216	0.093	35.8	0.105	0.000	34.0	17.158	OK
SWMH20	FSR: 30 years: +0 %: 15 mins: Winter	35.432	33.905	34.066	0.161	40.1	0.182	0.000	37.0	19.226	OK
SWMH25	FSR: 30 years: +0 %: 15 mins: Winter	35.557	34.507	34.570	0.063	15.7	0.018	0.000	15.4	7.287	OK
SWMH05	FSR: 30 years: +0 %: 15 mins: Winter	35.483	33.105	33.351	0.246	109.7	0.278	0.000	106.9	59.403	OK
SWMH08	FSR: 30 years: +0 %: 15 mins: Winter	35.244	34.115	34.227	0.112	22.9	0.126	0.000	22.1	10.574	OK
SWMH10	FSR: 30 years: +0 %: 15 mins: Winter	34.829	33.145	33.400	0.255	71.5	0.288	0.000	70.3	33.030	OK
SWMH07	FSR: 30 years: +0 %: 15 mins: Winter	35.358	34.000	34.069	0.069	24.0	0.078	0.000	23.7	11.098	OK
SWMH06	FSR: 30 years: +0 %: 15 mins: Winter	35.352	32.995	33.180	0.185	130.6	0.209	0.000	129.2	70.470	OK
SWMH15	FSR: 30 years: +0 %: 15 mins: Winter	35.336	34.200	34.324	0.124	23.0	0.035	0.000	22.6	10.608	OK
SWMH19	FSR: 30 years: +0 %: 15 mins: Winter	35.438	34.360	34.429	0.069	11.2	0.078	0.000	11.0	5.191	OK
SWMH24	FSR: 30 years: +0 %: 15 mins: Winter	35.614	34.489	34.583	0.094	18.5	0.027	0.000	17.9	8.545	OK
SWMH09	FSR: 30 years: +0 %: 15 mins: Winter	34.913	33.775	33.838	0.063	22.1	0.071	0.000	21.5	10.563	OK
SWMH11	FSR: 30 years: +0 %: 15 mins: Winter	34.829	33.105	33.316	0.211	70.3	0.239	0.000	68.3	33.030	OK
SWMH16	FSR: 30 years: +0 %: 15 mins: Winter	35.384	34.090	34.195	0.105	30.6	0.030	0.000	29.7	14.286	OK
SWMH02	FSR: 30 years: +0 %: 15 mins: Winter	35.132	33.920	34.042	0.122	27.6	0.137	0.000	27.2	12.918	OK
SWMH14	FSR: 30 years: +0 %: 15 mins: Winter	35.483	34.430	34.507	0.077	20.2	0.022	0.000	20.0	9.320	OK
FC SWMH18	FSR: 30 years: +0 %: 1440 mins: Winter	35.064	31.740	32.544	0.804	1.1	0.910	0.000	1.1	157.987	Surcharged
SWMH03	FSR: 30 years: +0 %: 15 mins: Winter	34.998	33.610	33.741	0.131	27.2	0.148	0.000	16.9	12.906	OK

UU 2310	FSR: 30 years: +0 %: 30 mins: Winter	35.110	29.330	29.358	0.028	2.7	0.072	0.000	2.7	7.154	OK
UU 2404	FSR: 30 years: +0 %: 30 mins: Winter	35.190	28.750	28.779	0.029	2.7	0.000	0.000	2.7	7.154	OK
COMMH34	FSR: 30 years: +0 %: 120 mins: Winter	35.400	31.565	31.584	0.019	2.7	0.021	0.000	2.7	32.216	OK
SWMH12	FSR: 30 years: +0 %: 15 mins: Winter	35.377	32.950	33.176	0.226	68.3	0.255	0.000	66.8	32.927	OK
SWMH13	FSR: 30 years: +0 %: 15 mins: Winter	35.377	32.925	33.107	0.182	66.8	0.206	0.000	66.3	32.825	OK
COMMH32	FSR: 30 years: +0 %: 1440 mins: Winter	35.117	31.700	31.725	0.025	1.1	0.028	0.000	1.1	157.922	OK
FC SWMH29	FSR: 30 years: +0 %: 960 mins: Winter	35.291	33.315	33.816	0.501	1.7	0.567	0.000	1.7	173.156	Surcharged
COMMH30	FSR: 30 years: +0 %: 60 mins: Summer	35.289	33.015	33.047	0.032	1.7	0.036	0.000	1.7	10.149	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

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

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
SWMH01	FSR: 100 years: +0 %: 15 mins: Winter	35.103	33.975	34.118	0.143	22.9	0.161	0.000	18.7	10.575	OK
SWMH17	FSR: 100 years: +0 %: 15 mins: Winter	35.480	34.355	34.406	0.051	23.6	0.014	0.000	23.5	10.894	OK
SWMH04	FSR: 100 years: +0 %: 15 mins: Winter	35.480	33.300	34.041	0.741	117.6	0.838	0.000	115.8	64.817	Surcharged
COMMH33	FSR: 100 years: +0 %: 1440 mins: Winter	35.471	31.660	31.687	0.027	1.2	0.031	0.000	1.2	177.389	OK
COMMH31	FSR: 100 years: +0 %: 1440 mins: Summer	35.365	32.965	32.984	0.019	1.7	0.022	0.000	1.7	250.326	OK
SWMH22	FSR: 100 years: +0 %: 15 mins: Winter	35.614	34.498	34.615	0.117	24.2	0.033	0.000	23.2	11.165	OK
SWMH27	FSR: 100 years: +0 %: 15 mins: Winter	35.556	34.210	34.277	0.067	13.5	0.076	0.000	12.9	6.237	OK
SWMH26	FSR: 100 years: +0 %: 1440 mins: Winter	35.557	33.550	33.985	0.435	4.3	0.492	0.000	4.0	145.573	Surcharged
SWMH21	FSR: 100 years: +0 %: 15 mins: Winter	35.428	34.300	34.428	0.128	27.9	0.145	0.000	26.3	12.874	OK
SWMH28	FSR: 100 years: +0 %: 15 mins: Winter	35.244	33.840	34.236	0.396	138.0	0.447	0.000	134.0	63.736	Surcharged
SWMH23	FSR: 100 years: +0 %: 15 mins: Winter	35.614	34.123	34.229	0.106	46.3	0.120	0.000	44.2	22.173	OK
SWMH20	FSR: 100 years: +0 %: 15 mins: Winter	35.432	33.905	34.104	0.199	52.0	0.225	0.000	47.8	24.841	OK
SWMH25	FSR: 100 years: +0 %: 15 mins: Winter	35.557	34.507	34.579	0.072	20.3	0.020	0.000	20.0	9.408	OK
SWMH05	FSR: 100 years: +0 %: 15 mins: Winter	35.483	33.105	33.463	0.358	141.7	0.404	0.000	137.0	76.792	Surcharged
SWMH08	FSR: 100 years: +0 %: 15 mins: Winter	35.244	34.115	34.245	0.130	29.6	0.147	0.000	28.6	13.663	OK
SWMH10	FSR: 100 years: +0 %: 15 mins: Winter	34.829	33.145	33.487	0.342	92.4	0.387	0.000	90.0	42.667	Surcharged
SWMH07	FSR: 100 years: +0 %: 15 mins: Winter	35.358	34.000	34.079	0.079	31.0	0.090	0.000	30.7	14.337	OK
SWMH06	FSR: 100 years: +0 %: 15 mins: Winter	35.352	32.995	33.214	0.219	167.7	0.248	0.000	167.8	91.094	OK
SWMH15	FSR: 100 years: +0 %: 15 mins: Winter	35.336	34.200	34.348	0.148	29.7	0.042	0.000	28.9	13.707	OK
SWMH19	FSR: 100 years: +0 %: 15 mins: Winter	35.438	34.360	34.440	0.080	14.5	0.091	0.000	14.2	6.701	OK
SWMH24	FSR: 100 years: +0 %: 15 mins: Winter	35.614	34.489	34.598	0.109	23.9	0.031	0.000	23.2	11.041	OK
SWMH09	FSR: 100 years: +0 %: 15 mins: Winter	34.913	33.775	33.848	0.073	28.6	0.082	0.000	27.8	13.651	OK
SWMH11	FSR: 100 years: +0 %: 15 mins: Winter	34.829	33.105	33.370	0.265	90.0	0.300	0.000	87.7	42.667	OK
SWMH16	FSR: 100 years: +0 %: 15 mins: Winter	35.384	34.090	34.225	0.135	39.3	0.038	0.000	33.5	18.448	OK
SWMH02	FSR: 100 years: +0 %: 15 mins: Winter	35.132	33.920	34.116	0.196	31.9	0.221	0.000	21.3	16.700	OK
SWMH14	FSR: 100 years: +0 %: 15 mins: Winter	35.483	34.430	34.521	0.091	26.1	0.026	0.000	25.9	12.037	OK
FC SWMH18	FSR: 100 years: +0 %: 1440 mins: Winter	35.064	31.740	32.794	1.054	1.2	1.192	0.000	1.2	177.511	Surcharged

SWMH03	FSR: 100 years: +0 %: 15 mins: Winter	34.998	33.610	34.061	0.451	21.3	0.510	0.000	19.9	16.674	Surcharged
UU 2310	FSR: 100 years: +0 %: 1440 mins: Winter	35.110	29.330	29.358	0.028	2.7	0.072	0.000	2.7	421.303	OK
UU 2404	FSR: 100 years: +0 %: 1440 mins: Winter	35.190	28.750	28.779	0.029	2.7	0.000	0.000	2.7	421.303	OK
COMMH34	FSR: 100 years: +0 %: 1440 mins: Winter	35.400	31.565	31.584	0.019	2.7	0.021	0.000	2.7	421.620	OK
SWMH12	FSR: 100 years: +0 %: 15 mins: Winter	35.377	32.950	33.218	0.268	87.7	0.303	0.000	86.0	42.564	OK
SWMH13	FSR: 100 years: +0 %: 15 mins: Winter	35.377	32.925	33.129	0.204	86.0	0.231	0.000	85.3	42.462	OK
COMMH32	FSR: 100 years: +0 %: 1440 mins: Winter	35.117	31.700	31.727	0.027	1.2	0.030	0.000	1.2	177.441	OK
FC SWMH29	FSR: 100 years: +0 %: 1440 mins: Winter	35.291	33.315	33.985	0.670	1.7	0.758	0.000	1.7	244.426	Surcharged
COMMH30	FSR: 100 years: +0 %: 30 mins: Winter	35.289	33.015	33.047	0.032	1.7	0.036	0.000	1.7	4.943	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

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

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
SWMH01	FSR: 100 years: +45 %: 15 mins: Winter	35.103	33.975	34.853	0.878	33.2	0.993	0.000	25.4	15.370	Flood Risk
SWMH17	FSR: 100 years: +45 %: 15 mins: Winter	35.480	34.355	34.643	0.288	34.2	0.081	0.000	26.6	15.798	Surcharged
SWMH04	FSR: 100 years: +45 %: 15 mins: Winter	35.480	33.300	34.609	1.309	155.9	1.481	0.000	147.8	93.921	Surcharged
COMMH33	FSR: 100 years: +45 %: 1440 mins: Winter	35.471	31.660	31.693	0.033	1.8	0.037	0.000	1.8	214.841	OK
COMMH31	FSR: 100 years: +45 %: 1440 mins: Winter	35.365	32.965	32.985	0.020	1.8	0.022	0.000	1.8	272.683	OK
SWMH22	FSR: 100 years: +45 %: 15 mins: Winter	35.614	34.498	34.648	0.150	35.0	0.042	0.000	33.6	16.186	OK
SWMH27	FSR: 100 years: +45 %: 1440 mins: Winter	35.556	34.210	34.326	0.116	0.9	0.131	0.000	0.9	32.516	OK
SWMH26	FSR: 100 years: +45 %: 1440 mins: Winter	35.557	33.550	34.326	0.776	6.3	0.878	0.000	6.0	210.060	Surcharged
SWMH21	FSR: 100 years: +45 %: 15 mins: Winter	35.428	34.300	34.508	0.208	40.4	0.235	0.000	34.2	18.649	OK
SWMH28	FSR: 100 years: +45 %: 15 mins: Winter	35.244	33.840	34.507	0.667	200.1	0.754	0.000	197.1	92.412	Surcharged
SWMH23	FSR: 100 years: +45 %: 1440 mins: Winter	35.614	34.123	34.326	0.203	3.4	0.230	0.000	3.4	115.823	OK
SWMH20	FSR: 100 years: +45 %: 1440 mins: Winter	35.432	33.905	34.326	0.421	3.8	0.476	0.000	3.8	128.478	Surcharged
SWMH25	FSR: 100 years: +45 %: 15 mins: Winter	35.557	34.507	34.597	0.090	29.5	0.026	0.000	29.2	13.636	OK
SWMH05	FSR: 100 years: +45 %: 1440 mins: Winter	35.483	33.105	34.153	1.048	11.9	1.185	0.000	11.9	413.642	Surcharged
SWMH08	FSR: 100 years: +45 %: 15 mins: Winter	35.244	34.115	34.282	0.167	42.9	0.189	0.000	41.4	19.812	OK
SWMH10	FSR: 100 years: +45 %: 1440 mins: Winter	34.829	33.145	34.152	1.007	6.5	1.138	0.000	6.5	222.937	Surcharged
SWMH07	FSR: 100 years: +45 %: 1440 mins: Winter	35.358	34.000	34.151	0.151	2.2	0.171	0.000	2.2	74.835	OK
SWMH06	FSR: 100 years: +45 %: 1440 mins: Winter	35.352	32.995	34.152	1.157	14.1	1.309	0.000	14.1	487.373	Surcharged
SWMH15	FSR: 100 years: +45 %: 15 mins: Winter	35.336	34.200	35.005	0.805	43.0	0.228	0.000	34.2	19.877	Surcharged

SWMH19	FSR: 100 years: +45 %: 15 mins: Winter	35.438	34.360	34.497	0.137	21.0	0.155	0.000	18.3	9.712	OK
SWMH24	FSR: 100 years: +45 %: 15 mins: Winter	35.614	34.489	34.628	0.139	34.6	0.039	0.000	33.7	16.011	OK
SWMH09	FSR: 100 years: +45 %: 1440 mins: Winter	34.913	33.775	34.152	0.377	2.1	0.426	0.000	2.1	71.760	Surcharged
SWMH11	FSR: 100 years: +45 %: 1440 mins: Winter	34.829	33.105	34.151	1.046	6.5	1.183	0.000	6.5	223.023	Surcharged
SWMH16	FSR: 100 years: +45 %: 15 mins: Winter	35.384	34.090	34.915	0.825	49.2	0.233	0.000	40.8	26.762	Surcharged
SWMH02	FSR: 100 years: +45 %: 15 mins: Winter	35.132	33.920	34.822	0.902	44.5	1.020	0.000	36.8	24.246	Surcharged
SWMH14	FSR: 100 years: +45 %: 15 mins: Winter	35.483	34.430	34.681	0.251	37.8	0.071	0.000	32.8	17.451	Surcharged
FC SWMH18	FSR: 100 years: +45 %: 1440 mins: Winter	35.064	31.740	34.152	2.412	2.5	2.728	0.000	1.8	214.993	Surcharged
SWMH03	FSR: 100 years: +45 %: 15 mins: Winter	34.998	33.610	34.651	1.041	36.8	1.177	0.000	39.3	24.269	Surcharged
UU 2310	FSR: 100 years: +45 %: 1440 mins: Winter	35.110	29.330	29.362	0.032	3.5	0.081	0.000	3.5	487.128	OK
UU 2404	FSR: 100 years: +45 %: 1440 mins: Winter	35.190	28.750	28.783	0.033	3.5	0.000	0.000	3.5	487.128	OK
COMMH34	FSR: 100 years: +45 %: 1440 mins: Winter	35.400	31.565	31.586	0.021	3.5	0.024	0.000	3.5	487.458	OK
SWMH12	FSR: 100 years: +45 %: 1440 mins: Winter	35.377	32.950	34.152	1.202	6.5	1.360	0.000	6.5	222.944	Surcharged
SWMH13	FSR: 100 years: +45 %: 1440 mins: Winter	35.377	32.925	34.152	1.227	6.5	1.388	0.000	6.5	220.873	Surcharged
COMMH32	FSR: 100 years: +45 %: 1440 mins: Winter	35.117	31.700	31.732	0.032	1.8	0.037	0.000	1.8	214.900	OK
FC SWMH29	FSR: 100 years: +45 %: 1440 mins: Winter	35.291	33.315	34.326	1.011	1.8	1.144	0.000	1.8	272.810	Surcharged
COMMH30	FSR: 100 years: +45 %: 1440 mins: Winter	35.289	33.015	33.048	0.033	1.8	0.037	0.000	1.8	272.732	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

FSR: 2 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
Tank Unit 1	FSR: 2 years: +0 %: 1440 mins: Winter	32.154	32.154	0.399	0.399	7.0	175.315	0.000	0.000	1.0	150.813	73.453	OK
Tank Unit 2 and 3	FSR: 2 years: +0 %: 480 mins: Winter	33.579	33.579	0.217	0.217	13.8	121.410	0.000	0.000	1.7	83.727	78.303	OK
Porous Paving	FSR: 2 years: +0 %: 1440 mins: Winter	34.821	34.820	0.096	0.100	0.2	6.390	0.000	0.000	0.0	0.000	74.179	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

FSR: 30 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
Tank Unit 1	FSR: 30 years: +0 %: 1440 mins: Winter	32.544	32.544	0.789	0.789	12.2	346.696	0.000	0.000	1.1	158.795	47.502	OK
Tank Unit 2 and 3	FSR: 30 years: +0 %: 960 mins: Winter	33.816	33.816	0.454	0.454	14.5	253.854	0.000	0.000	1.7	173.722	54.634	OK
Porous Paving	FSR: 30 years: +0 %: 1440 mins: Winter	34.877	34.832	0.153	0.112	0.3	9.102	0.000	0.000	0.1	4.031	63.221	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

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
Tank Unit 1	FSR: 100 years: +0 %: 1440 mins: Winter	32.794	32.794	1.039	1.039	15.6	456.109	0.000	0.000	1.2	178.579	30.934	OK
Tank Unit 2 and 3	FSR: 100 years: +0 %: 1440 mins: Winter	33.985	33.985	0.623	0.623	13.4	348.088	0.000	0.000	1.7	245.122	37.793	OK
Porous Paving	FSR: 100 years: +0 %: 1440 mins: Winter	34.906	34.838	0.181	0.118	0.4	10.505	0.000	0.000	0.1	6.951	57.552	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

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
Tank Unit 1	FSR: 100 years: +45 %: 1440 mins: Winter	34.152	34.152	2.397	2.397	22.7	659.710	0.000	0.000	2.5	218.013	0.103	OK
Tank Unit 2 and 3	FSR: 100 years: +45 %: 1440 mins: Winter	34.326	34.326	0.964	0.964	19.6	538.605	0.000	0.000	1.8	273.877	3.746	OK
Porous Paving	FSR: 100 years: +45 %: 960 mins: Winter	34.954	34.856	0.229	0.136	0.8	12.898	0.000	0.000	0.3	11.240	47.881	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

FSR: 2 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
SW1.001	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH17	SWMH04	35.480	34.387	0.114	4.461	0.5	0.05	9.6	OK
SW4.000	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH07	SWMH06	35.358	34.050	0.087	5.868	0.9	0.11	12.5	OK
SW8.000	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH19	SWMH20	35.438	34.409	0.077	2.744	0.6	0.23	5.8	OK
SW1.004	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH05	SWMH06	35.483	33.265	0.142	31.353	1.7	0.45	56.9	OK
SW5.001	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH10	SWMH11	34.829	33.305	0.149	17.456	1.1	0.5	37.2	OK
SW6.001	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH08	SWMH09	35.244	34.194	0.062	5.589	1.3	0.22	11.6	OK
Pipe (1)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH15	SWMH16	35.336	34.286	0.079	5.605	1.0	0.28	11.9	OK
SW1.000	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH01	SWMH02	35.103	34.054	0.082	4.327	0.7	0.22	9.1	OK
Pipe (5)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH14	SWMH05	35.483	34.483	0.106	4.934	0.8	0.27	10.5	OK
Pipe (10)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH23	SWMH26	35.614	34.189	0.098	9.072	0.9	0.11	17.6	OK
Pipe (4)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH02	SWMH03	35.132	34.005	0.070	6.826	1.3	0.27	13.9	OK
Pipe (12)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH03	SWMH04	34.998	33.665	0.126	6.815	0.6	0.14	13.5	OK
Pipe (13)	FSR: 2 years: +0 %: 15 mins: Summer	Pipe	Porous Paving	SWMH03	35.224	34.742	0.027	0.000	0.0	0	0.0	OK
Pipe (14)	FSR: 2 years: +0 %: 360 mins: Winter	Pipe	UU 2310	UU 2404	35.110	29.358	0.029	98.869	0.5	0	2.7	OK
SW1.008	FSR: 2 years: +0 %: 360 mins: Winter	Pipe	COMMH33	COMMH34	35.471	31.685	0.022	37.014	0.5	0.02	1.0	OK
Pipe (15)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH21	SWMH20	35.428	34.377	0.091	5.274	0.7	0.25	10.6	OK
Pipe (16)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH25	SWMH26	35.557	34.553	0.088	3.853	0.6	0.1	8.1	OK
Pipe (17)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH27	SWMH26	35.556	34.252	0.086	2.557	0.4	0.08	5.2	OK
Pipe (18)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH22	SWMH23	35.614	34.568	0.068	4.575	0.9	0.2	9.4	OK

Pipe (8)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH24	SWMH23	35.614	34.555	0.066	4.520	1.0	0.18	9.4	OK
Pipe (9)	FSR: 2 years: +0 %: 360 mins: Winter	Pipe	COMMH34	UU 2310	35.400	31.584	0.024	99.180	1.5	0.03	2.7	OK
Pipe (19)	FSR: 2 years: +0 %: 960 mins: Winter	Pipe	COMMH31	COMMH34	35.365	32.984	0.019	161.885	1.0	0.01	1.7	OK
SW11.000	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH28	Tank Unit 2 and 3	35.244	33.996	0.146	26.070	1.6	0.43	55.4	OK
Pipe (20)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH04	SWMH05	35.480	33.497	0.179	26.488	1.1	0.7	49.6	OK
Pipe (6)	FSR: 2 years: +0 %: 30 mins: Winter	Pipe	Tank Unit 1	FC SWMH18	34.942	31.929	0.182	2.959	0.3	0.02	1.2	OK
Pipe (7)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH11	SWMH12	34.829	33.242	0.150	17.457	1.0	0.36	36.0	OK
Pipe (21)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH12	SWMH13	35.377	33.112	0.151	17.358	1.0	0.49	35.0	OK
Pipe (23)	FSR: 2 years: +0 %: 60 mins: Winter	Pipe	FC SWMH18	COMMH32	35.064	31.972	0.025	5.770	0.5	0.06	1.0	Surcharged
Pipe (24)	FSR: 2 years: +0 %: 360 mins: Winter	Pipe	COMMH32	COMMH33	35.117	31.725	0.025	37.064	0.4	0.02	1.0	OK
Pipe (11)	FSR: 2 years: +0 %: 360 mins: Winter	Pipe	Tank Unit 2 and 3	FC SWMH29	35.327	33.574	0.236	62.700	0.2	0.02	1.7	OK
Pipe (25)	FSR: 2 years: +0 %: 360 mins: Winter	Pipe	FC SWMH29	COMMH30	35.291	33.574	0.027	62.334	0.8	0.04	1.7	Surcharged
Pipe (26)	FSR: 2 years: +0 %: 480 mins: Winter	Pipe	COMMH30	COMMH31	35.289	33.047	0.026	83.338	0.7	0.04	1.7	OK
Pipe (2)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH16	SWMH04	35.384	34.162	0.134	7.566	0.6	0.23	15.4	OK
SW9.007	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH26	Tank Unit 2 and 3	35.557	33.680	0.123	16.776	1.1	0.32	30.1	OK
SW7.002	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH20	Tank Unit 2 and 3	35.432	34.010	0.099	10.154	1.1	0.36	19.1	OK
SW1.005	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH06	Tank Unit 1	35.352	33.120	0.113	37.195	2.4	0.16	68.0	OK
Pipe (22)	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH13	Tank Unit 1	35.377	33.065	0.077	17.258	2.4	0.11	34.7	OK
Pipe	FSR: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH09	Tank Unit 1	34.913	33.820	0.044	5.581	2.1	0.08	11.2	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

FSR: 30 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
SW1.001	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH17	SWMH04	35.480	34.400	0.225	8.429	0.5	0.09	18.2	OK
SW4.000	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH07	SWMH06	35.358	34.069	0.127	11.098	1.0	0.21	23.7	OK
SW8.000	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH19	SWMH20	35.438	34.429	0.115	5.191	0.8	0.44	11.0	OK
SW1.004	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH05	SWMH06	35.483	33.351	0.216	59.403	2.0	0.85	106.9	OK
SW5.001	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH10	SWMH11	34.829	33.400	0.233	33.030	1.2	0.95	70.3	OK
SW6.001	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH08	SWMH09	35.244	34.227	0.087	10.574	1.5	0.42	22.1	OK
Pipe (1)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH15	SWMH16	35.336	34.324	0.115	10.608	1.1	0.53	22.6	OK
SW1.000	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH01	SWMH02	35.103	34.092	0.119	8.187	0.8	0.41	17.4	OK
Pipe (5)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH14	SWMH05	35.483	34.507	0.150	9.320	1.1	0.52	20.0	OK
Pipe (10)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH23	SWMH26	35.614	34.216	0.145	17.158	1.0	0.21	34.0	OK
Pipe (4)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH02	SWMH03	35.132	34.042	0.126	12.918	1.2	0.52	27.2	OK
Pipe (12)	FSR: 30 years: +0 %: 30 mins: Winter	Pipe	SWMH03	SWMH04	34.998	33.675	0.165	16.943	0.6	0.19	18.4	OK
Pipe (13)	FSR: 30 years: +0 %: 1440 mins: Winter	Pipe	Porous Paving	SWMH03	35.224	34.859	0.009	3.913	0.6	0	0.1	OK
Pipe (14)	FSR: 30 years: +0 %: 30 mins: Winter	Pipe	UU 2310	UU 2404	35.110	29.358	0.029	7.154	0.5	0	2.7	OK

SW1.008	FSR: 30 years: +0 %: 1440 mins: Winter	Pipe	COMMH 33	COMMH 34	35.471	31.685	0.022	157.874	0.5	0.02	1.1	OK
Pipe (15)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH2 1	SWMH2 0	35.428	34.410	0.135	9.969	0.8	0.48	20.3	OK
Pipe (16)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH2 5	SWMH2 6	35.557	34.570	0.130	7.287	0.6	0.18	15.4	OK
Pipe (17)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH2 7	SWMH2 6	35.556	34.269	0.128	4.830	0.4	0.16	10.0	OK
Pipe (18)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH2 2	SWMH2 3	35.614	34.598	0.097	8.645	1.1	0.38	17.9	OK
Pipe (8)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH2 4	SWMH2 3	35.614	34.583	0.093	8.545	1.2	0.34	17.9	OK
Pipe (9)	FSR: 30 years: +0 %: 120 mins: Winter	Pipe	COMMH 34	UU 2310	35.400	31.584	0.024	32.216	1.5	0.03	2.7	OK
Pipe (19)	FSR: 30 years: +0 %: 60 mins: Summer	Pipe	COMMH 31	COMMH 34	35.365	32.984	0.019	10.097	1.0	0.02	1.7	OK
SW11.000	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH2 8	Tank Unit 2 and 3	35.244	34.084	0.223	49.322	1.9	0.81	104.9	OK
Pipe (20)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH0 4	SWMH0 5	35.480	33.728	0.300	50.154	1.3	1.27	89.7	Surch arged
Pipe (6)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	Tank Unit 1	FC SWMH1 8	34.942	32.011	0.263	1.745	0.4	0.02	1.6	OK
Pipe (7)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH1 1	SWMH1 2	34.829	33.316	0.219	33.030	1.2	0.68	68.3	OK
Pipe (21)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH1 2	SWMH1 3	35.377	33.176	0.204	32.927	1.3	0.94	66.8	OK
Pipe (23)	FSR: 30 years: +0 %: 1440 mins: Winter	Pipe	FC SWMH1 8	COMMH 32	35.064	32.544	0.025	157.959	0.5	0.06	1.1	Surch arged
Pipe (24)	FSR: 30 years: +0 %: 1440 mins: Winter	Pipe	COMMH 32	COMMH 33	35.117	31.725	0.025	157.922	0.4	0.02	1.1	OK
Pipe (11)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	Tank Unit 2 and 3	FC SWMH2 9	35.327	33.538	0.199	2.604	0.4	0.02	2.1	OK
Pipe (25)	FSR: 30 years: +0 %: 60 mins: Summer	Pipe	FC SWMH2 9	COMMH 30	35.291	33.616	0.027	10.205	0.8	0.04	1.7	Surch arged

Pipe (26)	FSR: 30 years: +0 %: 360 mins: Winter	Pipe	COMMH 30	COMMH 31	35.289	33.047	0.026	64.431	0.7	0.04	1.7	OK
Pipe (2)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH1 6	SWMH0 4	35.384	34.195	0.225	14.286	0.7	0.44	29.7	OK
SW9.007	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH2 6	Tank Unit 2 and 3	35.557	33.747	0.184	31.762	1.3	0.63	59.2	OK
SW7.002	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH2 0	Tank Unit 2 and 3	35.432	34.066	0.150	19.226	1.3	0.7	37.0	OK
SW1.005	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH0 6	Tank Unit 1	35.352	33.180	0.164	70.470	2.8	0.31	129.2	OK
Pipe (22)	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH1 3	Tank Unit 1	35.377	33.107	0.111	32.825	2.8	0.22	66.3	OK
Pipe	FSR: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH0 9	Tank Unit 1	34.913	33.838	0.061	10.563	2.4	0.15	21.5	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

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
SW1.001	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH17	SWMH04	35.480	34.406	0.225	10.894	0.6	0.12	23.5	OK
SW4.000	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH07	SWMH06	35.358	34.079	0.149	14.337	1.1	0.27	30.7	OK
SW8.000	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH19	SWMH20	35.438	34.440	0.140	6.701	0.8	0.56	14.2	OK
SW1.004	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH05	SWMH06	35.483	33.463	0.288	76.792	2.0	1.09	137.0	Surcharged
SW5.001	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH10	SWMH11	34.829	33.487	0.300	42.667	1.3	1.22	90.0	Surcharged
SW6.001	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH08	SWMH09	35.244	34.245	0.101	13.663	1.6	0.55	28.6	OK
Pipe (1)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH15	SWMH16	35.336	34.348	0.141	13.707	1.1	0.68	28.9	OK
SW1.000	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	SWMH01	SWMH02	35.103	34.107	0.134	9.444	0.9	0.51	21.3	OK
Pipe (5)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH14	SWMH05	35.483	34.521	0.150	12.037	1.5	0.67	25.9	OK
Pipe (10)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH23	SWMH26	35.614	34.229	0.174	22.173	1.0	0.27	44.2	OK
Pipe (4)	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	SWMH02	SWMH03	35.132	34.057	0.225	14.895	1.2	0.54	28.2	OK
Pipe (12)	FSR: 100 years: +0 %: 30 mins: Winter	Pipe	SWMH03	SWMH04	34.998	33.763	0.225	22.095	0.6	0.25	23.9	OK
Pipe (13)	FSR: 100 years: +0 %: 360 mins: Winter	Pipe	Porous Paving	SWMH03	35.224	34.868	0.017	2.130	0.6	0	0.1	OK
Pipe (14)	FSR: 100 years: +0 %: 1440 mins: Winter	Pipe	UU 2310	UU 2404	35.110	29.358	0.029	421.303	0.5	0	2.7	OK

SW1.008	FSR: 100 years: +0 %: 1440 mins: Winter	Pipe	COMMH 33	COMMH 34	35.471	31.687	0.023	177.389	0.6	0.03	1.2	OK
Pipe (15)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH2 1	SWMH2 0	35.428	34.428	0.164	12.874	0.8	0.62	26.3	OK
Pipe (16)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH2 5	SWMH2 6	35.557	34.579	0.156	9.408	0.7	0.24	20.0	OK
Pipe (17)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH2 7	SWMH2 6	35.556	34.277	0.154	6.237	0.4	0.21	12.9	OK
Pipe (18)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH2 2	SWMH2 3	35.614	34.615	0.112	11.165	1.2	0.49	23.2	OK
Pipe (8)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH2 4	SWMH2 3	35.614	34.598	0.108	11.041	1.2	0.44	23.2	OK
Pipe (9)	FSR: 100 years: +0 %: 1440 mins: Winter	Pipe	COMMH 34	UU 2310	35.400	31.584	0.024	421.620	1.5	0.03	2.7	OK
Pipe (19)	FSR: 100 years: +0 %: 30 mins: Summer	Pipe	COMMH 31	COMMH 34	35.365	32.984	0.019	4.839	1.1	0.02	1.7	OK
SW11.000	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH2 8	Tank Unit 2 and 3	35.244	34.236	0.300	63.736	1.9	1.03	134.0	Surch arged
Pipe (20)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH0 4	SWMH0 5	35.480	34.041	0.300	64.817	1.6	1.64	115.8	Surch arged
Pipe (6)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	Tank Unit 1	FC SWMH1 8	34.942	32.086	0.300	1.866	0.4	0.02	2.0	Surch arged
Pipe (7)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH1 1	SWMH1 2	34.829	33.370	0.266	42.667	1.3	0.87	87.7	OK
Pipe (21)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH1 2	SWMH1 3	35.377	33.218	0.236	42.564	1.4	1.21	86.0	OK
Pipe (23)	FSR: 100 years: +0 %: 1440 mins: Winter	Pipe	FC SWMH1 8	COMMH 32	35.064	32.794	0.027	177.481	0.6	0.07	1.2	Surch arged
Pipe (24)	FSR: 100 years: +0 %: 1440 mins: Winter	Pipe	COMMH 32	COMMH 33	35.117	31.727	0.027	177.441	0.4	0.03	1.2	OK
Pipe (11)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	Tank Unit 2 and 3	FC SWMH2 9	35.327	33.589	0.251	2.792	0.4	0.02	2.4	OK
Pipe (25)	FSR: 100 years: +0 %: 30 mins: Summer	Pipe	FC SWMH2 9	COMMH 30	35.291	33.629	0.027	4.947	0.8	0.04	1.7	Surch arged

Pipe (26)	FSR: 100 years: +0 %: 60 mins: Summer	Pipe	COMMH30	COMMH31	35.289	33.047	0.026	10.310	0.7	0.04	1.7	OK
Pipe (2)	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	SWMH16	SWMH04	35.384	34.209	0.225	16.468	0.9	0.54	36.3	OK
SW9.007	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH26	Tank Unit 2 and 3	35.557	33.791	0.223	40.756	1.4	0.82	77.5	OK
SW7.002	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH20	Tank Unit 2 and 3	35.432	34.104	0.183	24.841	1.4	0.91	47.8	OK
SW1.005	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH06	Tank Unit 1	35.352	33.214	0.192	91.094	3.0	0.4	167.8	OK
Pipe (22)	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH13	Tank Unit 1	35.377	33.129	0.129	42.462	2.9	0.28	85.3	OK
Pipe	FSR: 100 years: +0 %: 15 mins: Winter	Pipe	SWMH09	Tank Unit 1	34.913	33.848	0.070	13.651	2.6	0.2	27.8	OK

Trade City Sharston:	Date: 25/03/2026		
	Designed by: NM	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	100 Barbirolli Square : Manchester United Kingdom M2 3PW		

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
SW1.001	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH17	SWMH04	35.480	34.643	0.225	15.798	0.7	0.14	26.6	Surcharged
SW4.000	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH07	SWMH06	35.358	34.097	0.182	20.784	1.3	0.39	44.6	OK
SW8.000	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH19	SWMH20	35.438	34.497	0.150	9.712	1.0	0.72	18.3	OK
SW1.004	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH05	SWMH06	35.483	33.676	0.300	111.309	2.5	1.42	178.4	Surcharged
SW5.001	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH10	SWMH11	34.829	33.900	0.300	61.873	1.8	1.76	129.6	Surcharged
SW6.001	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH08	SWMH09	35.244	34.282	0.128	19.812	1.8	0.8	41.4	OK
Pipe (1)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH15	SWMH16	35.336	35.005	0.225	19.877	0.9	0.81	34.2	Surcharged
SW1.000	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH01	SWMH02	35.103	34.853	0.225	15.370	0.7	0.61	25.4	Flood Risk
Pipe (5)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH14	SWMH05	35.483	34.681	0.150	17.451	1.9	0.85	32.8	Surcharged
Pipe (10)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH23	SWMH26	35.614	34.253	0.259	32.174	1.0	0.4	64.7	OK
Pipe (4)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH02	SWMH03	35.132	34.822	0.225	24.246	1.3	0.71	36.8	Surcharged
Pipe (12)	FSR: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH03	SWMH04	34.998	34.526	0.225	21.604	1.2	0.52	48.8	Surcharged
Pipe (13)	FSR: 100 years: +45 %: 240 mins: Winter	Pipe	Porous Paving	SWMH03	35.224	34.906	0.025	4.236	0.8	0	0.3	OK
Pipe (14)	FSR: 100 years: +45 %: 1440 mins: Winter	Pipe	UU 2310	UU 2404	35.110	29.362	0.032	487.128	0.5	0	3.5	OK

SW1.008	FSR: 100 years: +45 %: 1440 mins: Winter	Pipe	COMMH 33	COMMH 34	35.471	31.693	0.027	214.841	0.7	0.04	1.8	OK
Pipe (15)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH2 1	SWMH2 0	35.428	34.508	0.225	18.649	0.9	0.81	34.2	OK
Pipe (16)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH2 5	SWMH2 6	35.557	34.597	0.225	13.636	0.7	0.34	29.2	OK
Pipe (17)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH2 7	SWMH2 6	35.556	34.294	0.225	9.040	0.5	0.3	19.0	OK
Pipe (18)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH2 2	SWMH2 3	35.614	34.648	0.140	16.186	1.3	0.72	33.6	OK
Pipe (8)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH2 4	SWMH2 3	35.614	34.628	0.134	16.011	1.4	0.64	33.7	OK
Pipe (9)	FSR: 100 years: +45 %: 1440 mins: Winter	Pipe	COMMH 34	UU 2310	35.400	31.586	0.027	487.458	1.7	0.04	3.5	OK
Pipe (19)	FSR: 100 years: +45 %: 1440 mins: Winter	Pipe	COMMH 31	COMMH 34	35.365	32.985	0.021	272.683	1.1	0.02	1.8	OK
SW11.000	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH2 8	Tank Unit 2 and 3	35.244	34.507	0.300	92.412	2.8	1.51	197.1	Surch arged
Pipe (20)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH0 4	SWMH0 5	35.480	34.609	0.300	93.921	2.1	2.09	147.8	Surch arged
Pipe (6)	FSR: 100 years: +45 %: 1440 mins: Winter	Pipe	Tank Unit 1	FC SWMH1 8	34.942	34.152	0.300	217.301	0.2	0.03	2.5	Surch arged
Pipe (7)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH1 1	SWMH1 2	34.829	33.694	0.300	61.871	1.8	1.25	126.3	Surch arged
Pipe (21)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH1 2	SWMH1 3	35.377	33.369	0.300	61.772	1.8	1.76	125.0	Surch arged
Pipe (23)	FSR: 100 years: +45 %: 1440 mins: Winter	Pipe	FC SWMH1 8	COMMH 32	35.064	34.152	0.033	214.944	0.6	0.1	1.8	Surch arged
Pipe (24)	FSR: 100 years: +45 %: 1440 mins: Winter	Pipe	COMMH 32	COMMH 33	35.117	31.732	0.032	214.900	0.5	0.04	1.8	OK
Pipe (11)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	Tank Unit 2 and 3	FC SWMH2 9	35.327	33.691	0.300	3.019	0.4	0.03	2.9	Surch arged
Pipe (25)	FSR: 100 years: +45 %: 1440 mins: Winter	Pipe	FC SWMH2 9	COMMH 30	35.291	34.326	0.027	272.786	0.8	0.05	1.8	Surch arged

Pipe (26)	FSR: 100 years: +45 %: 1440 mins: Winter	Pipe	COMMH30	COMMH31	35.289	33.048	0.026	272.732	0.7	0.04	1.8	OK
Pipe (2)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH16	SWMH04	35.384	34.915	0.225	26.762	1.0	0.61	40.8	Surcharged
SW9.007	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH26	Tank Unit 2 and 3	35.557	33.939	0.300	57.846	1.7	1.25	118.7	Surcharged
SW7.002	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH20	Tank Unit 2 and 3	35.432	34.240	0.225	36.039	1.7	1.3	68.3	Surcharged
SW1.005	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH06	Tank Unit 1	35.352	33.261	0.230	132.055	3.1	0.53	221.0	OK
Pipe (22)	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH13	Tank Unit 1	35.377	33.173	0.163	61.669	3.2	0.41	124.1	OK
Pipe	FSR: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH09	Tank Unit 1	34.913	33.865	0.086	19.798	2.9	0.29	40.4	OK

Appendix J - Overland Flow Plan



NO EXCEEDANCE IN THE 1:100 YEAR + 45% CLIMATE CHANGE STORM, ALL SURFACE WATER WOULD BE CONTAINED WITHIN THE SITE. IN THE EVENT OF A MORE SEVERE STORM, SURFACE WATER WOULD BE HELD WITHIN YARD AND CAR PARK AREAS ON THE SURFACE UNTIL THE WATER LEVEL SUBSIDES, AFTER WHICH THE WATER HELD ON THE SURFACE WOULD DISCHARGE THROUGH THE DRAINAGE SYSTEM. IN THE EVENT OF A MAJOR BLOCKAGE AT THE OUTFALL - WATER WOULD SPILL OUT OF THE SITE AS SHOWN. THIS IS FOR INFORMATION ONLY AND THE DESIGN AND MAINTENANCE SCHEDULE AIM TO PREVENT THIS

0 4 8 12 16 20m
SCALE 1:200

Stantec

Stantec Hydrock Limited
100 Barbirolli Square
Manchester
M2 3PW
Tel. +44 161 245 8900
www.stantec.com/uk

Copyright Reserved

The Copyrights to all designs and drawings are the property of Stantec Hydrock Limited. Reproduction or use for any purpose other than that authorised by Stantec is forbidden.

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. Any errors or omissions shall be reported to Stantec without delay.

Colour Disclaimer

This drawing has been documented in colour. This drawing is required to be printed in colour. Failure to do so may result in loss of information. Black and white printing may be used if specific black and white documents have been obtained from Stantec.

Notes

1. THIS DRAWING IS JUST FOR INFORMATION PURPOSES ONLY AND UNDER NO CIRCUMSTANCES SHALL IT BE USED FOR CONSTRUCTION.
2. THE DRAWING HAS BEEN PRODUCED BASED ON A 1:100 YEAR EVENT WITH 45% CLIMATE CHANGE ALLOWANCE.

Legend

- FLOW ARROW
- 0.1m CONTOUR
- 0.5m CONTOUR
- EVENT OF A MAJOR BLOCKAGE AT THE OUTFALL

P03	PLANNING ISSUE	JK	NB	25.03.26
P02	PLANNING ISSUE	NM	NB	25.11.25
P01	PLANNING ISSUE	NM	NB	31.07.25
Issued/Revision		By	Appd	DD.MM.YYYY
		NM	NM	JK	25.11.25
		Dwn.	Dsgn.	Chkd.	DD.MM.YYYY

Issue Status

S2 - FOR INFORMATION

This document is suitable only for the purpose noted above. Use of this document for any other purpose is not permitted.

Client/Project Logo

KIER PROPERTY

Client/Project

SHARSTON ROAD

Title

OVERLAND FLOW ROUTE PLAN

Project No.
333701647

A0 Scale
1:200

Revision
P03

Drawing No.
333701647-STN-XX-XX-DR-C-0510

Plotted: 25.03.2026 09:23:23 | NM | M:\Kier_JW\Projects\333701647 Land at Sharston\Technical\Civil\3 Drawings\Z2 Models\333701647-STN-XX-XX-M3-C-0510.dwg | Layout: P03 - ISO A0 | Drawing: 333701647-STN-XX-XX-DR-C-0510

Stantec

Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

Stantec UK Limited
100 Barbirolli Square
Manchester
M2 3PW
UNITED KINGDOM
stantec.com