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RYEBANK, CHORLTON

DRAINAGE STRATEGY

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RBM-REN-XX-XX-RP-C-00002

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1. INTRODUCTION

1.1. Purpose of this Report

This Drainage Strategy has been prepared by renaissance on behalf of Step Places, Southway Housing Trust and Manchester Metropolitan University (‘the Applicants’) in support of a full planning application for a residential development on land at Ryebank.

The assessment includes: a summary of the site, an estimate of the existing and proposed surface water discharge rates, infiltration assessment, SUDs assessment, and outline drainage proposals and performance criteria.

This report should be read in conjunction with the Flood Risk Assessment, RBM-REN-XX-XX-RP-C-00001.

2. THE SITE

2.1. Site Location

The Ryebank development is located in Chorlton, Manchester. The site is accessed off Ryebank Road and Longford Road.

Post Code	M21 9LU
OS Reference (X)	381109
OS Reference (Y)	394584
National Grid Reference	SJ811945

The site location is illustrated in Figure 2.1 below.

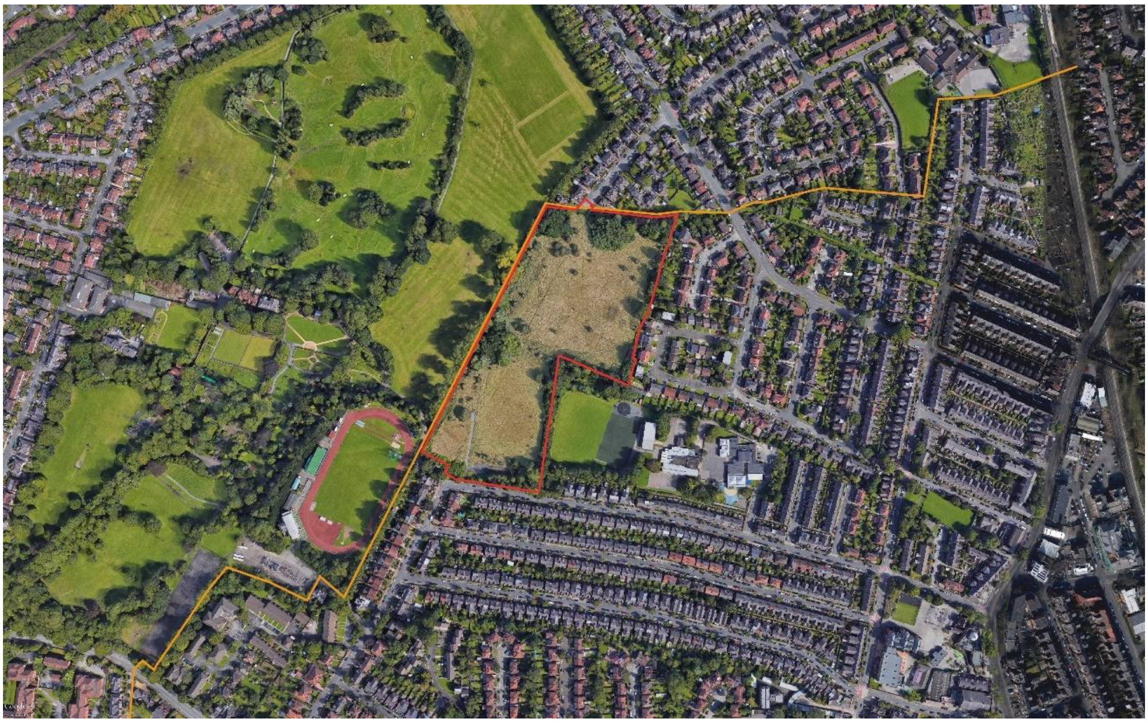


Figure 2.1 – Indicative Site Location

2.2. Site Description

The total site is circa 4.61 ha and is situated adjacent to Longford Park, approximately 1.2km east of Stretford, Old Trafford. The site is predominantly grassland with trees and a small area of hardstanding in the south. The majority of the site falls within Manchester City Council's boundary with a small portion within Trafford Council's boundary.

The land use to the north, south and east comprises residential development. To the west lies Longford Park, within which lies the Trafford Athletic Club. To the southeast of the site lies the St Johns RC Primary School.

Access to the site is provided by Ryebank Road. The nearest tram stop (Firswood) – is located approximately 750m to the northeast of the site.

A ditch is known to intersect the centre of the site, which is thought to form part of a linear earthwork stretching across Manchester (9.7 km), known as Nico Ditch

There are no structures present on site, however an area of hardstanding is present to the south-east of the site. A bund surfaced by grass is located adjacent to the area of hard standing. A number of informal pedestrian trails intersect the site. However, the site is privately owned and not publicly accessible at present.

The site is predominantly flat in topography but gradually falls from south to north.

Refer to Appendix A for a topographical survey.

2.3. Existing Site Drainage

Due to the nature of the site, it is assumed that there are no existing private drainage systems. The United Utilities (UU) sewer records have been reviewed, and this confirms that a sewer overflow passes beneath the site in a south-westerly direction. It is understood the overflow is 1275mm brick and is circa 5.5m deep. There are also combined water sewers present within Ryebank Road and Longford Road that are 225-375mm in diameter and circa 1.75-3.70m deep.

A CCTV survey has been conducted to verify the asset records.

Refer to Appendix B and C for the UU Sewer asset records and CCTV survey respectively.

2.4. Geology

Made Ground deposits were encountered within all exploratory hole locations from ground level to a maximum proven depth of 13.50m bgl. The underside of Made Ground could not be determined within the majority of locations due to substantial depths of Made Ground and obstructions.

Made ground generally comprised of reworked topsoil from ground level to a maximum proven depth of 0.30m bgl. Underlying the reworked topsoil and asphalt the strata is largely granular comprising of either a black fine to medium gravelly sand or a sandy gravel. Gravel generally comprised of sandstone and mudstone with frequent fragments of asphalt, brick, concrete, plastic, metal and glass with occasional cobbles of brick and concrete.

Strong hydrocarbon odours were noted throughout the site at depths typically from 1.50m bgl.

Drift deposits were typically encountered at the base of infilled clay pits, as shown by historic mapping, at depths between 7.50 m bgl and 13.50 m bgl. Drift deposits were proven to a maximum depth of 17.83 m bgl with the presence of very stiff sandy CLAY.

Natural drift deposits encountered typically comprised of a very stiff very high strength brown sandy CLAY with occasional boulders of sandstone.

Shallower drift deposits were encountered in the south west of the site (located outside of the historically mapped clay pit) from 1.50m bgl, which comprised of a very soft to soft extremely low to very low strength brown sandy gravelly clay, with gravel of sandstone, mudstone and coal.

It is understood from BGS records that the underlying bedrock is of the Wilmslow Sandstone formation, although it was not encountering during the intrusive site investigation.

For further information refer to Phase II Geoenvironmental Site Assessment - 17-403-R1-2 – November 2024 by e3p.

2.5. Hydrogeology & Hydrology

Based on an Environmental setting desk study, a summary of the Environment Agency aquifer designations is presented in the table below:

Stratum	Coverage	Aquifer Designation
Superficial	Full Site	Secondary (Undifferentiated) Aquifer. The classification is assigned where it is not possible to attribute either category A or B to the aquifer.

		Secondary (A) Aquifer in the northwest. These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.
Bedrock	Full Site	Principal aquifer. This is Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale.

Table 2.1 – Aquifer Designations

The Nico Ditch (referred to as a drain) is intersecting the centre of the site however it is noted to be dry. United Utilities have indicated that the route of the Thirlmere Aqueduct runs across the northern boundary of the site. Longford Brook (culverted) is located circa 210 m west of the site. Longford Brook historically flowed through the site, however, has since been diverted. Refer to Appendix D for LLFA Data Screen.

The site is not located within a Groundwater Source Protection Zone or a Drinking Water Safeguard Zone.

There are three groundwater abstraction points situated within 1 km of the site which are operated by Trafford Metal Finishers Manchester Ltd utilised as process water. The three abstraction licenses relate to these boreholes.

There are no active licensed discharge consents within 250m.

2.6. Proposed Development

Erection of a residential development comprising 120 units (including a mix of housing types and tenures) together with open spaces, landscaping, sustainable drainage features, access arrangements, cycleway and pedestrian linkages, vehicular accesses and highways, parking provision and other associated works.

Refer to Appendix E for the proposed development plans.

3. SURFACE WATER DRAINAGE HIERARCHY

3.1 *Surface Water Discharge Assessment*

In accordance with National standards for sustainable drainage systems (SuDS), the following hierarchy of surface water drainage options has been considered:

- priority 1: collected for non-potable use
- priority 2: infiltrated to ground
- priority 3: discharged to an above ground surface water body
- priority 4: discharged to a surface water sewer, or another piped surface water drainage system
- priority 5: discharged to a combined sewer

Rainwater Harvesting

Rainwater harvesting shall be incorporated into the developed in the form of water butts on the external rainwater pipes which will be used for landscape irrigation. The water butts are to include a low level drain that slowly releases excess water into the below ground drainage network.

Infiltration Based Systems

A phase II intrusive site investigation has been undertaken and has confirmed the presence of substantial depths of made ground, which is a result of the historic infilling of clay pits, ponds, watercourses etc. Given cohesive superficial deposits have also been encountered and the contamination risks associated with the made ground, discharge via infiltration is not viable. Refer to Phase II Geoenvironmental Site Investigation – 17-403-R1-2 prepared by e3p dated November 2024.

Surface Waterbody

Discharge into the nearby Longford Brook has been considered. Based on a review of historic maps it is understood that the Longford Brook previously passed through the site before being diverted around the clay pits into the Nico Ditch. The current United Utilities asset records and Environment Agency River maps now show that the head of the Longford Brook is situated within Longford Park. A site survey has been completed and found no evidence of a culverted section of the Longford Brook onsite. There is evidence of a culvert inlet along the western boundary that suggests there is an existing connection from site towards the Longford Brook. As shown by the CCTV survey this inlet is heavily silted and therefore the full extent could not be determined at this time. It is proposed that this connection is re-used subject to additional survey. Refer to Appendix N & P for correspondence to date. with the Trafford and Manchester Council’s LLFA.

Sewer Connection

Should the above connection be found unviable then a connection to the public sewer network should be sought. The LLFA data screen and CCTV survey incorrectly suggest a surface water sewer crosses the site. Instead, the United Utilities asset records indicate the sewer to be a combined sewer overflow to which a connection is not permitted. Therefore, if it is found that a connection to Longford Brook is not possible then a connection to the combined sewer network would be sought. The preferred point of connection would be the manhole noted as MH8603 within Longford Park on United Utilities sewer records. This connection would require 3rd party land approval from Trafford Council/ Longford Park owner.

4. SURFACE WATER DISCHARGE RATE ASSESSMENT

4.1 Greenfield Run-Off Rates

A review of the topographical and utility surveys confirms that the site is classified as greenfield given the lack of active drainage infrastructure on site. As large areas of the site will remain undeveloped the overall site area has been reduced to represent the development area.

Refer to Existing Drained Areas Plan – RBM-REN-XX-XX-DR-C-00050 in Appendix F.

The greenfield run-off has been calculated using the IH124 method using the greenfield run-off tool available on the UK SuDS website. An extract of the calculation is presented in Appendix G.

Areas (ha)	Greenfield Runoff Rates (l/s)			
	1 in 1 Year	1 in 30 Year	1 in 100 Year	Q_{bar}
3.221	16.88	32.99	40.36	19.40

Table 4.1 – Greenfield Run-Off Rates

4.2 Proposed Surface Water Discharge Rates

The Manchester, Salford and Trafford SFRA states that brownfield sites in the Core Conurbation Critical Drainage Area should restrict rates to at least 50% of the pre-development brownfield run-off rates, with an aim of reducing runoff to Greenfield rates up to a 1 in 100 year storm event, considering climate change.

The non-Statutory Technical Standards for Sustainable Drainage Systems (2025) state, where the volume of runoff discharged from the development to surface waters or sewers for the 1% AEP, 6-hour rainfall event is greater than the volume of greenfield runoff for the same rainfall event, the peak allowable discharge rate from the development for the 1% AEP event shall be limited to the 50% AEP greenfield runoff rate, which can be considered equivalent to the calculated QBAR (mean annual flood) or QMED (median annual flood) for the site, or 3l/s/ha, whichever is the greater.

Policy JP-S 5 of the recently adopted Places for Everyone Joint Development Plan expects developments to manage surface water runoff through sustainable drainage systems and as close to source as possible (unless demonstrably inappropriate) so as to not exceed greenfield run-off rates or alternative rates specified in district local plans, such as those identified for areas with critical drainage issues.

As required by the North West SuDS Pro-Forma the discharge from the development is to be restricted to Qbar to control the flow and volume of runoff from the site.

It is therefore proposed that the maximum surface water discharge from the site should be restricted to 19.4 l/s. This is subject to agreement with the LLFA and Environment Agency.

5. ATTENUATION AND SUDS ASSESSMENT

5.1. *Attenuation Requirements*

Based on the proposed landscape proposals the site is circa 75% impermeable when compared to the development boundary, which results in an area of 2.428 ha.

Refer to Proposed Drained Areas Plan – RBM-REN-XX-XX-DR-C-00060 in Appendix H.

Due to the nature of the development and the current landscape proposals (i.e. hard landscaped gardens) the percentage of impermeable area will not increase during the lifetime of the development and as such it is not appropriate to apply an urban creep allowance.

The post development discharge rates will include for an increase in the rainfall intensity of 45% for the 1% annual exceedance probability (AEP), to allow for climate change as is consistent with a design life of the development of 100 years, as outlined by the NPPF.

Quick storage estimates for the above return periods, using Micro Drainage, indicate that the approximate attenuation volumes shown in table 5.1 are required to limit the peak surface water discharge to Qbar

Return Period	Impermeable Area (ha)	Surface Water Attenuation Estimate (m^3)
1:30 Year 40%CC	2.428	999-1419 m^3
1:100 Year +45%CC	2.428	1490-2045 m^3

Table 5.1 – Attenuation Volumes

5.2. *Sustainable Drainage Systems*

Table 5.1 below provides a summary of typical SuDS techniques outlined within CIRIA guide 753 SUDs manual and provides a review of their suitability for use as part of the Ryebank development.

SuDS Technique	Description	Suitability for Development Site	
Rainwater Harvesting	Collection of rainwater run-off for use	Water butts to be utilised on external RWPs	✓
Green Roof	Vegetated roof area that reduces runoff and increases time of concentration.	Not financially and technically viable due to additional structure required for increased loading.	×
Blue Roof	Roof area designed to store and reduce peak runoff rates during intense storms.	Not financially and technically viable due to additional structure required for increased loading.	×
Infiltration systems	Systems that collect and store runoff allowing it to infiltrate into the ground.	Phase II site investigation has confirmed infiltration is not viable.	×
Proprietary treatment systems	Underground structures designed to provide treatment to runoff	Proprietary treatment system could be used to provide suitable treatment where other SuDS are not viable	✓
Filter Strips	Grass strips that promote sedimentation and filtration as runoff is conveyed over the surface	Phase II site investigation has confirmed infiltration is not viable.	×
Filter Drains	Granular filled Linear drains / soakaway with either granular fill and perforated pipe, or dense vegetation that treat runoff from adjacent impermeable areas	Phase II site investigation has confirmed infiltration is not viable.	×

Swales	Shallow landscape channels that treat and convey runoff.	Not suitable due to levels and space required	✗
Bioretention systems	Shallow landscape depressions that allow runoff to pond temporarily on the surface, before filtering through vegetation and underling soils. Can either infiltrate or convey via perforated pipes.	Suitable as lined systems to collect highway run-off	✓
Trees	Trees within soil filled pits or permeable paving that can collect, store and treat run off	Maybe suitable subject to detailing.	?
Pervious Paving	Granular build-up beneath permeable paving systems that can be used to either store runoff (lined system) and increase time of concentration or allow percolation into the ground.	Suitable to car parks as part of a type C lined system. Check dams may be required to deal with site levels.	✓
Attenuation Storage tanks/ large diameter pipes	Large underground voided spaces used to storage runoff before infiltration or controlled discharge	Suitable to store and convey surface water run-off.	✓
Ponds and wetlands	Permanent pools of water used to treat run-off and provide attenuation above normal water level	Not suitable due to limited storage potential	✗
Detention Basins	Dry basins that are designed to temporarily store runoff providing water quality treatment. Can either be positively drained or infiltrate or both.	Suitable as lined system with upstream treatment	✓

✗ Not suitable
? Potentially suitable subject to further investigation
✓ Suitable

Table 5.2 – SuDS Assessment

Following the above assessment, it is proposed that development will utilise the following:

- Permeable Paving/ Sub-base Attenuation
- Pond/ Wetland
- Rain Gardens/ Bio Retention Areas

The various SuDS elements are shown on the Below Ground Drainage GA within Appendix J, with a summary of the volumes provided in the table below.

SuDS Feature	Catchment Area (m^2)	Storage Area (m^2)	Depth (m)	Porosity (%)	Attenuation Volume (m^3)
Permeable Paving (Sub-base)	18229	7463	0.600	30	1343
Permeable Paving (Formavoid)			0.100	70	522
Rain Gardens (Freeboard)	6052	340	0.100	100	34
Rain Gardens (Planting Medium)			0.650	15	33
Rain Gardens (Sub-base)			0.300	30	31
Pond/ Wetland					150
Oversized Pipes & Manholes					50
Total	24281	-	-	-	2163

Table 5.3 – Summary of Attenuation Volumes

5.3. Water Quality Assessment

Water quality is generally affected by frequent rainfall events, 1 in 1 year events or less. To assess the water quality consideration will be given to the guidance within CIRIA Guide C753 The SuDS Manual. The pollution hazard levels for different land uses are presented in the table below.

Land Use	Pollution Hazard Level	Total Suspended Solids	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 within 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	Medium	0.7	0.6	0.7
Site with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), site where chemical and other fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured, industrial sites; trunk roads and motorways	High	0.8	0.8	0.9

Table 5.4 – Pollution Hazard Levels

The surface water run-off from the development plots will be from the building roofs, external hard landscaping and residential car parks. This results in low pollution hazard level.

Discharge of surface water to the Longford Brook will require suitable treatment. Treatment is to be provided via permeable paving, rain gardens and catchpit manholes. This is to be assessed at the detailed design stage using the Simple Index Approach once the final details of the SuDS have been confirmed.

5.4. SuDS Maintenance and Management Plan

In order to ensure the ongoing functioning of the below ground drainage networks a suitable maintenance strategy is to be adopted to ensure the drainage network is cleaned regularly and the routine maintenance and cleansing regime should be documented.

The sewers beneath the highway and the pond are to be adopted by a water utility company (e.g. United Utilities) via a S104 application. The rain gardens and tree pits associated with the highway are to be adopted by Manchester Council highway authority. The SuDS within private areas are to be maintained by the building owners or a maintenance company employed on their behalf. They will be required to maintain the SuDS in line with the recommendations set out within the 'The SuDS Manual C753' and the suppliers' requirements.

The following tables are extracted from The SuDS Manual and provide an indication of the operation and maintenance requirements for the SuDS that may be incorporated into the development. The adopting authority may also have their own maintenance requirements that need to be incorporated into the overall maintenance strategy. These requirements should be reviewed as part of the detailed design of each plot.

The Main Contractor delivering the development is to update the general requirements to reflect the product specific requirements of the as installed proprietary SuDS and incorporate these into the Operation & Maintenance manual for the building. A Verification Report, including photographic evidence, to demonstrate that the drainage has been constructed as per the design drawings. As-built drawings should be supplied by the Main Contractor where the construction of the drainage varies from the design drawings.

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 attenuation 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 applicator rather than sprays	As required - once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving	As required
	Remedial works 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
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10-15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three month after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48 hours after large storms in first 6 months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

Table 5.5 - Operation and Maintenance requirements for Pervious Pavements (Table 20.15 'The SuDS Manual C753)

Maintenance Schedule	Required Action	Typical Frequency
Regular Inspections	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in underdrain (if appropriate) to determine if maintenance is necessary	Quarterly
	Check operation of underdrains by inspection of flows after rain	Annually
	Assess pants for disease infection, poor growth, invasive species etc and replace as necessary	Quarterly
	Inspect inlets and outlets for blockage	Quarterly
Regular Maintenance	Remove litter, surface debris and weeds	Quarterly (or more frequently for tidiness or aesthetic reasons)
	Replace any plants, to maintain planting density	As required
	Remove sediment, litter and debris build-up from around inlets or from forebays	Quarterly to biannually
Occasional Maintenance	Infill any holes or scour in the filter medium, improve erosions protection if required	As required
	Repair minor accumulation of silt by raking away surface mulch scarifying surface of medium and replacing mulch.	As required
Remedial Actions	Remove and replace filter medium and vegetation above	As required but likely to be >20 years

Table 5.7 - Operation and Maintenance requirements for Bio-Retention Systems (Table 18.3 'The SuDS Manual C753)

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove litter and debris	Monthly (or as required)
	Cut the grass – public areas	Monthly (during growing season)
	Cut the meadow grass	Half yearly (spring, before nesting season, and autumn)
	Inspect marginal and bankside vegetation and remove nuisance plants (for first 3 years)	Monthly (at start, then as required)
	Inspect inlets, outlets, banksides, structures, pipework Etc for evidence of blockage and/ or physical damage	Monthly
	Inspect water body for signs of poor water quality	Monthly (May – October)
	Inspect silt accumulation rates in any forebay and in main body of the pond and establish appropriate removal frequencies; undertake contamination testing once some build-up has occurred, to inform management and disposal options	Half yearly
	Check any mechanical devices, eg penstocks	Half yearly
	Hand cut submerged and emergent aquatic plants (at minimum of 0.1 m above pond base; include max 25% of pond surface)	Annually
	Remove 25% of bank vegetation from water's edge to a minimum of 1 m above water level	Annually
	Tidy all dead growth (scrub clearance) before start of growing season (Note: tree maintenance is usually part of overall landscape management contract)	Annually
	Remove sediment from any forebay.	Every 1–5 years, or as required
	Remove sediment and planting from one quadrant of the main body of ponds without sediment forebays.	Every 5 years, or as required
Occasional Maintenance	Remove sediment from the main body of big ponds when pool volume is reduced by 20%	With effective pre-treatment, this will only be required rarely, eg every 25–50 years
Remedial Actions	Repair erosion or other damage	As required
	Replant, where necessary	As required
	Aerate pond when signs of eutrophication are detected	As required
	Realign rip-rap or repair other damage	As required
	Repair/ rehabilitate inlets, outlets and overflows.	As required

Table 5.8 - Operation and Maintenance requirements for Ponds and Wetlands (Table 23.1 'The SuDS Manual C753)

6. DRAINAGE STRATEGY

Refer to Appendix J for the Below Ground Drainage GA

6.1. *Surface Water Drainage System*

The development is to have a dedicated surface water network that serves to drain the highway, building plots and associated hard landscaping. The network is to discharge into the Longford Brook via the existing drain through Longford Park subject to further survey and agreement from Trafford Council and Manchester City Council LLFA and the Environment Agency.

The discharge from the site is to be limited to Qbar which equates to 19.4l/s, by using a vortex flow control. The proposed discharge rate is subject to agreement with the LLFA and Environment Agency.

In order to restrict the discharge rate, surface water attenuation is to be provided in the form of permeable paving/ sub-base attenuation, rain gardens and a pond/ wetland

Water quality treatment will be inherently provided by the aforementioned SuDS features however the system will incorporate catchpit chambers.

The surface water drainage networks are to be designed in accordance with Building Regulation Part H, BS EN 752 and the Appendix C of the Sewerage Sector Guidance– Design and Construction Guidance. In addition, the following requirements will also be adopted in accordance with the Non-Statutory Technical Standards for Sustainable Drainage: Practice Guidance:

- The below ground drainage system will be designed to ensure flooding does not occur on site for the 1 in 30 year and no flooding to habitat spaces for up to the 1 in 100-year + climate change storm events
- The surface water system is to be designed to accommodate the 1, 2, 30 and 100 year return events with 40% and 45% climate change allowances for the 30 and 100 year events respectively.

An easement is it be provided to the United Utilities combined sewer overflow (CSO) that passes through the site. The proposed drainage network is to pass over the CSO to form a connection with the Longford Brook. This cross over has been discussed and agreement with United Utilities (UU), refer to Appendix J for Long Section drawing and Appendix M for UU correspondence.

Refer to Appendix K for supporting Calculations

Refer to Appendix L for the North-West SuDS Pro-Forma.

6.2. *Foul Water Drainage System*

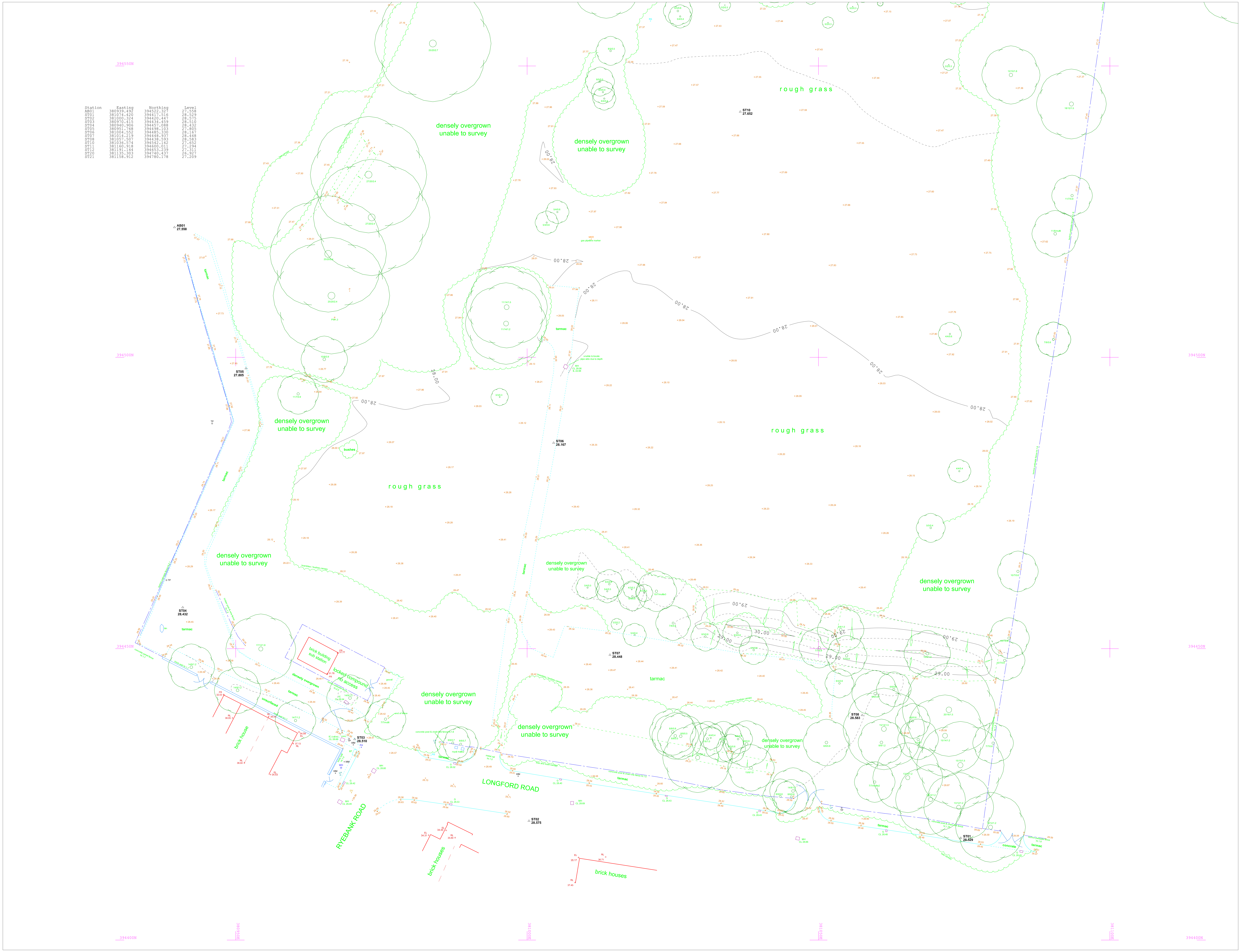
The development is to have 2 dedicated foul water networks that will collect foul water associated with the apartments and houses. Each network is to discharge separately to the public combined sewers situated within the highways that border the site.

Each connection to the public sewer will be subject to a Section 106 application with United Utilities. The proposed connections have been agreed in principle with United Utilities via pre-development enquiry. Refer to Appendix M for United Utilities correspondence.

The networks are to be designed in accordance with Building Regulation Part H, BS EN 752 and the Appendix C of the Sewerage Sector Guidance– Design and Construction Guidance.

APPENDIX A

TOPOGRAPHICAL SURVEY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394400N
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381050E
381100E
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densely overgrown unable to survey
tarmac
bushes
brick houses
brick house
brick building sub-station
locked compound no access
LONGFORD ROAD
RYEBANK ROAD
AB01 27.558
ST01 28.529
ST02 28.575
ST03 28.510
ST04 28.432
ST05 27.805
ST06 28.167
ST07 28.448
ST08 28.583
ST10 27.652
28.00
29.00
30.00

Station	Easting	Northing	Level
AB01	380939.492	394522.327	27.558
ST01	381074.420	394417.516	28.529
ST02	381000.324	394420.447	28.575
ST03	380970.415	394434.459	28.510
ST04	380940.906	394457.088	28.432
ST05	380951.768	394498.103	27.805
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ST10	381036.574	394542.142	27.652
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ST12	381191.144	394653.239	27.311
ST20	381135.303	394740.437	26.927
ST21	381158.912	394780.178	27.209

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WF3 1LA

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Web Site : www.ct-surveys.com

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ABBREVIATIONS

AR	ASSUMED ROUTE	OSA	OUTSIDE SURVEY AREA
AV	AIR VALVE	P	POST / POLE
B	BOLLARD	RL	RIDGE LEVEL
BH	BOREHOILE	RE	RODDING EYE
BT	BRITISH TELECOM CHAMBER	RS	ROAD SIGN
CATV	CABLE TV	RWP	RAINWATER PIPE
CP	CABLE PIT	S	STAY
CL	COVER LEVEL	SC	STOP COCK
CR	CABLE RISER	ST	STOP TAP
DP	DOWN PIPE	SV	STOP VALVE
EL	EAVES LEVEL	SVP	SOIL VENT PIPE
EP	ELECTRICITY POLE	TC	TRAFFIC CONTROL
ER	EARTH ROD	TCB	TELEPHONE CALL BOX
FH	FIRE HYDRANT	TFR	TAKEN FROM RECORDS
FL	FLOOR LEVEL or FENCE LEVEL	TH	THRESHOLD LEVEL
FR	FLAT ROOF LEVEL	TL	TRAFFIC LIGHTS
G	GULLY	TP	TELEGRAPH POLE
GPR	TRACED BY G.P.R.	UTGA	UNABLE TO GAIN ACCESS
GV	GAS VALVE	UTL	UNABLE TO LOCATE
IC	INSPECTION CHAMBER	UTR	UNABLE TO RAISE
IL	INVERT LEVEL	UTS	UNABLE TO SURVEY
JB	JUNCTION BOX	UTT	UNABLE TO TRACE
KW	KERB WIER	WL	WATER LEVEL or WALL LEVEL
LB	LITTER BIN or LETTER BOX	VP	VENT PIPE
LP	LAMP POST	WM	WATER METER
MH	MANHOLE	WO	WASH OUT VALVE
NL	NOT LOCATED	WP	WATER PIPE
NT	NO TRACE		

b	BEAM HEIGHT
c	CILL HEIGHT
cht	CEILING HEIGHT
dht	DOOR HEIGHT
fcht	FALSE CEILING HEIGHT
+10.26	FLOOR LEVEL
+[10.26]	BEAM/OVERHEAD LEVEL
h	HEAD HEIGHT
p	PURLIN HEIGHT
r	RIDGE BOARD HEIGHT
sp	SPRING POINT
←	STEPS / STAIRS UP

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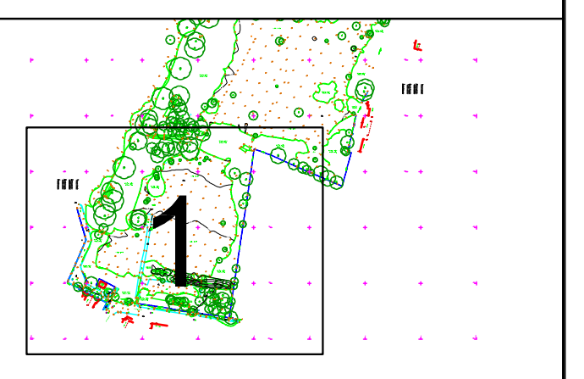
SURVEY REVISIONS

PREVIOUS DWG NO:	-
REVISION NO:	-
ORIGINAL SURVEY DATE:	-

REVISION NOTES:

LAYOUT VIEWS

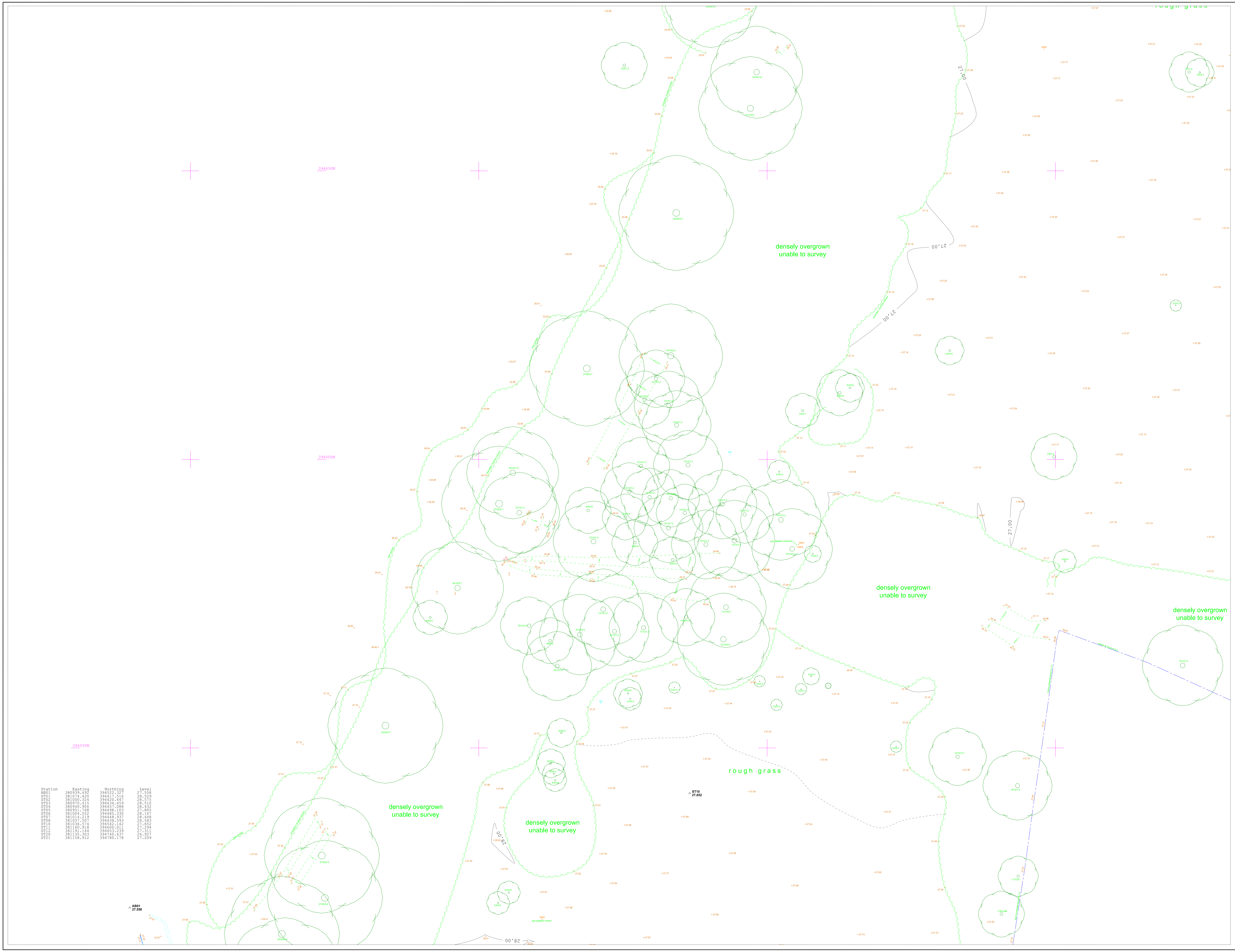


CLIENT:
Cushman & Wakefield

PROJECT TITLE:
Land off Ryebank Rd/Langford Rd,
Manchester, M21 9WW

DRAWING NUMBER:
4692AB/1

SCALE 1:200 @ A0	SURVEY DATE: November 2019	
LEVEL DATUM: OSGB by GPS	GRID DATUM: OSGB fixed at ST06	
BENCH MARK USED: Nail at ST06 surveyed by GPS	BM VALUE: 28.167m	SHEET NUMBER: 1 of 5


394650N
394600N
394550N
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
rough grass
ST10 27.652
AB01 27.558
27.00
28.00

Station	Easting	Northing	Level
AB01	380939.492	394522.327	27.558
ST01	381074.420	394417.516	28.529
ST02	381000.324	394420.447	28.575
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MH	MANHOLE	WO	WASH OUT VALVE
NL	NOT LOCATED	WP	WATER PIPE
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p	PURLIN HEIGHT
r	RIDGE BOARD HEIGHT
sp	SPRING POINT
←	STEPS / STAIRS UP

FENCE LINETYPES

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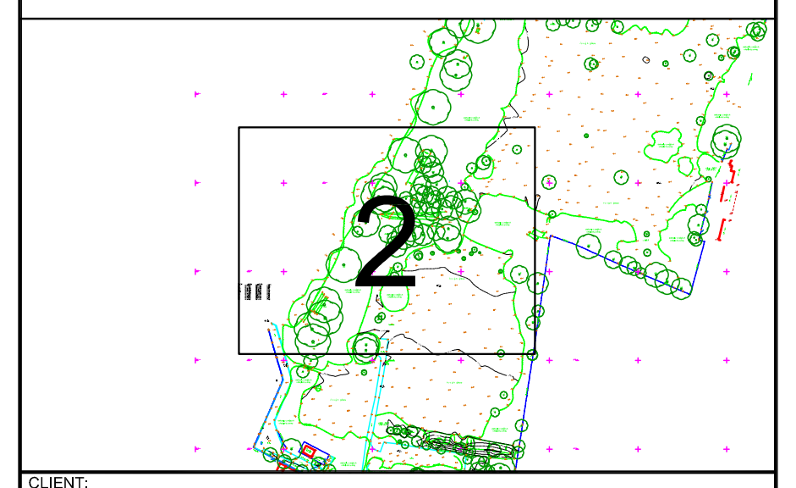
SURVEY REVISIONS

PREVIOUS DWG NO:	-
REVISION NO:	-
ORIGINAL SURVEY DATE:	-

REVISION NOTES:

LAYOUT VIEWS



CLIENT:

Cushman & Wakefield

PROJECT TITLE:

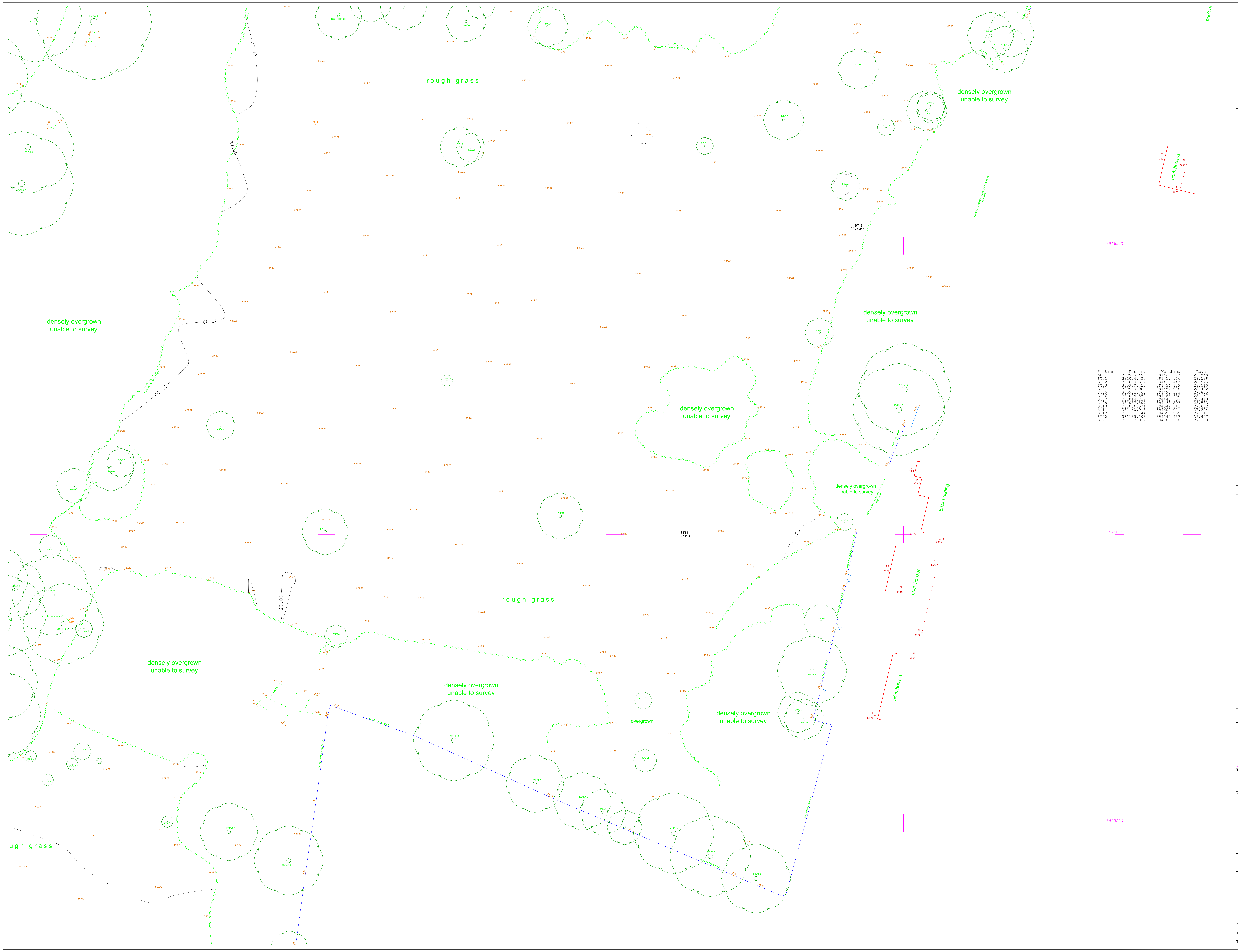
Land off Ryebank Rd/Langford Rd,
Manchester, M21 9WW

DRAWING NUMBER:

4692AB/2

INDICATIVE

SCALE 1:200 @ A0	SURVEY DATE: November 2019	
LEVEL DATUM: OSGB by GPS	GRID DATUM: OSGB fixed at ST06	
BENCH MARK USED: Nail at ST06 surveyed by GPS	BM VALUE: 28.167m	SHEET NUMBER: 2 of 5


rough grass
rough grass
ugh grass
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
overgrown
brick houses
brick houses
brick houses
brick building
ST11 27.294
ST12 27.311
27.00
394650N
394600N
394550N

Station	Easting	Northing	Level
AB01	380939.492	394522.327	27.558
ST01	381074.420	394417.516	28.529
ST02	381000.324	394420.447	28.575
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G	GULLY	TP	TELEGRAPH POLE
GPR	TRACED BY G.P.R.	UTGA	UNABLE TO GAIN ACCESS
GV	GAS VALVE	UTL	UNABLE TO LOCATE
IC	INSPECTION CHAMBER	UTR	UNABLE TO RAISE
IL	INVERT LEVEL	UTS	UNABLE TO SURVEY
JB	JUNCTION BOX	UTT	UNABLE TO TRACE
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LP	LAMP POST	WM	WATER METER
MH	MANHOLE	WO	WASH OUT VALVE
NL	NOT LOCATED	WP	WATER PIPE
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b	BEAM HEIGHT
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+10.26	FLOOR LEVEL
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p	PURLIN HEIGHT
r	RIDGE BOARD HEIGHT
sp	SPRING POINT
←	STEPS / STAIRS UP

FENCE LINETYPES

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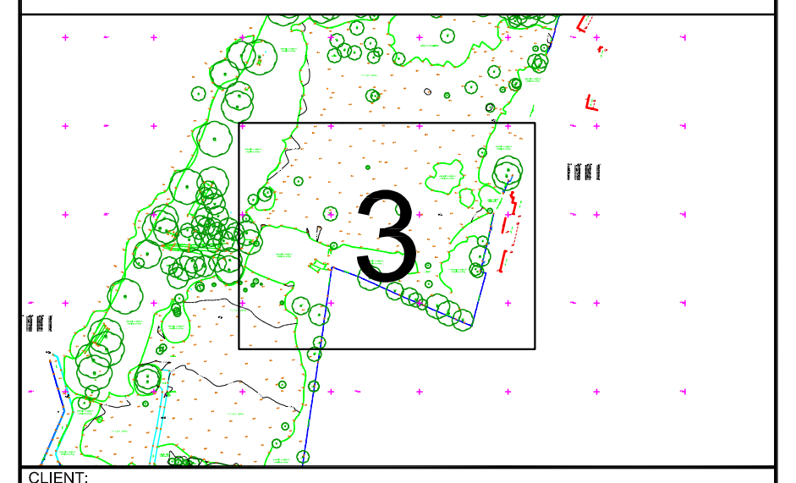
SURVEY REVISIONS

PREVIOUS DWG NO:	-
REVISION NO:	-
ORIGINAL SURVEY DATE:	-

REVISION NOTES:

LAYOUT VIEWS



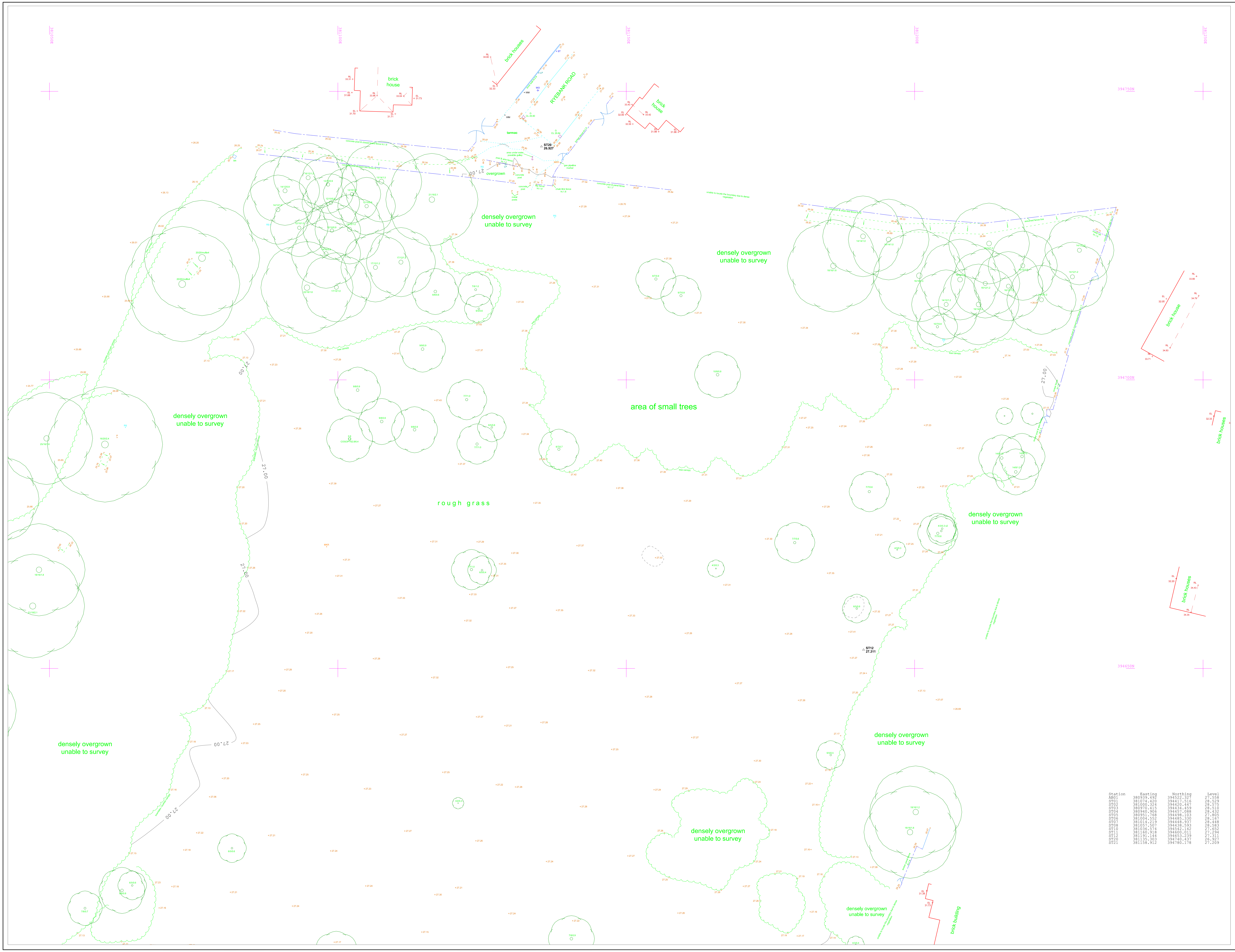
CLIENT:
Cushman & Wakefield

PROJECT TITLE:
Land off Ryebank Rd/Langford Rd,
Manchester, M21 9WW

DRAWING NUMBER:
4692AB/3

INDICATIVE

SCALE 1:200 @ A0	SURVEY DATE: November 2019	
LEVEL DATUM: OSGB by GPS	GRID DATUM: OSGB fixed at ST06	
BENCH MARK USED: Nail at ST06 surveyed by GPS	BM VALUE: 28.167m	SHEET NUMBER: 3 of 5


brick houses
brick house
RYEBANK ROAD
tarmac
overgrown
brick house
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
area of small trees
rough grass
brick houses
densely overgrown unable to survey
densely overgrown unable to survey
brick houses
ST20 26.927
ST12 27.311
27.00
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
densely overgrown unable to survey
brick building

Station	Easting	Northing	Level
AB01	380939.492	394522.327	27.558
ST01	381074.420	394417.516	28.529
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MH	MANHOLE	WO	WASH OUT VALVE
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←	STEPS / STAIRS UP

FENCE LINETYPES

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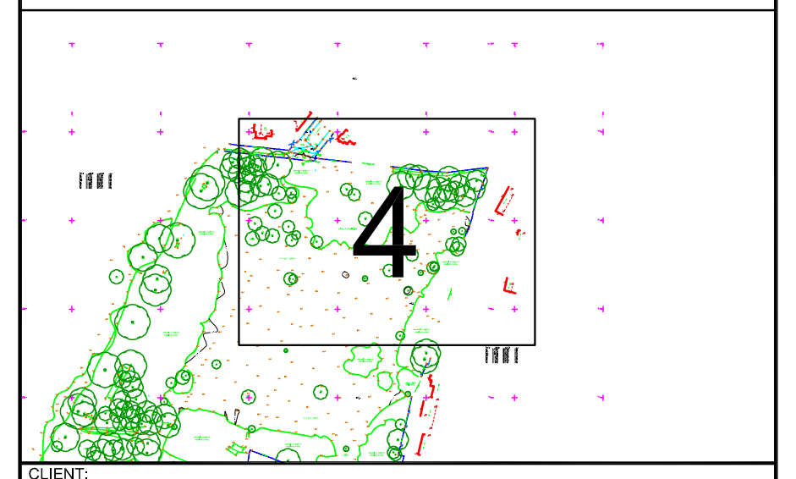
SURVEY REVISIONS

PREVIOUS DWG NO:	-
REVISION NO:	-
ORIGINAL SURVEY DATE:	-

REVISION NOTES:

LAYOUT VIEWS

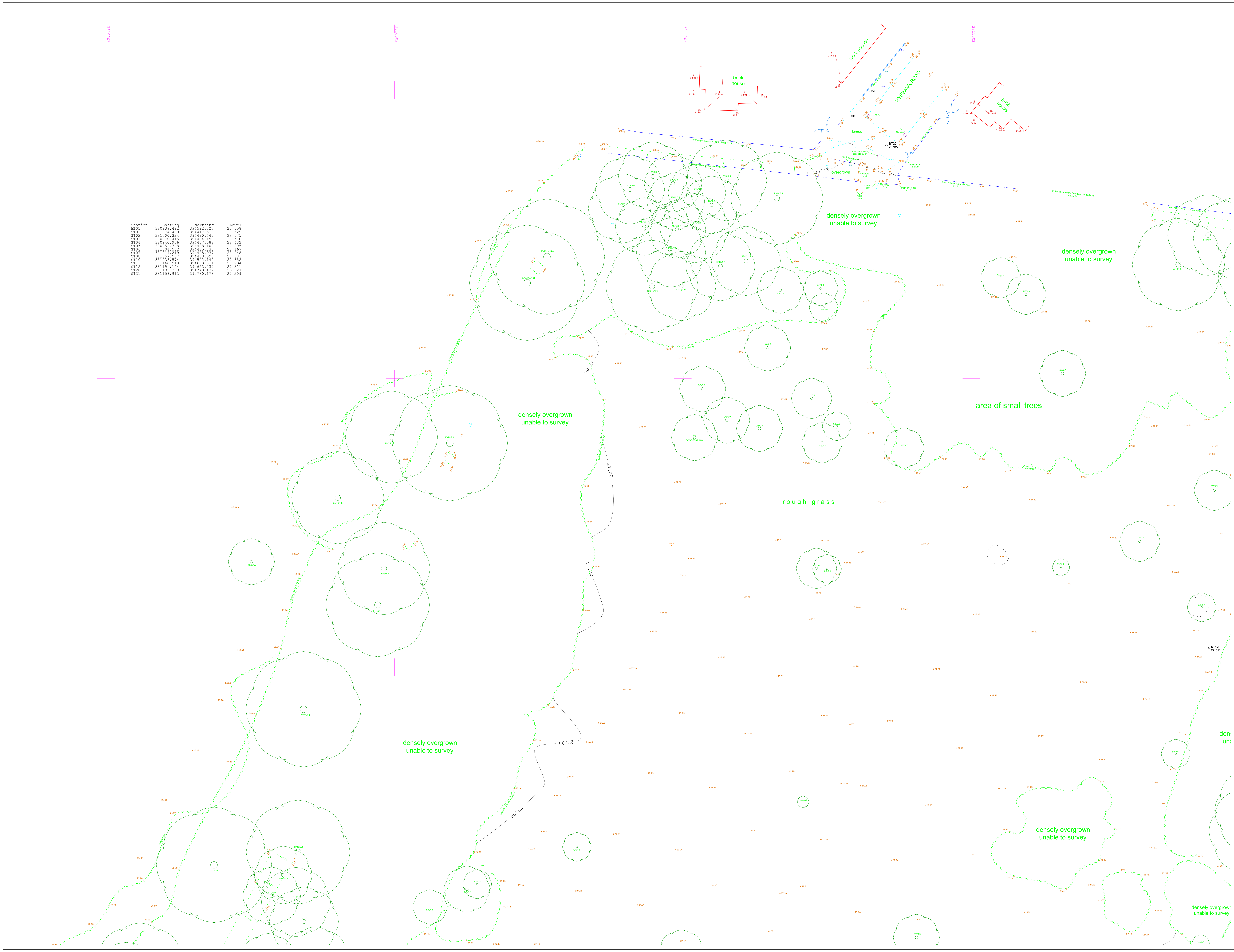


CLIENT:
Cushman & Wakefield

PROJECT TITLE:
Land off Ryebank Rd/Langford Rd,
Manchester, M21 9WW

DRAWING NUMBER:
4692AB/4

SCALE 1:200 @ A0	SURVEY DATE: November 2019	
LEVEL DATUM: OSGB by GPS	GRID DATUM: OSGB fixed at ST06	
BENCH MARK USED: Nail at ST06 surveyed by GPS	BM VALUE: 28.167m	SHEET NUMBER: 4 of 5



Station	Easting	Northing	Level
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FENCE LINETYPES

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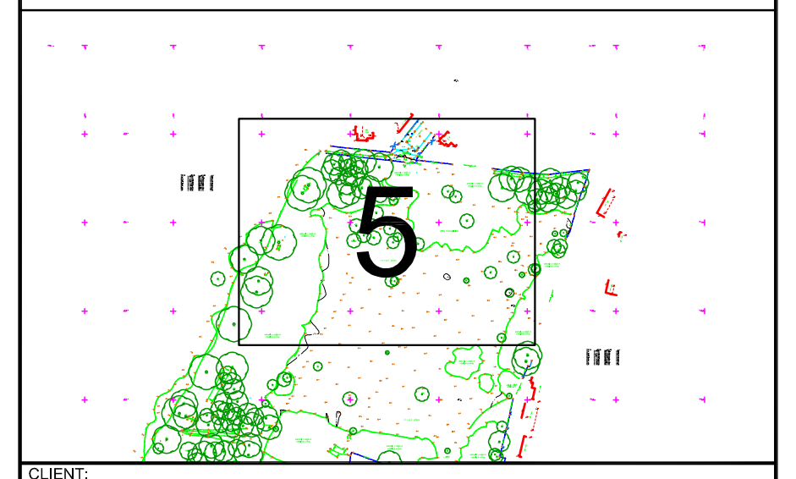
SURVEY REVISIONS

PREVIOUS DWG NO:	-
REVISION NO:	-
ORIGINAL SURVEY DATE:	-

REVISION NOTES:

LAYOUT VIEWS



CLIENT:
Cushman & Wakefield

PROJECT TITLE:
Land off Ryebank Rd/Langford Rd, Manchester, M21 9WW

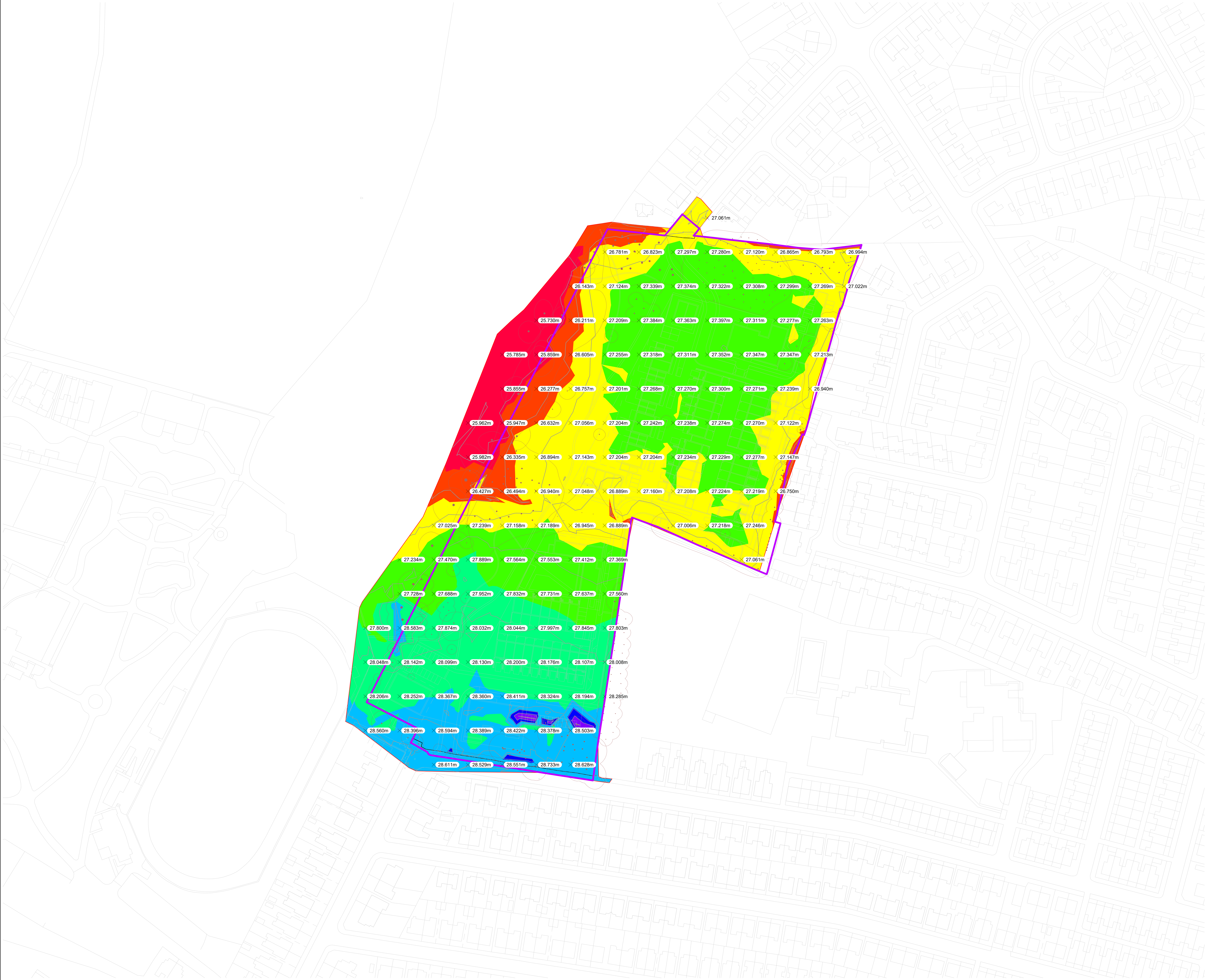
DRAWING NUMBER:
4692AB/5

INDICATIVE

SCALE 1:200 @ A0	SURVEY DATE: November 2019	
LEVEL DATUM: OSGB by GPS	GRID DATUM: OSGB fixed at ST06	
BENCH MARK USED: Nail at ST06 surveyed by GPS	BM VALUE: 28.167m	SHEET NUMBER: 5 of 5

NOTES:

1. THE PURPOSE OF THIS DRAWING IS TO INDICATE THE EXISTING STE TOPOGRAPHY.
2. THIS DRAWING HAS BEEN PRODUCED BASED ON THE TOPOGRAPHICAL SURVEY 4692AB-3D PRODUCED BY CT SURVEYS DATED NOVEMBER 2019.
3. DO NOT SCALE FROM THIS DRAWING.
4. ALL LEVELS ARE mAOD.


27.061m
26.781m
26.823m
27.297m
27.280m
27.120m
26.865m
26.793m
26.994m
26.143m
27.124m
27.339m
27.374m
27.322m
27.308m
27.299m
27.269m
27.022m
25.730m
26.211m
27.209m
27.384m
27.363m
27.397m
27.311m
27.277m
27.263m
25.785m
25.859m
26.605m
27.255m
27.318m
27.311m
27.352m
27.347m
27.347m
27.213m
25.855m
26.277m
26.757m
27.201m
27.268m
27.270m
27.300m
27.271m
27.239m
26.940m
25.962m
25.947m
26.632m
27.056m
27.204m
27.242m
27.238m
27.274m
27.270m
27.122m
25.982m
26.335m
26.894m
27.143m
27.204m
27.204m
27.234m
27.229m
27.277m
27.147m
26.427m
26.494m
26.940m
27.048m
26.889m
27.160m
27.208m
27.224m
27.219m
26.750m
27.025m
27.239m
27.158m
27.189m
26.945m
26.889m
27.006m
27.218m
27.246m
27.234m
27.470m
27.889m
27.564m
27.553m
27.412m
27.369m
27.061m
27.728m
27.688m
27.952m
27.832m
27.731m
27.637m
27.560m
27.800m
28.583m
27.874m
28.032m
28.044m
27.997m
27.845m
27.803m
28.048m
28.142m
28.099m
28.130m
28.200m
28.176m
28.107m
28.008m
28.206m
28.252m
28.367m
28.360m
28.411m
28.324m
28.194m
28.285m
28.560m
28.396m
28.594m
28.389m
28.422m
28.378m
28.503m
28.611m
28.529m
28.551m
28.733m
28.628m

SURFACE LEVEL DATA

NUMBER	MINIMUM LEVEL	MAXIMUM LEVEL	COLOUR
1	25.50	26.08	🟥
2	26.08	26.65	🟧
3	26.65	27.22	🟨
4	27.22	27.80	🟩
5	27.80	28.38	🟩
6	28.38	28.95	🟦
7	28.95	29.52	🟦
8	29.52	30.10	🟪

Rev:	Description:	Date:	By:	Chkd:
P02	SITE BOUNDARY UPDATED	20.12.24	JB	PW
P01	FOR INFORMATION	09.08.24	JB	PC

renaissance

Renaissance Associates Ltd
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

Project:

RYEBANK FIELDS
MANCHESTER

Drawing Title:

EXISTING SITE
TOPOGRAPHY

Status:

FOR INFORMATION

Size:	Date:	Drawn by:	Designed by:	Checked by:
A1	AUG 24	JB	-	PC

Scale: 1:1000
Project No: 2106-01

Project – Originator – Volume – Level – Type – Role – Number: RBM-REN-XX-XX-DR-C-00005
Revision: P02

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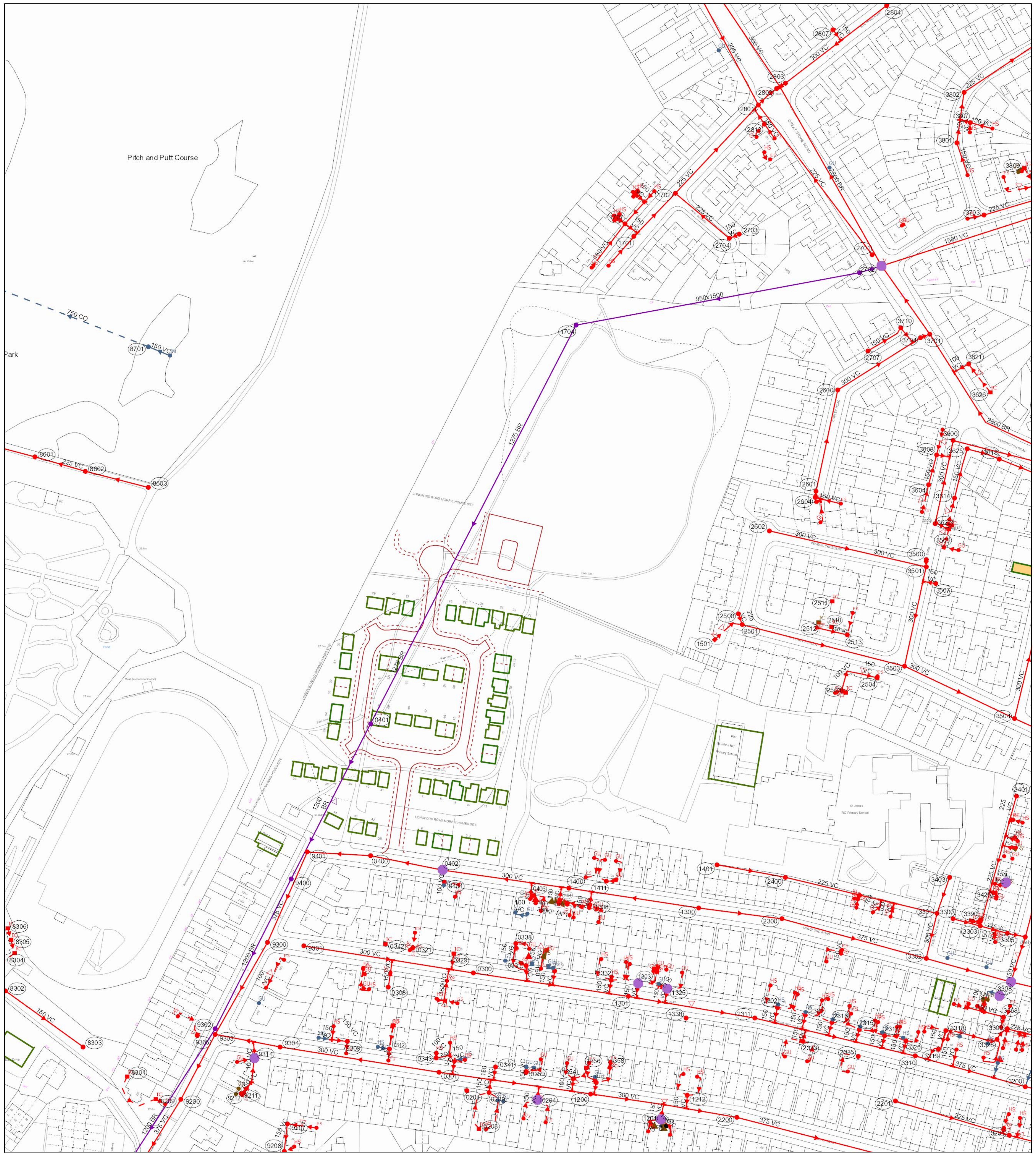
APPENDIX B

UNITED UTILITIES SEWER MAP



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.

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Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
8601	26.2	CO	24.87	225			VC	89.98889	
1200	28.14	CO	25.78	300			VC	41.4367	1 in 319
3600	26.81	CO	24.37	300			VC	65	1 in 191
0301	28.08	CO	0	300			VC	89.10667	
8602	26.18	CO	24.87	225			VC	29.12044	
1401	28.45	CO	27.31	225			VC	38.63936	1 in 88
0338		CO		150			VC	19.81876	
2704	26.97	CO	25.37	225			VC	38.98238	1 in 93
2200	28.27	CO	25.51	375			VC	91.92388	1 in 328
2400	28.45	CO	26.85	225			VC	86.34869	1 in 81
8603	26.14	CO	25.35	225			VC	36.13862	1 in 75
9208		CO		150			VC	5.252632	
3807		CO	0	150			VC	5.708568	
2311	28.35	CO	25.67	375			VC	91.44397	1 in 269
0400	28.56	CO	24.98	375			VC	35.05709	1 in 167
1204		CO		150			VC	8.377253	
3703	26.92	CO	25.05	225			VC	78.3147	1 in 230
3608		CO		150			VC	7.332582	
0341		CO		150			VC	7.295718	
3301	28.42	CO	25.71	300			VC	25.70992	1 in 135
3504	26.51	CO	24.23	300			VC	67.91171	1 in 323
3309	28.33	CO	26.15	225			VC	38.07887	1 in 97.6381167
0308		CO	0	150			VC	15.09371	
3500	26.52	CO	24.81	300			VC	4	1 in 400
1701	27.01	CO	25.27	225			VC	33.24154	1 in 104
3304	28.26	CO	25.47	300			VC	12.64911	
3604		CO		150			VC	17.23052	1 in
2300	28.5	CO	25.77	375			VC	82.96987	1 in 332
3603	26.61	CO	24.61	300			VC	47.07441	1 in 214
9401	28.52	CO	24.8	375			VC	54.626	1 in 166
9304	27.99	CO	24.87	300			VC	36.67424	1 in 64
9300	28.33	CO	24.44	375			VC	58.66856	1 in 419
3305	28.17	CO	25.64	225			VC	10.19804	1 in 204
9207		CO		150			VC	15.33975	
1707		CO		150			VC	8.526428	
3704	26.86	CO	23.32	300			VC	5.385165	1 in 2
2803	26.96	CO	22.53	300			VC	5.830952	
9212		CO		150			VC	7.397016	
3621		CO		100			VC	9.319727	
0300	28.47	CO	26.33	300			VC	86.97823	1 in 264
3308	28.4	CO	25.33	375			VC	53.36666	1 in 334
2602	26.43	CO	25.19	300			VC	89.26926	1 in 229
2802	26.99	CO	22.54	300			VC	2.236068	
1300	28.51	CO	25.97	300			VC	72.83543	1 in 197
3403	28.34	CO	25.99	300			VC	21.18962	1 in 81
3302	28.5	CO	25.5	375			VC	48.76474	1 in 325
1223		CO		150			VC	6.726105	
9309		CO		150			VC	6.587931	
3319		CO		150			VC	9.311253	
1300	28.51	CO	25.99	375			VC	46.38965	1 in 232
2501	26.28	CO	25.03	300			VC	92.89241	1 in 186
8701		SW		750			CO	94.33981	
0402	28.52	CO	25.29	375			VC	40.79216	1 in 157
3618		CO		150			VC	26.73102	
2201	28.35	CO	27.14	225			VC	65.80344	1 in 82
9301	28.35	CO	26.96	300			VC	95.18929	1 in 154
3368		CO		150			VC	5.401829	
3501	26.49	CO	24.79	300			VC	56.2943	1 in 217
9314		CO		100			VC	9.127409	
2707		CO		150			VC	22.57265	
1354		CO		100			VC	6.979986	
3710		CO		150			VC	10.72151	
1400	28.5	CO	25.58	300			VC	70.71068	1 in 262
2500	26.31	CO	25.06	225			VC	6.324555	1 in 632
9200	27.68	CO	24.17	375			VC	58.83027	1 in 294
2333		CO		150			VC	6.436327	
3614		CO		150			VC	28.2029	
2600	26.72	CO	24.57	300			VC	54.3783	1 in 139
0312		CO		150			VC	6.286277	
3625		CO		150			VC	18.61763	
9303	27.94	CO	24.28	375			VC	40.70626	1 in 452
3503	26.29	CO	24.51	300			VC	67.54258	1 in 338
1303		CO		150			VC	8.20201	
2804	27.04	CO	22.93	300			VC	70.60453	1 in 186
9211		CO		150			VC	8.697612	
0331		CO		150			VC	8.546508	
1335		CO		150			VC	7.888249	
3300	28.38	CO	26.06	225			VC	15.52417	1 in 62
3507		CO		150			VC	7.307869	
1212		CO		150			VC	7.330797	
3801	27.11	CO	25.31	225			VC	12.94048	
0209		CO		150			VC	7.308389	
1404		CO		150			VC	7.19486	
2807		CO		150			VC	7.459774	
2601	26.49	CO	24.75	300			VC	57.27129	1 in 358
9400	28.4	OV	22.5	1200			BR	93.0215	1 in 1860
3200	28.55	CO	25.03	375			VC	61.39218	1 in 361
1704		OV		1275			BR	248.592	
0301	28.08	CO	26.07	300			VC	84.85281	1 in 314
2604		CO		150			VC	3.615964	
3303	28.34	CO	25.79	225			VC	15.52417	1 in 119
0359		CO		150			VC	0.7611037	
8302		CO		150			VC	53.07223	
2702		OV	0	950			VC	159.7449	
1301	28.37	CO	25.98	300			VC	35.51056	1 in 254
2813		CO		150			VC	9.954823	
2701	26.69	CO	24.53	225			VC	104.2017	1 in 213
0401	27.97	OV	22.54	1275			BR	48.30114	1 in 4830
3201	28.41	CO	26.32	225			VC	61.84756	1 in 76
1702	27.05	CO	24.95	225			VC	67.20863	1 in 73
3310	28.53	CO	25.31	375			VC	63.32456	1 in 243.556003
0204		CO		150			VC	7.553617	
1325		CO		150			VC	7.881699	
3701		CO	20.86	2800			BR	46.26851	
3802	27.25	CO	24.48	225			VC	64.89993	1 in 232
1308		CO		150			VC	7.415011	
3401	27.8	CO	26.41	225			VC	74.72617	1 in 125
3328		CO		0			UN	8.44431	
9302	27.92	OV	22.43	1200			BR	130.9236	1 in 1870
2801	26.99	CO	24.02	225			VC	7.071068	1 in 141
2504		CO		150			VC	0.9679947	
2703		CO		150			VC	5.927334	

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
- ● HS Head of System
- ● ES Extent of Survey
- ● RE Rodding Eye
- ● IN Inlet
- ● DP Discharge Point
- ● HY Vortex
- ● PE Penstock
- ● WO Washout Chamber
- ● VA Valve
- ● AV Air Valve
- ● NRV Non Return Valve
- ● SO Soakaway
- ● GU Gully
- ● CA Cascade
- ● FM Flow Meter
- ● HA Hatch Box
- ● OI Oil Interceptor
- ● SM Summit
- ● DS Drop Shaft
- ● OP Orifice Plate
- Side Entry Manhole
- (Outfall
- ▦ Screen Chamber
- ■ IC Inspection Chamber
- ◯ Bifurcation Chamber
- ■ LH Lamp Hole
- T Junction / Saddle
- CA Catchpit
- VC Valve Chamber
- Vent Column
- ◎ Vortex Chamber
- Penstock Chamber
- □ Network Storage Tank
- □ Sewer Overflow
- WwTW Ww Treatment Works
- ▲ Ww Pumping Station
- ST Septic Tank
- CK 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:

75 LONGFORD ROAD,
CHORLTON CUM HARDY,
MANCHESTER,
M21 9WW

Scale: 1:1250 **Date:** 23/07/2024

Sheet: 1 of 1

Printed by: Property Searches

SEWER RECORDS

United Utilities
Water for the North West

APPENDIX C

CCTV SURVEY

Layer Surveys Ltd
Head Office: Offices 1-2, The Gatehouse, Lancashire Business Park,
Leyland, PR26 6TY
T: 01772 611634

LAYER SURVEYS LTD
SEE THE COMPLETE PICTURE

Layer Surveys Ltd Manhole Survey Card

Card No: 4
Map No:
Catchment:
MH No: CULVERT 1
Location: RYEBANK FIELDS
Town: MANCHESTER

★ PU Status
Syphon
★ S Function
★ MH MH Type
09/10/2024 Date of Survey

COVER DETAILS

☐ Square ☐ Rectangle ☐ Triangle ☐ Dbl Triangle ☐ Circular ☐ Oval ☐ Other ☐ Multiple ☐ Hinged ☐ Lockable

Cover Level: m
H / M / L Cover Duty ★ H
Initials: DP

PIPE DETAILS

Incoming Pipes

Clockwise from pipe X

Pipe	Depth from Invert (m)	Upstream / Downstream MH Ref	Shape	Size (mm) Height		Width	Pipe Mat	Lining Mat	Back Drop Dia (mm)	Back Drop Depth (m)
					X					
					X					
					X					
					X					
					X					
					X					

Outgoing Pipes

X	0.30	OUTFALL	C	450	X					
Y					X					

Cover Opening at narrowest: mm
Chamber Dimension: mm
Evidence of Surcharge:
Shaft at narrowest: mm
Shaft Depth (from CL): mm
OX / H2S / METH Toxic atmosphere:

MANHOLE CONSTRUCTION DETAILS

☒ Pre Cast Concrete ☐ In Situ Concrete ☒ Brick ☐ GRP ☐ Arch ☐ Corbel ☐ Taper ☐ Side Entry
☐ Reducing Slab ☐ Segments ☐ No. of Landings ☐ No. of Step Irons ☐ No. of Ladders
☐ No. of Regulating Brick Courses

CONDITION INFORMATION (specific in remark)

	Cover	Shaft	Irons / Ladders	Chamber	Benching	Channel
OK	☒	☒	☒	☒	☒	☒
Needs attention	☐	☐	☐	☐	☐	☐
Urgent attention	☐	☐	☐	☐	☐	☐

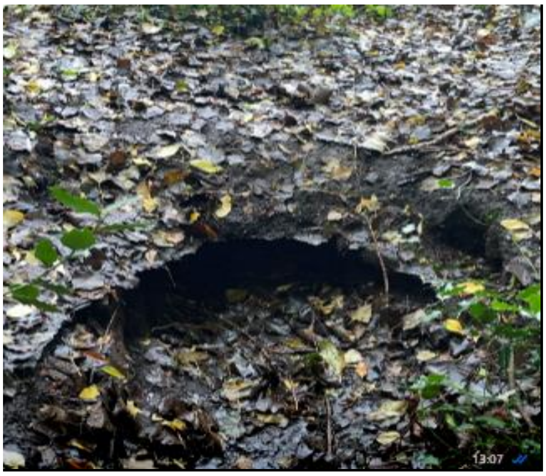
Depth of Flow: mm
Depth of Silt: mm
Height of Surcharge from CL: mm

REMARKS

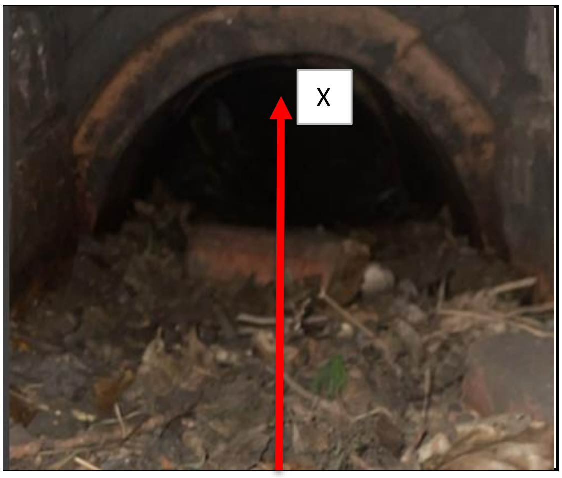
REDUNDANT

★ *See Overleaf for Key*

LOCATION SKETCH



PLAN OF MANHOLE



STATUS	PU : Public 24 : Section 24	PR : Private HD : Highway Drain	WC : Culverted Watercourse	} Applies to main outlet
FUNCTION	F : Foul	C : Combined	S : Surface Water	} Applies to main outlet
MANHOLE TYPE	IF : Infall LH : Lamphole GU : Gully	MH : Manhole RE : Rodding Eye OF : Outfall	CP : Catchpit SO : Storm Overflow SA : Soakaway	CSO :Consented Sewer Overflow DS :Dual system Manhole PS :Pumping Station
COVER DUTY	L : Light Duty	M : Medium Duty	H : Heavy Duty	
SHAPE	C : Circular S : Square B : Barrel X : Other (state in words)	E : Egg T : Trapezoidal H : Horseshoe (Inverted U)	R : Rectangular A : Arched U : U-shaped with flat top	
PIPE (OR LINING) MATERIAL	AK : Alkathene CI : Cast Iron CSB : Concrete Segments (Bolted) DI : Ductile Iron PSC : Plastic/Steel Composite RPM : Reinforced Plastic Matrix PP : Polypropylene MAR : Masonry, Randon Courses	AC : Asbestos Cement SI : Spun (Grey) Iron CSU : Concrete Segments (Unbolted) GRC : Glass Reinforced Concrete PVC : Polyvinyl Chloride ST : Steel PF : Pitch Fibre XXX : Other (State in remarks)	BR : Brick CO : Concrete CC : Concrete Box Culvert GRP : Glass Reinforced Plastic PE : Polyethylene VC : Vitrified Clay MAC : Masonry, Coursed	
LINING	BL : Bitumen CL : Cement	RL : Resin PI : Plastic	IS : Insituform	

LAYER SURVEYS LTD

SEE THE COMPLETE PICTURE

Project Information

Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**

Client Details:

Renaissance
Carvers Warehouse,
77 Dale Street
Manchester,
M1 2HG

Client Contact Name: Philip Whitesmith
Client Contact Tel: 0161 552 1940

Site Details:

Ryebank Fields,
Manchester,
M21 9WW

Site Contact Name: Andrew McGrath
Site Contact Tel: a.mcgrath@mmu.ac.uk

Contractor Details:

Layer Surveys Ltd
Office 1-2, The Gatehouse
Lancashire Business Park
Leyland
PR26 6TY

Office Contact Number: 01772 611634

Purpose of Survey:

Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**

Report Contents

Page 1 Cover Page

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Page 12 Survey Run Sheet(Survey 5 - MH8603 to B)

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Page 26 Survey Run Sheet(Survey 11 - MH0401 to MH9400)

Page 28 Final Page

LAYER SURVEYS LTD
SEE THE COMPLETE PICTURE

CCTV Inspection Report

Layer Surveys Ltd
Office 1-2, The Gatehouse
Lancashire Business Park
Leyland
PR26 6TY

Surveyed by (Operator)	Job Number	Pipe Length Reference(PLR)	Date	Pre Cleaned
Joe COLLINS	**LS5603**	**B X**	**09/10/2024**	**Not Cleaned**
Weather	Customer Present	Service Grade/Structural Grade	Base Unit	Section Number
3 - Light Rain		**4/0**	**DJVV56JNNH**	**1**

Road **Ryebank Fields,**
Place **Manchester,**
Location **M21 9WW**

Division
District
Location Details

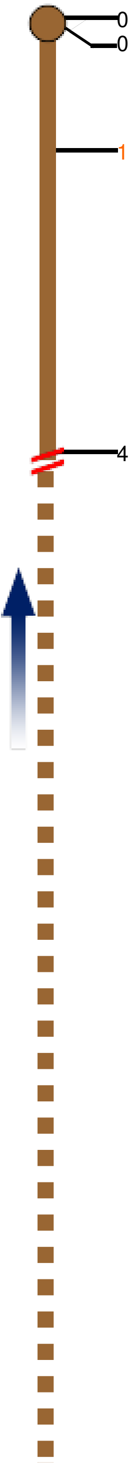
Purpose
Duty **Surface water**
Catchment

Shape/Size **150mm**
Material **Vitrified clay**
Category

Start Node **MH1**
End Node **B**
Total length **15 metres**

Scale **1:0.79**
Direction **Upstream**

Start Node Ref:MH1 | I/L : metres | Depth: 1.79 metres

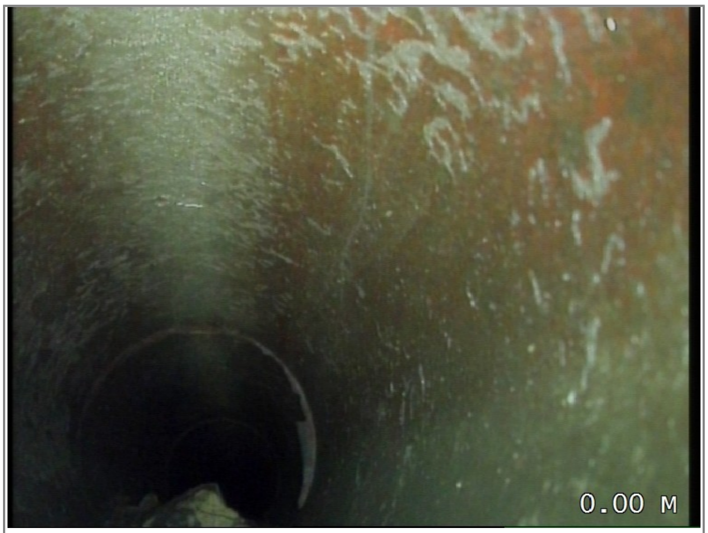


Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH1	10485180	Comment / 0
0.00	WL	Water level 5% height/diameter	10485187	Comment / 0
1.38	DER	Settled deposits coarse 25% cross-sectional area loss	10485189	Service / 4
4.52	SA	Survey abandoned - Remark: 75% DER	10485206	Comment / 0

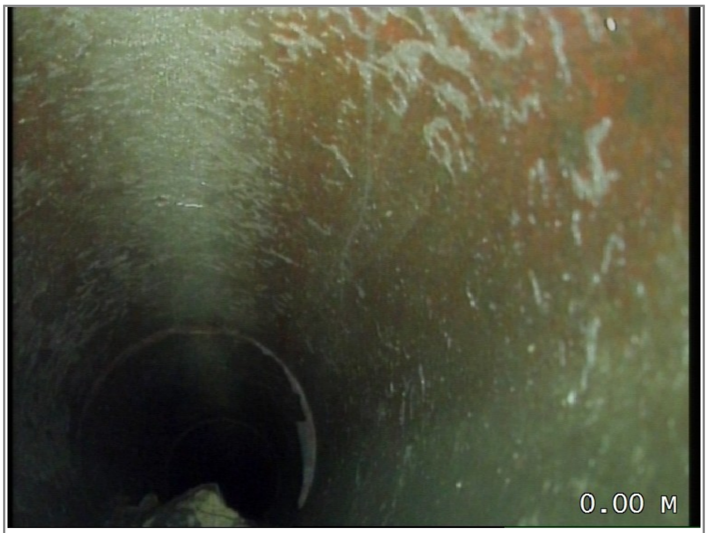
End Node Ref:B | I/L : metres

CCTV Inspection Photos

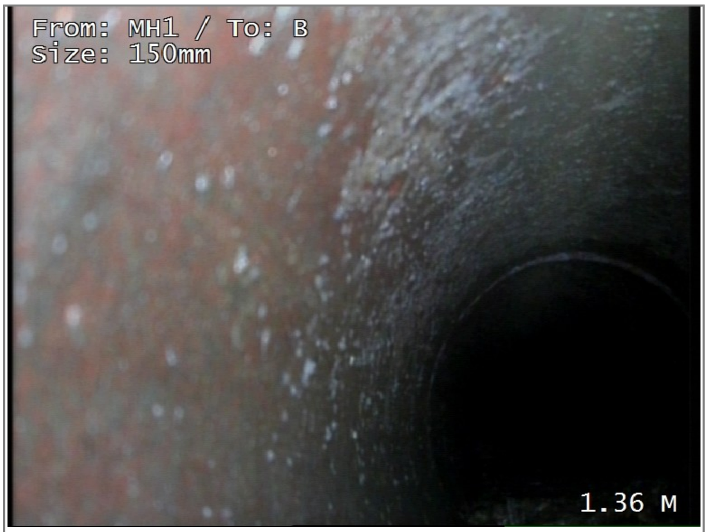
Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**



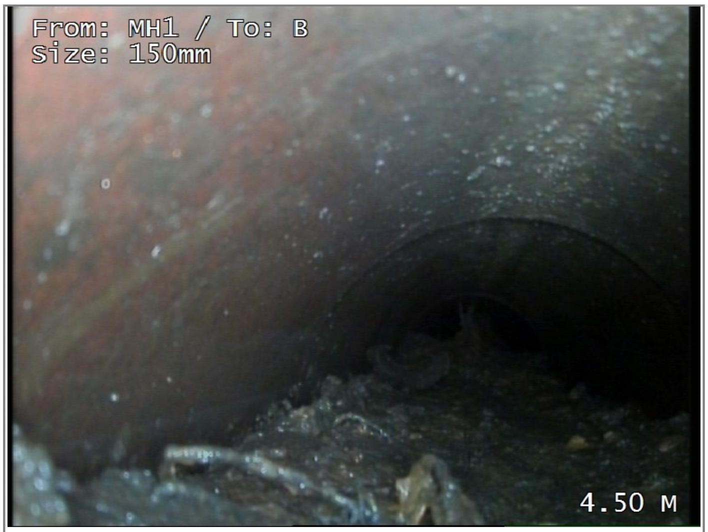
Start node type, manhole, reference MH1



Water level 5% height/diameter


From: MH1 / To: B
Size: 150mm
1.36 M

Settled deposits coarse 25% cross-sectional area loss


From: MH1 / To: B
Size: 150mm
4.50 M

Survey abandoned - Remark: 75% DER

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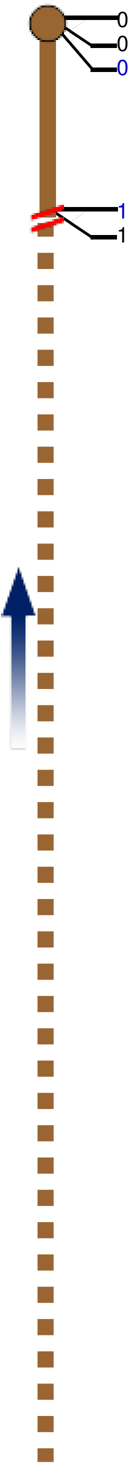
Surveyed by (Operator) **Joe COLLINS**	Job Number **LS5603**	Pipe Length Reference(PLR) **A X**	Date **09/10/2024**	Pre Cleaned **Not Cleaned**
Weather **3 - Light Rain**	Customer Present	Service Grade/Structural Grade **2/0**	Base Unit **DJVV56JNNH**	Section Number **2**

Road **Ryebank Fields,** Place **Manchester,** Location **M21 9WW**	Division District Location Details

Purpose Duty **Surface water** Catchment	Shape/Size **100mm** Material **Vitrified clay** Category	Start Node **MH1** End Node **A** Total length **10 metres**

Scale **1:0.52**
Direction **Upstream**

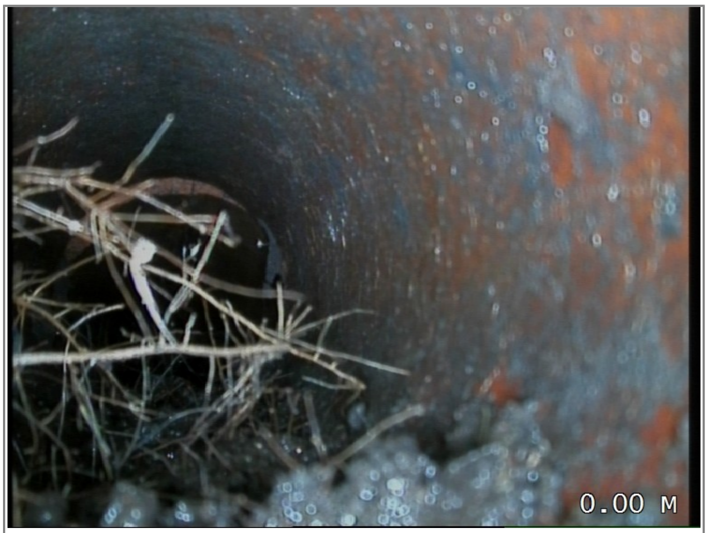
Start Node Ref:MH1 | I/L : metres | Depth: 1.79 metres



Position	**Code**	**Description**	**Photo**	**Type/Grade**
0.00	MH	Start node type, manhole, reference MH1	10485229	Comment / 0
0.00	WL	Water level 5% height/diameter	10485230	Comment / 0
0.00	RF (S01)	Roots fine, Start	10485231	Service / 2
1.33	RF (F01)	Roots fine, Finished	10485233	Service / 2
1.33	SA	Survey abandoned - Remark: COLLASPED DRAIN	10485237	Comment / 0

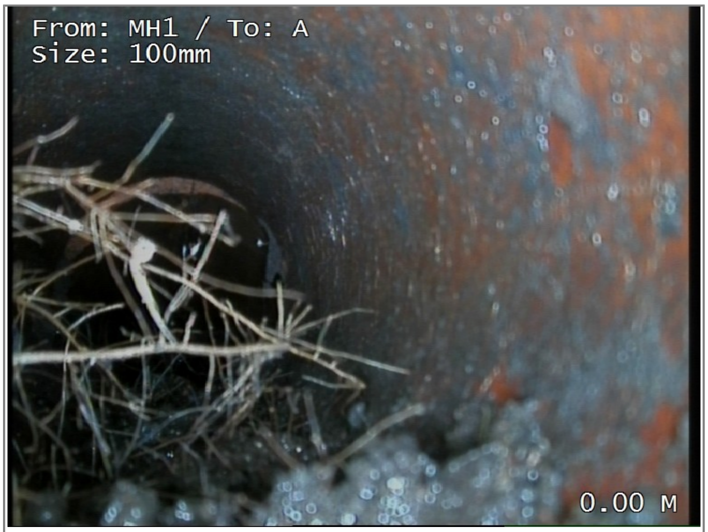
End Node Ref:A | I/L : metres

Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**



Start node type, manhole, reference MH1

Water level 5% height/diameter


From: MH1 / To: A
Size: 100mm
0.00 M

Roots fine, Start

From: MH1 / To: A
Size: 100mm
1.33 M

Roots fine, Finished

From: MH1 / To: A
Size: 100mm
1.33 M

Survey abandoned - Remark: COLLASPED DRAIN

CCTV Inspection Report

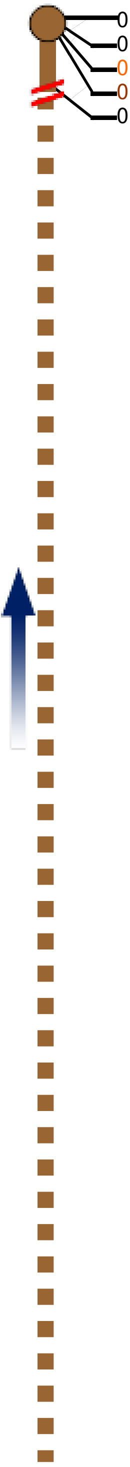
Surveyed by (Operator) **Joe COLLINS**	Job Number **LS5603**	Pipe Length Reference(PLR) **C X**	Date **09/10/2024**	Pre Cleaned **Not Cleaned**
Weather **3 - Light Rain**	Customer Present	Service Grade/Structural Grade **4/0**	Base Unit **DJVV56JNNH**	Section Number **3**

Road **Ryebank Fields,** Place **Manchester,** Location **M21 9WW**	Division District Location Details

Purpose Duty **Surface water** Catchment	Shape/Size **100mm** Material **Vitrified clay** Category	Start Node **MH1** End Node **C** Total length **15 metres**

Scale **1:0.79**
Direction **Upstream**

Start Node Ref:MH1 | I/L : metres | Depth: 1.79 metres



Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH1	10485309	Comment / 0
0.00	WL	Water level 5% height/diameter	10485310	Comment / 0
0.00	DER	Settled deposits coarse 25% cross-sectional area loss	10485311	Service / 4
0.00	RM	Roots mass 10% cross-sectional area loss	10485318	Service / 3
0.69	SA	Survey abandoned - Remark: UNABLE TO CCTV DUE TO DEBRIS	10485331	Comment / 0

End Node Ref:C | I/L : metres

Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**

Start node type, manhole, reference MH1

Water level 5% height/diameter

From: MH1 / To: C
Size: 100mm
0.00 M

Settled deposits coarse 25% cross-sectional area loss

From: MH1 / To: C
Size: 100mm
0.00 M

Roots mass 10% cross-sectional area loss

From: MH1 / To: C
Size: 100mm
0.62 M

Survey abandoned - Remark: UNABLE TO CCTV DUE TO DEBRIS

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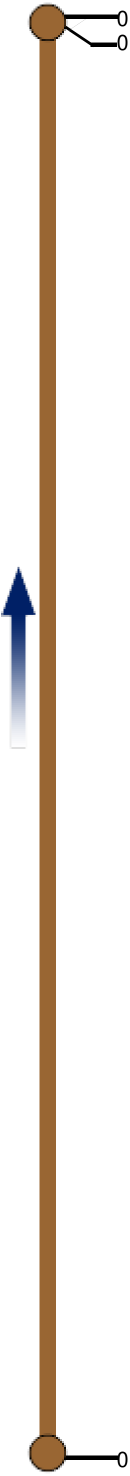
Surveyed by (Operator) **Joe COLLINS**	Job Number **LS5603**	Pipe Length Reference(PLR) **B X**	Date **09/10/2024**	Pre Cleaned **Not Cleaned**
Weather **3 - Light Rain**	Customer Present	Service Grade/Structural Grade **0/0**	Base Unit **DJVV56JNNH**	Section Number **4**

Road **Ryebank Fields,** Place **Manchester,** Location **M21 9WW**	Division District Location Details

Purpose Duty **Combined** Catchment	Shape/Size **100mm** Material **Vitrified clay** Category	Start Node **MH8603** End Node **B** Total length **0.24 metres**

Scale **1:0.01**
Direction **Upstream**

Start Node Ref:MH8603 | I/L : metres | Depth: 0.8 metres



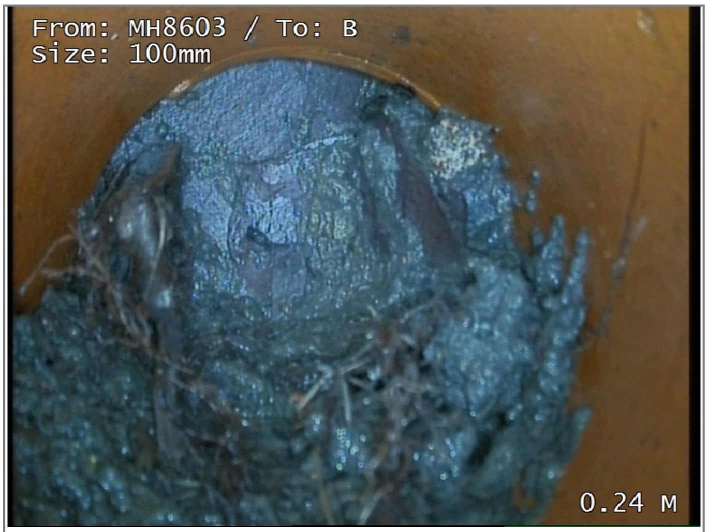
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH8603	10485526	Comment / 0
0.00	WL	Water level 5% height/diameter	10485527	Comment / 0
0.24	OCF	Finish node type, other special chamber, reference B	10485528	Comment / 0

End Node Ref:B | I/L : metres

Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**

Start node type, manhole, reference MH8603

Water level 5% height/diameter


From: MH8603 / To: B
Size: 100mm
0.24 M

Finish node type, other special chamber, reference B

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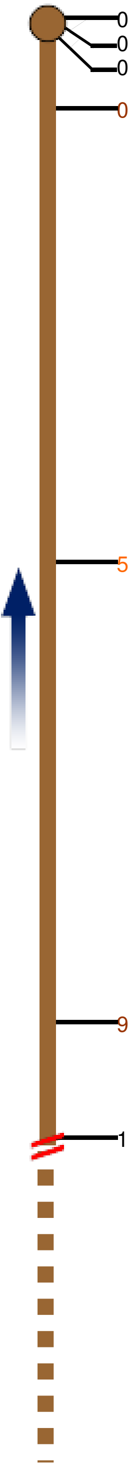
Surveyed by (Operator) **Joe COLLINS**	Job Number **LS5603**	Pipe Length Reference(PLR) **B X**	Date **09/10/2024**	Pre Cleaned **Not Cleaned**
Weather **3 - Light Rain**	Customer Present	Service Grade/Structural Grade **4/0**	Base Unit **DJVV56JNNH**	Section Number **5**

Road **Ryebank Fields,** Place **Manchester,** Location **M21 9WW**	Division District Location Details

Purpose Duty **Combined** Catchment	Shape/Size **100mm** Material **Vitrified clay** Category	Start Node **MH8603** End Node **B** Total length **14 metres**

Scale **1:0.73**
Direction **Upstream**

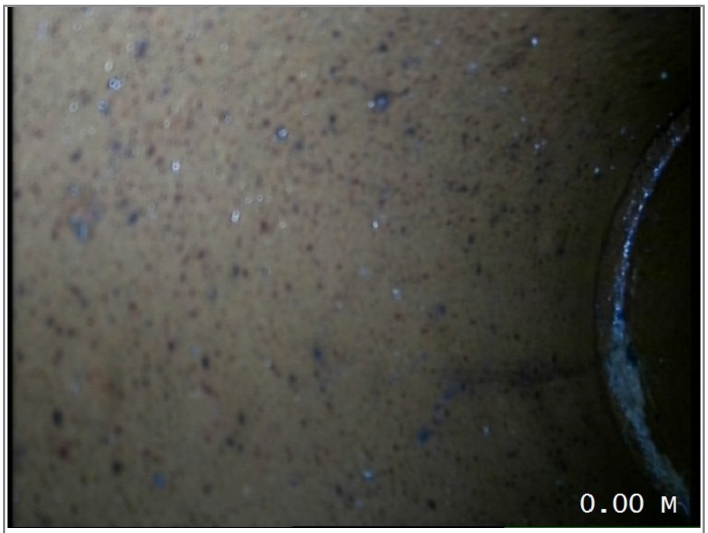
Start Node Ref:MH8603 | I/L : metres | Depth: 0.8 metres



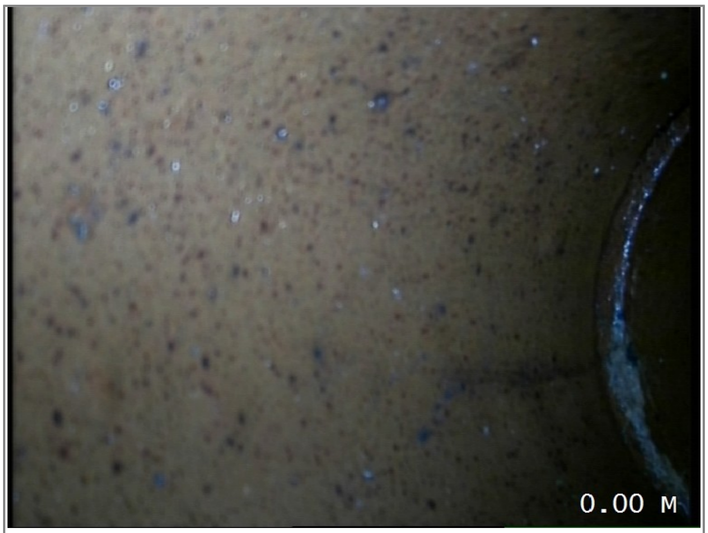
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH8603	10485547	Comment / 0
0.00	WL	Water level 5% height/diameter	10485548	Comment / 0
0.10	LR	Line of drain/sewer deviates right	10485554	Comment / 0
0.88	DER (S01)	Settled deposits coarse 15% cross-sectional area loss, Start	10485555	Service / 3
5.29	RT	Roots tap	10485562	Service / 4
9.76	DER (F01)	Settled deposits coarse 15% cross-sectional area loss, Finished	10485563	Service / 3
10.88	SA	Survey abandoned - Remark: 60% DER	10485568	Comment / 0

End Node Ref:B | I/L : metres

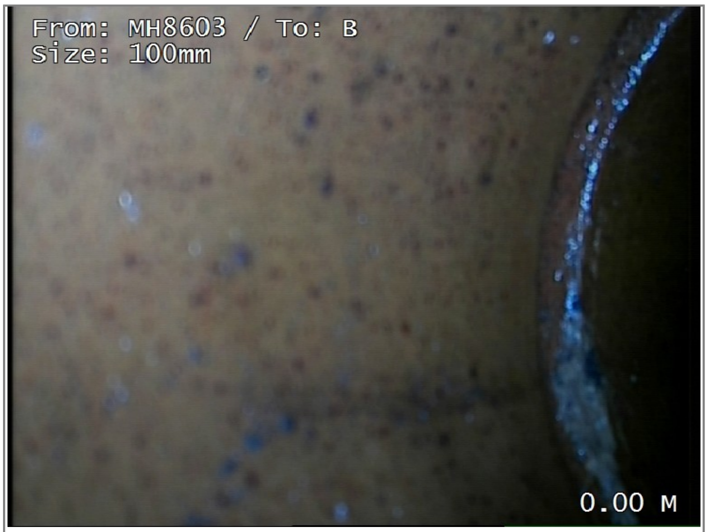
Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**



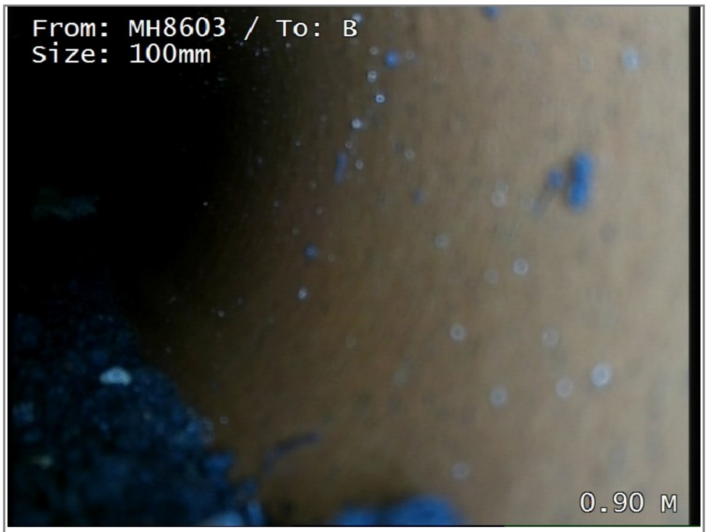
Start node type, manhole, reference MH8603



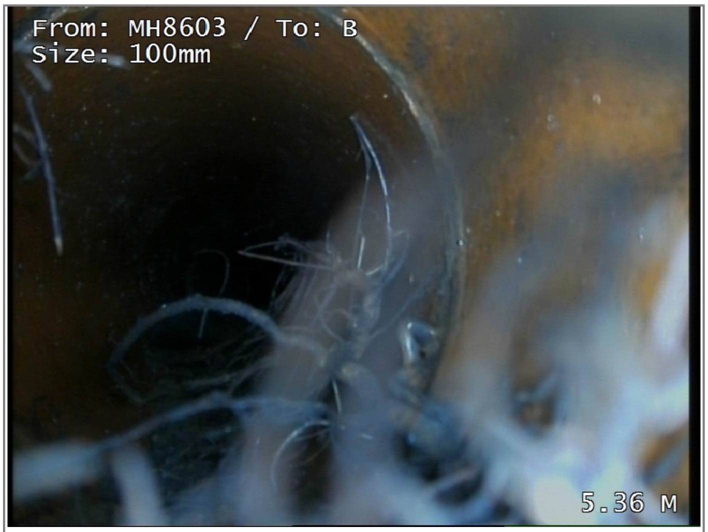
Water level 5% height/diameter


From: MH8603 / To: B
Size: 100mm
0.00 M

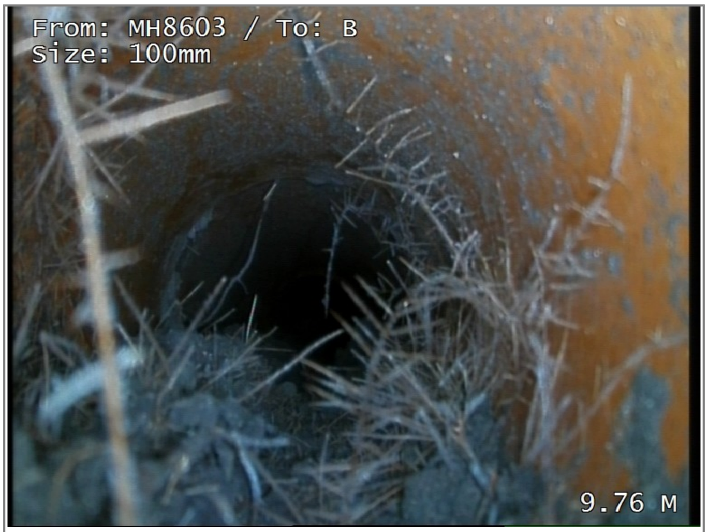
Line of drain/sewer deviates right


From: MH8603 / To: B
Size: 100mm
0.90 M

Settled deposits coarse 15% cross-sectional area loss, Start


From: MH8603 / To: B
Size: 100mm
5.36 M

Roots tap


From: MH8603 / To: B
Size: 100mm
9.76 M

Settled deposits coarse 15% cross-sectional area loss, Finished

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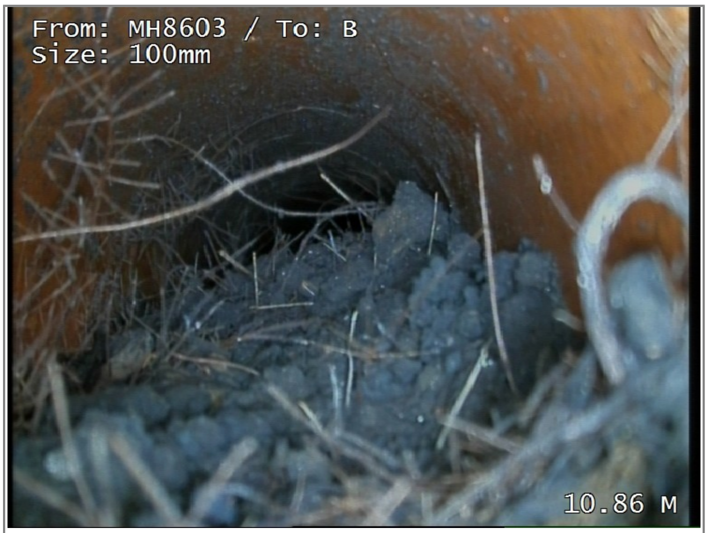
Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**


From: MH8603 / To: B
Size: 100mm
10.86 M

Survey abandoned - Remark: 60% DER

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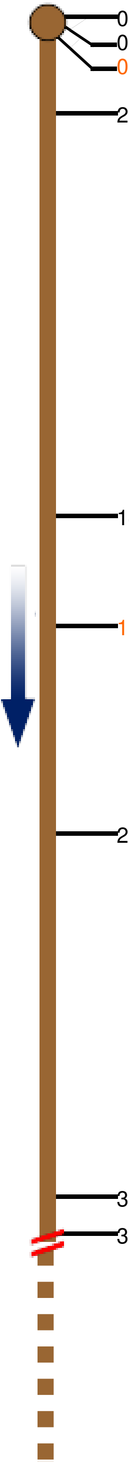
Surveyed by (Operator) **Joe COLLINS**	Job Number **LS5603**	Pipe Length Reference(PLR) **MH8603 X**	Date **09/10/2024**	Pre Cleaned **Not Cleaned**
Weather **1 - Dry**	Customer Present	Service Grade/Structural Grade **4/0**	Base Unit **DJVV56JNNH**	Section Number **6**

Road **Ryebank Fields,** Place **Manchester,** Location **M21 9WW**	Division District Location Details

Purpose Duty **Combined** Catchment	Shape/Size **225mm** Material **Vitrified clay** Category	Start Node **MH8603** End Node **MH8602** Total length **42 metres**

Scale **1:2.20**
Direction **Downstream**

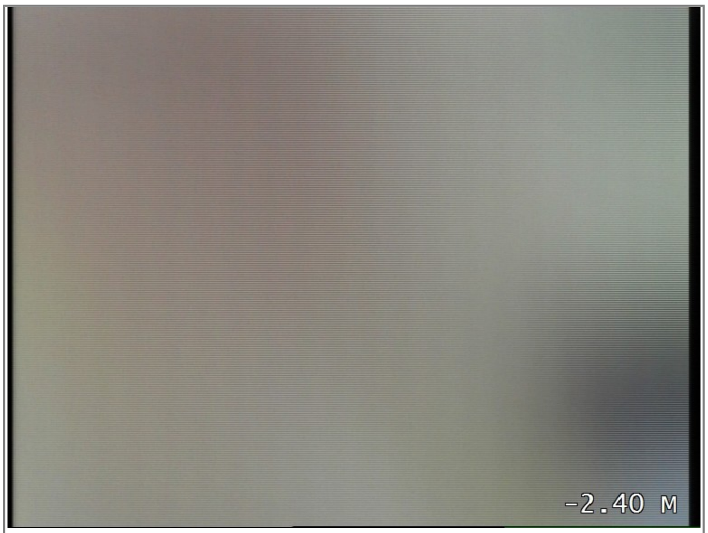
Start Node Ref:MH8603 | I/L : metres | Depth: 0.8 metres



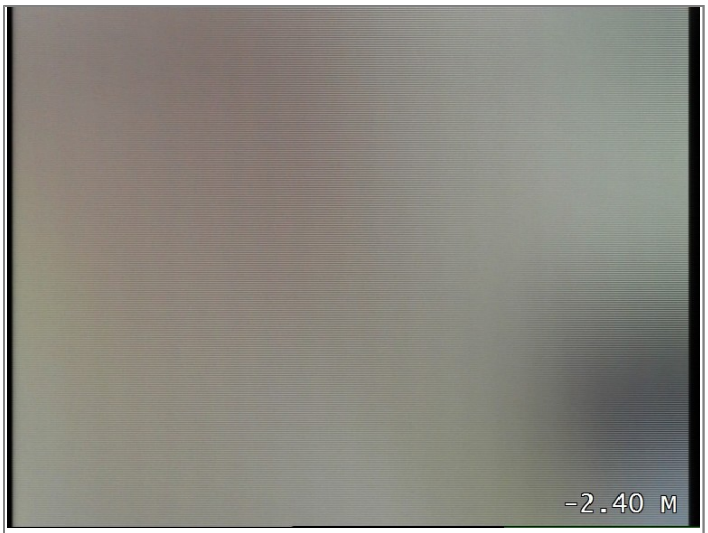
Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH8603	10485598	Comment / 0
0.00	WL	Water level 5% height/diameter	10485599	Comment / 0
0.36	DER (S01)	Settled deposits coarse 25% cross-sectional area loss, Start	10485600	Service / 4
2.81	JN	Junction at 9 o'clock, diameter 150mm	10485611	Comment / 0
14.55	JN	Junction at 2 o'clock, diameter 100mm	10485614	Comment / 0
17.76	DER (F01)	Settled deposits coarse 25% cross-sectional area loss, Finished	10485615	Service / 4
23.81	JN	Junction at 10 o'clock, diameter 150mm	10485623	Comment / 0
34.40	JN	Junction at 2 o'clock, diameter 100mm	10485626	Comment / 0
35.48	SA	Survey abandoned - Remark: MASSROOTS IN LINE	10485627	Comment / 0

End Node Ref:MH8602 | I/L : metres

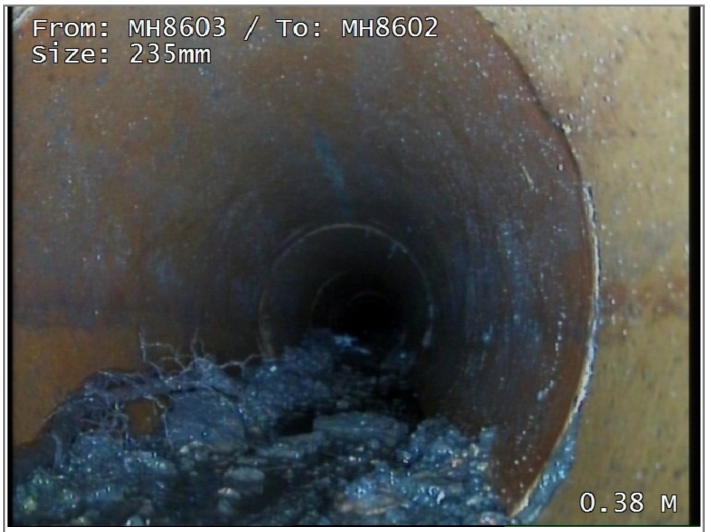
Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**



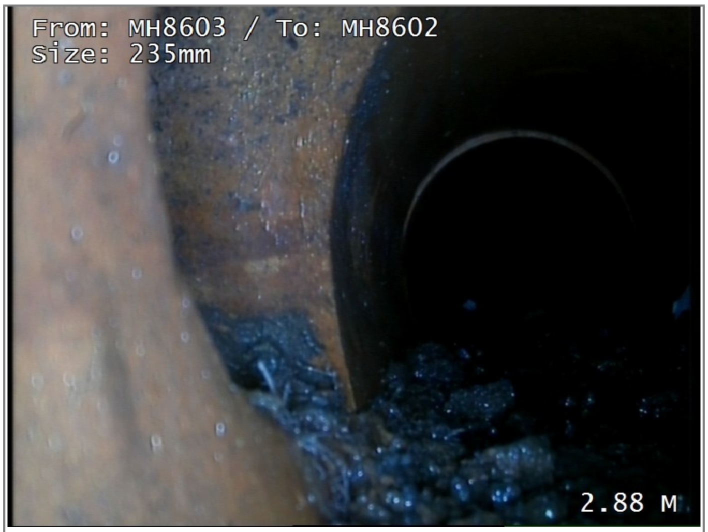
Start node type, manhole, reference MH8603



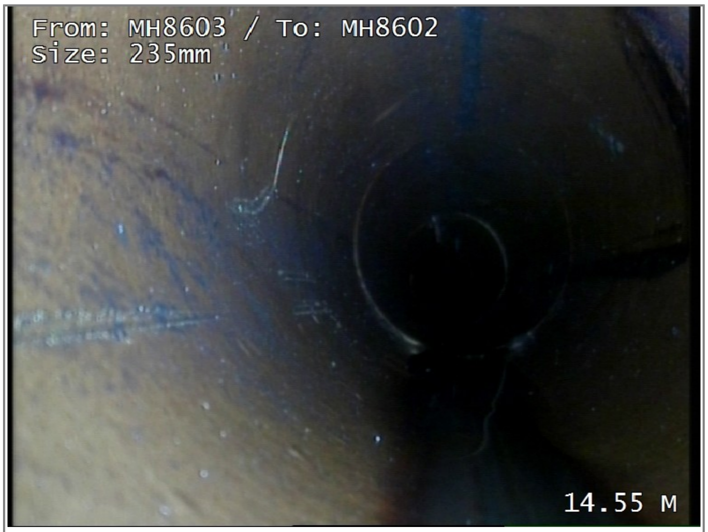
Water level 5% height/diameter


From: MH8603 / To: MH8602
Size: 235mm
0.38 M

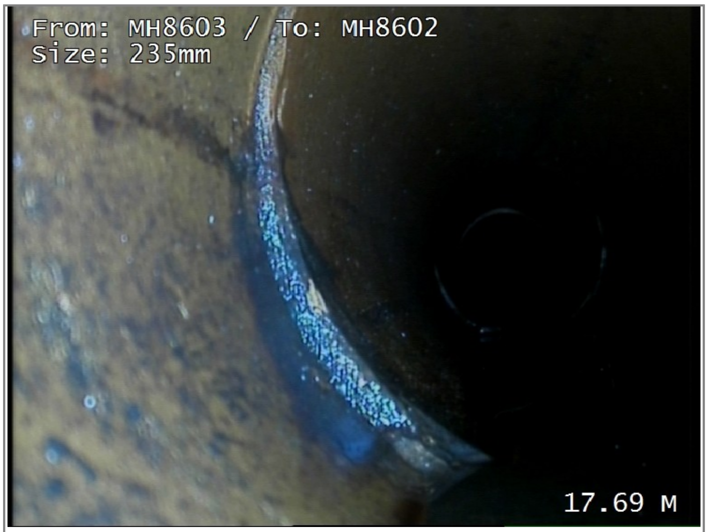
Settled deposits coarse 25% cross-sectional area loss, Start


From: MH8603 / To: MH8602
Size: 235mm
2.88 M

Junction at 9 o'clock, diameter 150mm

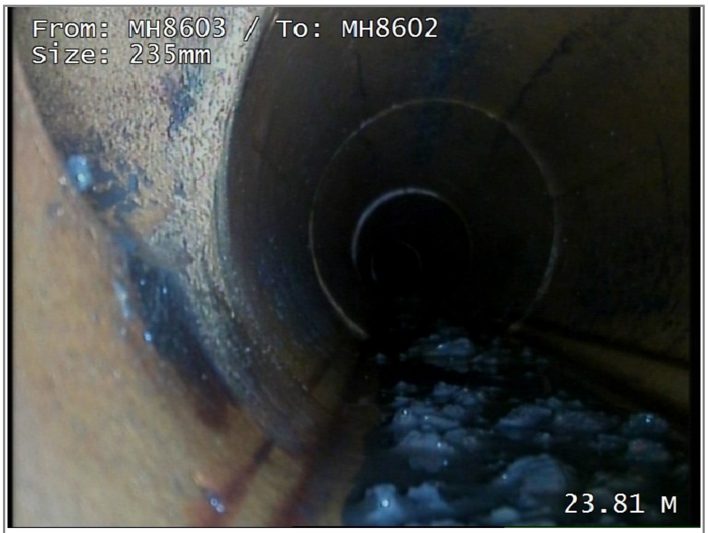

From: MH8603 / To: MH8602
Size: 235mm
14.55 M

Junction at 2 o'clock, diameter 100mm

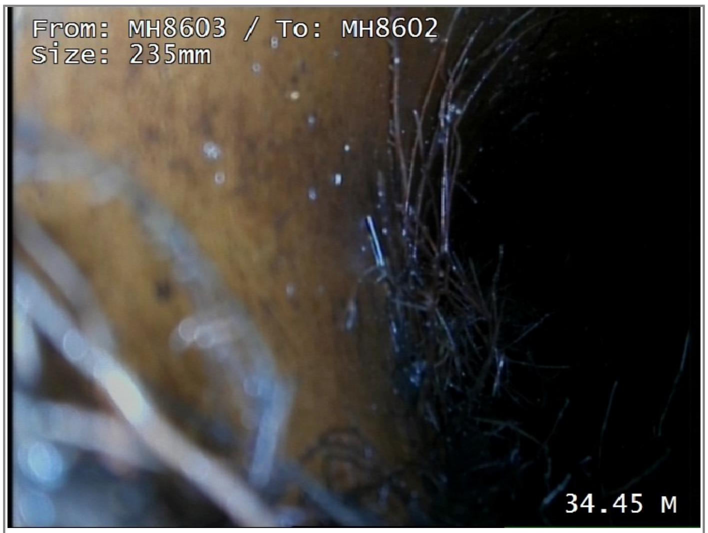

From: MH8603 / To: MH8602
Size: 235mm
17.69 M

Settled deposits coarse 25% cross-sectional area loss, Finished

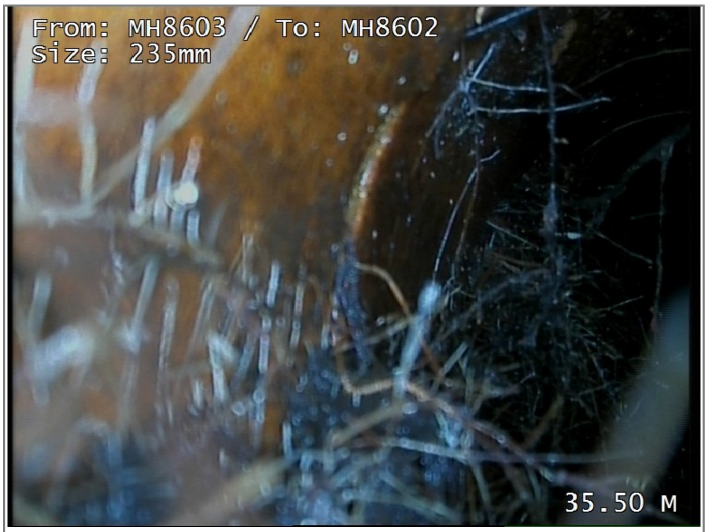
Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**


From: MH8603 / To: MH8602
Size: 235mm
23.81 M

Junction at 10 o'clock, diameter 150mm


From: MH8603 / To: MH8602
Size: 235mm
34.45 M

Junction at 2 o'clock, diameter 100mm


From: MH8603 / To: MH8602
Size: 235mm
35.50 M

Survey abandoned - Remark: MASSROOTS IN LINE

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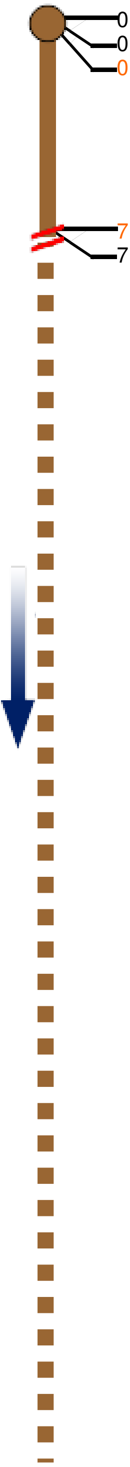
Surveyed by (Operator) **Joe COLLINS**	Job Number **LS5603**	Pipe Length Reference(PLR) **CULVERT1 X**	Date **09/10/2024**	Pre Cleaned **Not Cleaned**
Weather **1 - Dry**	Customer Present	Service Grade/Structural Grade **4/0**	Base Unit **DJVV56JNNH**	Section Number **7**

Road **Ryebank Fields,** Place **Manchester,** Location **M21 9WW**	Division District Location Details

Purpose Duty **Combined** Catchment	Shape/Size **450mm** Material **Vitrified clay** Category	Start Node **CULVERT1** End Node **OUTFALL1** Total length **50 metres**

Scale **1:2.62**
Direction **Downstream**

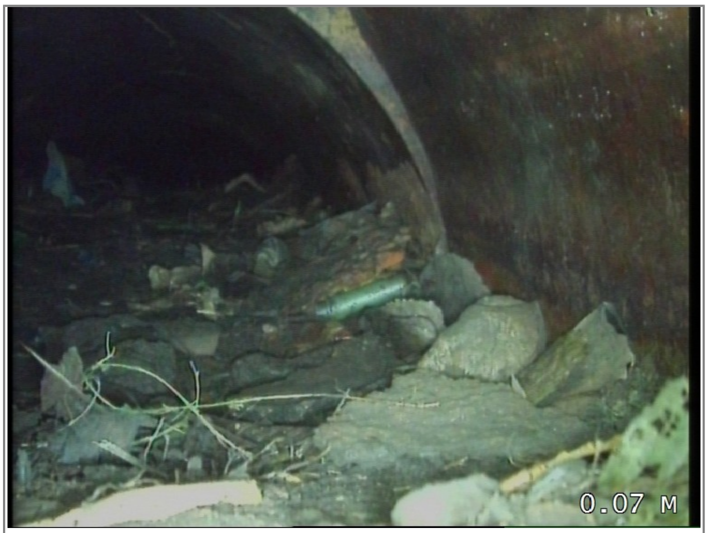
Start Node Ref:CULVERT1 | I/L : metres | Depth: 0.3 metres



Position	**Code**	**Description**	**Photo**	**Type/Grade**
0.00	SN	Start node type: Source	10485875	Comment / 0
0.00	WL	Water level 5% height/diameter	10485876	Comment / 0
0.07	DER (S01)	Settled deposits coarse 60% cross-sectional area loss, Start	10485877	Service / 4
7.33	DER (F01)	Settled deposits coarse 60% cross-sectional area loss, Finished	10485882	Service / 4
7.33	SA	Survey abandoned - Remark: 75% FULL DEBRIS AND ROOTS	10485884	Comment / 0

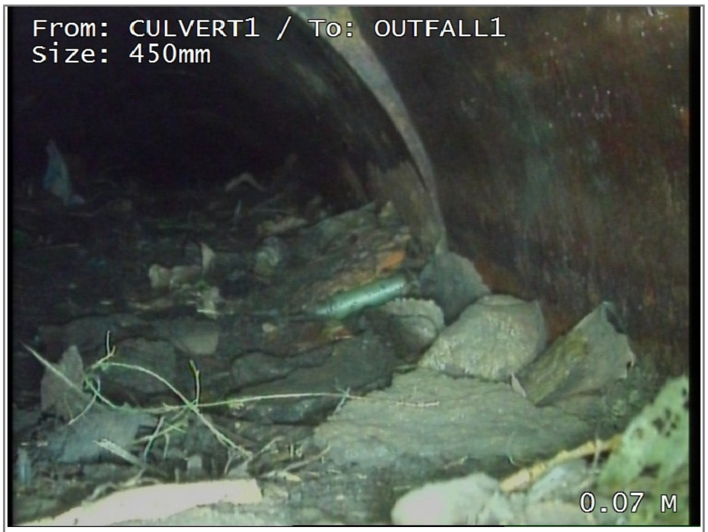
End Node Ref:OUTFALL1 | I/L : metres

Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**



Start node type: Source

Water level 5% height/diameter


From: CULVERT1 / To: OUTFALL1
Size: 450mm
0.07 M

Settled deposits coarse 60% cross-sectional area loss, Start

From: CULVERT1 / To: OUTFALL1
Size: 450mm
7.33 M

Settled deposits coarse 60% cross-sectional area loss, Finished

From: CULVERT1 / To: OUTFALL1
Size: 450mm
7.33 M

Survey abandoned - Remark: 75% FULL DEBRIS AND ROOTS

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Surveyed by (Operator) **Joe COLLINS**	Job Number **LS5603**	Pipe Length Reference(PLR) **A X**	Date **09/10/2024**	Pre Cleaned **Not Cleaned**
Weather **1 - Dry**	Customer Present	Service Grade/Structural Grade **4/0**	Base Unit **DJVV56JNNH**	Section Number **8**

Road **Ryebank Fields,**
Place **Manchester,**
Location **M21 9WW**

Division
District
Location Details

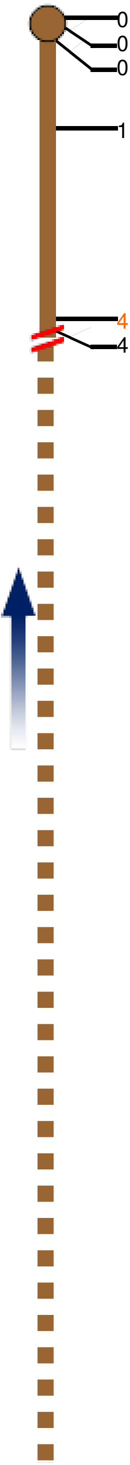
Purpose
Duty **Combined**
Catchment

Shape/Size **375mm**
Material **Vitrified clay**
Category

Start Node **MH9401**
End Node **A**
Total length **22 metres**

Scale **1:1.15**
Direction **Upstream**

Start Node Ref:MH9401 | I/L : metres | Depth: 3.73 metres

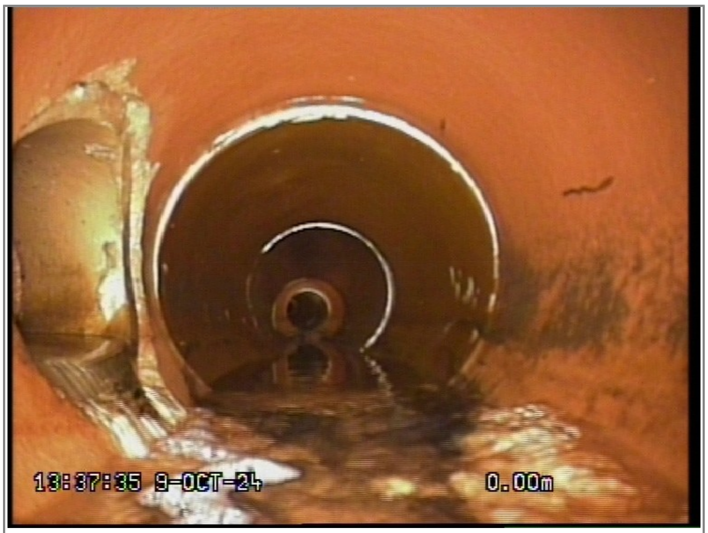


Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH9401	10486037	Comment / 0
0.00	WL	Water level 5% height/diameter	10486038	Comment / 0
0.27	CN	Connection other than junction at 9 o'clock, diameter 225mm	10486047	Comment / 0
1.69	SC	Dimensions of drain/sewer changes to 150mm	10486049	Comment / 0
4.60	DEE	Attached deposits, encrustation from 12 to 12 o'clock 30% cross-sectional area loss	10486323	Service / 4
4.76	SA	Survey abandoned - Remark: UNABLE TO PASS CUTTER REQUIRED	10486324	Comment / 0

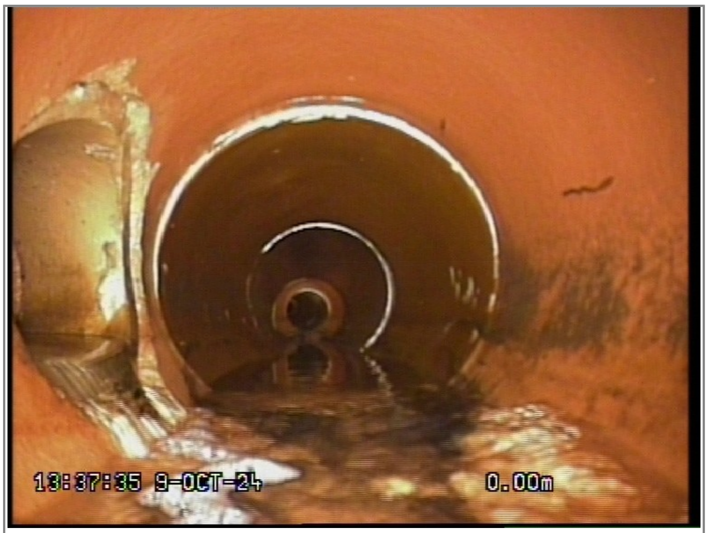
End Node Ref:A | I/L : metres

CCTV Inspection Photos

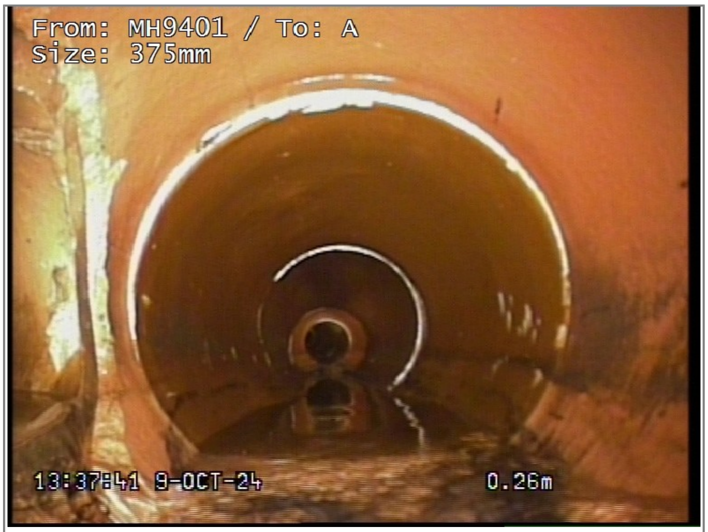
Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**


13:37:35 9-OCT-24
0.00m

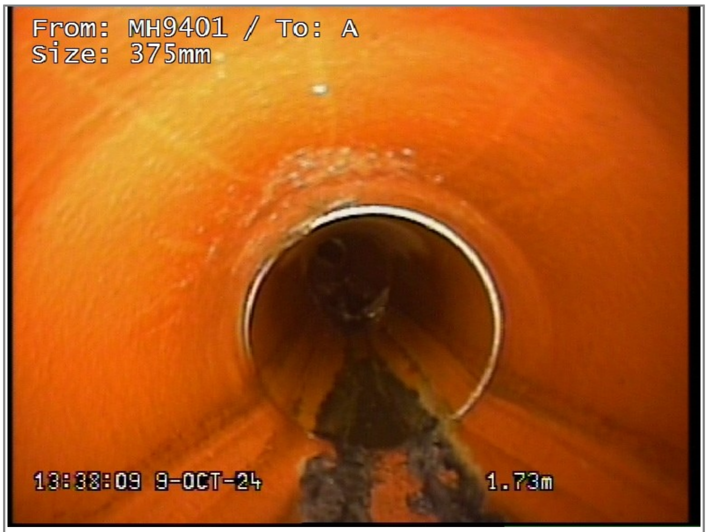
Start node type, manhole, reference MH9401


13:37:35 9-OCT-24
0.00m

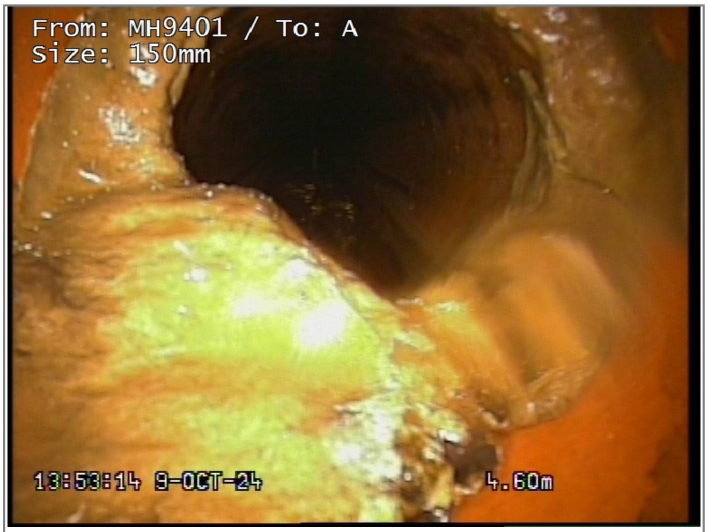
Water level 5% height/diameter


From: MH9401 / To: A
Size: 375mm
13:37:41 9-OCT-24
0.26m

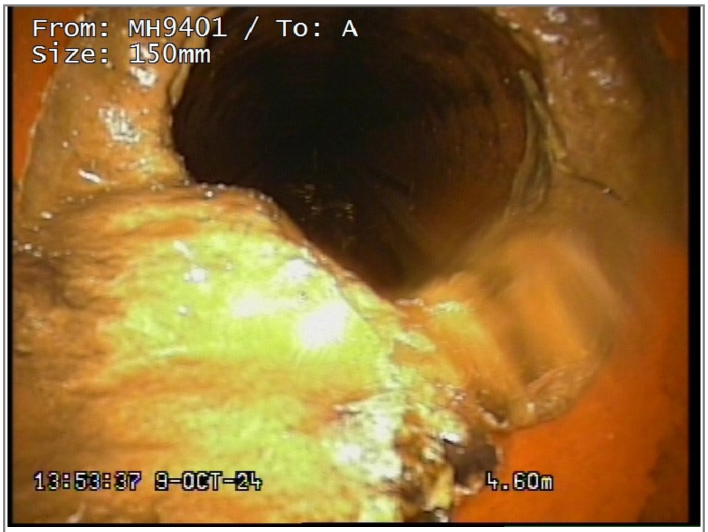
Connection other than junction at 9 o'clock, diameter 225mm


From: MH9401 / To: A
Size: 375mm
13:38:09 9-OCT-24
1.73m

Dimensions of drain/sewer changes to 150mm


From: MH9401 / To: A
Size: 150mm
13:53:14 9-OCT-24
4.60m

Attached deposits, encrustation from 12 to 12 o'clock 30% cross-sectional area loss


From: MH9401 / To: A
Size: 150mm
13:53:37 9-OCT-24
4.60m

Survey abandoned - Remark: UNABLE TO PASS CUTTER REQUIRED

LAYER SURVEYS LTD
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CCTV Inspection Report

Layer Surveys Ltd
Office 1-2, The Gatehouse
Lancashire Business Park
Leyland
PR26 6TY

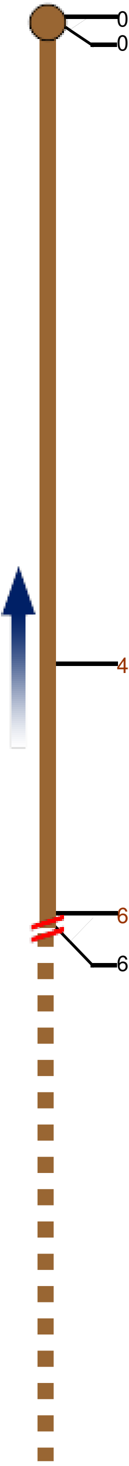
Surveyed by (Operator) **Joe COLLINS**	Job Number **LS5603**	Pipe Length Reference(PLR) **MH0401 X**	Date **09/10/2024**	Pre Cleaned **Flushed through to enable survey**
Weather **1 - Dry**	Customer Present	Service Grade/Structural Grade **3/0**	Base Unit **DJVV56JNNH**	Section Number **9**

Road **Ryebank Fields,** Place **Manchester,** Location **M21 9WW**	Division District Location Details

Purpose Duty **Surface water** Catchment	Shape/Size **1200mm** Material **Brick** Category	Start Node **MH9400** End Node **MH0401** Total length **98 metres**

Scale **1:5.14**
Direction **Upstream**

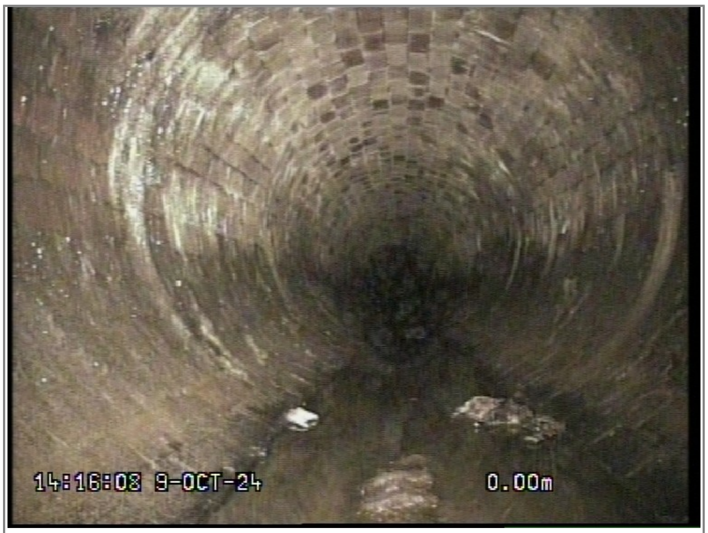
Start Node Ref:MH9400 | I/L : metres | Depth: 5.90 metres



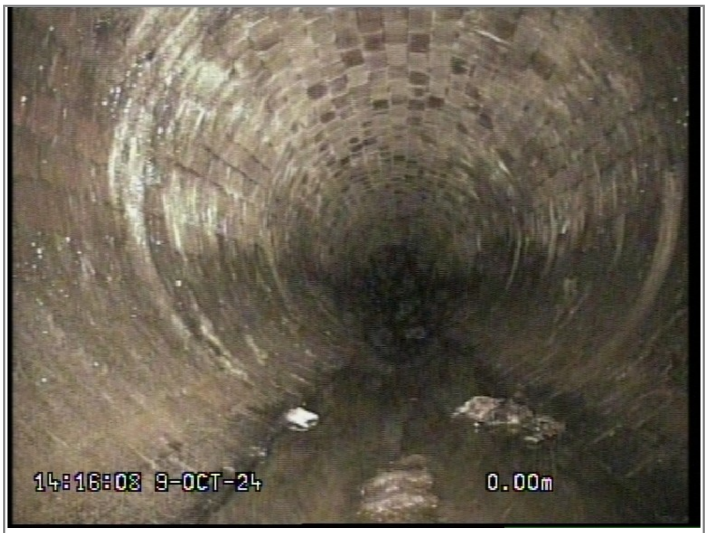
Position	**Code**	**Description**	**Photo**	**Type/Grade**
0.00	MH	Start node type, manhole, reference MH9400	10486603	Comment / 0
0.00	WL	Water level 5% height/diameter	10486607	Comment / 0
44.00	DEE (S01)	Attached deposits, encrustation from 7 to 5 o'clock 10% cross-sectional area loss, Start	10486663	Service / 3
61.00	DEE (F01)	Attached deposits, encrustation from 7 to 5 o'clock 10% cross-sectional area loss, Finished	10486675	Service / 3
61.42	SA	Survey abandoned - Remark: CLEANSE REQUIRED	10486690	Comment / 0

End Node Ref:MH0401 | I/L : metres

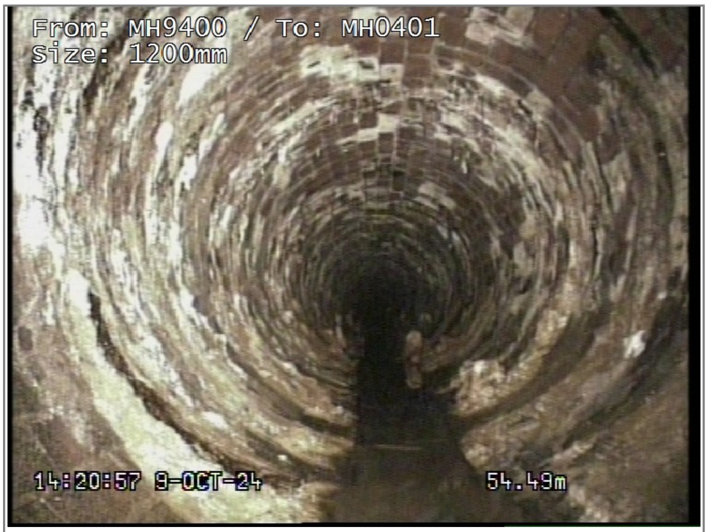
Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**


14:16:08 9-OCT-24
0.00m

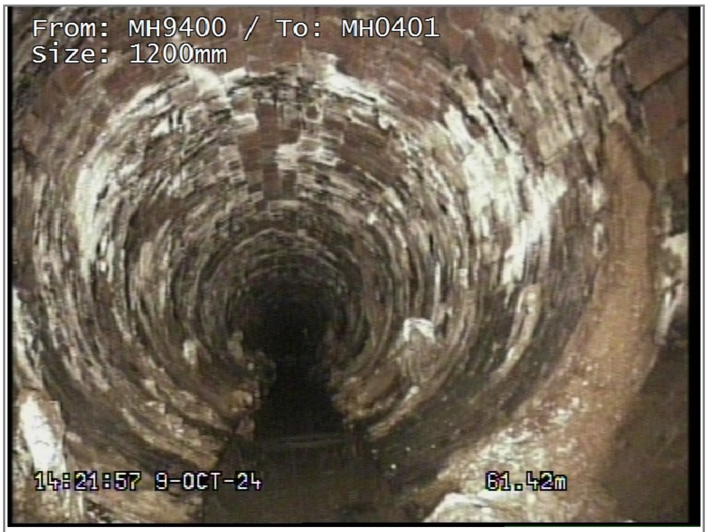
Start node type, manhole, reference MH9400


14:16:08 9-OCT-24
0.00m

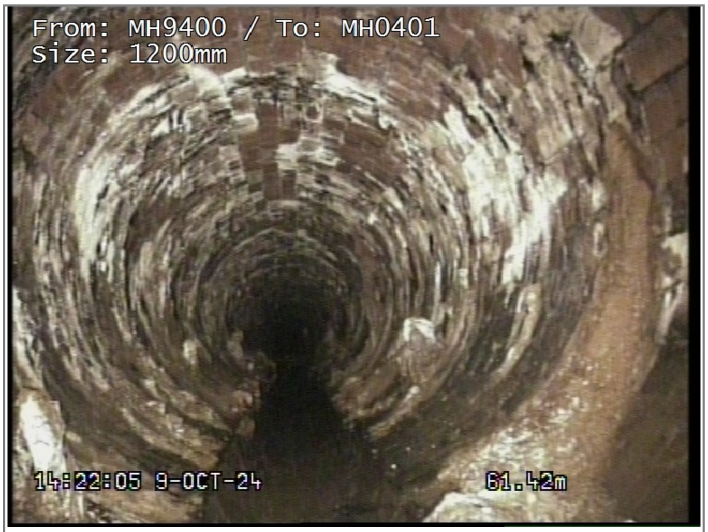
Water level 5% height/diameter


From: MH9400 / To: MH0401
Size: 1200mm
14:20:57 9-OCT-24
54.49m

Attached deposits, encrustation from 7 to 5 o'clock 10% cross-sectional area loss, Start


From: MH9400 / To: MH0401
Size: 1200mm
14:21:57 9-OCT-24
61.42m

Attached deposits, encrustation from 7 to 5 o'clock 10% cross-sectional area loss, Finished


From: MH9400 / To: MH0401
Size: 1200mm
14:22:05 9-OCT-24
61.42m

Survey abandoned - Remark: CLEANSE REQUIRED

LAYER SURVEYS LTD
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CCTV Inspection Report

Layer Surveys Ltd
Office 1-2, The Gatehouse
Lancashire Business Park
Leyland
PR26 6TY

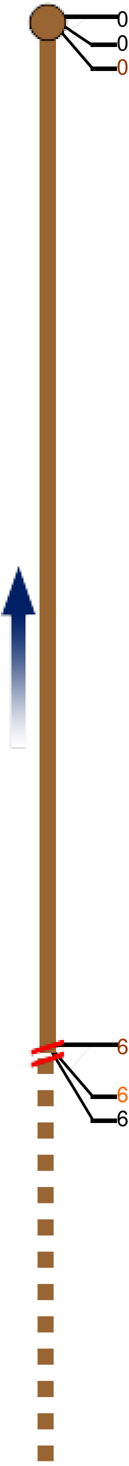
Surveyed by (Operator) **Joe COLLINS**	Job Number **LS5603**	Pipe Length Reference(PLR) **A X**	Date **10/10/2024**	Pre Cleaned **Flushed through to enable survey**
Weather **1 - Dry**	Customer Present	Service Grade/Structural Grade **4/0**	Base Unit **DJVV56JNNH**	Section Number **10**

Road **Ryebank Fields,** Place **Manchester,** Location **M21 9WW**	Division District Location Details

Purpose Duty **Surface water** Catchment	Shape/Size **1200mm** Material **Brick** Category	Start Node **MH0401** End Node **A** Total length **90 metres**

Scale **1:4.72**
Direction **Upstream**

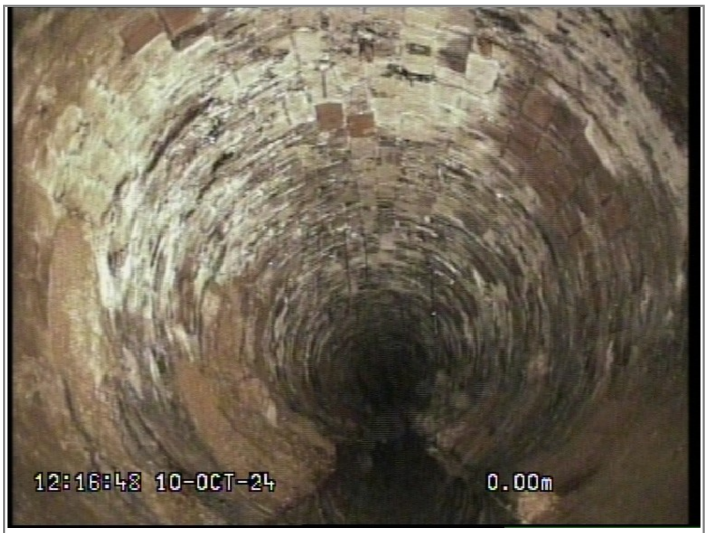
Start Node Ref:MH0401 | I/L : metres | Depth: 5.38 metres



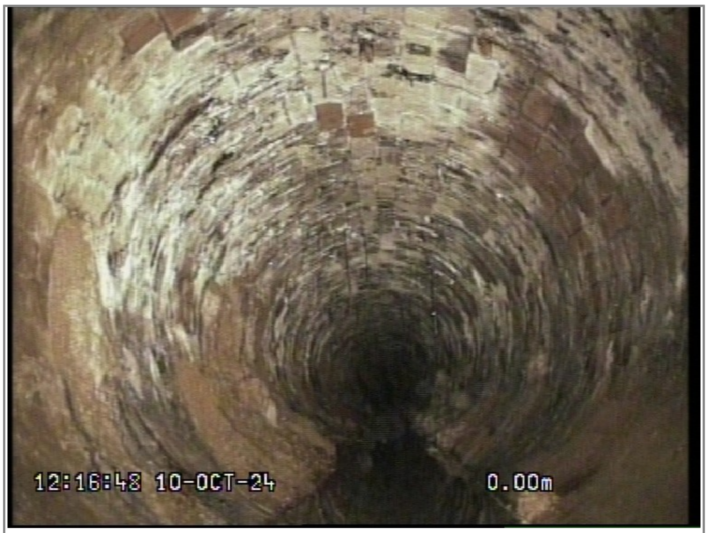
Position	**Code**	**Description**	**Photo**	**Type/Grade**
0.00	MH	Start node type, manhole, reference MH0401	10491488	Comment / 0
0.00	WL	Water level 5% height/diameter	10491489	Comment / 0
0.00	DEE (S01)	Attached deposits, encrustation from 7 to 5 o'clock 20% cross-sectional area loss, Start	10491490	Service / 3
64.22	DEE (F01)	Attached deposits, encrustation from 7 to 5 o'clock 20% cross-sectional area loss, Finished	10491562	Service / 3
64.22	DER	Settled deposits coarse 40% cross-sectional area loss	10491564	Service / 4
64.22	SA	Survey abandoned - Remark: DUE TO DEBRIS IN LINE	10491587	Comment / 0

End Node Ref:A | I/L : metres

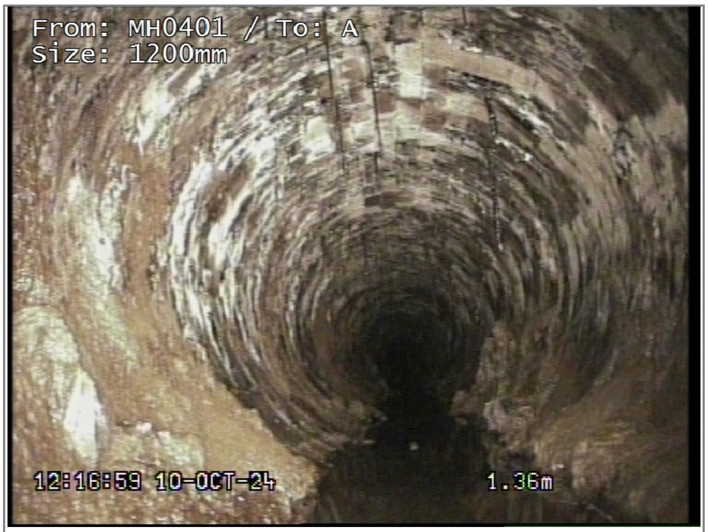
Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**


12:16:48 10-OCT-24
0.00m

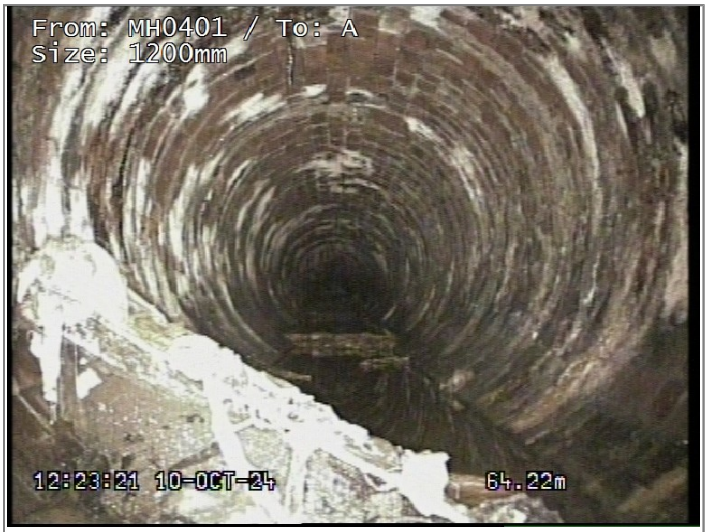
Start node type, manhole, reference MH0401


12:16:48 10-OCT-24
0.00m

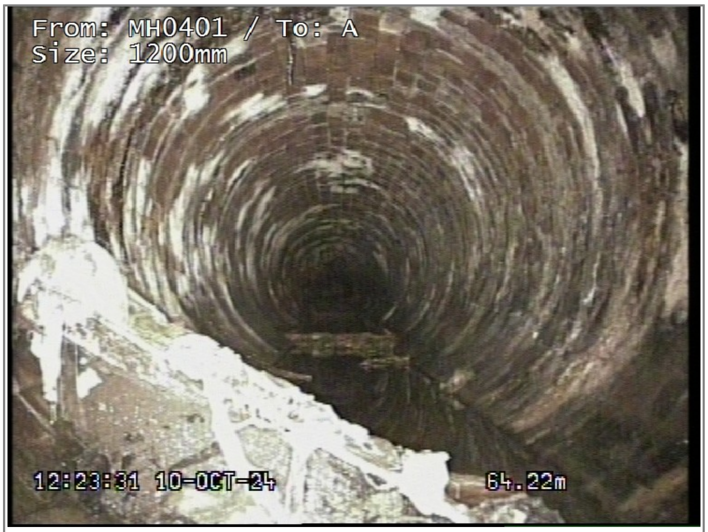
Water level 5% height/diameter


From: MH0401 / To: A
Size: 1200mm
12:16:59 10-OCT-24
1.36m

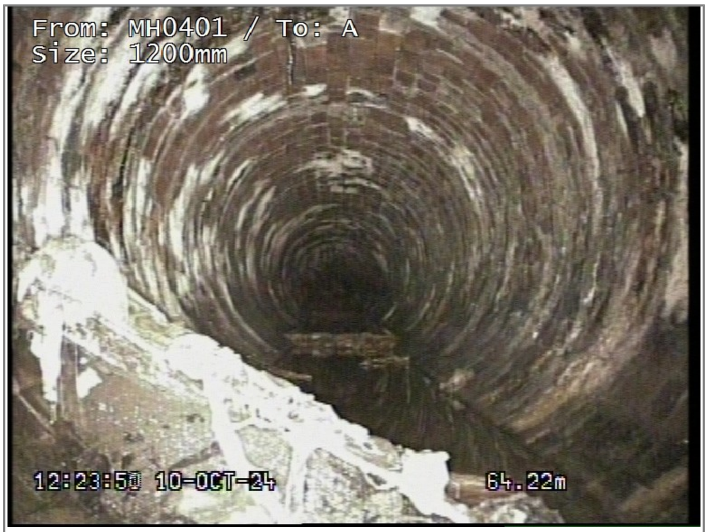
Attached deposits, encrustation from 7 to 5 o'clock 20% cross-sectional area loss, Start


From: MH0401 / To: A
Size: 1200mm
12:23:21 10-OCT-24
64.22m

Attached deposits, encrustation from 7 to 5 o'clock 20% cross-sectional area loss, Finished


From: MH0401 / To: A
Size: 1200mm
12:23:31 10-OCT-24
64.22m

Settled deposits coarse 40% cross-sectional area loss


From: MH0401 / To: A
Size: 1200mm
12:23:50 10-OCT-24
64.22m

Survey abandoned - Remark: DUE TO DEBRIS IN LINE

LAYER SURVEYS LTD
SEE THE COMPLETE PICTURE

CCTV Inspection Report

Layer Surveys Ltd
Office 1-2, The Gatehouse
Lancashire Business Park
Leyland
PR26 6TY

Surveyed by (Operator) **Joe COLLINS**	Job Number **LS5603**	Pipe Length Reference(PLR) **MH0401 X**	Date **10/10/2024**	Pre Cleaned **Flushed through to enable survey**
Weather **1 - Dry**	Customer Present	Service Grade/Structural Grade **0/0**	Base Unit **DJVV56JNNH**	Section Number **11**

Road **Ryebank Fields,**
Place **Manchester,**
Location **M21 9WW**

Division
District
Location Details

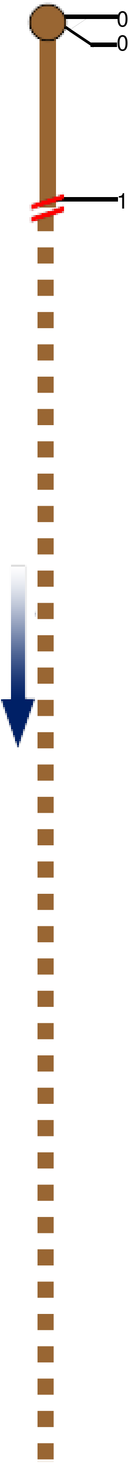
Purpose
Duty **Surface water**
Catchment

Shape/Size **1200mm**
Material **Brick**
Category

Start Node **MH0401**
End Node **MH9400**
Total length **96 metres**

Scale **1:5.04**
Direction **Downstream**

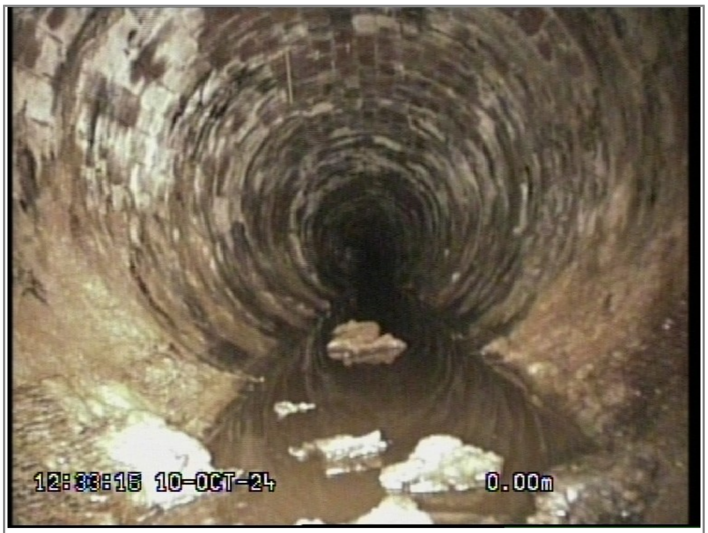
Start Node Ref:MH0401 | I/L : metres | Depth: 5.38 metres



Position	Code	Description	Photo	Type/Grade
0.00	MH	Start node type, manhole, reference MH0401	10491664	Comment / 0
0.00	WL	Water level 5% height/diameter	10491665	Comment / 0
12.14	SA	Survey abandoned - Remark: CUTTER REQUIRED	10491688	Comment / 0

End Node Ref:MH9400 | I/L : metres | Depth: 5.90 metres

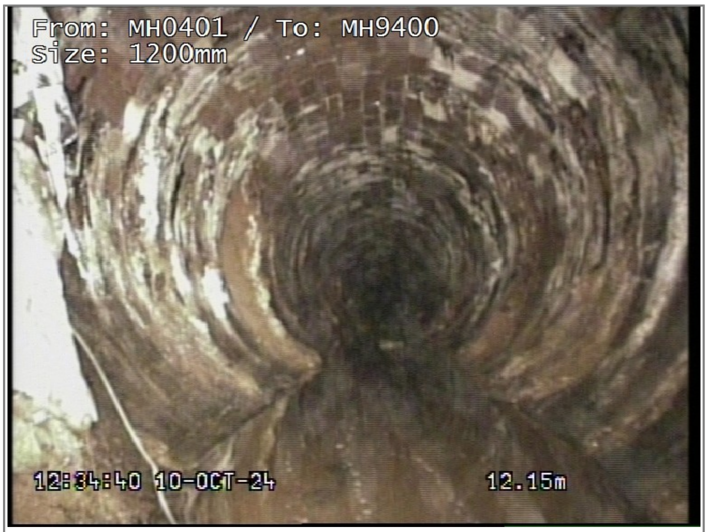
Job Number	Surveyed by (Operator)	Base Unit	Date
LS5603	**Joe COLLINS**	**DJVV56JNNH**	**09/10/2024**


12:33:15 10-OCT-24
0.00m

Start node type, manhole, reference MH0401

12:33:15 10-OCT-24
0.00m

Water level 5% height/diameter


From: MH0401 / To: MH9400
Size: 1200mm
12:34:40 10-OCT-24
12.15m

Survey abandoned - Remark: CUTTER REQUIRED

OFFICES NATIONWIDE

North West Office
Office 1-2, The Gatehouse, Lancashire Business Park,
Leyland, PR26 6TY

Midlands Office
Unit 2, 262 Walsall Road, Cannock, WS11 0JL

Southern Office
Grove Park Business Estate Waltham Rd,
White Waltham, Maidenhead SL6 3LW

Phone and Email
01772 611634
info@layersurveys.co.uk

Website
www.layersurveys.co.uk

Layer Surveys Ltd
Head Office: Offices 1-2, The Gatehouse, Lancashire Business Park,
Leyland, PR26 6TY
T: 01772 611634

LAYER SURVEYS LTD
SEE THE COMPLETE PICTURE

Layer Surveys Ltd Manhole Survey Card

Card No: 1
Map No:
Catchment:
MH No: MH1
Location: RYEBANK FIELDS
Town: MANCHESTER

★ Status: PU
Syphon:
★ Function: S
★ MH Type: MH
Date of Survey: 09/10/2024

COVER DETAILS

☒ Square ☐ Rectangle ☐ Triangle ☐ Dbl Triangle ☐ Circular ☐ Oval ☐ Other ☐ Multiple ☐ Hinged ☐ Lockable

Cover Level: m
★ H / M / L Cover Duty: H
Initials: DP

PIPE DETAILS

Incoming Pipes

Clockwise from pipe X

Pipe	Depth from Invert (m)	Upstream / Downstream MH Ref	Shape	Size (mm) Height		Width	Pipe Mat	Lining Mat	Back Drop Dia (mm)	Back Drop Depth (m)
A	0.70	US-A	C	100	X		VC			
B	1.10	US-B	C	150	X		VC			
C	1.10	US-C	C	100	X		VC			
					X					
					X					
					X					

Outgoing Pipes

X	1.79	DS-X	C	150	X		VC			
Y					X					

Cover Opening at narrowest: 470X470 mm
Chamber Dimension: 700X600 mm
Evidence of Surcharge:
Shaft at narrowest: mm
Shaft Depth (from CL): mm
OX / H2S / METH Toxic atmosphere:

MANHOLE CONSTRUCTION DETAILS

☒ Pre Cast Concrete ☐ In Situ Concrete ☒ Brick ☐ GRP ☐ Arch ☐ Corbel ☐ Taper ☐ Side Entry
☐ Reducing Slab ☐ Segments ☐ No. of Landings ☐ No. of Step Irons ☐ No. of Ladders
☐ No. of Regulating Brick Courses

CONDITION INFORMATION (specific in remark)

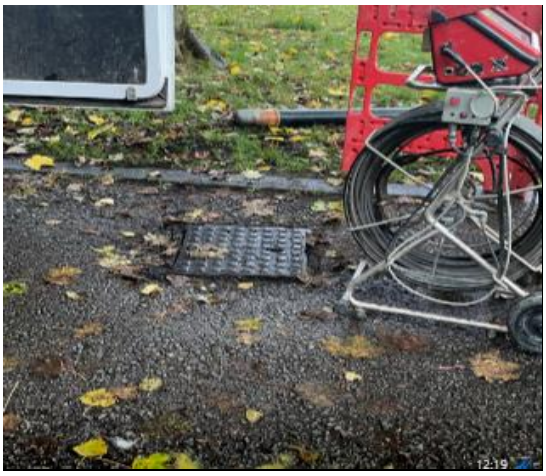
	Cover	Shaft	Irons / Ladders	Chamber	Benching	Channel
OK	☒	☒	☒	☒	☒	☒
Needs attention	☐	☐	☐	☐	☐	☐
Urgent attention	☐	☐	☐	☐	☐	☐

Depth of Flow: mm
Depth of Silt: mm
Height of Surcharge from CL: mm

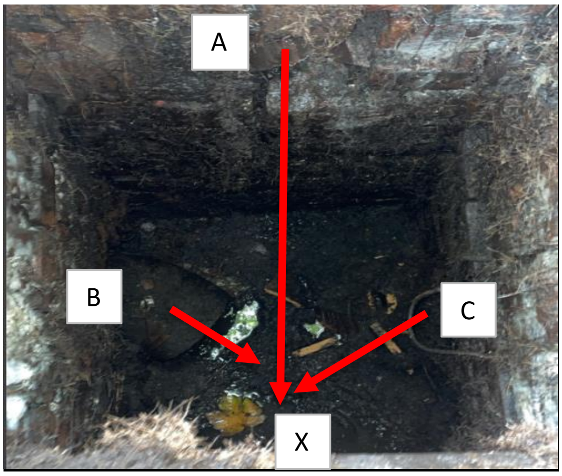
REMARKS

★ *See Overleaf for Key*

LOCATION SKETCH



PLAN OF MANHOLE



STATUS	PU : Public	PR : Private	WC : Culverted Watercourse	} Applies to main outlet
	24 : Section 24	HD : Highway Drain		
FUNCTION	F : Foul	C : Combined	S : Surface Water	} Applies to main outlet
MANHOLE TYPE	IF : Infall	MH : Manhole	CP : Catchpit	CSO :Consented Sewer Overflow
	LH : Lamphole	RE : Rodding Eye	SO : Storm Overflow	DS :Dual system Manhole
	GU : Gully	OF : Outfall	SA : Soakaway	PS :Pumping Station
COVER DUTY	L : Light Duty	M : Medium Duty	H : Heavy Duty	
SHAPE	C : Circular	E : Egg	R : Rectangular	
	S : Square	T : Trapezoidal	A : Arched	
	B : Barrel	H : Horseshoe (Inverted U)	U : U-shaped with flat top	
	X : Other (state in words)			
PIPE (OR LINING)	AK : Alkathene	AC : Asbestos Cement	BR : Brick	
MATERIAL	CI : Cast Iron	SI : Spun (Grey) Iron	CO : Concrete	
	CSB : Concrete Segments (Bolted)	CSU : Concrete Segments (Unbolted)	CC : Concrete Box Culvert	
	DI : Ductile Iron	GRC : Glass Reinforced Concrete	GRP : Glass Reinforced Plastic	
	PSC : Plastic/Steel Composite	PVC : Polyvinyl Chloride	PE : Polyethylene	
	RPM : Reinforced Plastic Matrix	ST : Steel	VC : Vitrified Clay	
	PP : Polypropylene	PF : Pitch Fibre	MAC : Masonry, Coursed	
	MAR : Masonry, Randon Courses	XXX : Other (State in remarks)		
LINING	BL : Bitumen	RL : Resin	IS : Insituform	
	CL : Cement	PI : Plastic		

Layer Surveys Ltd
Head Office: Offices 1-2, The Gatehouse, Lancashire Business Park,
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T: 01772 611634

LAYER SURVEYS LTD
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Layer Surveys Ltd Manhole Survey Card

Card No: 8
Map No:
Catchment:
MH No: MH0400
Location: RYEBANK FIELDS
Town: MANCHESTER

★ Status: PU
Syphon:
★ Function: C
★ MH Type: MH
Date of Survey: 10/10/2024

COVER DETAILS

☒ Square ☐ Rectangle ☐ Triangle ☐ Dbl Triangle ☐ Circular ☐ Oval ☐ Other ☐ Multiple ☐ Hinged ☐ Lockable

Cover Level: m
★ H / M / L Cover Duty: H
Initials: DP

PIPE DETAILS

Incoming Pipes

Clockwise from pipe X

Pipe	Depth from Invert (m)	Upstream / Downstream MH Ref	Shape	Size (mm) Height		Size (mm) Width	Pipe Mat	Lining Mat	Back Drop Dia (mm)	Back Drop Depth (m)
A	3.59	US-A	C	375	X		VC			
					X					
					X					
					X					
					X					
					X					

Outgoing Pipes

X	3.60	MH9401	C	375	X		VC			
					X					

Cover Opening at narrowest: 470X470 mm
Chamber Dimension: 1500X700 mm
Evidence of Surcharge:
Shaft at narrowest: 700X850 mm
Shaft Depth (from CL): 2. 00 mm
OX / H2S / METH Toxic atmosphere:

MANHOLE CONSTRUCTION DETAILS

☒ Pre Cast Concrete ☐ In Situ Concrete ☒ Brick ☐ GRP ☐ Arch ☐ Corbel ☐ Taper ☐ Side Entry

☐ Reducing Slab ☐ Segments ☐ No. of Landings 8 No. of Step Irons ☐ No. of Ladders

☐ No. of Regulating Brick Courses

CONDITION INFORMATION (specific in remark)

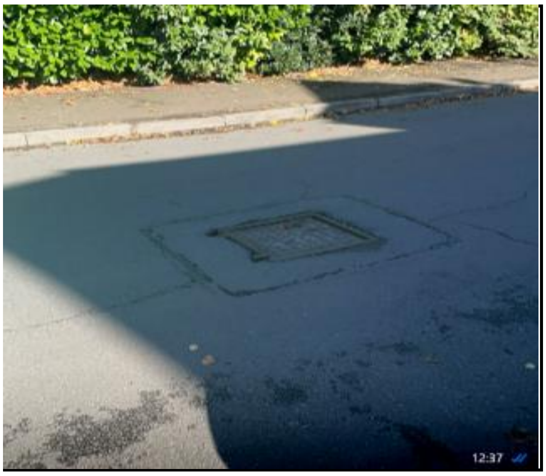
	Cover	Shaft	Irons / Ladders	Chamber	Benching	Channel
OK	☒	☒	☒	☒	☒	☒
Needs attention	☐	☐	☐	☐	☐	☐
Urgent attention	☐	☐	☐	☐	☐	☐

Depth of Flow: mm
Depth of Silt: mm
Height of Surcharge from CL: mm

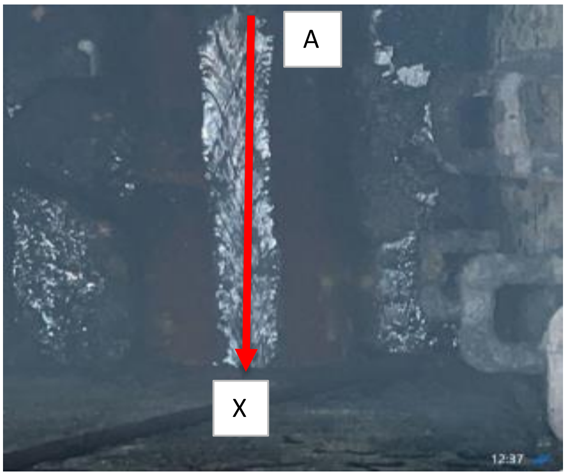
REMARKS

★ *See Overleaf for Key*

LOCATION SKETCH



PLAN OF MANHOLE



STATUS	PU : Public 24 : Section 24	PR : Private HD : Highway Drain	WC : Culverted Watercourse	} Applies to main outlet
FUNCTION	F : Foul	C : Combined	S : Surface Water	} Applies to main outlet
MANHOLE TYPE	IF : Infall LH : Lamphole GU : Gully	MH : Manhole RE : Rodding Eye OF : Outfall	CP : Catchpit SO : Storm Overflow SA : Soakaway	CSO :Consented Sewer Overflow DS :Dual system Manhole PS :Pumping Station
COVER DUTY	L : Light Duty	M : Medium Duty	H : Heavy Duty	
SHAPE	C : Circular S : Square B : Barrel X : Other (state in words)	E : Egg T : Trapezoidal H : Horseshoe (Inverted U)	R : Rectangular A : Arched U : U-shaped with flat top	
PIPE (OR LINING) MATERIAL	AK : Alkathene CI : Cast Iron CSB : Concrete Segments (Bolted) DI : Ductile Iron PSC : Plastic/Steel Composite RPN : Reinforced Plastic Matrix PP : Polypropylene MAF : Masonry, Randon Courses	AC : Asbestos Cement SI : Spun (Grey) Iron CSL : Concrete Segments (Unbolted) GRC : Glass Reinforced Concrete PVC : Polyvinyl Chloride ST : Steel PF : Pitch Fibre XXX : Other (State in remarks)	BR : Brick CO : Concrete CC : Concrete Box Culvert GRP : Glass Reinforced Plastic PE : Polyethylene VC : Vitrified Clay MAC : Masonry, Coursed	
LINING	BL : Bitumen CL : Cement	RL : Resin PI : Plastic	IS : Insituform	

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LAYER SURVEYS LTD
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Layer Surveys Ltd Manhole Survey Card

Card No: 7
Map No:
Catchment:
MH No: MH0401
Location: RYEBANK FIELDS
Town: MANCHESTER

★ PU Status
Syphon
★ C Function
★ MH MH Type
10/10/2024 Date of Survey

COVER DETAILS

☒ Square ☐ Rectangle ☐ Triangle ☐ Dbl Triangle ☐ Circular ☐ Oval ☐ Other ☐ Multiple ☐ Hinged ☐ Lockable

Cover Level: m
★ H / M / L Cover Duty: H
Initials: DP

PIPE DETAILS

Incoming Pipes (Clockwise from pipe X)

Pipe	Depth from Invert (m)	Upstream / Downstream MH Ref	Shape	Size (mm) Height		Width	Pipe Mat	Lining Mat	Back Drop Dia (mm)	Back Drop Depth (m)
A	5.37	US-A	C	1200	X		BR			
B	5.30	US-B	C	150	X		CI			
C					X					
					X					
					X					
					X					

Outgoing Pipes

X	5.37	MH9400	C	1200	X		BR			
Y					X					

Cover Opening at narrowest: 620X620 mm
Chamber Dimension: 1200X1400 mm
Evidence of Surcharge:
Shaft at narrowest: 800X1200 mm
Shaft Depth (from CL): 3 mm
OX / H2S / METH Toxic atmosphere:

MANHOLE CONSTRUCTION DETAILS

☒ Pre Cast Concrete ☐ In Situ Concrete ☒ Brick ☐ GRP ☐ Arch ☐ Corbel ☐ Taper ☐ Side Entry
☐ Reducing Slab ☐ Segments ☐ No. of Landings 10 No. of Step Irons ☐ No. of Ladders
☐ No. of Regulating Brick Courses

CONDITION INFORMATION (specific in remark)

	Cover	Shaft	Irons / Ladders	Chamber	Benching	Channel
OK	☒	☒	☒	☒	☒	☒
Needs attention	☐	☐	☐	☐	☐	☐
Urgent attention	☐	☐	☐	☐	☐	☐

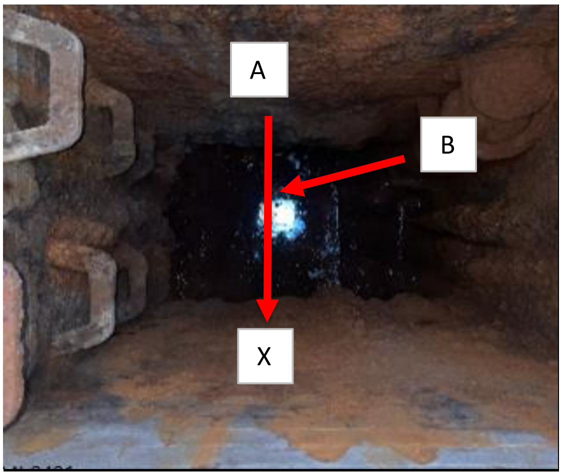
Depth of Flow: mm
Depth of Silt: mm
Height of Surcharge from CL: mm

REMARKS

★ *See Overleaf for Key*

LOCATION SKETCH

PLAN OF MANHOLE



STATUS	PU : Public 24 : Section 24	PR : Private HD : Highway Drain	WC : Culverted Watercourse	} Applies to main outlet
FUNCTION	F : Foul	C : Combined	S : Surface Water	} Applies to main outlet
MANHOLE TYPE	IF : Infall LH : Lamphole GU : Gully	MH : Manhole RE : Rodding Eye OF : Outfall	CP : Catchpit SO : Storm Overflow SA : Soakaway	CSO :Consented Sewer Overflow DS :Dual system Manhole PS :Pumping Station
COVER DUTY	L : Light Duty	M : Medium Duty	H : Heavy Duty	
SHAPE	C : Circular S : Square B : Barrel X : Other (state in words)	E : Egg T : Trapezoidal H : Horseshoe (Inverted U)	R : Rectangular A : Arched U : U-shaped with flat top	
PIPE (OR LINING) MATERIAL	AK : Alkathene CI : Cast Iron CSB : Concrete Segments (Bolted) DI : Ductile Iron PSC : Plastic/Steel Composite RPM : Reinforced Plastic Matrix PP : Polypropylene MAF : Masonry, Randon Courses	AC : Asbestos Cement SI : Spun (Grey) Iron CSU : Concrete Segments (Unbolted) GRC : Glass Reinforced Concrete PVC : Polyvinyl Chloride ST : Steel PF : Pitch Fibre XXX : Other (State in remarks)	BR : Brick CO : Concrete CC : Concrete Box Culvert GRP : Glass Reinforced Plastic PE : Polyethylene VC : Vitrified Clay MAC : Masonry, Coursed	
LINING	BL : Bitumen CL : Cement	RL : Resin PI : Plastic	IS : Insituform	

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Head Office: Offices 1-2, The Gatehouse, Lancashire Business Park,
Leyland, PR26 6TY
T: 01772 611634

LAYER SURVEYS LTD
SEE THE COMPLETE PICTURE

Layer Surveys Ltd Manhole Survey Card

Card No: 3
Map No:
Catchment:
MH No: MH8602
Location: RYEBANK FIELDS
Town: MANCHESTER

★ Status: PU
Syphon:
★ Function: S
★ MH Type: MH
Date of Survey: 09/10/2024

COVER DETAILS

☒ Square ☐ Rectangle ☐ Triangle ☐ Dbl Triangle ☐ Circular ☐ Oval ☐ Other ☐ Multiple ☐ Hinged ☐ Lockable

Cover Level: m
★ H / M / L Cover Duty: H
Initials: DP

PIPE DETAILS

Incoming Pipes

Clockwise from pipe X

Pipe	Depth from Invert (m)	Upstream / Downstream MH Ref	Shape	Size (mm) Height		Width	Pipe Mat	Lining Mat	Back Drop Dia (mm)	Back Drop Depth (m)
A	1.79	MH8603	C	225	X		VC			
B	1.79	US-B	C	100	X		VC			
C	1.79	US-C	C	100	X		VC			
					X					
					X					
					X					

Outgoing Pipes

X	1.80	DS-X	C	225	X		VC			
Y					X					

Cover Opening at narrowest: 470X470 mm
Chamber Dimension: mm
Evidence of Surcharge:
Shaft at narrowest: mm
Shaft Depth (from CL): mm
OX / H2S / METH Toxic atmosphere:

MANHOLE CONSTRUCTION DETAILS

☒ Pre Cast Concrete ☐ In Situ Concrete ☒ Brick ☐ GRP ☐ Arch ☐ Corbel ☐ Taper ☐ Side Entry
☐ Reducing Slab ☐ Segments ☐ No. of Landings 2 No. of Step Irons ☐ No. of Ladders
☐ No. of Regulating Brick Courses

CONDITION INFORMATION (specific in remark)

	Cover	Shaft	Irons / Ladders	Chamber	Benching	Channel
OK	☒	☒	☒	☒	☒	☒
Needs attention	☐	☐	☐	☐	☐	☐
Urgent attention	☐	☐	☐	☐	☐	☐

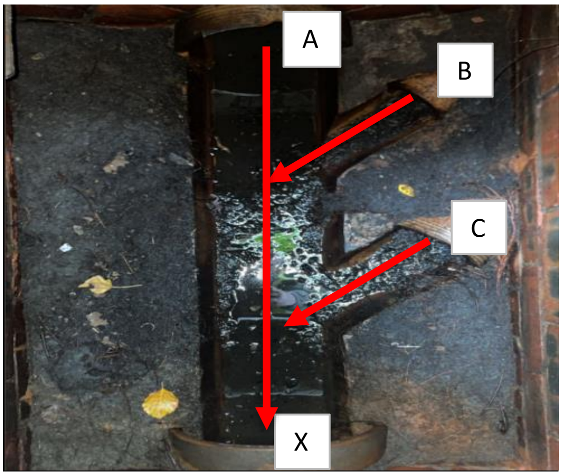
Depth of Flow: mm
Depth of Silt: mm
Height of Surcharge from CL: mm

REMARKS

★ *See Overleaf for Key*

LOCATION SKETCH

PLAN OF MANHOLE



STATUS	PU : Public	PR : Private	WC : Culverted Watercourse	} Applies to main outlet
	24 : Section 24	HD : Highway Drain		
FUNCTION	F : Foul	C : Combined	S : Surface Water	} Applies to main outlet
MANHOLE TYPE	IF : Infall	MH : Manhole	CP : Catchpit	CSO :Consented Sewer Overflow
	LH : Lamphole	RE : Rodding Eye	SO : Storm Overflow	DS :Dual system Manhole
	GU : Gully	OF : Outfall	SA : Soakaway	PS :Pumping Station
COVER DUTY	L : Light Duty	M : Medium Duty	H : Heavy Duty	
SHAPE	C : Circular	E : Egg	R : Rectangular	
	S : Square	T : Trapezoidal	A : Arched	
	B : Barrel	H : Horseshoe (Inverted U)	U : U-shaped with flat top	
	X : Other (state in words)			
PIPE (OR LINING) MATERIAL	AK : Alkathene	AC : Asbestos Cement	BR : Brick	
	CI : Cast Iron	SI : Spun (Grey) Iron	CO : Concrete	
	CSB : Concrete Segments (Bolted)	CSU : Concrete Segments (Unbolted)	CC : Concrete Box Culvert	
	DI : Ductile Iron	GRC : Glass Reinforced Concrete	GRP : Glass Reinforced Plastic	
	PSC : Plastic/Steel Composite	PVC : Polyvinyl Chloride	PE : Polyethylene	
	RPN : Reinforced Plastic Matrix	ST : Steel	VC : Vitrified Clay	
	PP : Polypropylene	PF : Pitch Fibre	MAC : Masonry, Coursed	
	MAF : Masonry, Randon Courses	XXX : Other (State in remarks)		
LINING	BL : Bitumen	RL : Resin	IS : Insituform	
	CL : Cement	PI : Plastic		

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LAYER SURVEYS LTD
SEE THE COMPLETE PICTURE

Layer Surveys Ltd Manhole Survey Card

Card No: 2
Map No:
Catchment:
MH No: MH8603
Location: RYEBANK FIELDS
Town: MANCHESTER

★ Status: PU
Syphon:
★ Function: S
★ MH Type: MH
Date of Survey: 09/10/2024

COVER DETAILS

☒ Square ☐ Rectangle ☐ Triangle ☐ Dbl Triangle ☐ Circular ☐ Oval ☐ Other ☐ Multiple ☐ Hinged ☐ Lockable

Cover Level: m
★ H / M / L Cover Duty: H
Initials: DP

PIPE DETAILS

Incoming Pipes

Clockwise from pipe X

Pipe	Depth from Invert (m)	Upstream / Downstream MH Ref	Shape	Size (mm) Height		Width	Pipe Mat	Lining Mat	Back Drop Dia (mm)	Back Drop Depth (m)
A	0.79	HOR			X					
B	0.78	CAPPED	C	100	X		VC			
C	0.79	US-C	C	100	X		VC			
					X					
					X					
					X					

Outgoing Pipes

X	0.80	MH8602	C	225	X		VC			
Y					X					

Cover Opening at narrowest: 470X470 mm
Chamber Dimension: 1050X900 mm
Evidence of Surcharge:
Shaft at narrowest: mm
Shaft Depth (from CL): mm
OX / H2S / METH Toxic atmosphere:

MANHOLE CONSTRUCTION DETAILS

☒ Pre Cast Concrete ☐ In Situ Concrete ☒ Brick ☐ GRP ☐ Arch ☐ Corbel ☐ Taper ☐ Side Entry
☐ Reducing Slab ☐ Segments ☐ No. of Landings ☐ No. of Step Irons ☐ No. of Ladders
☐ No. of Regulating Brick Courses

CONDITION INFORMATION (specific in remark)

	Cover	Shaft	Irons / Ladders	Chamber	Benching	Channel
OK	☒	☒	☒	☒	☒	☒
Needs attention	☐	☐	☐	☐	☐	☐
Urgent attention	☐	☐	☐	☐	☐	☐

Depth of Flow: mm
Depth of Silt: mm
Height of Surcharge from CL: mm

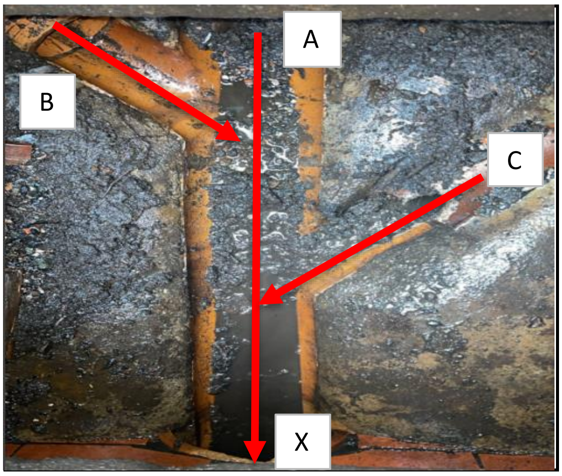
REMARKS

A IS HEAD OF RUN NO PIPE

★ *See Overleaf for Key*

LOCATION SKETCH

PLAN OF MANHOLE



STATUS	PU : Public 24 : Section 24	PR : Private HD : Highway Drain	WC : Culverted Watercourse	} Applies to main outlet
FUNCTION	F : Foul	C : Combined	S : Surface Water	} Applies to main outlet
MANHOLE TYPE	IF : Infall LH : Lamphole GU : Gully	MH : Manhole RE : Rodding Eye OF : Outfall	CP : Catchpit SO : Storm Overflow SA : Soakaway	CSO :Consented Sewer Overflow DS :Dual system Manhole PS :Pumping Station
COVER DUTY	L : Light Duty	M : Medium Duty	H : Heavy Duty	
SHAPE	C : Circular S : Square B : Barrel X : Other (state in words)	E : Egg T : Trapezoidal H : Horseshoe (Inverted U)	R : Rectangular A : Arched U : U-shaped with flat top	
PIPE (OR LINING) MATERIAL	AK : Alkathene CI : Cast Iron CSB : Concrete Segments (Bolted) DI : Ductile Iron PSC : Plastic/Steel Composite RPN : Reinforced Plastic Matrix PP : Polypropylene MAF : Masonry, Randon Courses	AC : Asbestos Cement SI : Spun (Grey) Iron CSL : Concrete Segments (Unbolted) GRC : Glass Reinforced Concrete PVC : Polyvinyl Chloride ST : Steel PF : Pitch Fibre XXX : Other (State in remarks)	BR : Brick CO : Concrete CC : Concrete Box Culvert GRP : Glass Reinforced Plastic PE : Polyethylene VC : Vitrified Clay MAC : Masonry, Coursed	
LINING	BL : Bitumen CL : Cement	RL : Resin PI : Plastic	IS : Insituform	

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LAYER SURVEYS LTD
SEE THE COMPLETE PICTURE

Layer Surveys Ltd Manhole Survey Card

Card No	6	Map No	
Catchment		MH No	MH9400
Location	RYEBANK FIELDS		
Town	MANCHESTER		

★		★	★	
PU Status	Syphon	C Function	MH MH Type	10/10/2024 Date of Survey

COVER DETAILS

☒ Square ☐ Rectangle ☐ Triangle ☐ Dbl Triangle ☐ Circular ☐ Oval ☐ Other ☐ Multiple ☐ Hinged ☐ Lockable

Cover Level ______ m H / M / L Cover Duty ★ H Initials DP

PIPE DETAILS

Incoming Pipes

Clockwise from pipe X

Pipe	Depth from Invert (m)	Upstream / Downstream MH Ref	Shape	Size (mm) Height		Width	Pipe Mat	Lining Mat	Back Drop Dia (mm)	Back Drop Depth (m)
A	5.89	US-A	C	1200	X		BR			
					X					
					X					
					X					
					X					
					X					

Outgoing Pipes

X	5.90		C	1200	X		BR			
Y					X					

Cover Opening at narrowest	600X600	mm	Chamber Dimension	1400X1100	mm	Evidence of Surcharge	
Shaft at narrowest	800X1100	mm	Shaft Depth (from CL)	4. 00	mm	OX / H2S / METH Toxic atmosphere	

MANHOLE CONSTRUCTION DETAILS

☒ Pre Cast Concrete ☐ In Situ Concrete ☒ Brick ☐ GRP ☐ Arch ☐ Corbel ☐ Taper ☐ Side Entry

☐ Reducing Slab ☐ Segments ☐ No. of Landings 13 No. of Step Irons ☐ No. of Ladders

1 No. of Regulating Brick Courses

CONDITION INFORMATION (specific in remark)

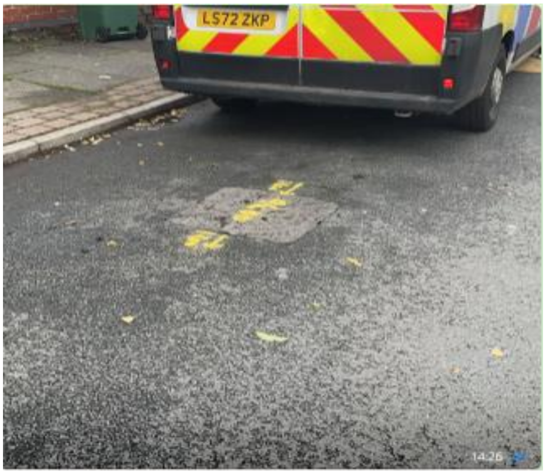
	Cover	Shaft	Irons / Ladders	Chamber	Benching	Channel
OK	☒	☒	☒	☒	☒	☒
Needs attention	☐	☐	☐	☐	☐	☐
Urgent attention	☐	☐	☐	☐	☐	☐

Depth of Flow ______ mm Depth of Silt ______ mm Height of Surcharge from CL ______ mm

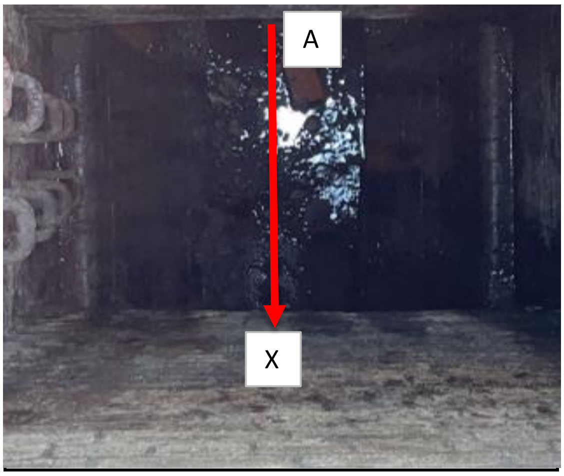
REMARKS

★ *See Overleaf for Key*

LOCATION SKETCH



PLAN OF MANHOLE



STATUS	PU : Public	PR : Private	WC : Culverted Watercourse	} Applies to main outlet
	24 : Section 24	HD : Highway Drain		
FUNCTION	F : Foul	C : Combined	S : Surface Water	} Applies to main outlet
MANHOLE TYPE	IF : Infall	MH : Manhole	CP : Catchpit	CSO :Consented Sewer Overflow
	LH : Lamphole	RE : Rodding Eye	SO : Storm Overflow	DS :Dual system Manhole
	GU : Gully	OF : Outfall	SA : Soakaway	PS :Pumping Station
COVER DUTY	L : Light Duty	M : Medium Duty	H : Heavy Duty	
SHAPE	C : Circular	E : Egg	R : Rectangular	
	S : Square	T : Trapezoidal	A : Arched	
	B : Barrel	H : Horseshoe (Inverted U)	U : U-shaped with flat top	
	X : Other (state in words)			
PIPE (OR LINING)	AK : Alkathene	AC : Asbestos Cement	BR : Brick	
MATERIAL	CI : Cast Iron	SI : Spun (Grey) Iron	CO : Concrete	
	CSB : Concrete Segments (Bolted)	CSL : Concrete Segments (Unbolted)	CC : Concrete Box Culvert	
	DI : Ductile Iron	GRC : Glass Reinforced Concrete	GRP : Glass Reinforced Plastic	
	PSC : Plastic/Steel Composite	PVC : Polyvinyl Chloride	PE : Polyethylene	
	RPN : Reinforced Plastic Matrix	ST : Steel	VC : Vitrified Clay	
	PP : Polypropylene	PF : Pitch Fibre	MAC : Masonry, Coursed	
	MAF : Masonry, Randon Courses	XXX : Other (State in remarks)		
LINING	BL : Bitumen	RL : Resin	IS : Insituform	
	CL : Cement	PI : Plastic		

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LAYER SURVEYS LTD
SEE THE COMPLETE PICTURE

Layer Surveys Ltd Manhole Survey Card

Card No: 5
Map No:
Catchment:
MH No: MH9401
Location: RYEBANK FIELDS
Town: MANCHESTER

★ PU Status
Syphon:
★ C Function
★ MH MH Type
10/10/2024 Date of Survey

COVER DETAILS

☒ Square ☐ Rectangle ☐ Triangle ☐ Dbl Triangle ☐ Circular ☐ Oval ☐ Other ☐ Multiple ☐ Hinged ☐ Lockable

Cover Level: m
H / M / L Cover Duty ★: H
Initials: DP

PIPE DETAILS

Incoming Pipes

Clockwise from pipe X

Pipe	Depth from Invert (m)	Upstream / Downstream MH Ref	Shape	Size (mm) Height		Size (mm) Width	Pipe Mat	Lining Mat	Back Drop Dia (mm)	Back Drop Depth (m)
A	3.71	US-A	C	375	X		VC			
B	3.71	MH0400 US	C	375	X		VC			
					X					
					X					
					X					
					X					

Outgoing Pipes

X	3.73	DS-X	C	375	X		VC			
Y					X					

Cover Opening at narrowest: 600X600 mm
Chamber Dimension: 1600X800 mm
Evidence of Surcharge:
Shaft at narrowest: 600X600 mm
Shaft Depth (from CL): 2. 00 mm
OX / H2S / METH Toxic atmosphere:

MANHOLE CONSTRUCTION DETAILS

☒ Pre Cast Concrete ☐ In Situ Concrete ☒ Brick ☐ GRP ☐ Arch ☐ Corbel ☐ Taper ☐ Side Entry
☐ Reducing Slab ☐ Segments ☐ No. of Landings 7 No. of Step Irons ☐ No. of Ladders
☐ No. of Regulating Brick Courses

CONDITION INFORMATION (specific in remark)

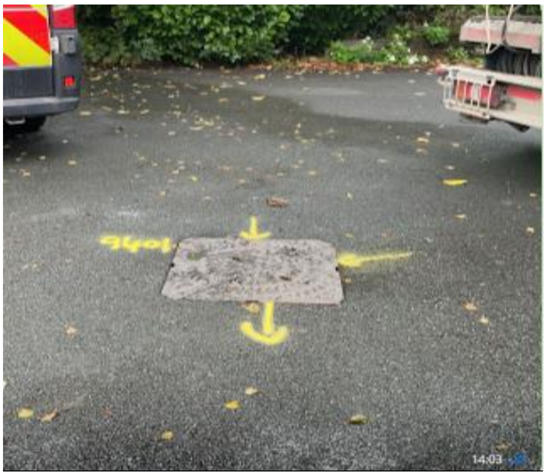
	Cover	Shaft	Irons / Ladders	Chamber	Benching	Channel
OK	☒	☒	☒	☒	☒	☒
Needs attention	☐	☐	☐	☐	☐	☐
Urgent attention	☐	☐	☐	☐	☐	☐

Depth of Flow: mm
Depth of Silt: mm
Height of Surcharge from CL: mm

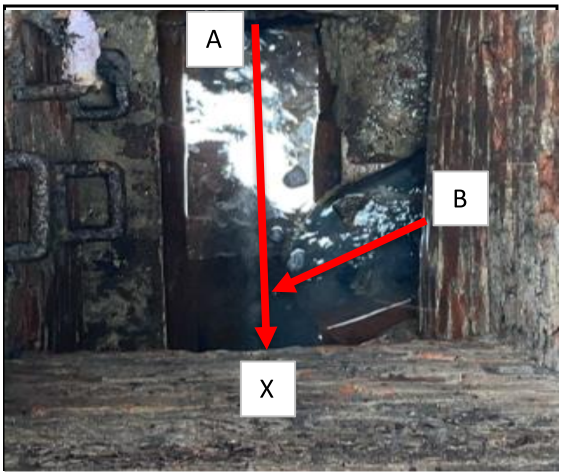
REMARKS

★ *See Overleaf for Key*

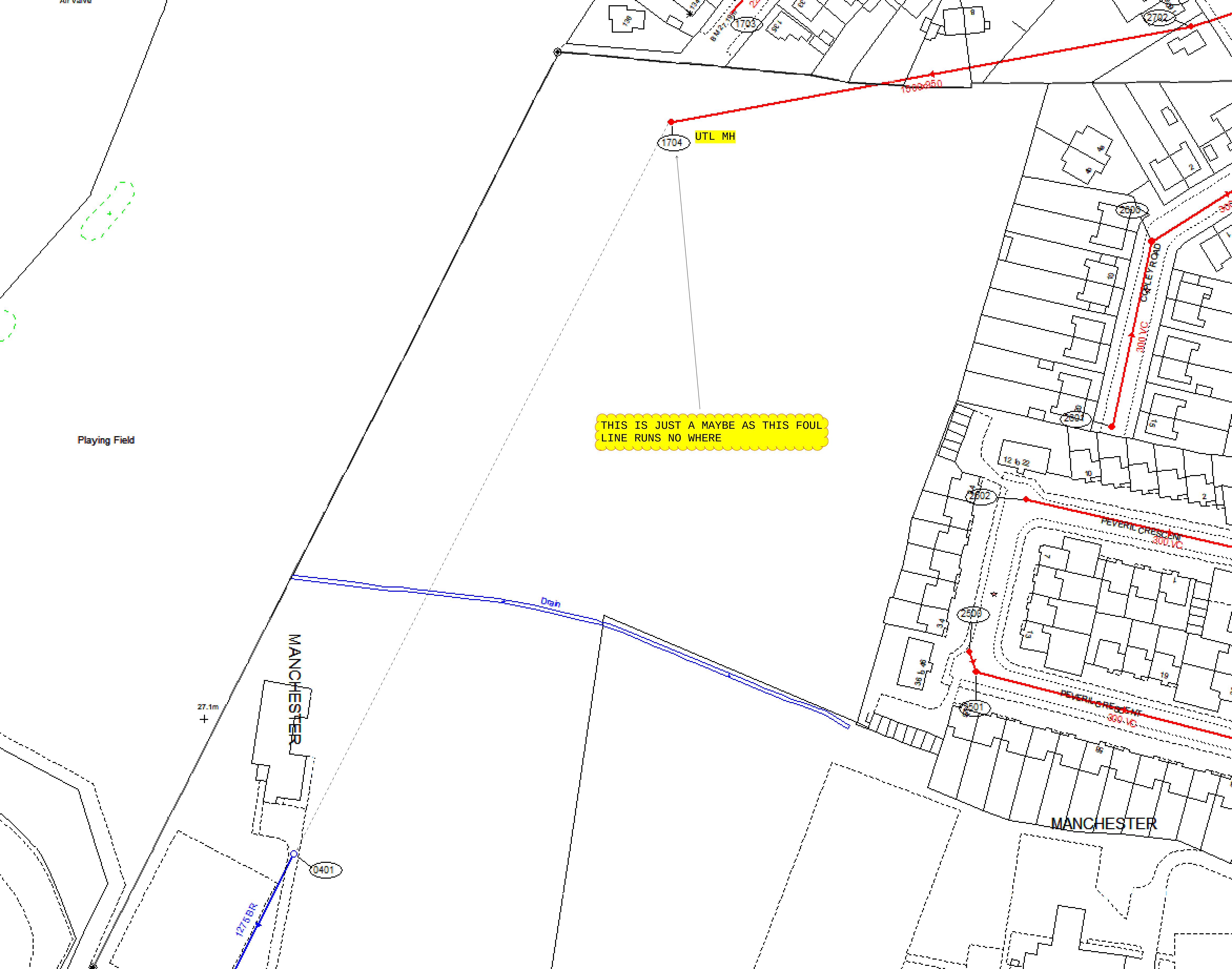
LOCATION SKETCH



PLAN OF MANHOLE

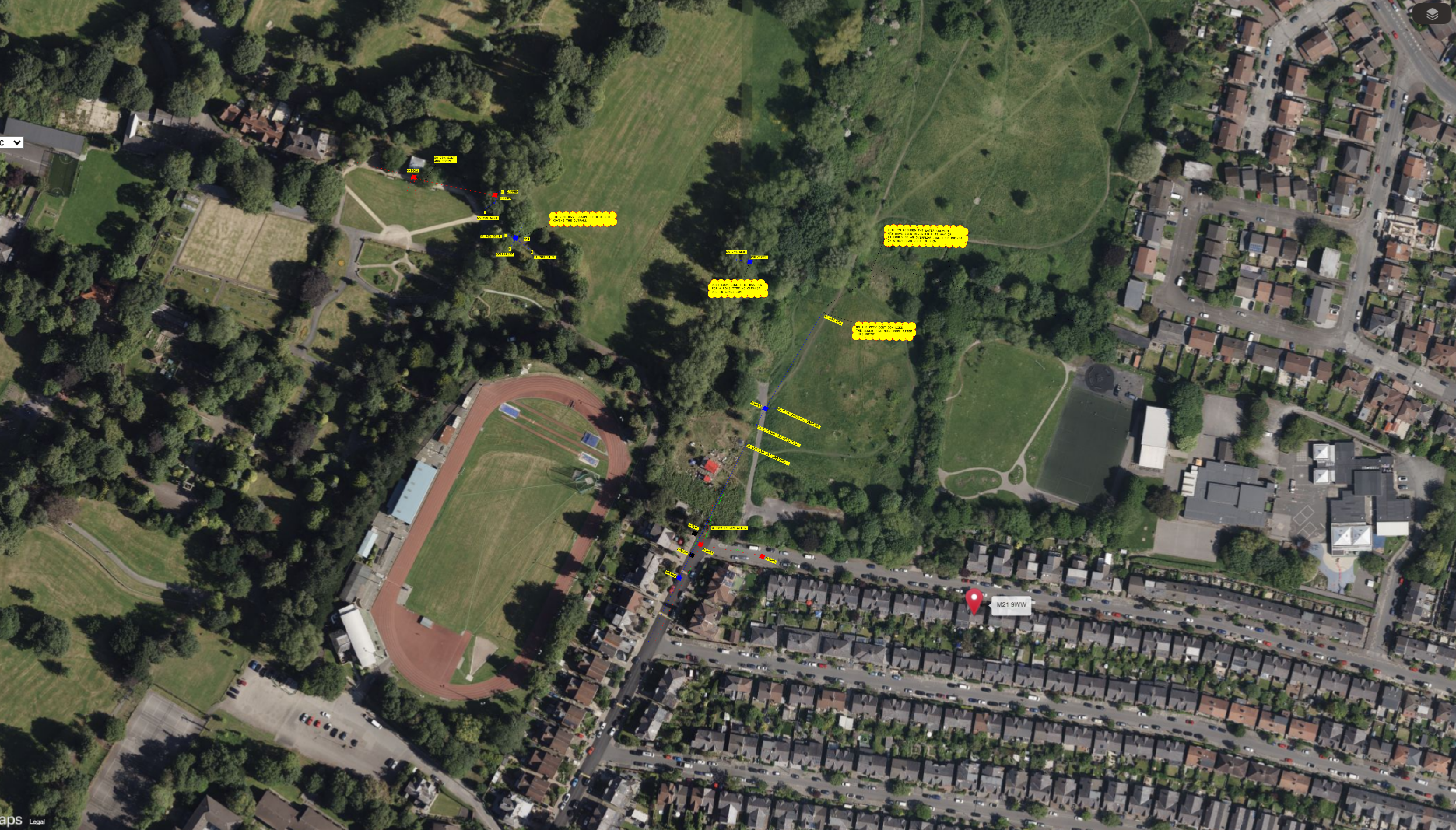


STATUS	PU : Public	PR : Private	WC : Culverted Watercourse	} Applies to main outlet
	24 : Section 24	HD : Highway Drain		
FUNCTION	F : Foul	C : Combined	S : Surface Water	} Applies to main outlet
MANHOLE TYPE	IF : Infall	MH : Manhole	CP : Catchpit	CSO :Consented Sewer Overflow
	LH : Lamphole	RE : Rodding Eye	SO : Storm Overflow	DS :Dual system Manhole
	GU : Gully	OF : Outfall	SA : Soakaway	PS :Pumping Station
COVER DUTY	L : Light Duty	M : Medium Duty	H : Heavy Duty	
SHAPE	C : Circular	E : Egg	R : Rectangular	
	S : Square	T : Trapezoidal	A : Arched	
	B : Barrel	H : Horseshoe (Inverted U)	U : U-shaped with flat top	
	X : Other (state in words)			
PIPE (OR LINING) MATERIAL	AK : Alkathene	AC : Asbestos Cement	BR : Brick	
	CI : Cast Iron	SI : Spun (Grey) Iron	CO : Concrete	
	CSB : Concrete Segments (Bolted)	CSL : Concrete Segments (Unbolted)	CC : Concrete Box Culvert	
	DI : Ductile Iron	GRC : Glass Reinforced Concrete	GRP : Glass Reinforced Plastic	
	PSC : Plastic/Steel Composite	PVC : Polyvinyl Chloride	PE : Polyethylene	
	RPN : Reinforced Plastic Matrix	ST : Steel	VC : Vitrified Clay	
	PP : Polypropylene	PF : Pitch Fibre	MAC : Masonry, Coursed	
	MAF : Masonry, Randon Courses	XXX : Other (State in remarks)		
LINING	BL : Bitumen	RL : Resin	IS : Insituform	
	CL : Cement	PI : Plastic		


Playing Field
27.1m
MANCHESTER
MANCHESTER
Drain
1275 BR
0401
1704
1703
2702
2600
2601
2602
2500
2501
1500x950
300 VC
300 VC
300 VC
PEVERIL CRESCENT
PEVERIL CRESCENT
COPLEY ROAD
12 to 22
38 to 46
10
2
19

UTL MH

THIS IS JUST A MAYBE AS THIS FOUL LINE RUNS NO WHERE


SA 70% SILT
AND ROOTS
MH8602
B
CAPPED
MH8603
C
SA 70% SILT
THIS MH HAS 0.550M DEPTH OF SILT
COVING THE OUTFALL
SA 70% SILT
C
MH1
A
COLLAPSED
B
SA 70% SILT
SA 75% DER
CULVERT1
DONT LOOK LIKE THIS HAS RUN
FOR A LONG TIME NO CLEANSE
DUE TO CONDITION
THIS IS ASSUMED THE WATER CULVERT
MAY HAVE BEEN DIVERTED THIS WAY OR
IT COULD BE AN OVERFLOW LINE FROM MH1704
ON OTHER PLAN JUST TO SHOW
SA 40% DER
ON THE CCTV DONT OOK LIKE
THE SEWER RUNS MUCH MORE AFTER
THIS POINT
MH0401
NO CCTV INTERNAL DROPPER
SA CUTTING JET REQUIRED
SA CUTTING JET REQUIRED
1200MM BR
WATER
150MM VC
SA 30% ENCRUSTATION
375MM VC
1200MM BR
CABLES
MH9401
375MM VC
MH0400
375MM VC
MH9400
M21 9WW
Legal

APPENDIX D

LLFA DATA SCREEN

MANCHESTER
CITY COUNCIL

Lead Local Flood Authority
Highways Service
Growth and Neighbourhoods Directorate
Manchester City Council
PO Box 532
Town Hall
Manchester
M60 2LA
Email: floodriskmanagement@manchester.gov.uk

04/02/2025

Dear Sir or Madam,

RE: Our Ref: RYE/M21/A/DAT

We acknowledge with thanks your payment received on 04/11/2024 for our LLFA data screen service.

Please find enclosed plan showing the results of the data screen. The position of features shown on this plan is approximate only and is given in accordance with the best information currently available.

The enclosed plan cannot be used to substitute a competent site investigation.

The enclosed plan is being provided to you subject to Manchester City Council's terms and conditions which are shown attached.

I trust the above meets your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter, please do not hesitate to contact us.

Yours Faithfully,

T.Mawdsley

Thomas Mawdsley, Engineer – Flood Risk Management, Lead Local Flood Authority

MANCHESTER
CITY COUNCIL

TERMS AND CONDITIONS – LLFA DATA SCREEN

These provisions apply to LLFA data supplied by Manchester City Council (“MCC”).

TERMS AND CONDITIONS:

- This data Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- MCC has taken all reasonable care to compile this data Map. This data Map and any information supplied with it is provided for general guidance only and MCC makes no representation, undertaking or warranty of any kind as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position of any culverted assets shown on the data Map are approximate only. MCC strongly recommends that a comprehensive site investigation is undertaken in addition to reviewing this data Map to determine and ensure the precise location of any assets. The exact location, positions and depths should be obtained by an appropriate survey which may include but shall not be limited to GPR and CCTV.
- The data screened may be modified over time without notice and therefore this data Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the data Map have been made subsequent to issue and prior to any works being carried out.
- This data Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) or for the purpose of determining the suitability of a point of connection to discharge.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising from damages of any kind caused to assets by reason of the actual position and/or existence of assets being different from those shown on the data Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent MCC from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

MANCHESTER
CITY COUNCIL

DATA SCREEN SYMBOLOGY

Bridge

- ═ Good
- ═ Fair
- ═ Poor
- ═ Very Poor
- ═ Unknown

Trash Screen

- ⊕ Good
- ⊕ Fair
- ⊕ Poor
- ⊕ Very Poor
- ⊕ Unknown

Culvert Orifice

- ◎ Very Good
- ◎ Good
- ◎ Fair
- ◎ Poor
- ◎ Very Poor
- ◎ Unknown

Culvert Conduit

- → CCTV surveyed
- ⇢ Not CCTV surveyed
- — Ordinary Watercourse Conduit
- 💧 MCC SuDS
- ⚠ MCC Flood Incident Points
- ⑲ MCC Section 19 Report
- ▨ MCC Flood Incident Polygons
- ▭ MCC Local Authority Boundary

Supplementary Information where available:

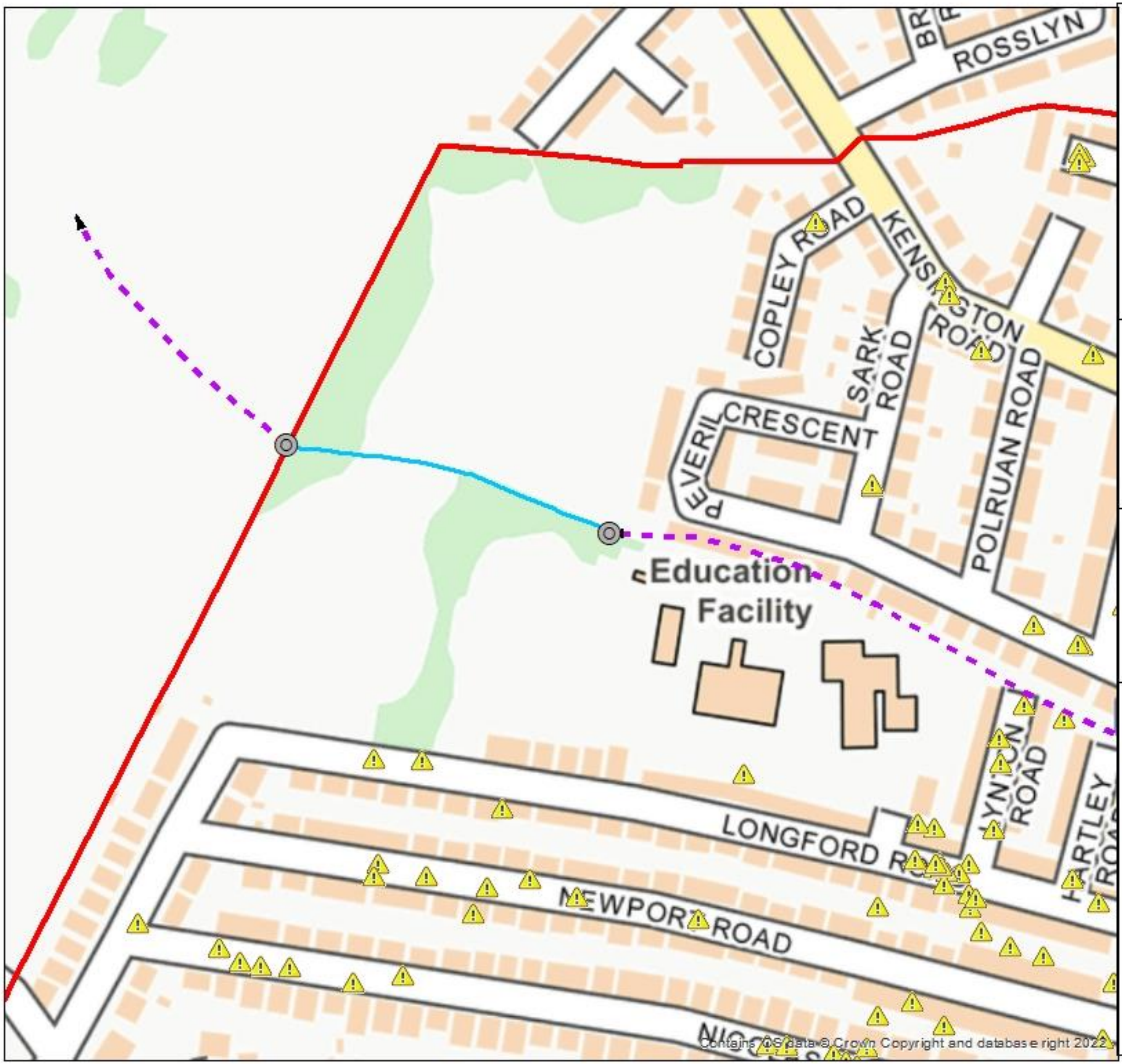
Critical Drainage Area – the site is not covered by a CDA.

Flood Incidents – The nearest recorded flood incidents are at the southern site boundary with Longford Road. These two incidents relate to blocked drains/gullies in 2020.

Culvert Conduits – The culvert conduit mapping suggests that the Nico Ditch emerges from a culvert outlet at the eastern boundary of the site, before flowing through the site to the western boundary as an open channel. The culvert conduit mapping indicates that there is then a section of culverted (unconfirmed) Nico Drain which discharges to the open channel Longford Brook to the north-west.

The Manchester 1984 Drainage Survey shows the Nico Ditch entirely culverted on-site, entering the site further north and flowing southwards before sharply turning to the west and flowing through the site, making a sharp bend northwards and westwards again towards the Longford Brook.

Other information - Earlier historic mapping of the site shows two separate open watercourses running east to west through the site (Longford Brook to the north), in addition to a pond feature to the south. Later historic mapping shows the Longford Brook diverting as an open channel to the south, before flowing westwards. Historic mapping also indicates the presence of Thirlmere Aqueduct along the northern boundary of the site. A United Utilities combined sewer (northern site) and surface water sewer (southern site) are also shown.


BR
ROSSLYN
COPLEY ROAD
KENSINGTON ROAD
SARK ROAD
POLRUAN ROAD
PEVERIL CRESCENT
Education Facility
LONGFORD RO
NEWPORT ROAD
LYNTON ROAD
HARTLEY ROA
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MANCHESTER
CITY COUNCIL

LLFA DATA SCREEN

Address/Site Ref:

Strangeways SRF and Flood Zones

Our Ref: **STR-M3-A-PRE**

Author: Manchester City Council LLFA
Date: 04/02/2025
Scale:1:2,721

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

0 20 40 80
Meters

N

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LEGEND

COMBINED & FOUL SEWERS (MAN ENTRY) (e.g

SURFACE WATER & STORM SEWAGE OVERFLOW (e.g
(S.S.O. MAN ENTRY)

S.S.O. CHAMBER.
PENSTOCK CHAMBER.
PUMPING STATION.
} ONLY HIGHLIGHTED ON MAN ENTRY SIZE SEWERS

MAIN RIVER. (OPEN). (e.g.

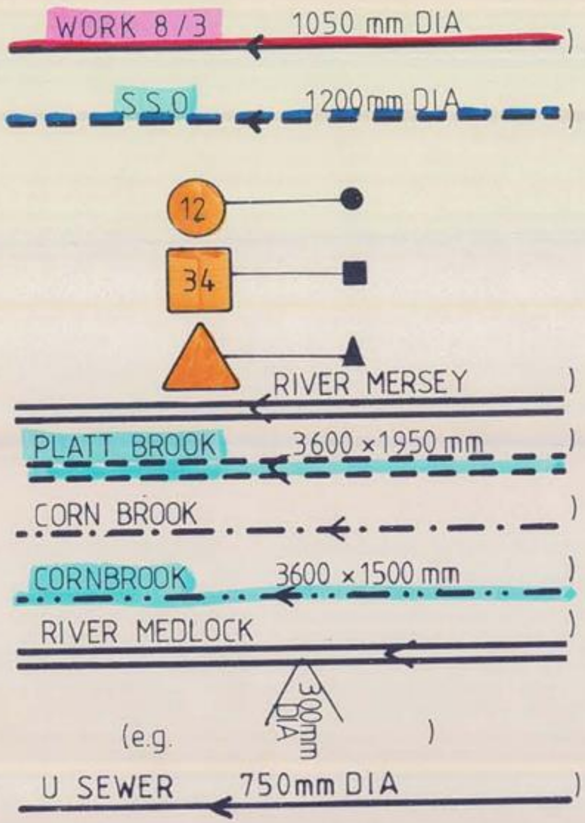
MAIN RIVER. (CULVERTED MAN ENTRY) (e.g.

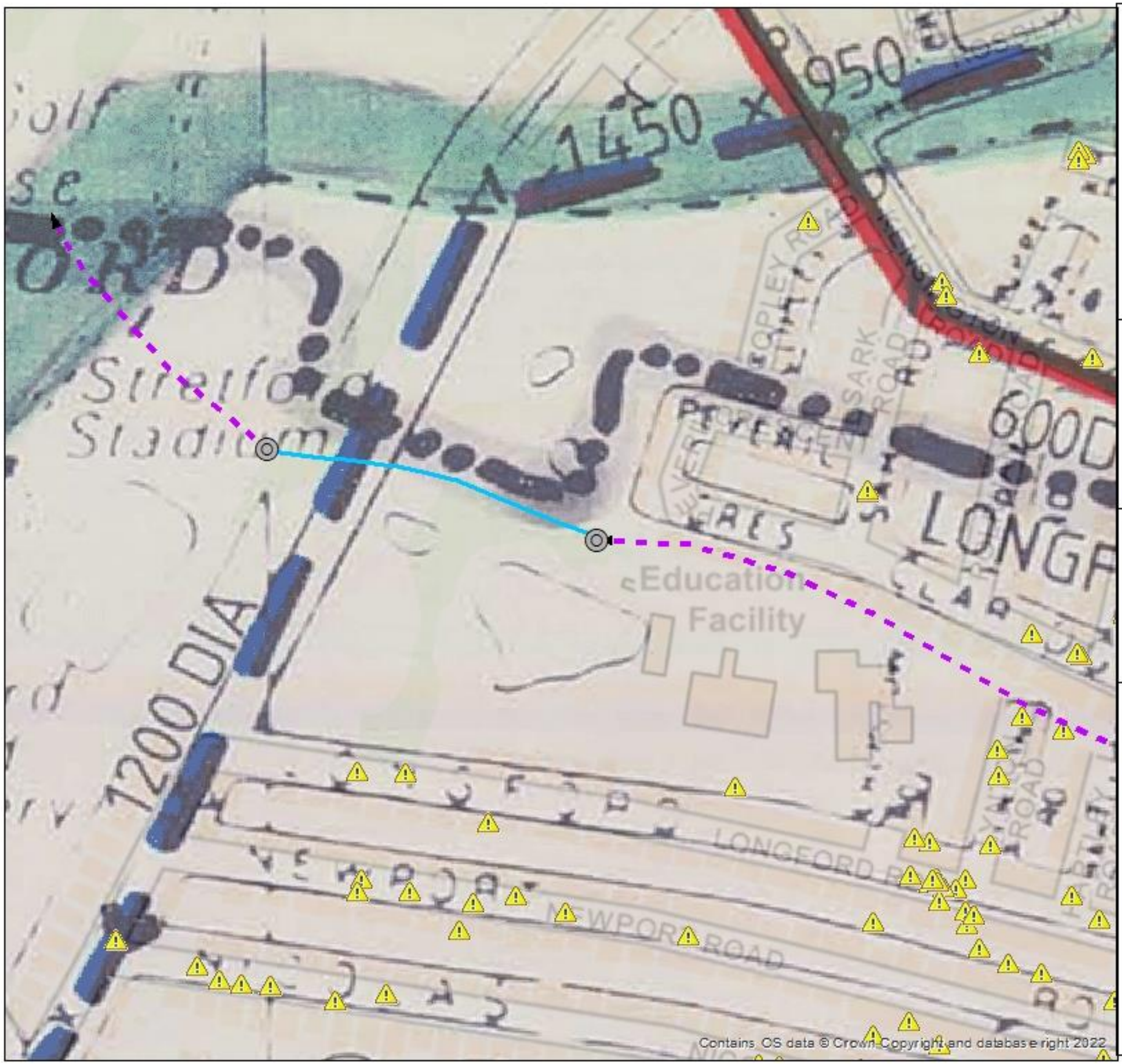
NON-MAIN RIVER. (OPEN). (e.g.

NON-MAIN RIVER. (CULVERTED MAN ENTRY) (e.g.

OUTFALL INTO (MAIN) RIVER. (e.g.

NON MAN ENTRY SEWERS AND CULVERTS (e.g.
(SEE NOTE 5)


WORK 8/3
1050 mm DIA
S.S.O
1200mm DIA
12
34
RIVER MERSEY
PLATT BROOK
3600 × 1950 mm
CORN BROOK
CORNBROOK
3600 × 1500 mm
RIVER MEDLOCK
300mm DIA
(e.g.
U SEWER
750mm DIA


1450 x 950
Stretford Stadium
1200 DIA
600D
LONGFORD ROAD
NEWPORT ROAD
Education Facility
Contains OS data © Crown Copyright and database right 2022

MANCHESTER
CITY COUNCIL

LLFA DATA SCREEN

Address/Site Ref:

Land At Ryebank Fields, Chorlton

Our Ref: **RYE/M21/A/DAT**

Author: Manchester City Council LLFA
Date: 31/01/2025
Scale: 1:2,654

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

0 15 30 60
Meters

N

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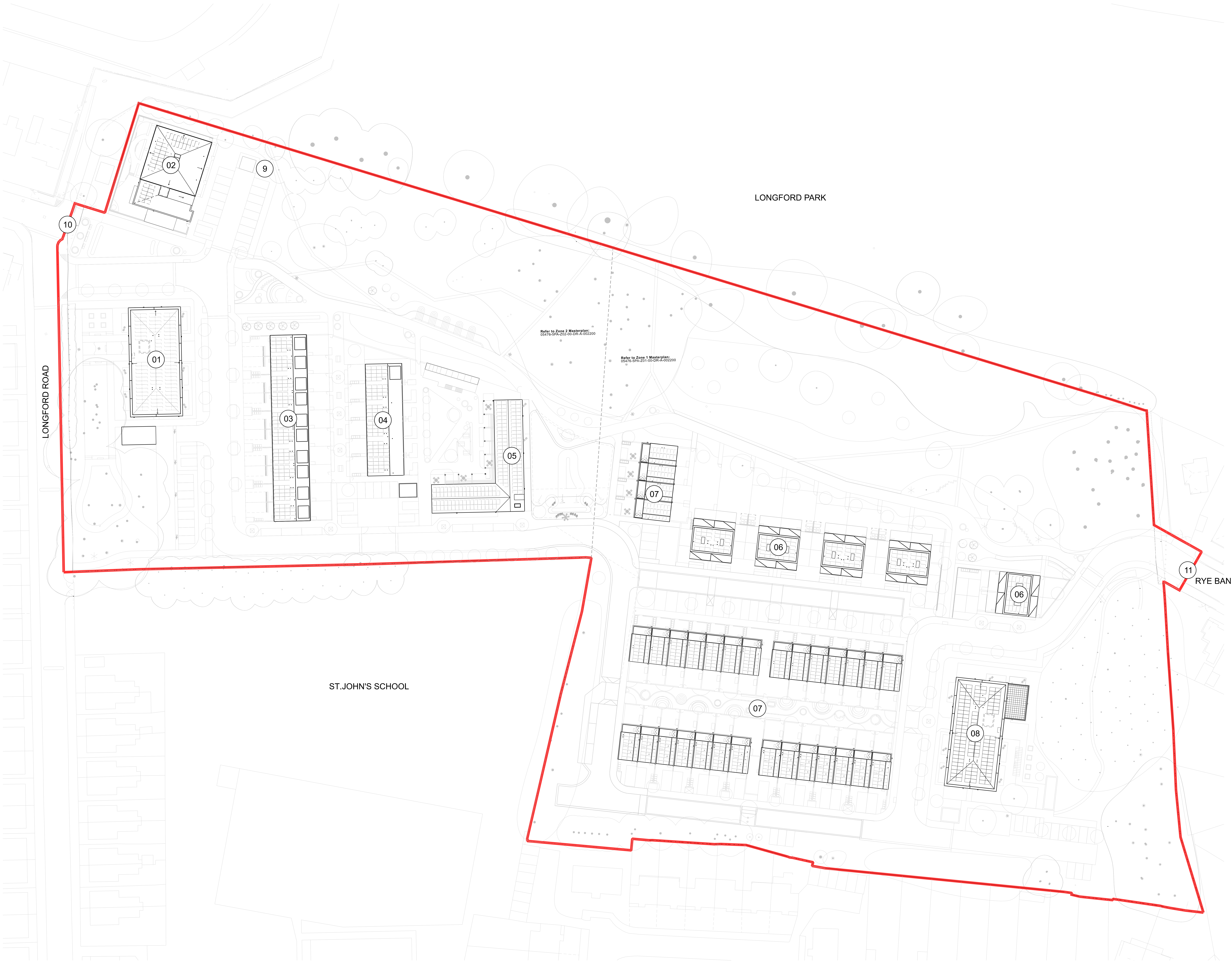
APPENDIX E

PROPOSED DEVELOPMENT PLANS


LONGFORD PARK
LONGFORD ROAD
ST.JOHN'S SCHOOL
RYE BANK ROAD
Refer to Zone 2 Masterplan:
05476-5PA-Z02-00-DR-A-002200
Refer to Zone 1 Masterplan:
05476-5PA-Z01-00-DR-A-002200
01
02
03
04
05
06
06
07
07
07
08
9
10
11

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Figured dimensions only are to be taken from this drawing. DO NOT SCALE OFF THIS DRAWING ...... IF IN DOUBT ASK

All contractors must visit the site and be responsible for taking and checking all dimensions relative to their work. 5plus architects are to be advised of any variation between drawings and site conditions.

Electronic data/ drawings issued as 'read only' and should not be interrogated for measurement. All dimensions and levels should be 'read only' from those values stated in text, on the drawings

KEY PLAN:

Area in abeyance. Revision.

NOTE:

Drawing based on survey information by others.

Drawing to read in conjunction with Landscape (TPM) information and Transport (SK) information .

(Please print in colour)

Key:

- 01 Age Friendly Affordable Accommodation - South
- 02 Supported Living For Autistic Adults Accommodation
- 03 Private Sale Houses - South
- 04 Cohousing Houses - South
- 05 Cohousing Apartments - South
- 06 Private Sale Villas - North
- 07 Private Sale Houses - North
- 08 Age Friendly Affordable Accommodation - North
- 09 Substation
- 10 Existing site access (Longford Road)
- 11 Extended site access (Rye bank Road)

REV:	DATE:	DETAILS:
I	22/04/26	Layout amended to suit updated drainage and flood mitigation design. Resubmitted for planning.
H	13/02/25	Updated Planning Issue
G	08/01/25	Updated Planning Issue
F	19/12/24	Planning Issue
E	05/12/24	Draft Planning Issue
D	25/11/24	Draft Planning Issue
C	12/11/24	Revised layout to incorperate planners comments on the landscaping and highways. Adjustment to Northern Affordable building to reflect change in brief. All external bin/bikes store reviewed and updated.
B	17/09/24	External bike & bin store included within masterplan location adjusted
A	05/09/24	Landscaping layout updated and external bike & bin store included within masterplan

NORTH

5plus

Manchester. 0161 228 0211
Fourth Floor, The Hive, 47 Lever Street,
Manchester. M1 1FN

London. 0207 253 7644
The Leather Market, Weston Street,
London SE1 3ER

www.5plusarchitects.com

PROJECT:
Ryebank Road
Chorlton

TITLE:
Proposed Site Plan
Proposed Masterplan

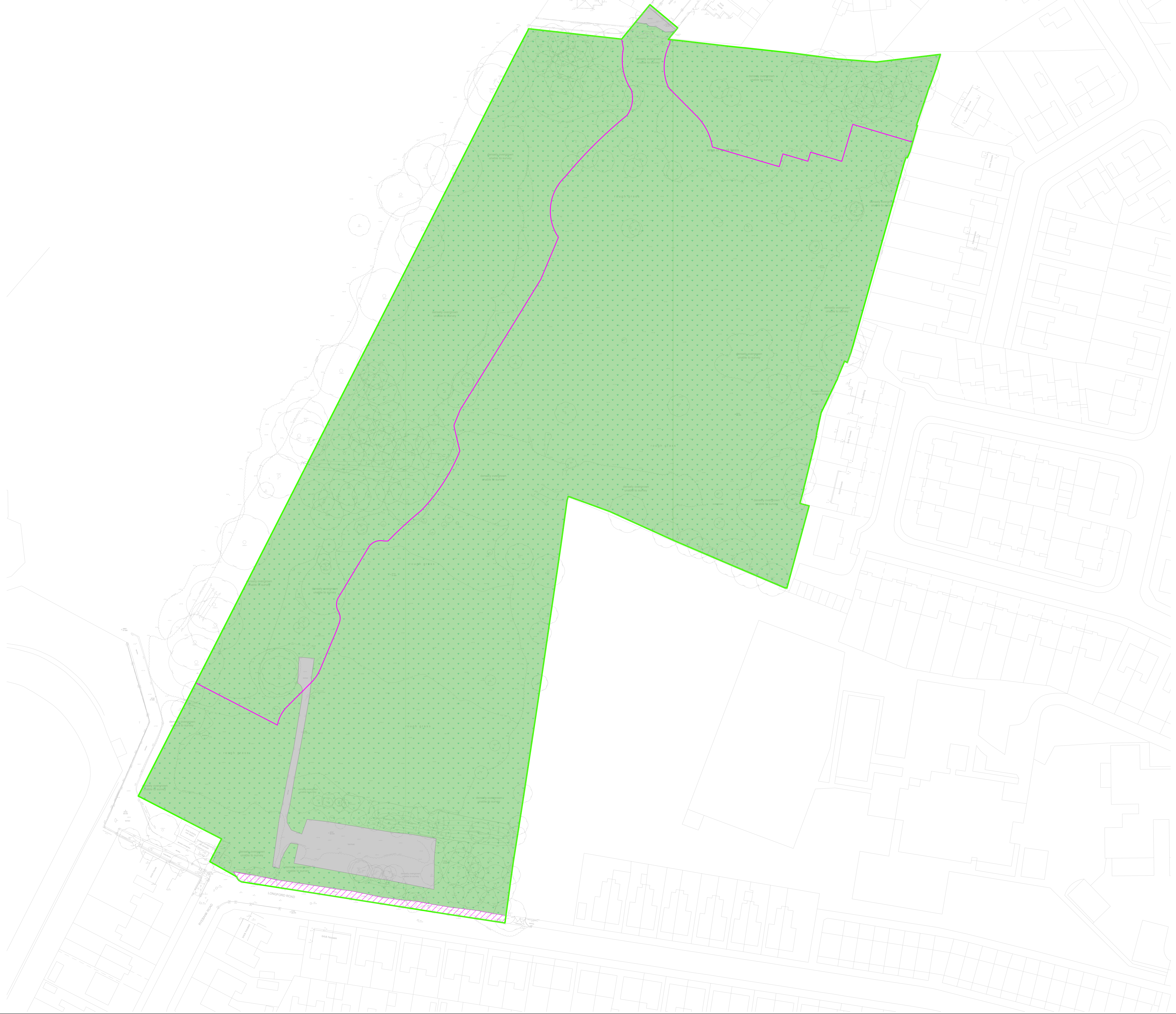
SCALE:	ORIGIN DATE:	DRAWN:	CHECKED:
1:500 @ A1	22/08/24	FP	RK

STATUS:
Planning

PROJECT	DRAWING NO:	REV:
05476	5PA-MP-XX-DR-A-000200	I

APPENDIX F

EXISTING DRAINED AREAS PLAN



NOTES

1. THIS DRAWING IS INTENDED TO INDICATE THE EXISTING SURFACE CHARACTERISTICS AT THE RYEBANK DEVELOPMENT. IT IS BASED UPON A REVIEW OF THE TOPOGRAPHICAL SURVEY AND AERIAL IMAGES.

LEGEND

REF	DESCRIPTION
🟩	SITE BOUNDARY AREA: 46,094 m^2 (4.610 ha)
🟪	DEVELOPMENT BOUNDARY AREA: 32210 m^2 (3.221 ha)
🟩	PERMEABLE AREA AREA: 44,647 m^2 (4.465 ha)
⬜	IMPERMEABLE AREA AREA: 1179 m^2 (0.118 ha)
▨	ADOPTED HIGHWAY AREA: 267.8 m^2 (0.027 ha)

Rev:	Description:	Date:	By:	Chkd:
P02	SITE BOUNDARY UPDATED	20.12.24	JB	PW
P01	STAGE 2	28.11.24	JB	PW

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Renaissance Associates Ltd
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

Project:
RYEBANK
CHORLTON

Drawing Title:
SITEWIDE EXISTING
DRAINED AREAS PLAN

Status:
STAGE 3

Size:	Date:	Drawn by:	Designed by:	Checked by:
A0	NOV 24	JB	-	PW

Scale: 1:500
Project No: 2011-11

Project – Originator – Volume – Level – Type – Role – Number: RBM-REN-XX-XX-DR-C-00050
Revision: P02

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APPENDIX G

GREENFIELD RUN-OFF RATES

hr wallingford

Greenfield runoff rate estimation for sites

www.uksuds.com | Greenfield runoff tool

Calculated by:	Joe Bullough
Site name:	Ryebank
Site location:	Chorlton

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

Site Details

Latitude:	53.44771° N
Longitude:	2.28613° W
Reference:	571886028
Date:	Dec 19 2024 11:16

Runoff estimation approach

IH124

Site characteristics

Total site area (ha):	3.22

Methodology

Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

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

Hydrological characteristics

	Default	Edited
SAAR (mm):	846	846
Hydrological region:	10	10
Growth curve factor 1 year:	0.87	0.87
Growth curve factor 30 years:	1.7	1.7
Growth curve factor 100 years:	2.08	2.08
Growth curve factor 200 years:	2.37	2.37

Notes

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

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

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

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

(3) Is SPR/SPRHOST ≤ 0.3?

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

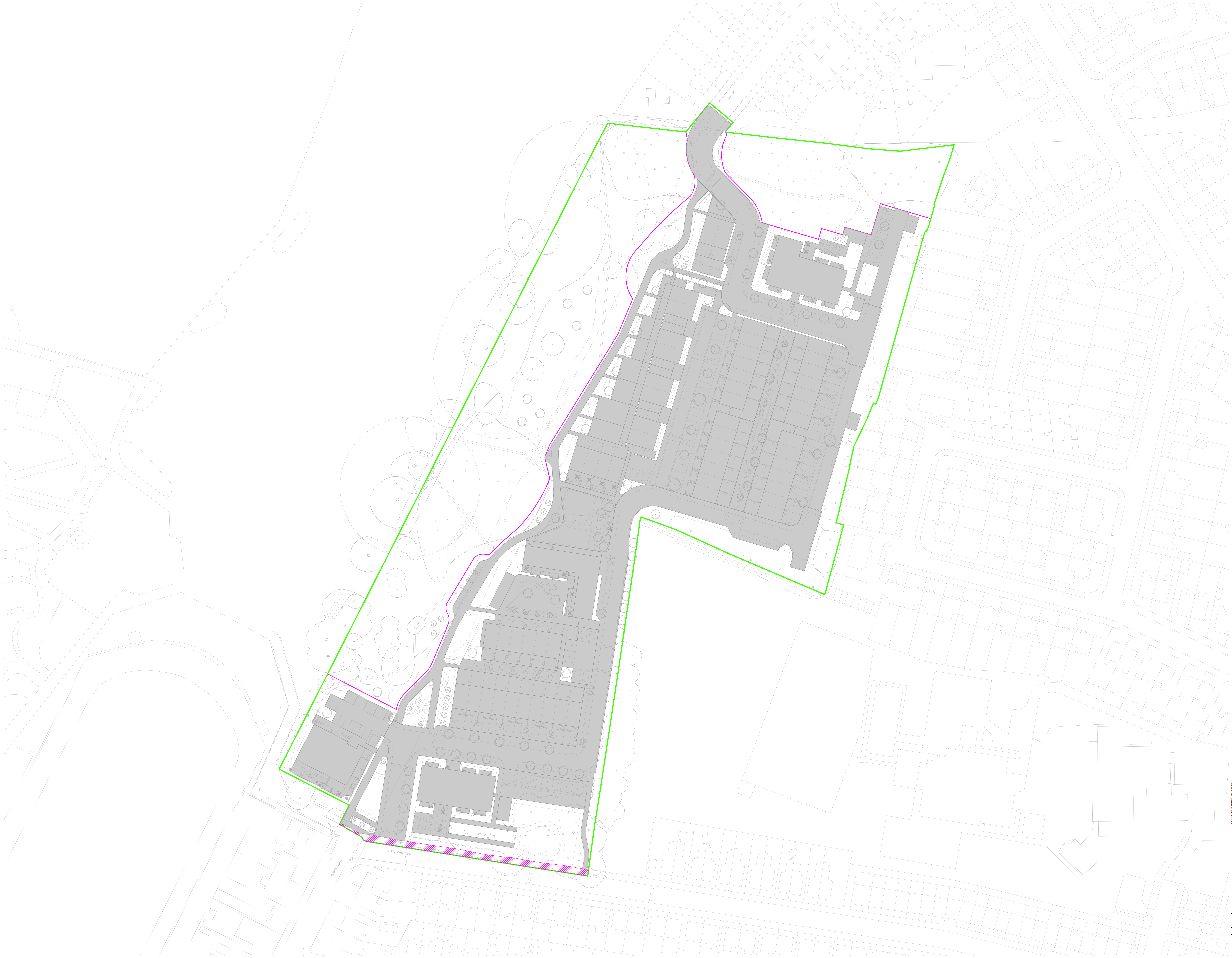
Greenfield runoff rates

	Default	Edited
Q_{BAR} (l/s):	19.4	19.4
1 in 1 year (l/s):	16.88	16.88
1 in 30 years (l/s):	32.99	32.99
1 in 100 year (l/s):	40.36	40.36
1 in 200 years (l/s):	45.99	45.99

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at 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 www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of 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, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.

APPENDIX H

PROPOSED DRAINED AREAS PLAN



NOTES

1. THIS DRAWING IS INTENDED TO INDICATE THE ANTICIPATED DRAINED AREAS FROM THE RYEBANK DEVELOPMENT. IT IS BASED UPON A REVIEW OF THE LANDSCAPE ARCHITECT ILLUSTRATIVE SITE PLAN.

LEGEND

REF	DESCRIPTION
—	SITE BOUNDARY AREA: 46,094 m^2 (4.610 ha)
—	DEVELOPMENT BOUNDARY AREA: 32,210 m^2 (3.221 ha)
🟩	PERMEABLE AREA AREA: 7,650 m^2 (0.765 ha)
■	IMPERMEABLE AREA AREA: 24,281 m^2 (2.428 ha)
▨	ADOPTED HIGHWAY AREA: 277.3 m^2 (0.028 ha)

Rev:	Description:	Date:	By:	Chkd:
P02	UPDATED TO SUIT SITE PLAN	24.04.26	JB	PC
P01	ISSUED FOR PLANNING	20.12.24	JB	PW

Renaissance Associates Ltd
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

Project:

RYEBANK
CHORLTON

Drawing Title:

PROPOSED DRAINED AREAS PLAN

Status:

FOR INFORMATION

Size:	Date:	Drawn by:	Designed by:	Checked by:
A0	DEC 24	JB	JB	PW

Scale: 1:500
Project No: 2011-11

Project – Originator – Volume – Level – Type – Role – Number: RBM-REN-XX-XX-DR-C-00060
Revision: P02

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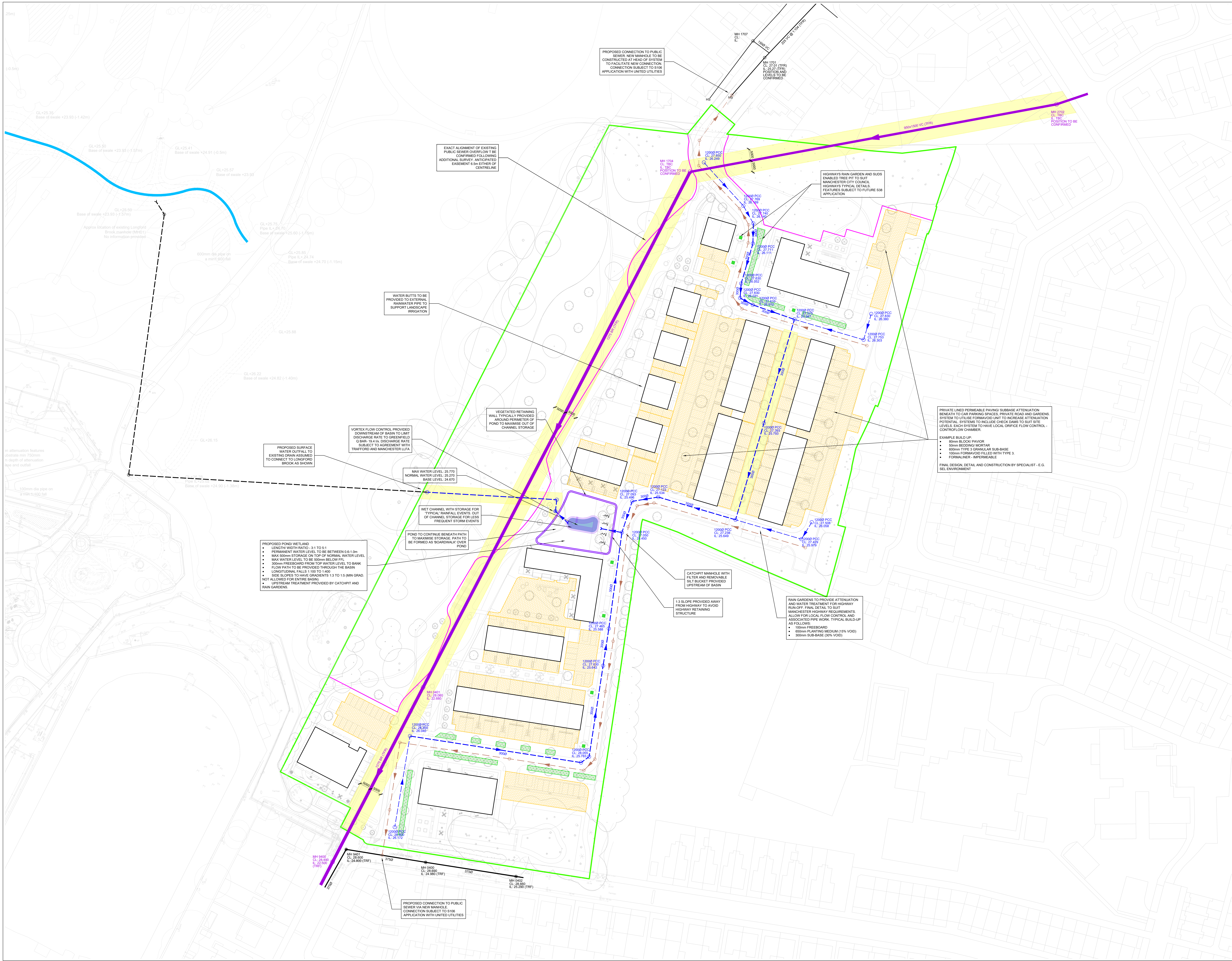
APPENDIX J

BELOW GROUND DRAINAGE GA


MH 1707
CL:
IL:
150Ø VC
225 VC @ 1:104 (TFR)
MH 1701
CL: 27.01 (TFR)
IL: 25.27 (TFR)
POSITION AND LEVELS TO BE CONFIRMED
HS
HS
MH 2702
CL: TBC
IL: TBC
POSITION TO BE CONFIRMED
950x1500 VC (TFR)
MH 1704
CL: TBC
IL: TBC
POSITION TO BE CONFIRMED
5000
5000
1200Ø PCC
CL: 27.850
IL: 26.249
1200Ø PCC
CL: 27.769
IL: 26.169
1200Ø PCC
CL: 27.740
IL: 26.140
300Ø
1200Ø PCC
CL: 27.711
IL: 26.111
1200Ø PCC
CL: 27.630
IL: 26.052
1200Ø PCC
CL: 27.630
IL: 26.031
1200Ø PCC
CL: 27.610
IL: 26.010
1200Ø PCC
CL: 27.572
IL: 25.947
1200Ø PCC
CL: 27.630
IL: 26.380
1200Ø PCC
CL: 27.753
IL: 26.303
300Ø
1200Ø PCC
CL: 27.393
IL: 25.793
300Ø
1200Ø PCC
CL: 27.123
IL: 25.534
300Ø
1200Ø PCC
CL: 27.093
IL: 25.496
1200Ø PCC
CL: 27.050
IL: 25.450
1200Ø PCC
CL: 27.238
IL: 25.649
1200Ø PCC
CL: 27.508
IL: 26.058
1200Ø PCC
CL: 27.429
IL: 25.979
1275 BR (TFR)
5000
5000
GL+25.35
Base of swale +23.93 (-1.42m)
GL+25.60
Base of swale +23.95 (-1.55m)
GL+25.41
Base of swale +24.91 (-0.5m)
GL+25.57
Base of swale +23.93
GL+25.60
Base of swale +23.93 (-1.57m)
Approx location of existing Longford Brook culvert (MH01). No information provided
GL+25.75
Pipe IL+24.70
Base of swale +25.60 (-1.15m)
600mm dia pipe on a min1:500 fall
GL+25.89
Pipe IL+24.74
Base of swale +24.70 (-1.15m)
GL+25.88
GL+26.22
Base of swale +24.82 (-1.40m)
GL+26.15
Base of swale +24.50 (-1.38m)
300mm dia pipe on a min1:500 fall
300Ø
1200Ø PCC
CL: 27.465
IL: 25.588
300Ø
1200Ø PCC
CL: 27.630
IL: 25.642
300Ø
MH 0401
CL: 28.060
IL: 22.680
1200Ø PCC
CL: 28.300
IL: 26.040
1200Ø PCC
CL: 28.000
IL: 25.781
300Ø
1275 BR (TFR)
5000
5000
1200Ø PCC
CL: 28.500
IL: 26.172
MH 9400
CL: 28.490
IL: 22.500
(TRF)
MH 9401
CL: 28.600
IL: 24.800 (TRF)
375Ø
MH 0400
CL: 28.690
IL: 24.980 (TRF)
375Ø
MH 0402
CL: 28.660
IL: 25.290 (TRF)
375Ø
LONGFORD ROAD
RYEBANK ROAD

PROPOSED CONNECTION TO PUBLIC SEWER. NEW MANHOLE TO BE CONSTRUCTED AT HEAD OF SYSTEM TO FACILITATE NEW CONNECTION. CONNECTION SUBJECT TO S106 APPLICATION WITH UNITED UTILITIES

EXACT ALIGNMENT OF EXISTING PUBLIC SEWER OVERFLOW T BE CONFIRMED FOLLOWING ADDITIONAL SURVEY. ANTICIPATED EASEMENT 6.5m EITHER OF CENTRELINE

HIGHWAYS RAIN GARDEN AND SUDS ENABLED TREE PIT TO SUIT MANCHESTER CITY COUNCIL HIGHWAYS TYPICAL DETAILS. FEATURES SUBJECT TO FUTURE S38 APPLICATION

WATER BUTTS TO BE PROVIDED TO EXTERNAL RAINWATER PIPE TO SUPPORT LANDSCAPE IRRIGATION

PRIVATE LINED PERMEABLE PAVING/ SUBBASE ATTENUATION BENEATH TO CAR PARKING SPACES, PRIVATE ROAD AND GARDENS. SYSTEM TO UTILISE FORMAVOID UNIT TO INCREASE ATTENUATION POTENTIAL. SYSTEMS TO INCLUDE CHECK DAMS TO SUIT SITE LEVELS. EACH SYSTEM TO HAVE LOCAL ORIFICE FLOW CONTROL - CONTROFLOW CHAMBER.

EXAMPLE BUILD UP:
- 80mm BLOCK/ PAVIOR
- 50mm BEDDING/ MORTAR
- 600mm TYPE 3 GRANULAR SUB-BASE
- 100mm FORMAVOID FILLED WITH TYPE 3.
- FORMALINER - IMPERMEABLE

FINAL DESIGN, DETAIL AND CONSTRUCTION BY SPECIALIST - E.G. SEL ENVIRONMENT

VEGETATED RETAINING WALL TYPICALLY PROVIDED AROUND PERIMETER OF POND TO MAXIMISE OUT OF CHANNEL STORAGE

VORTEX FLOW CONTROL PROVIDED DOWNSTREAM OF BASIN TO LIMIT DISCHARGE RATE TO GREENFIELD Q BAR- 19.4 l/s. DISCHARGE RATE SUBJECT TO AGREEMENT WITH TRAFFORD AND MANCHESTER LLFA

PROPOSED SURFACE WATER OUTFALL TO EXISTING DRAIN ASSUMED TO CONNECT TO LONGFORD BROOK AS SHOWN

MAX WATER LEVEL: 25.770
NORMAL WATER LEVEL: 25.270
BASE LEVEL: 24.670

WET CHANNEL WITH STORAGE FOR 'TYPICAL' RAINFALL EVENTS. OUT OF CHANNEL STORAGE FOR LESS FREQUENT STORM EVENTS

POND TO CONTINUE BENEATH PATH TO MAXIMISE STORAGE. PATH TO BE FORMED AS 'BOARDWALK' OVER POND

PROPOSED POND/ WETLAND
- LENGTH/ WIDTH RATIO - 3:1 TO 5:1
- PERMANENT WATER LEVEL TO BE BETWEEN 0.6-1.0m
- MAX 500mm STORAGE ON TOP OF NORMAL WATER LEVEL
- MAX WATER LEVEL TO BE 500mm BELOW FFL
- 300mm FREEBOARD FROM TOP WATER LEVEL TO BANK
- FLOW PATH TO BE PROVIDED THROUGH THE BASIN
- LONGITUDINAL FALLS 1:100 TO 1:400
- SIDE SLOPES TO HAVE GRADIENTS 1:3 TO 1:5 (MIN GRAD. NOT ALLOWED FOR ENTIRE BASIN)
- UPSTREAM TREATMENT PROVIDED BY CATCHPIT AND RAIN GARDENS.

CATCHPIT MANHOLE WITH FILTER AND REMOVABLE SILT BUCKET PROVIDED UPSTREAM OF BASIN

1:3 SLOPE PROVIDED AWAY FROM HIGHWAY TO AVOID HIGHWAY RETAINING STRUCTURE

RAIN GARDENS TO PROVIDE ATTENUATION AND WATER TREATMENT FOR HIGHWAY RUN-OFF. FINAL DETAIL TO SUIT MANCHESTER HIGHWAY REQUIREMENTS. ALLOW FOR LOCAL FLOW CONTROL AND ASSOCIATED PIPE WORK. TYPICAL BUILD-UP AS FOLLOWS:
- 100mm FREEBOARD
- 650mm PLANTING MEDIUM (15% VOID)
- 300mm SUB-BASE (30% VOID)

PROPOSED CONNECTION TO PUBLIC SEWER VIA NEW MANHOLE. CONNECTION SUBJECT TO S106 APPLICATION WITH UNITED UTILITIES

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RENAISSANCE, ARCHITECTS, LANDSCAPE ARCHITECTS AND BUILDING SERVICES ENGINEERS DRAWINGS.
2. DO NOT SCALE FROM THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AN ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEER ATTENTION IMMEDIATELY. ALL DIMENSIONS TO BE CHECKED / VERIFIED ON SITE.
3. ALL LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
4. THIS DRAWING IS INTENDED TO COMMUNICATE THE OUTLINE DRAINAGE STRATEGY TO ALLOW FOR PRELIMINARY COSTING AND TO SUPPORT THE PLANNING APPLICATION.
5. THE LAYOUT OF THE PRIMARY DRAINAGE RUNS IS INDICATIVE AT THIS STAGE AND SUBJECT TO COORDINATION WITH THE DESIGN TEAM AND REVIEW AS THE DESIGN DEVELOPS.
6. ALL CONNECTIONS TO THE PUBLIC SEWER ARE SUBJECT TO UNITED UTILITIES APPROVAL AND SECTION 106 APPLICATIONS.
7. THE DRAINAGE STRATEGY IS SUBJECT TO MANCHESTER CITY COUNCIL, TRAFFORD COUNCIL, ENVIRONMENT AGENCY AND UNITED UTILITIES APPROVAL.
8. ALL BELOW GROUND DRAINAGE WORKS TO BE IN ACCORDANCE WITH RELEVANT BUILDING REGULATIONS AND SEWER SECTOR GUIDANCE APPENDIX C- DESIGN AND CONSTRUCTION GUIDANCE. IF DISCREPANCIES ARE NOTED BETWEEN DCG AND DRAWINGS THESE SHOULD BE BROUGHT TO THE ATTENTION OF RENAISSANCE FOR REVIEW.
9. LOCATION AND DEPTH OF ALL EXISTING SERVICES AND UTILITIES WITHIN EXISTING ROAD AND FOOTPATH TO BE CONFIRMED BY CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION OF OUTFALL PIPELINE. ANY SERVICES WHICH ARE LIKELY TO CLASH WITH NEW OUTFALL PIPELINE SHOULD BE LOWERED OR HIGHLIGHTED TO THE ENGINEER IMMEDIATELY FOR REVIEW.
10. ALLOW FOR PRIVATE DRAINAGE RUNS AND UNDER SLAB DRAINAGE TO CONNECT RWPS, SVPS AND GULLIES TO PRIMARY DRAINAGE RUNS. SURFACE WATER PIPES TO BE MINIMUM 150Ø AT MIN 1:100 FALLS WITH 450Ø INSPECTION CHAMBERS. FOUL WATER PIPES TO BE MINIMUM 150Ø TYPICALLY AT 1:80 FALLS WITH 450Ø INSPECTION CHAMBERS UNLESS NOTED OTHERWISE.
11. ALLOW FOR CHANNEL DRAINS AND GULLIES TO SUIT LANDSCAPING PROPOSALS INCLUDING AT INTERFACES BETWEEN PRIVATE HARD LANDSCAPING AND ADOPTED HIGHWAYS. CHANNELS AND GULLIES TO INCLUDE REMOVABLE SILT BUCKET.

LEGEND

REF	DESCRIPTION
━	PLANNING BOUNDARY
━	DEVELOPMENT BOUNDARY
—○—	EXISTING PUBLIC COMBINED WATER SEWER
—○—	EXISTING PUBLIC SEWER OVERFLOW
▭	SEWER EASEMENT
▬	LONGFORD BROOK
– –○– –	PROPOSED SURFACE WATER DRAINAGE (150Ø U.N.O)
–·–○–·–	PROPOSED FOUL WATER DRAINAGE (150Ø U.N.O)
▨	PERMEABLE PAVING/ SUB-BASE ATTENUATION
🟩	RAIN GARDEN/ BIO-RETENTION AREA
▩	SUDS ENABLED TREE PIT
▭	POND/ WETLAND

RIBA STAGE 2
THESE DRAWINGS ARE INTENDED TO COMMUNICATE THE INITIAL CONCEPT FOR THE PROPOSED DRAINAGE DESIGN AND IS APPROPRIATE FOR RIBA STAGE 2 (CONCEPT DESIGN).

ALL SIZES, VOLUMES, LAYOUTS ETC. ARE INDICATIVE ONLY AND ARE TO ASSIST WITH HIGH LEVEL COSTING BY THE PROJECT QUANTITY SURVEYOR AND CONTRACTOR. INFORMATION IS SUBJECT TO CHANGE AS THE DESIGN DEVELOPS THROUGH RIBA STAGE 3 (SPATIAL CO-ORDINATION) AND STAGE 4 (TECHNICAL DESIGN).

A DESIGN CONTINGENCY OF 15-20% IS RECOMMENDED TO ALLOW FOR DESIGN DEVELOPMENT DURING RIBA STAGE 3 AND TO REFLECT INPUT FROM CONTRACTOR DESIGNED PACKAGES.

Rev:	Description:	Date:	By:	Chkd:
P03	UPDATED TO SUIT SITE PLAN	24.04.26	JB	PC
P02	UPDATED FOR COMMENTS	10.02.25	JB	PC
P01	ISSUED FOR PLANNING	20.12.24	JB	PC

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Renaissance Associates Ltd
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

Project:
RYEBANK
CHORLTON

Drawing Title:
SITEWIDE OUTLINE
DRAINAGE STRATEGY

Status:
STAGE 2

Size:	Date:	Drawn by:	Designed by:	Checked by:
A0	DEC 24	JB	JB	PC

Scale: 1:500
Project No: 2011-11

Project – Originator – Volume – Level – Type – Role – Number: RBM-REN-XX-FN-DR-C-01115
Revision: P03

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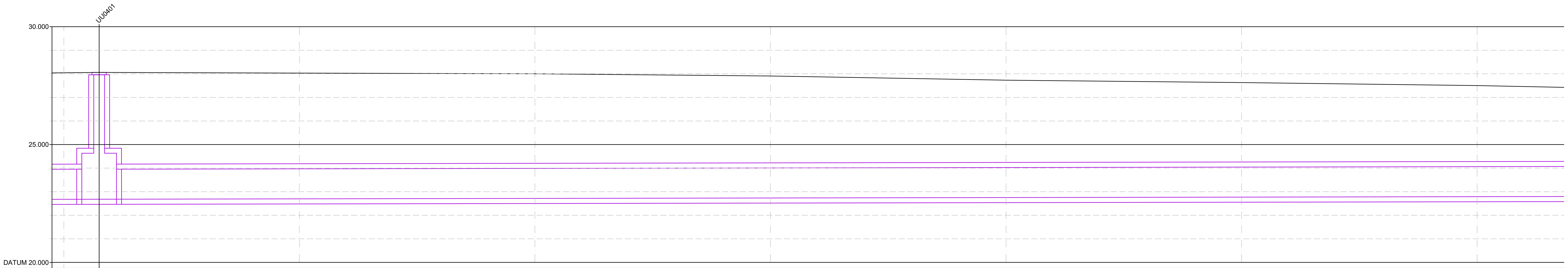
NOTES:

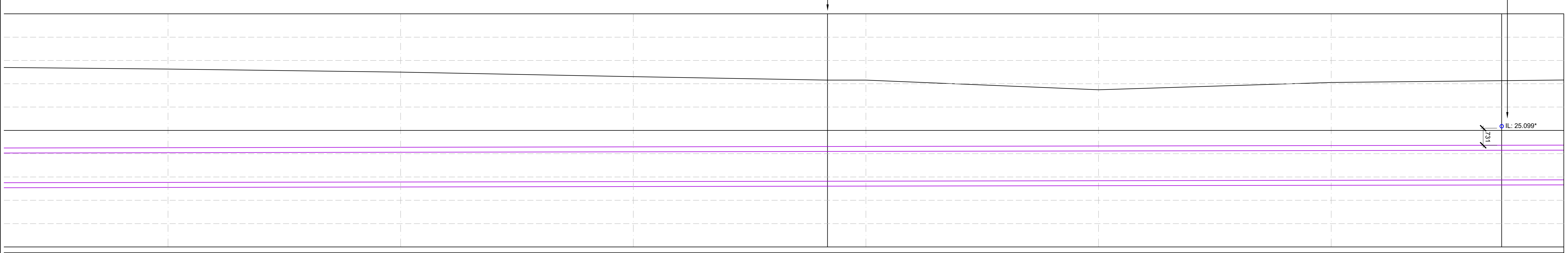
1. THE PURPOSE OF THIS DRAWING IS TO COMMUNICATE THE INTERACTION BETWEEN THE PROPOSED SURFACE WATER DRAINAGE NETWORK AND THE EXISTING PUBLIC COMBINED SEWER OVERFLOW THAT CROSSES THE SITE.
2. THE DRAWING IS BASED ON THE FOLLOWING SURVEY INFORMATION:
    - LS6090-CCTV BY LAYER SURVEYS LTD DATED JULY 2025
    - LS6090 - SURVEY BY LAYER SURVEYS LTD DATED JULY 2025
    - UU0401 - MH CARD BY LAYER SURVEYS LTD DATED JULY 2025
    - UU9400 - MH CARD BY LAYER SURVEYS LTD DATED JULY 2025
3. ALL DIMENSIONS ARE IN mm UNLESS STATES OTHERWISE.
4. ALL LEVELS ARE METERS ABOVE ORDNANCE DATUM UNLESS STATED OTHERWISE.



PIPE NO.								
CHAINAGE	00.000	01.500	10.000	20.000	30.000	40.000	50.000	60.000
EXISTING GROUND LEVEL	33.250	28.060	28.030	28.000	27.910	27.730	27.630	27.500
EXISTING CSO INVERT LEVEL		22.680 22.680						
EXISTING CSO LENGTH		76850						
EXISTING CSO SIZE		1275Ø						
EXISTING CSO GRADIENT		1:548.9						
EXISTING CSO MATERIAL/ SHAPE		CIRCULAR BRICK						

SURVEY ABANDONED AT THIS POINT DUE TO MASS ROUTES AND SEVERE ENCRUSTATION - REFER TO CCTV SURVEY FOR DETAILS

150Ø OUTFALL FROM PROPOSED SURFACE WATER NETWORK. EXACT INVERT LEVEL TBC AS PART OF DETAILED DESIGN



50.000	60.000	70.000	78.350	80.000	90.000	100.000	107.328	110.000
27.630	27.500	27.303	27.156	27.156	26.740	27.055	27.132	27.160
			22.820				22.873	
			28978					
			1275Ø (ASSUMED)					
			1:548.9 (ASSUMED)					
			CIRCULAR BRICK (ASSUMED					

APPROXIMATE INVERT LEVEL CALCULATED ASSUMING GRADIENT OF CSO DOES NOT CHANGE BETWEEN MANHOLE POSITIONS

Rev:	Description:	Date:	By:	Chkd:
P01	ISSUED FOR INFORMATION	06.08.25	JB	PW

Renaissance Associates Ltd
2nd Floor Tribeca House
21-27 Dale Street
Manchester
M1 1EY

Project:

RYEBANK
CHORLTON

Drawing Title:

COMBINED SEWER
OVERFLOW LONG SECTION

Status:

FOR INFORMATION

Size:	Date:	Drawn by:	Designed by:	Checked by:
A1	AUG 25	JB	JB	PW

Scale: 1:100
Project No: 2011-11

Project – Originator – Volume – Level – Type – Role – Number: RBM-REN-XX-ZZ-DR-C-02901
Revision: P01

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APPENDIX K

SURFACE WATER DRAINAGE CALCULATIONS

Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	25.251	0.581	15.8	165.6	O K
30 min Summer	25.424	0.754	15.8	215.0	O K
60 min Summer	25.571	0.901	15.8	256.9	O K
120 min Summer	25.656	0.986	15.8	281.1	O K
180 min Summer	25.661	0.991	15.8	282.3	O K
240 min Summer	25.649	0.979	15.8	278.9	O K
360 min Summer	25.605	0.935	15.8	266.6	O K
480 min Summer	25.551	0.881	15.8	251.1	O K
600 min Summer	25.496	0.826	15.8	235.6	O K
720 min Summer	25.443	0.773	15.8	220.3	O K
960 min Summer	25.325	0.655	15.8	186.8	O K
1440 min Summer	25.130	0.460	15.8	131.0	O K
2160 min Summer	24.948	0.278	15.7	79.3	O K
2880 min Summer	24.864	0.194	15.1	55.4	O K
4320 min Summer	24.819	0.149	11.7	42.6	O K
5760 min Summer	24.798	0.128	9.4	36.4	O K
7200 min Summer	24.784	0.114	7.9	32.5	O K
8640 min Summer	24.774	0.104	6.8	29.8	O K
10080 min Summer	24.767	0.097	6.0	27.7	O K
15 min Winter	25.251	0.581	15.8	165.7	O K
30 min Winter	25.425	0.755	15.8	215.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	119.712	0.0	179.7	25
30 min Summer	78.770	0.0	236.9	38
60 min Summer	49.529	0.0	299.0	66
120 min Summer	30.209	0.0	364.8	122
180 min Summer	22.375	0.0	405.4	156
240 min Summer	18.001	0.0	434.9	188
360 min Summer	13.158	0.0	476.9	256
480 min Summer	10.480	0.0	506.5	326
600 min Summer	8.780	0.0	530.4	394
720 min Summer	7.602	0.0	551.1	464
960 min Summer	6.052	0.0	585.0	594
1440 min Summer	4.383	0.0	635.2	832
2160 min Summer	3.169	0.0	689.7	1168
2880 min Summer	2.515	0.0	729.8	1496
4320 min Summer	1.813	0.0	788.9	2208
5760 min Summer	1.437	0.0	834.1	2936
7200 min Summer	1.198	0.0	869.7	3672
8640 min Summer	1.033	0.0	899.6	4400
10080 min Summer	0.911	0.0	925.0	5136
15 min Winter	119.712	0.0	179.7	25
30 min Winter	78.770	0.0	236.9	38

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Summary of Results for 100 year Return Period (+45%)

Storm Event	**Max Level (m)**	**Max Depth (m)**	**Max Control (l/s)**	**Max Volume (m³)**	**Status**
60 min Winter	25.572	0.902	15.8	257.0	O K
120 min Winter	25.660	0.990	15.8	282.2	O K
180 min Winter	25.661	0.991	15.8	282.5	O K
240 min Winter	25.642	0.972	15.8	276.9	O K
360 min Winter	25.580	0.910	15.8	259.3	O K
480 min Winter	25.501	0.831	15.8	236.8	O K
600 min Winter	25.417	0.747	15.8	212.8	O K
720 min Winter	25.320	0.650	15.8	185.1	O K
960 min Winter	25.153	0.483	15.8	137.8	O K
1440 min Winter	24.932	0.262	15.7	74.8	O K
2160 min Winter	24.835	0.165	13.1	47.2	O K
2880 min Winter	24.809	0.139	10.6	39.5	O K
4320 min Winter	24.783	0.113	7.7	32.1	O K
5760 min Winter	24.768	0.098	6.1	27.9	O K
7200 min Winter	24.758	0.088	5.1	25.1	O K
8640 min Winter	24.751	0.081	4.4	23.1	O K
10080 min Winter	24.746	0.076	3.9	21.5	O K

Storm Event	**Rain (mm/hr)**	**Flooded Volume (m³)**	**Discharge Volume (m³)**	**Time-Peak (mins)**
60 min Winter	49.529	0.0	299.0	66
120 min Winter	30.209	0.0	364.8	120
180 min Winter	22.375	0.0	405.4	170
240 min Winter	18.001	0.0	434.9	194
360 min Winter	13.158	0.0	476.9	272
480 min Winter	10.480	0.0	506.5	348
600 min Winter	8.780	0.0	530.4	424
720 min Winter	7.602	0.0	551.1	492
960 min Winter	6.052	0.0	585.0	612
1440 min Winter	4.383	0.0	635.2	826
2160 min Winter	3.169	0.0	689.7	1128
2880 min Winter	2.515	0.0	729.8	1480
4320 min Winter	1.813	0.0	788.9	2204
5760 min Winter	1.437	0.0	834.1	2944
7200 min Winter	1.198	0.0	869.7	3672
8640 min Winter	1.033	0.0	899.6	4376
10080 min Winter	0.911	0.0	925.1	5024

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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	17.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time Area Diagram

Total Area (ha) 0.605

Time From:	(mins) To:	Area (ha)	Time From:	(mins) To:	Area (ha)	Time From:	(mins) To:	Area (ha)
0	4	0.202	4	8	0.202	8	12	0.201

Model Details

Storage is Online Cover Level (m) 27.000

Tank or Pond Structure

Invert Level (m) 24.670

Depth (m)	**Area (m²)**	**Depth (m)**	**Area (m²)**	**Depth (m)**	**Area (m²)**
0.000	285.0	1.000	285.0	1.001	0.0

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0179-1580-1000-1580
Design Head (m)	1.000
Design Flow (l/s)	15.8
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	179
Invert Level (m)	24.670
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1500

Control Points	**Head (m)**	**Flow (l/s)**
Design Point (Calculated)	1.000	15.8
Flush-Flo™	0.325	15.8
Kick-Flo®	0.706	13.4
Mean Flow over Head Range	-	13.4

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

Depth (m)	**Flow (l/s)**	**Depth (m)**	**Flow (l/s)**	**Depth (m)**	**Flow (l/s)**	**Depth (m)**	**Flow (l/s)**
0.100	6.3	1.200	17.2	3.000	26.7	7.000	40.1
0.200	15.2	1.400	18.5	3.500	28.7	7.500	41.5
0.300	15.8	1.600	19.8	4.000	30.6	8.000	42.8
0.400	15.7	1.800	20.9	4.500	32.4	8.500	44.1
0.500	15.4	2.000	22.0	5.000	34.1	9.000	45.4
0.600	14.8	2.200	23.0	5.500	35.7	9.500	46.6
0.800	14.2	2.400	24.0	6.000	37.3		
1.000	15.8	2.600	24.9	6.500	38.7		

Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 5130 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	26.364	0.194	0.0	1.7	1.7	506.4	O K
30 min Summer	26.429	0.259	0.0	2.1	2.1	677.3	O K
60 min Summer	26.499	0.329	0.0	2.3	2.3	859.1	O K
120 min Summer	26.572	0.402	0.0	2.6	2.6	1050.8	O K
180 min Summer	26.616	0.446	0.0	2.8	2.8	1165.9	O K
240 min Summer	26.648	0.478	0.0	2.9	2.9	1247.4	O K
360 min Summer	26.690	0.520	0.0	3.0	3.0	1358.7	O K
480 min Summer	26.718	0.548	0.0	3.1	3.1	1432.2	Flood Risk
600 min Summer	26.740	0.570	0.0	3.1	3.1	1488.2	Flood Risk
720 min Summer	26.757	0.587	0.0	3.2	3.2	1534.4	Flood Risk
960 min Summer	26.784	0.614	0.0	3.3	3.3	1603.3	Flood Risk
1440 min Summer	26.816	0.646	0.0	3.3	3.3	1687.5	Flood Risk
2160 min Summer	26.838	0.668	0.0	3.4	3.4	1745.8	Flood Risk
2880 min Summer	26.845	0.675	0.0	3.4	3.4	1762.7	Flood Risk
4320 min Summer	26.840	0.670	0.0	3.4	3.4	1749.7	Flood Risk
5760 min Summer	26.832	0.662	0.0	3.4	3.4	1729.7	Flood Risk
7200 min Summer	26.823	0.653	0.0	3.4	3.4	1705.1	Flood Risk
8640 min Summer	26.812	0.642	0.0	3.3	3.3	1676.8	Flood Risk
10080 min Summer	26.800	0.630	0.0	3.3	3.3	1645.8	Flood Risk
15 min Winter	26.364	0.194	0.0	1.7	1.7	506.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	119.712	0.0	137.6	27
30 min Summer	78.770	0.0	163.3	42
60 min Summer	49.529	0.0	351.2	72
120 min Summer	30.209	0.0	394.4	132
180 min Summer	22.375	0.0	417.0	192
240 min Summer	18.001	0.0	431.3	250
360 min Summer	13.158	0.0	447.8	370
480 min Summer	10.480	0.0	455.7	490
600 min Summer	8.780	0.0	459.8	610
720 min Summer	7.602	0.0	461.5	728
960 min Summer	6.052	0.0	459.9	968
1440 min Summer	4.383	0.0	444.4	1446
2160 min Summer	3.169	0.0	915.8	2164
2880 min Summer	2.515	0.0	893.9	2880
4320 min Summer	1.813	0.0	819.5	3716
5760 min Summer	1.437	0.0	1661.8	4440
7200 min Summer	1.198	0.0	1613.7	5192
8640 min Summer	1.033	0.0	1546.2	5976
10080 min Summer	0.911	0.0	1462.7	6856
15 min Winter	119.712	0.0	137.6	27

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Summary of Results for 100 year Return Period (+45%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m^3)	Status
30 min Winter	26.429	0.259	0.0	2.1	2.1	677.3	O K
60 min Winter	26.499	0.329	0.0	2.3	2.3	859.1	O K
120 min Winter	26.572	0.402	0.0	2.6	2.6	1050.9	O K
180 min Winter	26.616	0.446	0.0	2.8	2.8	1166.1	O K
240 min Winter	26.648	0.478	0.0	2.9	2.9	1247.6	O K
360 min Winter	26.690	0.520	0.0	3.0	3.0	1359.1	O K
480 min Winter	26.719	0.549	0.0	3.1	3.1	1432.8	Flood Risk
600 min Winter	26.740	0.570	0.0	3.1	3.1	1489.0	Flood Risk
720 min Winter	26.758	0.588	0.0	3.2	3.2	1535.3	Flood Risk
960 min Winter	26.784	0.614	0.0	3.3	3.3	1604.7	Flood Risk
1440 min Winter	26.817	0.647	0.0	3.3	3.3	1690.0	Flood Risk
2160 min Winter	26.840	0.670	0.0	3.4	3.4	1751.0	Flood Risk
2880 min Winter	26.848	0.678	0.0	3.4	3.4	1772.0	Flood Risk
4320 min Winter	26.843	0.673	0.0	3.4	3.4	1757.8	Flood Risk
5760 min Winter	26.830	0.660	0.0	3.4	3.4	1725.1	Flood Risk
7200 min Winter	26.818	0.648	0.0	3.3	3.3	1692.3	Flood Risk
8640 min Winter	26.803	0.633	0.0	3.3	3.3	1652.8	Flood Risk
10080 min Winter	26.786	0.616	0.0	3.3	3.3	1609.7	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m^3)	Discharge Volume (m^3)	Time-Peak (mins)
30 min Winter	78.770	0.0	163.3	42
60 min Winter	49.529	0.0	351.2	72
120 min Winter	30.209	0.0	394.5	130
180 min Winter	22.375	0.0	417.2	188
240 min Winter	18.001	0.0	431.5	248
360 min Winter	13.158	0.0	448.0	366
480 min Winter	10.480	0.0	456.1	482
600 min Winter	8.780	0.0	460.2	600
720 min Winter	7.602	0.0	462.0	718
960 min Winter	6.052	0.0	460.5	952
1440 min Winter	4.383	0.0	445.4	1418
2160 min Winter	3.169	0.0	917.1	2104
2880 min Winter	2.515	0.0	895.7	2772
4320 min Winter	1.813	0.0	822.3	4024
5760 min Winter	1.437	0.0	1664.5	4560
7200 min Winter	1.198	0.0	1617.5	5472
8640 min Winter	1.033	0.0	1551.2	6400
10080 min Winter	0.911	0.0	1469.0	7272

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	17.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time Area Diagram

Total Area (ha) 1.823

Time From:	**(mins) To:**	**Area (ha)**	**Time From:**	**(mins) To:**	**Area (ha)**	**Time From:**	**(mins) To:**	**Area (ha)**
0	4	0.608	4	8	0.608	8	12	0.607

Model Details

Storage is Online Cover Level (m) 27.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	746.3
Max Percolation (l/s)	2073.1	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.35	Evaporation (mm/day)	3
Invert Level (m)	26.170	Cap Volume Depth (m)	0.700

Orifice Outflow Control

Diameter (m) 0.045 Discharge Coefficient 0.600 Invert Level (m) 26.170

APPENDIX L

NORTH-WEST SUDS PRO-FORMA

NORTH WEST SuDS PRO-FORMA

This pro-forma is a requirement for any planning application for major development[1].

It supports applicants in summarising and confirming how surface water from a development will be managed sustainably under current and future conditions.

Your sustainable drainage system should be designed in accordance with **CIRIA The SuDS Manual C753** and any necessary adoption standards.

HOW TO COMPLETE

Blue Box	Instruction/ Question
Orange Box	Evidence Required
White Box	To be completed by Developer / Consultant

1. Complete ALL white boxes
2. Submit this pro-forma to the Local Planning Authority, along with:
   - Sustainable Drainage Strategy
   - Site Specific Flood Risk Assessment (if required)
   - Minimum supporting evidence, as indicated in orange boxes of this pro-forma.

GUIDANCE TO SUPPORT YOU

The pro-forma should be completed in conjunction with 'Completing your SuDS Pro Forma Guide.'

The pro-forma can be completed using freely available tools such as **Tools for Sustainable Drainage Systems** or appropriate industry standard surface water management design software.

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[1] *as defined in Section 2 of* ***Statutory Instrument 2015 No. 595*** *or on sites in Critical Drainage Areas.*

SECTION 1. APPLICATION & DEVELOPMENT DETAILS

Planning Application Reference *(if available)*		
State type of planning application *i.e. Pre-application, Outline, Full, Hybrid, Reserved Matters** **Information only required if drainage is to be considered as part of reserved matters application*	FULL PLANNING	
Developer(s) Name:	STEP PLACES, SOUTHWAY HOUSING TRUST AND MANCHESTER METROPOLITAN UNIVERSITY	
Consultant(s) Name:	RENAISSANCE ASSOCIATES LTD	
Development Address *(including postcode)*	LAND OFF RYEBAND ROAD, M21 9LU	
Development Grid Reference *(Eastings/Northings)*	381109, 394584	
Total Development Site Area (Ha)	3.221	
Drained Area (Ha)* of Development	2.407	
Please indicate the flood zone that your development is in. Tick all that apply. *Based on the Environment Agency Flood Map for Planning and the relevant Local Authority Strategic Flood Risk Assessment (to identify Flood Zones 3a/3b).*	Flood Zone 1 ☒ Flood Zone 2 ☐ Flood Zone 3a ☐ Flood Zone 3b ☐	
What is the surface water risk of the site? Tick all that apply. *Based on the Environment Agency Surface Water Flood Map.*	High ☐ Medium ☐ Low ☒	
Have you submitted a Site Specific Flood Risk Assessment (FRA)? *See separate guidance notes for clarification on when a FRA is required*	Yes ☒ No ☐	
Have you submitted a Sustainable Drainage Strategy?	Yes ☒ No ☐	
Does your drainage proposal provide multi-functional benefits via SuDS?	Yes ☒ No ☐	
Expected Lifetime of Development *(years)* *Refer to Planning Practice Guidance "Flood Risk and Coastal Change" Paragraph 026*	100 YEARS	
Development Type:		**State Proposed Number of Units**
Greenfield Site - *Site is wholly undeveloped, and a new drainage system will be installed*	☒	120
Previously Developed/ Brownfield Site - *Site is already developed, and the entirety of the existing surface water drainage system will be used to serve the new development (evidence must be provided to prove existing surface water drainage system is reusable);* ***OR*** - *Where records of the previously developed system are not available so that the hydraulic characteristics of the system cannot be determined or where the drainage system is not in reasonable working order i.e. broken, blocked or no longer operational for other reasons.*	☐	
Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 1.	RBM-REN-XX-XX-RP-C-00001 RBM-REN-XX-XX-RP-C-00002	

SECTION 2: IMPERMEABLE AREA AND EXISTING DRAINAGE

	Existing (E)	Proposed (P)	Change (P – E)
State Impermeable Area (Ha)	0.118	2.407	2.289
Evidence Required: Plans showing development layout of site with existing and proposed impermeable areas.			☒

Are there existing sewers, watercourses, water bodies, highway drains, soakaways or filter drains on the site?	Yes ☒ No ☐ Don't Know ☐
Evidence Required: Plan(s) showing existing layout to include all: • Watercourses, open and culverted • Water bodies – ponds, swales etc. • Sewers, including manholes • Highway drains, include manholes, gullies etc. • Infiltration features - soakaways, filter drains etc.	☒

Drainage Design

Outline planning applications should be able to demonstrate that a suitable drainage system is achievable.

All other type of planning application should provide full details or reference to previous planning application where drainage details have been submitted or approved.

Select which design approach you are taking to manage water quantity *(refer to Section 3.3 SuDS Manual)*	
Approach 1 – Volume control / Long Term Storage (Technical Standards S2/3, S4/5) • *The attenuated runoff volume for the 1 in 100 year 6 hour event (plus climate change allowance) is limited to the greenfield runoff volume for the 1 in 100 year 6 hour event, with any additional runoff volume utilising long term storage and either infiltrated or released at 2 l/s/ha* • *The discharge rate for the critical duration 1 in 1 year event is restricted to the 1 in 1 year greenfield runoff rate* • *The discharge rate for the critical duration 1 in 100 year event (plus climate change allowance) is restricted to the 1 in 100 year greenfield runoff rate*	☐
Approach 2 – Qbar (Technical Standards S6) • *Justification has been provided that the provision of volume control/long term storage is not appropriate and an attenuation only approach is proposed. All events up to the critical duration 1 in 100 year event (plus climate change allowance) are limited to Qbar (1 in 2 year greenfield rate) or 2 l/s/ha, whichever is greater.*	☒
Evidence Required: Plans showing: • Existing flow routes and flood risks • Modified flow routes • Contributing and impermeable areas • Current (if any) and proposed 'source control' and 'management train' locations of sustainable drainage components (C753 Chapter 7) • Details of drainage ownership • Details of exceedance routes (Technical Standards S9) • Topographic survey • Locations and number of existing and proposed discharge points	☒

Note consideration should be given to manage surface water from both impermeable and permeable surfaces (including gardens and verges) likely to enter the drainage system.	

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 2.	RBM-REN-XX-XX-RP-C-00001 RBM-REN-XX-XX-RP-C-00002

SECTION 3: PEAK RUNOFF RATES – TECHNICAL STANDARDS S2, S3 AND S6 (UNLESS S1 APPLIES)

Rainfall Event	**Existing Rate (l/s)**	**Greenfield Rate (l/s)**	**Proposed Rate (l/s)** *Previously developed sites - In line with S3 should be equivalent to Greenfield runoff rates – discuss with LLFA if this is not achievable pre-application*
Qbar *(Approach 2)*	N/A	19.4	19.4
1 in 1 Year Event *(Approach 1)*			
1 in 30 Year Event			
1 in 100 Year Event* *(Approach 1)*			

** Total discharge at the 1 in 100 year rate should be restricted to the greenfield runoff volume for the 1 in 100 Year 6 hour event with additional volumes (long-term storage volume) released at a rate no greater than 2 l/s/ha where infiltration is not possible. The climate change allowance should only be applied to the proposed rate and not the existing or greenfield rate.*

Evidence Required:	
Methodology used to calculate peak runoff rate clearly stated and justified.	☒
Impermeable areas plan, supported by topographical survey confirming positive drainage.	☒
Hydraulic calculations and details of software used.	☒

State the hydraulic method used in your calculations *(Refer to Table 24.1 of The SuDS Manual)*	IH124

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 3.	RBM-REN-XX-XX-RP-C-00001 RBM-REN-XX-XX-RP-C-00002

SECTION 4: DISCHARGE VOLUME – TECHNICAL STANDARDS S4, S5 AND S6 (UNLESS S1 APPLIES)

Rainfall Event	**Existing Volume (m^3)**	**Greenfield Volume (m^3)**	**Proposed Volume (m^3)**
1 in 100 Year 6 Hour Event *(Approach 1)*			

Does the below statement apply to your development proposal? Long term storage is not achievable on this site and, in accordance with S6 of the Non Statutory Technical Standards for SuDS, the surface water discharge rates for events up to and including the 1 in 100 year critical event are limited to Qbar (Approach 2)	Yes ☒ No ☐
Evidence Required: Approach to managing the quantity of surface water leaving the site clearly stated and justified	☒
Methodology used to calculate discharge volume clearly stated and justified.	☒
Hydraulic calculations and details of software used.	☒

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 4.	RBM-REN-XX-XX-RP-C-00001 RBM-REN-XX-XX-RP-C-00002

SECTION 5: STORAGE – TECHNICAL STANDARDS S7 AND S8

State climate change allowance used (%)	1 in 30 YEAR: 40% 1 in 100 YEAR: 45%
State housing density (houses per ha)	N/A
State urban creep allowance used (%)	0% - NOT SUITABLE DUE IMPERMEABLE AREA REFER TO PLAN
Evidence Required: State / used in appropriate industry standard surface water management design software.	☒

State storage volume required (m^3) *(excluding non-void spaces)* *Must include an allowance for climate change and urban creep*	2055.9
Have you incorporated interception into your design? *(Refer to Chapter 24 of The SuDS Manual C753)* *Where possible, infiltration or other techniques are to be used to try and achieve zero discharge to receiving waters for rainfall depths up to 5mm.*	Yes ☐ No ☒
Evidence Required: Drainage plans showing location of attenuation and all flow control devices and supporting calculations.	☒

Summarise how storage will be provided for 1 in 30 year event on site. *Storage must be designed to ensure that at no flooding occurs onsite in a 1 in 30 year event except in designed areas **and** no flooding occurs offsite in a 1 in 100 year (plus climate change allowance) event.*	ATTENUATION PROVIDED BY SUB-BASE ATTENUATION, RAIN GARDENS AND POND/ WELTAND
Summarise how storage will be provided for 1 in 100 year (plus climate change) event on site. *Where storage above the 1 in 30 year rainfall event is provided in designated areas designed to accommodate excess surface water volumes, plans showing storage locations and surface water depths and supported by calculations used in appropriate industry standard surface water management design software. It is important to run a range of duration events to ensure the worst case condition is found for each drainage element on the site*	ATTENUATION PROVIDED BY SUB-BASE ATTENUATION, RAIN GARDENS AND POND/ WELTAND
Evidence Required: Plans showing size and location of storage and supporting calculations. Where there is controlled flooding, extents and depths must be indicated.	☒

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 5.	RBM-REN-XX-XX-RP-C-00001 RBM-REN-XX-XX-RP-C-00002

SECTION 6: WATER QUALITY PROTECTION

Contaminated surface water run-off can have negative impacts on the quality of receiving water bodies. The potential level of contamination will influence final the design of an appropriate treatment train as part of your sustainable drainage system.

Is the proposal site known to be or potentially contaminated?	Yes ☐ No ☒
- *If the site is contaminated, it should be demonstrated that the sustainable drainage system will not increase the risk of pollution to controlled waters though the mobilisation of contaminants and/or creation of new pollution pathways.*	

Confirm the *Pollution Hazard Level* of the proposed development - Tick ALL that apply *Refer to Pollution Hazard Indices for different Land Use Classifications in Table 26.2 of The SuDS Manual C753 for further guidance.*		
Pollution Hazard Level *Tick ALL that apply*		**Surface water run-off from the proposed development will drain from:**
VERY LOW	☐	• Residential roofs
LOW	☒	• Other roofs (typically commercial/industrial roofs) • Individual property driveways, residential car parks, low traffic roads (e.g. cul de sacs, home-zones and general access roads) • Non-residential car parking with infrequent change (e.g. schools, offices) i.e. < 300 traffic movements/day
MEDIUM	☐	• Commercial yard and delivery areas • Non-residential car parking with frequent change (e.g. hospitals, retail) • All roads except low traffic roads and trunk roads/motorways[2]
HIGH	☐	• Sites with heavy pollution (e.g. 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]

If the development's Pollution Hazard Level is 'Very Low' or 'Low', has the sustainable drainage design been risk assessed and appropriate mitigation measures included?	Yes ☒ No ☐
- *If the proposed development has a very low or low polluting potential, you should design your sustainable drainage system to include an appropriate treatment train in accordance with The SuDS Manual (C753).*	

If the development's Pollution Hazard Level is 'Medium' or 'High', is the application supported by a detailed water quality risk assessment?	Yes ☐ No ☐
- *If the proposed development has a high polluting potential, a detailed risk assessment will be required to identify an appropriate SuDS treatment train and ensure compliance with Paragraph 170 of the National Planning Policy Framework.* - *If the proposed development has a medium polluting potential, a detailed risk assessment may be required depending on the nature, scale and location of the development.*	

Has pre-application advice on water quality been obtained from the Environment Agency?	Yes ☐ No ☒
If YES, provide details:	

---

[2] Motorways and trunk roads should follow the guidance and risk assessment process set out in Highways Agency (2009).

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 6.	

SECTION 7: DETAILS OF YOUR SUSTAINABLE DRAINAGE SYSTEM

a) Function of your Sustainable Drainage System

Do your proposals store rainwater for later use (as a resource)?	Yes ☐ No ☒
Evidence Required: Please provide a brief sentence in the adjacent white box to describe how this function has been achieved.	

Do your proposals promote source control to manage rainfall close to where it falls? (e.g. promoting natural losses through soakage, infiltration and evapotranspiration)	Yes ☒ No ☐
Evidence Required: Please provide a brief sentence in the adjacent white box to describe how this function has been achieved.	

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 7a.	RBM-REN-XX-XX-RP-C-00001 RBM-REN-XX-XX-RP-C-00002

b) Hierarchy of Drainage Options – Planning Practice Guidance

The proposed method of discharge are set out within order of priority. Generally, the aim should be to discharge surface run off as high up the following hierarchy of drainage options as reasonably practicable.

Proposed method of surface water discharge		**Is this proposed?**	
Hierarchy Level 1: Into the ground (via infiltration)		Yes ☐ No ☒	
If YES - Evidence Required		**If NO – Evidence Required** **Tick ALL that apply**	
☐	**A.** Completed Infiltration Checklist from The SuDS Manual (C753) Appendix B *An editable version of this form is available on SusDrain website.*	☒	A. Site investigation to demonstrate that the ground is not free draining. Test results to be provided in accordance with: • The methodology within BRE 365 (2016), ***OR*** • Falling head permeability tests BS EN ISO 22282-2: 2012
☐	**B.** British Geological Survey (BGS) Infiltration SuDS Map	☐	B. NOTE: where an applicant is unable to access a site to undertake testing, e.g. where unable to access a site for an outline application, they can submit a *SuDS GeoReport or similar.*
☐	**C.** Infiltration testing to BRE 365 (2016) or falling head permeability tests to BS EN ISO 2228-2: 2012 ***(optional for outline)***	☒	C. Evidence to confirm that infiltration to ground would result in a risk of deterioration to ground water quality.
☐	'Plan B' sustainable drainage plan and statement of approach with an alternative discharge method, in case infiltration proposals are proven not feasible upon	☒	D. Geotechnical advice from a competent person* which determines that infiltration of water to ground would pose an unacceptable risk of geohazards to the site and/or local area.

	further site specific ground investigation e.g. to consider seasonal variations to groundwater.		**Note: Competent person may include a Chartered Engineer, Chartered Geologists, Registered Ground Engineering Professionals (RoGEP).*

Proposed method of surface water discharge	**Is this proposed?**
Hierarchy Level 2: To a surface water body *(select type)* ***NOTE:*** *Consent from LLFA or Permit from Environment Agency may be required – refer to guidance*	Yes ☒ No ☐ N/A ☐ ☒ Main river ☐ Canal ☐ Ordinary watercourse ☐ Other water body

If YES - Evidence Required		**If NO – Evidence Required** **Tick ALL that apply**	
☐	Surface water body / watercourse survey and report	☐	Plan showing nearby watercourses and waterbodies
			AND
		☒	Statement providing justification in your Sustainable Drainage Strategy
			Note: *Where discharge of any element in the hierarchy is discounted, an applicant should provide justification. If the reasoning for discounting a discharge of surface water to watercourse relates to issues associated with third party land or the securing of any other required consent, it may be necessary for the applicant to provide evidence to the local planning authority to support their proposed approach.*

Proposed method of surface water discharge	**Is this proposed?**
Hierarchy Level 3: To a surface water sewer or highway drain *(select type)*	Yes ☐ No ☐ N/A ☒ ☐ Surface water sewer ☐ Highway drain

If YES - Evidence Required		**If NO – Evidence Required** **Tick ALL that apply**	
☐	Written correspondence from Water and Sewerage Company/ Highway Authority regarding proposed connection.	☐	Plan showing nearby sewers and highway drains
			AND
		☐	Statement providing justification in your Sustainable Drainage Strategy

Proposed method of surface water discharge	**Is this proposed?**
Hierarchy Level 4: To combined sewer	Yes ☐ No ☐ N/A ☒

If YES - Evidence Required		**If NO – Evidence Required**
☐	Written correspondence from Water and Sewerage Company	N/A

Please list any relevant document and drawing numbers (including revision reference) to support your answers to Section 7b.	RBM-REN-XX-XX-RP-C-00001 RBM-REN-XX-XX-RP-C-00002

c) Proposed SuDS Component Types

	Tick ALL that apply				
Within property boundary	☐ Rainwater harvesting	☐ Green/ blue roofs	☒ Pervious pavements *[**Type:** A ☐ B ☐ C ☒]*	☐ Soakaway	☐ Bio retention systems

	Tick ALL that apply				
Within development site boundary *(not property)*	☐ Infiltration system *[**Type:** ☐ Surface level ☐ Below ground]*		☐ Filter strips	☐ Filter drains	☐ Swales
	☒ Bio retention system	☐ Detention basins	☒ Ponds and wetlands	☐ Attenuation tanks/ Oversized pipes	☐ Other (state below)
	If 'Other' please state:				

Off site *(not within the boundary of the proposed development)*	***Please state:***

I confirm that the above selected components have been designed in accordance with The SuDS Manual (C753).	I confirm ☒
I confirm that the management of flows resulting from rainfall in excess of a 1 in 100 year plus climate change rainfall event, and their exceedance route(s), has been fully considered in order to minimise the risks to people, property (new and existing) and infrastructure.	I confirm ☒

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 7c.	RBM-REN-XX-XX-RP-C-00001 RBM-REN-XX-XX-RP-C-00002

SECTION 8: OPERATION AND MAINTENANCE – TECHNICAL STANDARD S12 AND NATIONAL PLANNING POLICY FRAMEWORK

The applicant is responsible to ensure that ALL components selected in Section 7 can be maintained for the design life of the development. This information is required so the Local Planning Authority can ensure the maintenance and management of the sustainable drainage system. The Local Planning Authority will discuss how this will be secured (e.g. via planning condition or planning obligation).

	Information Provided?
Management Plan	Yes ☐ No ☒
Evidence Required: **Plan/ drawing provided to show the position of the different SuDS components with:** • Key included to identify any of the adopting bodies that you will be offering your sustainable drainage components for adoption *(relates to maintenance and management arrangements below).* • Plan/ drawing to identify any areas where certain activities are prohibited, detailing reasons why.	☐
Action plan for accidental pollutant spillages.	☐

	Information Provided?
Maintenance Schedule	Yes ☒ No ☐
Evidence Required: A copy of the maintenance schedule including: **1. Proactive and preventative maintenance** Detailing regular, occasional and remedial maintenance activities including recommendations for inspection and monitoring. This should include recommended frequencies, advice on plant/ machinery required and an explanation of the objectives for the maintenance proposed and potential implications of not meeting them. **2. Reactive and corrective maintenance** (e.g. product repair and replacement). Including advice on excavations, or similar works, in locations that could affect the SuDS components/ adjacent structures.	☒

	Information Provided?
Maintenance and Management Arrangements	Yes ☒ No ☐
Evidence Required: Evidence of formal agreement with the party responsible for undertaking maintenance.	☐
Please select any of the adopting bodies that you will be offering your sustainable drainage components for adoption. Tick all that apply. ☒ **Water and Sewerage Company** *Section 104 agreement (Water Industry Act 1991)* ☒ **Highway Authority** *Section 278/38 agreement (Highways Act 1980)* ☐ **Local Authority Public Open Space** *[Refer to Local Authority Policy]* Please select the arrangement(s) for all non-adopted sustainable drainage components. Tick all that apply. ☒ **Management Company** ☒ **Property Owner** *(for SuDS components within property boundary only)* ☐ **Other** (please state)	

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 8.	RBM-REN-XX-XX-RP-C-00001 RBM-REN-XX-XX-RP-C-00002

DECLARATION AND SUBMISSION

This pro-forma has been completed using evidence from information which has been submitted with the planning application.

The information submitted in the Sustainable Drainage Strategy and site-specific Flood Risk Assessment (FRA), where submitted, is proportionate to the site conditions, flood risks and magnitude of development and I agree that this information can be used as evidence to this sustainable drainage approach.

Submitter Details			
Completed by	JOE BULLOUGH	**Email Address**	joebullough@renaissance-ltd.com
		Telephone Number(s)	0161 393 6509
Signed off by	PHILIP WHITESMITH	**Accreditation(s) and/or Qualification(s) of Signatory**	CEng MIStructE
Date *(dd/mm/yyyy)*	20.12.2024	**Company**	RENAISSANCE ASSOCIATES LTD

Client Details			
Name	-	**Company**	STEP PLACES, SOUTHWAY HOUSING TRUST AND MANCHESTER METROPOLITAN UNIVERSITY

APPENDIX M

UNITED UTILITIES CORRESPONDENCE

JoeBullough

From: [redacted]
Sent: 02 December 2024 15:41
To: JoeBullough
Cc: Aria Shino; Patrick Clayton; Philip Whitesmith
Subject: UU REF 06693278 - WW PDE – Ryebanks Field, Manchester

Good Afternoon Joe,

Thank you for your WW PDE application, please see our reply below:

UU REF 06693278 - WW PDE – Ryebanks Field, Manchester

We have carried out an assessment of your application which is based on the information provided. This pre-development advice on your drainage strategy will be valid for 12 months. Your drainage strategy will need to be reviewed by other competent authorities as part of the planning process, and we advise that you carry out the necessary site investigations to confirm the viability of your proposals.

If your investigations require access to our public sewer network, we ask that you contact our network engineers with a request for an access certificate via our main contact telephone number 0345 6723 723 or refer to the link below:

https://www.unitedutilities.com/builders-developers/working-near-our-assets/

Foul Water

Foul flow from this site will be allowed to drain into the two public combined sewers you confirmed within your email for North and South MH1701 & MH8401

Surface Water

All surface water flow from the proposed development should drain in-line with the drainage hierarchy, as outlined in Paragraph 80, (Reference ID: 7-080-20150323), of the National Planning Practice Guidance. We also recommend you prioritise the use of multi-functional sustainable drainage systems for the management of surface water in accordance with national planning policy.
Generally, the aim should be to discharge surface run off as high up the following hierarchy of drainage options as reasonably practicable.
This is outlined as follows, in order of priority:

1. **into the ground (infiltration);**
2. **to a surface waterbody;**
3. **to a surface water sewer or highway drain;**
4. **to a combined sewer.**

For guidance, The **North West SuDS Pro-Forma** provides information on the appropriate evidence required at each stage of the hierarchy, to demonstrate how each level has been discounted.
The Lead Local Flood Authority has responsibility for all surface water drainage concerns and their input to your proposal is critical. You should also consider whether it is necessary to discuss your proposal with the Environment Agency, or Internal Drainage Board (if operating in your area).

The Local Planning Authority are the determining authority for any application for planning permission and the appropriate authority for determining cost viability of a proposed drainage scheme, such assessments are outside of the jurisdiction of United Utilities.

United Utilities would like to see proof that a watercourse connection is not possible before commenting further on a possible public sewer connection

CSO:

You're correct in stating there is a critical CSO spill pipe running through the site. This is a large 1275dia pipe and will not be permitted to be built over, in regards to easements and a possible 'one off' connection to the pipe this information will need to be considered from several internal teams. I shall provide you with an update once I receive their responses.

Should you require any further information please do not hesitate to contact me.

Regards

Anthony

United Utilities
Water for the North West

Anthony Laithwaite
Ww Engineer
Developer Services & Metering
Customer Services

[redacted]
unitedutilities.com

--------------- Original Message ---------------
From: [redacted]
Sent: 02/12/2024 12:09
To: [redacted]
Cc: [redacted]
Subject: 06693278 - Ryebank Fields, Chorlton - PDE

Good Morning

PRE DEVELOPMENT APPLICATION AT RYEBANK FIELDS: – UU Ref 06693278

Please accept this email as receipt of your application received on 28/11/2024 for the above development. This has now been logged on our system and the job reference is 06693278 we would ask that you quote this reference in all future correspondence.

I have reviewed your application (and attachments) and can confirm this is suitable to be passed to Anthony Laithwaite for technical assessment. You will receive their response on or before 19/12/2024.

Kind regards

United Utilities
Water for the North West

Freya Littlemore
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: 0345 026 8989 option 4
unitedutilities.com

If you feel you have received a good service from myself, please can you take two minutes to fill in the survey below. This will be much appreciated

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--------------- Original Message ---------------
From: JoeBullough [[redacted]]
Sent: 28/11/2024 10:55
To: [redacted]
Cc: [redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Freya,

A site location plan is provided on page 4 of the previously attached Brief Note.

As such please can this application be progressed and assigned to an engineer.

Kind Regards,

Joe Bullough | Engineer

MEng

2nd Floor Tribeca House, 21-27 Dale Street,

Manchester M1 1EY

[redacted]

w: www.renaissance-ltd.com

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From: seweradoptions@uuplc.co.uk <seweradoptions@uuplc.co.uk>
Sent: 28 November 2024 10:45
To: JoeBullough [redacted]
Cc: Aria Shino [redacted]; Patrick Clayton [redacted]; Philip Whitesmith [redacted]
Subject: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Morning,

PRE DEVELOPMENT APPLICATION AT RYEBANKS FIELDS - UU Ref – 06693278

Please accept this email as receipt of your application received on 25/11/2024 for the above development. This has now been logged on our system and the job reference is 06693278 , we would ask that you quote this reference in all future correspondence.

I have reviewed your application (and attachments) and can confirm this is **not** suitable to start technical assessment. The application checklist details the required information for technical assessment; however, for an Engineer to start assessing your application, please provide the following:

1. Location plan (showing site boundary)

In the meantime, if I can be of any further help, please let me know.

Kind regards

United Utilities
Water for the North West

Freya Littlemore
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: [redacted] option 4
unitedutilities.com

If you feel you have received a good service from myself, please can you take two minutes to fill in the survey below. This will be much appreciated

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for outstanding customer service...

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--------------- Original Message ---------------
From: JoeBullough [[redacted]
Sent: 25/11/2024 16:27
To: [redacted]
Cc: [redacted]
Subject: Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Afternoon,

Please find attached a pre-development enquiry for the Ryebank Fields development located in Chorlton, Manchester. Supporting information is attached at the following link: [Image is no longer available] 241125 Ryebank - Predevelopment Supporting Info

The proposed development consists of the “Construction of a residential development comprising 120 units (including a mix of housing types and tenures) together with open spaces, landscaping, sustainable drainage features, access arrangements, cycleway and pedestrian linkages, parking provision and other associated works”

At this stage we have completed a high-level review of the surface water drainage hierarchy and note the following:

1. Infiltration – A Phase II intrusive site investigation has concluded that soakaway drainage is unlikely to be suitable due to the presence of deep Made Ground and cohesive superficial deposits.
2. Discharge into a water body – A potential connection to the Longford Brook within Longford Park is being investigated and discussed with Trafford Council LLFA and the EA. The brook is very shallow so the depth and distance from site may prohibit a connection. The pass forward flows may increase the flood risk associated with the Brook.
3. Discharge into a surface water sewer and or highway drain - The asset records have been reviewed and no surface water sewers are present within sites surroundings.
4. Discharge into a combined sewer – Should it be found that a connection to Longford Brook is not possible then a connection to the combined sewer network would be sought. The preferred point of connection would be the MH8603 within Longford Park. Peak discharge to be limited to Greenfield – Qbar – 19.4 l/s.

Regarding foul water drainage it is proposed that the site is drained via 2 networks, 1 to the north and 1 to the south. The northern network is proposed to discharge into MH1701 and the southern network into MH9401

It is understood that a sewer overflow passes beneath the site. Please can the following be confirmed in relation to this:

1. Easement zone/ width
2. Where does the overflow discharge
3. If a surface water connection to Longford Brook is not viable could a connection be made to the overflow, presuming this discharges into a watercourse?

Should you require any further information to enable you to complete your assessment please do not hesitate to get in touch.

Kind Regards,

Joe Bullough | Engineer

MEng

2nd Floor Tribeca House, 21-27 Dale Street,

Manchester M1 1EY

[redacted]

[redacted]

[redacted]

w: www.renaissance-ltd.com

[Image is no longer available]   [Image is no longer available]   [Image is no longer available]

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Business Park, Lingley Green Avenue, Great Sankey,
Warrington, WA5 3LP
Registered in England and Wales. Registered No 6559020

www.unitedutilities.com
www.unitedutilities.com/subsidiaries

From: [redacted]
Sent: 06 December 2024 09:15
To: JoeBullough
Cc: Aria Shino; Patrick Clayton; Philip Whitesmith
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Hi Joe,

As promised please see below:

1. Overflow Pipe will require a 5m easement either side of the sewer
2. The outfall point data that we have is shown on the records
3. You must rule out the drainage hierarchy and why a connection to watercourse is not possible, as you're aware connecting to a spill pipe is not permitted.

Regards

Anthony

--------------- Original Message ---------------
From: JoeBullough [redacted]
Sent: 28/11/2024 10:55
To: seweradoptions@uuplc.co.uk
Cc: [redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Freya,

A site location plan is provided on page 4 of the previously attached Brief Note.

As such please can this application be progressed and assigned to an engineer.

Kind Regards,

Joe Bullough | Engineer

MEng

2nd Floor Tribeca House, 21-27 Dale Street,

Manchester M1 1EY

[redacted]

[redacted]

[redacted]

w: www.renaissance-ltd.com

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From: [redacted]
Sent: 28 November 2024 10:45
To: JoeBullough <[redacted]
Cc: Aria Shino <[redacted] Patrick Clayton [redacted]; Philip Whitesmith [redacted]>
Subject: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Morning,

PRE DEVELOPMENT APPLICATION AT RYEBANKS FIELDS - UU Ref – 06693278

Please accept this email as receipt of your application received on 25/11/2024 for the above development. This has now been logged on our system and the job reference is 06693278 , we would ask that you quote this reference in all future correspondence.

I have reviewed your application (and attachments) and can confirm this is **not** suitable to start technical assessment. The application checklist details the required information for technical assessment; however, for an Engineer to start assessing your application, please provide the following:

1. Location plan (showing site boundary)

In the meantime, if I can be of any further help, please let me know.

Kind regards

United Utilities
Water for the North West

Freya Littlemore
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: [redacted] option 4
unitedutilities.com

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--------------- Original Message ---------------
From: JoeBullough [[redacted]]
Sent: 25/11/2024 16:27
To: [redacted]
Cc: [redacted]
Subject: Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Afternoon,

Please find attached a pre-development enquiry for the Ryebank Fields development located in Chorlton, Manchester. Supporting information is attached at the following link: [Image is no longer available] 241125 Ryebank - Predevelopment Supporting Info

The proposed development consists of the "Construction of a residential development comprising 120 units (including a mix of housing types and tenures) together with open spaces, landscaping, sustainable drainage features, access arrangements, cycleway and pedestrian linkages, parking provision and other associated works"

At this stage we have completed a high-level review of the surface water drainage hierarchy and note the following:

1. Infiltration – A Phase II intrusive site investigation has concluded that soakaway drainage is unlikely to be suitable due to the presence of deep Made Ground and cohesive superficial deposits.
2. Discharge into a water body – A potential connection to the Longford Brook within Longford Park is being investigated and discussed with Trafford Council LLFA and the EA. The brook is very shallow so the depth and distance from site may prohibit a connection. The pass forward flows may increase the flood risk associated with the Brook.
3. Discharge into a surface water sewer and or highway drain - The asset records have been reviewed and no surface water sewers are present within sites surroundings.
4. Discharge into a combined sewer – Should it be found that a connection to Longford Brook is not possible then a connection to the combined sewer network would be sought. The preferred point of connection would be the MH8603 within Longford Park. Peak discharge to be limited to Greenfield – Qbar – 19.4 l/s.

Regarding foul water drainage it is proposed that the site is drained via 2 networks, 1 to the north and 1 to the south. The northern network is proposed to discharge into MH1701 and the southern network into MH9401

It is understood that a sewer overflow passes beneath the site. Please can the following be confirmed in relation to this:

1. Easement zone/ width
2. Where does the overflow discharge
3. If a surface water connection to Longford Brook is not viable could a connection be made to the overflow, presuming this discharges into a watercourse?

Should you require any further information to enable you to complete your assessment please do not hesitate to get in touch.

Kind Regards,

Joe Bullough | Engineer

MEng

2nd Floor Tribeca House, 21-27 Dale Street,

Manchester M1 1EY

[redacted]

[redacted]

[redacted]

w: www.renaissance-ltd.com

[Image is no longer available]   [Image is no longer available]   [Image is no longer available]

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Joe Bullough

From: [redacted]
Sent: 14 August 2025 10:27
To: JoeBullough
Cc: Aria Shino; Patrick Clayton; Philip Whitesmith
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Hi Joe

Thank you for submitting the long section and confirming the submission to the LPA.

I don't see any issue in being able to lift the objection.

I will await consultation from the LPA/UU planning dept and submit as comment as soon as possible.

Kind regards

United Utilities
Water for the North West

Gary Jaundrell
Developer Engineer
Developer Services & Metering
Customer Services
T: 01925 429099
unitedutilities.com

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--------------- Original Message ---------------
From: [redacted]
Sent: 14/08/2025 09:49
To: [redacted]
[redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Morning

Your enquiry has been logged and sent to our engineer Gary Jaundrell and his contact number is 01925 429099. Our service Level agreement is to respond to you within 10 working days.

Many thanks

Laura Owens
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: 0345 026 8989 option 4
unitedutilities.com

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--------------- Original Message ---------------
From: JoeBullough [joebullough@renaissance-ltd.com]
Sent: 14/08/2025 09:23
To: [redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Hi Gary,

Thanks for confirming.

Please see attached the requested Long Section which has also been submitted to the LPA along with the survey information.

Kind Regards,

Joe Bullough | Engineer

MEng

2nd Floor Tribeca House, 21-27 Dale Street,

Manchester M1 1EY

[redacted]

[redacted]

[redacted]

w: www.renaissance-ltd.com

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From: [redacted]
Sent: 07 August 2025 15:28
To: JoeBullough [redacted]
Cc: Aria Shino [redacted]; Patrick Clayton [redacted]; Philip Whitesmith <[redacted]>
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Hi Joe,

Apologies for that pretty critical error.

I have corrected the wording below:

Could you please submit the Surveys to the LPA.
Could you also draft up a long section detailing the crossing points and mark up the vertical clearance from invert to crown of sewer.

Once these are submitted **I would see no issue** in lifting the objection.

Kind regards

Gary Jaundrell
Developer Engineer
Developer Services & Metering
Customer Services
T: 01925 429099
unitedutilities.com

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Water for the North West

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--------------- Original Message ---------------
From: [redacted]
Sent: 07/08/2025 14:57
To: [redacted]
Cc: [redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Afternoon

Your enquiry has been passed to Gary Jaundrell who will respond on or before 14th August.

Kind Regards

Water for the North West

Laura Owens
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: 0345 026 8989 option 4
unitedutilities.com

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--------------- Original Message ---------------
From: JoeBullough [redacted]
Sent: 07/08/2025 14:02
To: [redacted]
[redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Gary,

Further to the below we just wanted confirm that the following statement was a typo

“Once these are submitted I would see issue in lifting the objection”

And this should actually read:

Once these are submitted I would see **no** issue in lifting the objection.

Kind Regards,

Joe Bullough | Engineer

MEng

2nd Floor Tribeca House, 21-27 Dale Street,

Manchester M1 1EY

[redacted]

[redacted]

[redacted]

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From: JoeBullough
Sent: 06 August 2025 15:27
To: [redacted]
[redacted]

Whitesmith [redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Hi Gary,

Thank you for your response.

We can confirm the requested information has been sent the planning consultant for submission to the LPA.

Kind Regards,

Joe Bullough | Engineer

MEng

2nd Floor Tribeca House, 21-27 Dale Street,

Manchester M1 1EY

[redacted]

[redacted]

[redacted]

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From: [redacted]
Sent: 06 August 2025 08:58
To: JoeBullough [redacted]
Cc: Aria Shino [redacted] Patrick Clayton <[redacted] Philip Whitesmith <[redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Hi Joe,

Thank you for confirming.

Could you please submit the Surveys to the LPA. Could you also draft up a long section detailing the crossing points and mark up the vertical clearance from invert to crown of sewer.

Once these are submitted I would see issue in lifting the objection.

Please submit this email chain alongside your drawings.

Kind regards

United Utilities
Water for the North West

Gary Jaundrell
Developer Engineer
Developer Services & Metering
Customer Services
T: 01925 429099
unitedutilities.com

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--------------- Original Message ---------------
From: [redacted]
Sent: 29/07/2025 14:16
To: [redacted]
Cc: [redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Afternoon

Your enquiry has been logged and sent to our engineer Gulshan and his contact number is 01925 429092. Our service Level agreement is to respond to you within 10 working days.

Many thanks

Laura Owens
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: 0345 026 8989 option 4
unitedutilities.com

If you feel you have received a good service from myself, please can you take two minutes to fill in the survey below. This will be much appreciated

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--------------- Origin[redacted]-
From: JoeBullough [[redacted]]
Sent: 25/07/2025 17:42
To: [redacted]
[redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Afternoon Connor,

Further to discussions below please see attached results from the drainage survey that have been completed on the sewer overflow.

As you will note from the attached it was not possible to fully survey the sewer overflow due to encountering mass roots and severe encrustation which could not be cleared with high pressure jetting.

Nevertheless the survey did confirm that the invert level was 22.82mAOD, 77m upstream on MH0401 and the overflow has a diameter of 1275mm which would result in a soffit level of 24.095m.

As per pervious discussions the proposed drainage network has an invert level of circa 25.000mAOD and therefore the clearance would be circa 875mm.

Finally we would like to note that the reason for crossing the overflow with the proposed network it to form a connection with the Longford Brook within Longford Park as the most sustainable method of discharge after infiltration.

Based on the above are you able to remove your current objection?

Kind Regards,

Joe Bullough | Engineer

MEng

2nd Floor Tribeca House, 21-27 Dale Street,

Manchester M1 1EY

[redacted]

[redacted]

[redacted]

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From: [redacted]
Sent: 02 June 2025 11:59
To: JoeBullough [redacted]
Cc: Aria Shino <[redacted]>; Patrick Clayton [redacted]; Philip Whitesmith <[redacted]>
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Afternoon Joe

I've liaised with my colleagues and it really isn't something that we can condition, we need the confirmed clearance providing up front. If it's later discovered that clearance cannot be provided then that would have repercussions for your development as well as our asset.

Please are you able to confirm the confirmed clearance so that we can assess whether enough clearance has been provided. Whilst 300mm clearance is acceptable on smaller assets, this would require investigations.

Kind Regards
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United Utilities
Water for the North West

Conor Donaghy
Developer Engineer
Developer Services & Metering
T: 01925 429097
unitedutilities.com

--------------- Original Message ---------------
From: JoeBullough [redacted]
Sent: 29/05/2025 10:36
To: [redacted]
Cc: [redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Hi Conor,

It is not possible at this stage to carry out intrusive investigation or vegetation clearance in order to located Manhole 1704.

For ease of reference please see attached the results of the CCTV survey that has been possible. You will note that the survey had been abandoned at multiple points along the overflow due to debris within the pipe.

Kind Regards,

Joe Bullough | Engineer

MEng

2nd Floor Tribeca House, 21-27 Dale Street,

Manchester M1 1EY

[redacted]

[redacted]

[redacted]

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From: [redacted]
Sent: 23 May 2025 09:36
To: JoeBulloug[redacted] [redacted]; Patrick Clayton <[redacted] Philip Whitesmith <[redacted]
Subject: RE: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Morning Joe

Unfortunately due to the criticality of this sewer overflow and it's material, we wouldn't like to condition this. Is there no way of confirming the clearance prior to approval? Even though the minimum distance is 300mm, based on our policy on working near our existing pipelines, sometimes we may require clearance of the pipe diameter.

Are you able to confirm if this can be confirmed prior to determination?

Kind Regards
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Conor Donaghy
Developer Engineer
Developer Services & Metering
T: 01925 429097
unitedutilities.com

--------------- Original Message ---------------
From: [redacted]]
Sent: 16/05/2025 09:19
To: [redacted]
Cc: a[redacted]
[redacted]
Subject: 06693278 - Ryebank Fields, Chorlton - Pre-Development Enquiry

Good Morning,

Thank you for your contact regarding: Ryebank Fields, Chorlton - Pre-Development Enquiry.

I can confirm I have sent your enquiry over to Conor, who will review your enquiry and respond on or before 30 May 2025

I trust the information provided has been of assistance to you.

Many Thanks

Sewer Adoptions
Assistant Developer Engineer
Developer Services & Metering
T: 0345 072 6067
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APPENDIX N

MANCHESTER LLFA CORRESPONDENCE

Case Ref:	RYE/M21/A/PRE
Site Name:	Land At Ryebank Fields, Chorlton, Manchester
LLFA Advice Suitability Stage:	☐ **RIBA 0 – 2** (Strategic appraisals, feasibility, and concept design). ☒ **RIBA 3 – 7** (to prepare a Planning application and to discharge Planning Conditions for pre-commencement through to handover & occupation).

LLFA Comments 04/02/2025

Site checked in Asset Register	<Yes>
Data Screen Recommended	Yes - RYE/M21/A/DAT
FRA Required	Yes: (Site >1 Ha) & increases the vulnerability classification and may be subject to sources of flooding other than rivers or sea.

Standard Condition Clauses (Pre-commencement and Pre-occupation)	**Notes made during meeting to appraise proposals against the Clauses**
Please refer to the attached Watercourse Objection Template for the requirements for further investigation and masterplanning, in order to avoid an objection at full planning application stage.	The CCTV survey identified a culvert inlet at CULVERT1, although stated that this was redundant. The Data Screen shows an open channel through the site until this inlet. Based on the Data Screen (RYE/M21/A/DAT) the mapped culverted watercourse should also be accessed at the culvert outlet orifice on the eastern site boundary. CCTV can then be conducted into the upstream culvert to identify upstream connectivity and any flow. The possible open channel should also be tracked westwards through the site from this access point. An area of high-medium risk of surface water flooding

	aligns with the section indicated as open channel through the site on the Data Screen. The CCTV states that it was unable to locate MH1704 which is the combined sewer overflow pipe from the north. Further investigation or discussion with UU should be made. Further investigation is required to identify whether an open channel exists through the site, as well as whether the upstream culvert flows from the north of the site.
Progression through the drainage hierarchy must be evidence based and supported by site investigation including assessments of ground conditions and infiltration testing in accordance with BRE365. Proposals of attenuation should achieve half drain time within 24 hours.	The email dated 25/11/2024 states that "*a connection to Longford Brook is not possible then a connection to the combined sewer network would be sought*." Evidence of on-site infiltration investigation is first required. The data screen indicates possible existing surface water sewer in the southern area of the site, corroborated by the CCTV survey at MH0401 as a 1200mm brick sewer. This should be explored before discharging to combined sewer.
Where surface water is connected to the main river, any works within or adjacent to the river that would affect it would require consent from Environment Agency. An email of acceptance of proposed flows and/or new connection will suffice.	The Longford Brook is designated as Main River within the northern area of Longford Park.
Where surface water is connected to the ordinary watercourse, agreement in principle from Manchester City Council as Lead Local Flood Authority is required. Please note that all new connections to the watercourses shall comply with reduction of flows to Greenfield runoff rates. An email of acceptance of proposed flows and/or new connection will suffice.	The outline drainage strategy layout (RBM-REN-ZZ-XX-SK-C-01100 P03) proposes to discharge into the Longford Brook West of the Manchester City Boundary. The proposed surface water outfall pipe (or open swale) runs through land outside of the site boundary, owned by Trafford Council. Landowner agreement in principle is therefore required.
Where surface water is connected to the public sewer, agreement in principle from United Utilities is required that there is adequate spare capacity in the existing system taking future development requirements	This will be required should infiltration and connection to a watercourse be shown to be unsuitable, and connection to the public sewer be proposed. UU should also be consulted regarding possible assets on site. UU should be engaged with for further information on the mapped

into account. An email of acceptance of proposed flows and/or new connection will suffice.	1200m surface water sewer to the South, the combined overflow pipe to the North, and the possible presence of the Thirlmere Aqueduct.
Maximised integration of green SuDS components (utilising infiltration or attenuation) if practicable.	Surface water should be managed at the surface where possible, and open features (such as ponds, swales) should be used as far as practically possible.
Development must be limited to greenfield runoff on Greenfield sites up to a 1 in 100-year event, including climate change allowance.	The outline drainage strategy layout states that the discharge rate will be limited to the greenfield Qbar or 19.4l/s. Accompanying greenfield estimation calculation has been provided.
A finalised drainage layout showing all components, outfalls, levels and connectivity.	The current proposed drainage layout includes development and a detention basin along the mapped open watercourse extent. Rain gardens are proposed solely for the attenuation and treatment of highway drainage. As we do not consider highway drainage, this should be discussed with the statutory approvals and S278/38 team. Guidance is available at [Highways Developer Design Guidance – Sustainable Drainage Systems | Manchester City Council](#) .
An existing and proposed impermeable areas drawing to accompany all discharge rate calculations.	
Hydraulic calculations of the proposed drainage system, including all design parameters. Calculations must Include Critical Storm Events for the 1 in 2, 1 in 30 and 1 in 100 + 45% Climate Change. Results must demonstrate no surcharge for the 1 in 2, no flooding in the 1 in 30 and no flooding of buildings for the 1 in 100 + 45% Climate Change.	
An assessment of surface water pollution risk in-line with CIRIA C753 and, where required, evidence of pollution control measures (preferably through SuDS) to treat surface water prior to discharge.	Permeable paving, rain gardens, and a catchpit manhole with filter and silt bucket are proposed on the outline drainage strategy layout.
A plan indicating surface water overland flow routes for extreme events to ensure flows are diverted away from existing and proposed buildings (including basements).	

Construction details of flow control and SuDS elements.	The type of permeable paving (e.g. tanked, infiltration) will also need to be confirmed. For any ponds/swales proposed, the following will be required: - A topographic layout plan presenting the contours and levels. - Multiple cross-sections of the retention pond/detention basin or swale, including the modelled water levels and gradients. - Long section of the retention pond/detention basin or swale, including the modelled water levels and gradients. - Confirm maximum depth of pond, freeboard and permanent water level.
A plan indicating easements. SuDS features (including attenuation tanks) should be appropriately positioned, including a 2.5m easement from the existing highway and a 5m easement from any dwellings, guaranteeing accessibility for future maintenance and contingency for asset failure. This practice is in accordance with SuDS Manual (C753).	The current proposed drainage layout includes development and a detention basin along the mapped open watercourse extent, which does not account for easements.
Finished floor levels and proposed ground levels plan.	

Important Information
- **Our review and advice are proportional to the development stage of the proposal. Details of LLFA Advice Suitability Stage are in the top table of page 1.**
- **Where LLFA Advice Suitability Stage is RIBA 3 – 7, formal Planning submissions must contain information at approvable standard for all above clauses to avoid or discharge a Condition.**
- **Some matters cannot be Conditioned because they affect proposal viability. The LLFA may recommend an Objection if applications do not contain viability information to support the Planning Application. This includes but is not limited to inconsideration of drainage assets near development, inconsideration of flood risk assessment, inconsideration of securing at least one viable option to drain the site.**
- **This review has been made based on information presented in the email 25/11/2024 and the attached supporting documents.**

APPENDIX P

TRAFFORD COUNCIL CORRESPONDENCE

From: Aria Shino
Sent: 12 November 2024 11:28
To: [redacted]
[redacted] [redacted]
Subject: RE: Ryebank Fields - Chorlton
Attachments: FW: Ryebank Fields - Drainage Survey; UU Sewer map 240723.pdf; Plan.pdf

Good Morning Andrew,

Hope all is well.

We are the civil and structural engineers working on Ryebank Fields in Chorlton for Step Places.

Please find attached our summary email from the survey undertaken on site regarding the existing/proposed surface water network for the site. Essentially, we want to be connecting to Longford brook shown on the UU sewer map attached (page 3 – 8701) as per the drainage hierarchy. However, the survey undertaken on site has shown that there is no positive connection from our site to the brook we are intending to discharge into. The connection is assumed to have been through the culvert shown on the attached (plan) into MH1 and then the brook. Since the culvert is collapsed and all the inlets/outlets from MH1 are also collapsed we would need to either reinstate the connection between the culvert to MH1 or lay a new outfall pipe to MH1 then the brook.

Reinstating the culvert would also help in dealing with the existing flooding in Ryebank field.

We are still working through the design, but we are aiming for greenfield run off rate of circa 19.1 l/s (3.166ha).

Trust above is clear however should you require any further information please let us know. Be happy to discuss the matter further on teams if required.

Regards,

Aria Shino | Structural Engineer
MEng(Hons)

Carvers Warehouse, 77 Dale Street
Manchester, M1 2HG

[redacted]
w: www.renaissance-ltd.com

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From: Young, Andrew [redacted]>
Sent: 23 January 2025 13:20
To: JoeBullough; Foster, Paul; Harries, James; Traynor, Greg
Cc: [redacted]; Aria Shino; Patrick Clayton; Philip Whitesmith; [redacted]
Subject: RE: Ryebank Field - Chorlton

Hi Joe

We have just appointed our lead Consultant for the Longford Park project so I will relay your request to him so he can gauge when is best to loop you into a meeting with his drainage engineer,

Kind Regards

Andy

Andrew Young MCIOB
Senior Construction Project Manager
Place Directorate
Trafford Council
Trafford Town Hall
Talbot Road |Stretford | Manchester | M32 0TH
[redacted]

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The Planning and Development Service privacy notice can be viewed here.

From: JoeBullough [redacted]
Sent: 23 January 2025 11:11
To: [redacted]
Subject: RE: Ryebank Field - Chorlton

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Good Morning All,

Further to my email below and following our meeting towards the end of last year we would be grateful if you could please provide an update on the proposed connection principle as set out below.

If you feel it would be beneficial to have another meeting to discuss further please let us know your availability and we will look to get something in the diary.

Kind Regards,

Joe Bullough | Engineer
MEng

2nd Floor Tribeca House, 21-27 Dale Street,
Manchester M1 1EY

[redacted]
w: www.renaissance-ltd.com

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From: JoeBullough <[redacted]
Sent: 22 November 2024 16:54
To: [redacted]
Subject: RE: Ryebank Field - Chorlton

Good Afternoon All,

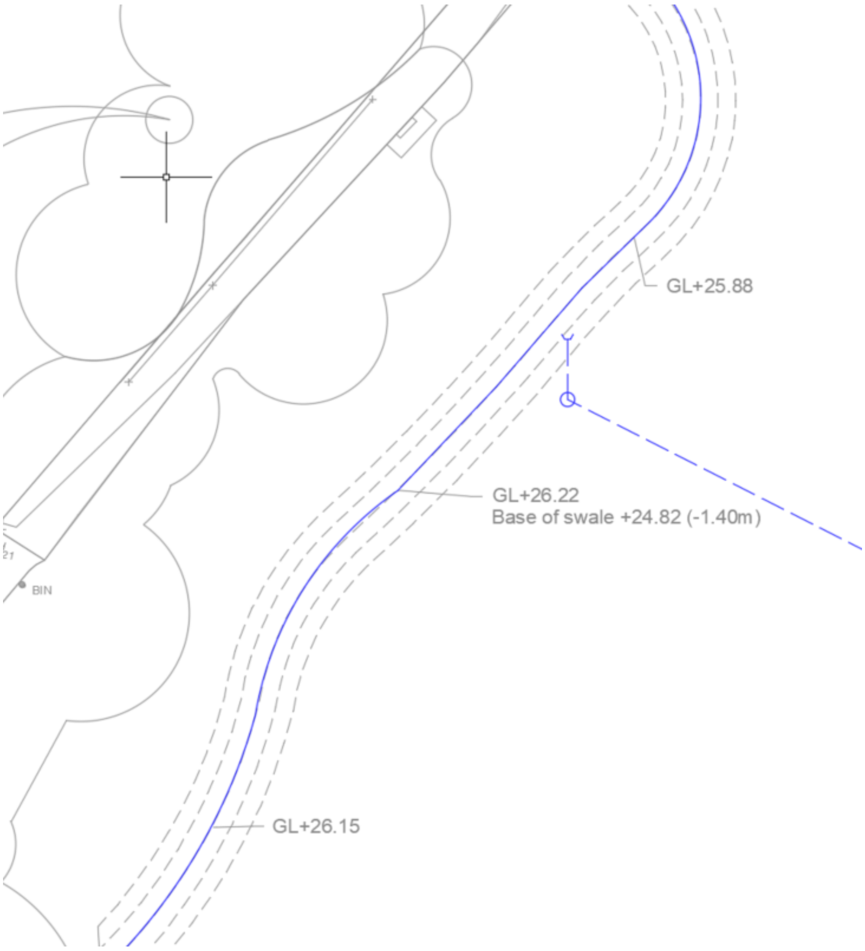
Further to our meeting last Thursday please see attached our existing drained area plan which also indicates the proposed development boundary.

Based on a proposed development area of 3.217ha, this equates to a Greenfield Qbar rate of **19.38l/s (6.02l/s/ha)**

We are proposing to limit the discharge rate to Qbar for all events up to the 1 in 100 year +CC event.

As discussed in our meeting we are proposing to form a connection into the Longford Brook inline with NPPF Drainage Hierarchy.

Based on the current proposals for Longford Park we are seeking agreement in principle to form a new connection into the swale that is proposed as part of the Longford Brook opening up, as shown below.



We would be grateful if you could review the above/ attached and forward onto the LLFA as mentioned in the meeting.

We trust this is of assistance and please not hesitate to get in touch should you require any further information.

We look forward to hearing from you.

Kind Regards,

Joe Bullough | Engineer
MEng

2nd Floor Tribeca House, 21-27 Dale Street,
Manchester M1 1EY

[redacted]
w: www.renaissance-ltd.com

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-----Original Appointment-----
From: Aria Shino <[redacted]
Sent: 13 November 2024 16:07
To: Aria Shino; Aria Shino; [redacted] JoeBullough

Cc: Traynor, Greg; Foster, Paul; Harries, James; [redacted]
Subject: Ryebank Field - Chorlton
When: 14 November 2024 11:00-11:30 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.
Where: Microsoft Teams Meeting

Microsoft Teams Need help?

Join the meeting now

Meeting ID: 345 283 665 503

Passcode: sAZsmD

For organisers: Meeting options

From: Young, Andrew [redacted]
Sent: 07 February 2025 08:05
To: JoeBullough
Cc: Graeme Atherton; Farrand, Paul
Subject: FW: Ryebank Fields Resi

Good morning Joe, I hope you are well.

We now have our lead consultant, The Environment Partnership, on board for the Longford Park development. As per Graeme's request, please could you provide the plan showing your proposed pipe and connection as below? Preferably in pdf and CAD if possible.

Thanks in advance

Andy

Andrew Young MCIOB
Senior Construction Project Manager
Place Directorate
Trafford Council
Trafford Town Hall
Talbot Road |Stretford | Manchester | M32 0TH
[redacted]

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From: Graeme Atherton [redacted]
Sent: 06 February 2025 17:00
To: Young, Andrew <[redacted]>
Cc: Farrand, Paul <[redacted]
Subject: RE: Ryebank Fields Resi

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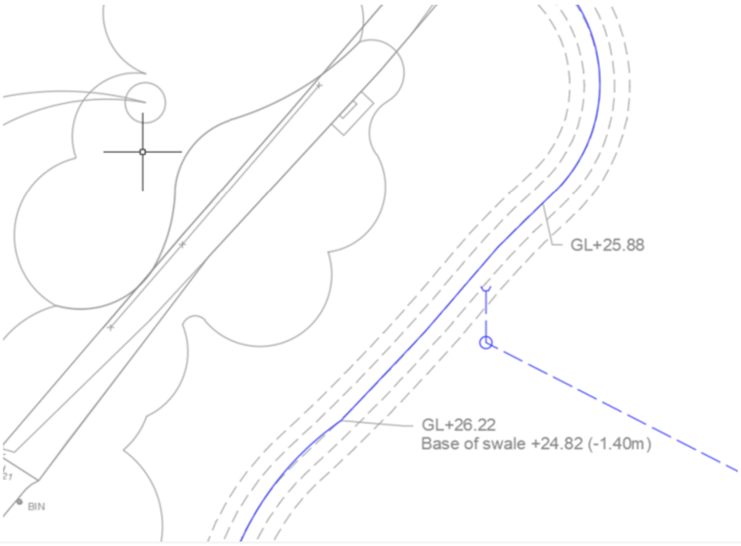
Thanks Andy,

Is there a plan showing the below – it looks like it is a proposed pipe connection across the park, into the swale:

As discussed in our meeting we are proposing to form a connection into the Longford Brook inline with NPPF Drainage

Based on the current proposals for Longford Park we are seeking agreement in principle to form a new connection into
as shown below.



Cheers,

Graeme Atherton
Director
Landscape and Urban Design

[redacted]

From: Young, Andrew [redacted]
Sent: 06 February 2025 16:47
To: Graeme Atherton <[redacted]
Cc: Farrand, Paul <[redacted]
Subject: RE: Ryebank Fields Resi

Hi Graham

Please see attached

KR

Andy

Andrew Young MCIOB
Senior Construction Project Manager
Place Directorate
Trafford Council
Trafford Town Hall
Talbot Road |Stretford | Manchester | M32 0TH
[redacted]

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From: Graeme Atherton [redacted]
Sent: 06 February 2025 16:29
To: Young, Andrew [redacted]
Cc: Farrand, Paul <[redacted]
Subject: RE: Ryebank Fields Resi

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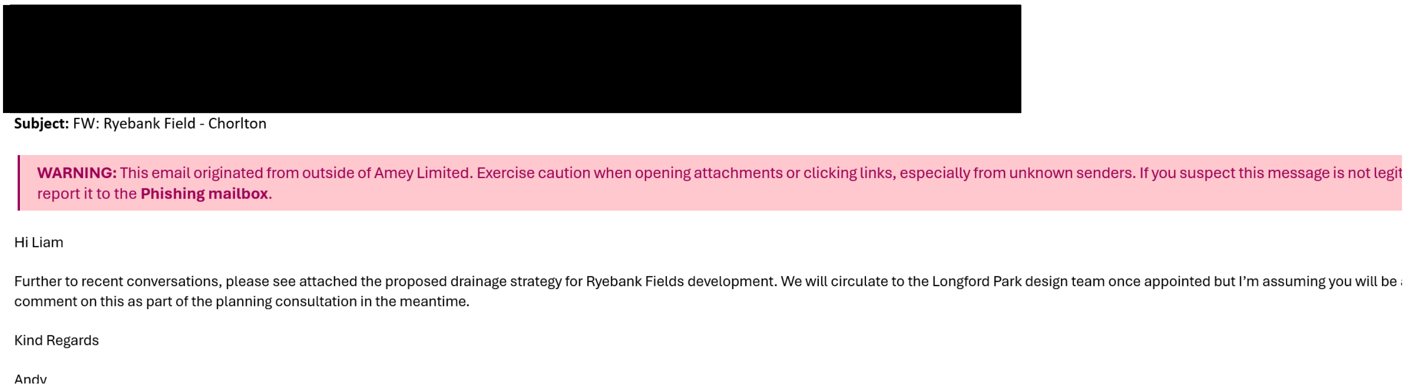
Andy,

See email below.

Any chance you can forward the drainage strategy attached to the email below:



[redacted]

Subject: FW: Ryebank Field - Chorlton

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Hi Liam

Further to recent conversations, please see attached the proposed drainage strategy for Ryebank Fields development. We will circulate to the Longford Park design team once appointed but I'm assuming you will be comment on this as part of the planning consultation in the meantime.

Kind Regards

Andy

Cheers,

Graeme Atherton
Director
Landscape and Urban Design

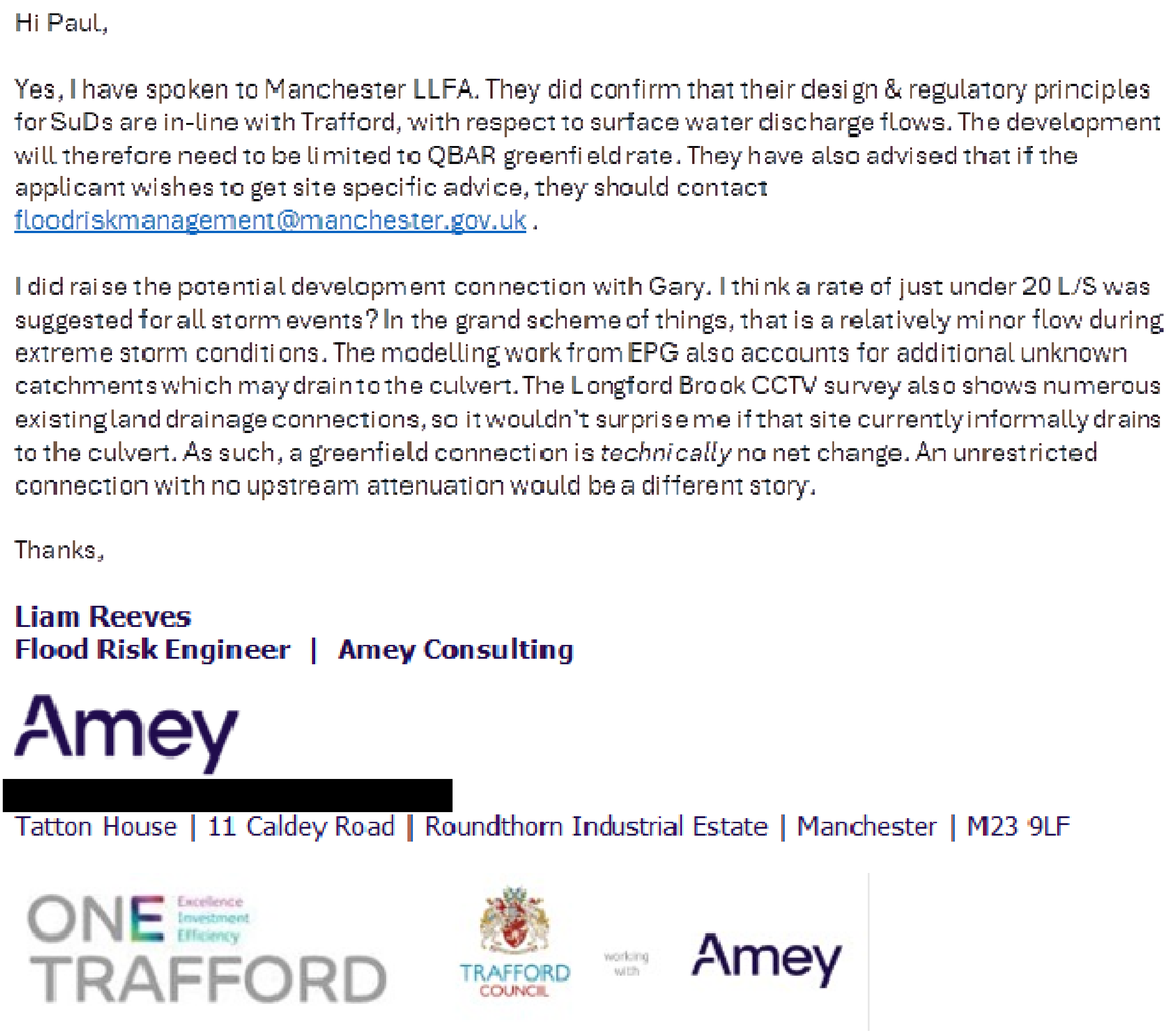
[redacted]

From: Farrand, Paul <[redacted]
Sent: 06 February 2025 15:40
To: Graeme Atherton [redacted]
Subject: RE: Ryebank Fields Resi

Hi Graeme

No, there's no planning application yet – there's been an Environmental Statement scoping request If you've not seen that https://pa.manchester.gov.uk/online-applications/files/1BCACB948268AA68D97875EBDB275E68/pdf/EIASCO_24_006-EIA_SCOPING_REPORT

Flood risk aspect scoped out, covered by docs to be submitted as part of the planning application – I know Liam has spoken to his counterpart at MCC:



Hi Paul,

Yes, I have spoken to Manchester LLFA. They did confirm that their design & regulatory principles for SuDs are in-line with Trafford, with respect to surface water discharge flows. The development will therefore need to be limited to QBAR greenfield rate. They have also advised that if the applicant wishes to get site specific advice, they should contact floodriskmanagement@manchester.gov.uk .

I did raise the potential development connection with Gary. I think a rate of just under 20 L/S was suggested for all storm events? In the grand scheme of things, that is a relatively minor flow during extreme storm conditions. The modelling work from EPG also accounts for additional unknown catchments which may drain to the culvert. The Longford Brook CCTV survey also shows numerous existing land drainage connections, so it wouldn't surprise me if that site currently informally drains to the culvert. As such, a greenfield connection is *technically* no net change. An unrestricted connection with no upstream attenuation would be a different story.

Thanks,

Liam Reeves
Flood Risk Engineer | Amey Consulting

[redacted]
Tatton House | 11 Caldey Road | Roundthorn Industrial Estate | Manchester | M23 9LF

See embedded e-mail and thread back to our meeting with the developer – may be some snippets of interest in there as you scroll down – not sure.

Paul

Paul Farrand
Senior Planner (Sustainability)
Climate Change and Sustainability Service
Growth and Regulatory Services
Trafford Council - Trafford Town Hall, Talbot Road, Manchester M32 0TH
[redacted]

From: Graeme Atherton <[redacted]
Sent: 06 February 2025 15:13
To: Farrand, Paul <[redacted]
Subject: Ryebank Fields Resi

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Paul,

Have you got any more information on the surface water connection that you mentioned from the new development?

Can see this website, but have they submitted for planning?

Ryebank Chorlton

Cheers,

Graeme Atherton
Director
Landscape and Urban Design

[redacted]

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