



**SHELDON BAKERY,
OPENSHAW,
MANCHESTER,
M11 2FB**

CULVERT DIVERSION STRATEGY

8885-HBL-XX-XX-RP-C-0010

Revision: P01



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Author	Sid Purvey
Signature	<i>S.PURVEY</i>
Date	19.11.2025
Approved	Ryan Jones Associate
Signature	<i>R.JONES</i>
Date	21.11.2025

Rev	Date	Details	Prepared By	Reviewed By
P01	21.11.2025	Preliminary	RJ	RJ

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1. INTRODUCTION

- 1.1 HBL Associates Ltd have been instructed to prepare a Culvert Strategy in support of a full planning application for a development proposed at land off Parkhouse Street in Openshaw, Manchester.
- 1.2 Table 1.1 below shows details of the proposed development.

Project Name	Sheldon Bakery, Openshaw
Project Description	The project includes commercial buildings, car parking with associated landscaping and infrastructure works
Location	land off Parkhouse Street, Openshaw, Manchester, Greater Manchester, England, M11 2FB.
NGR (Approximate)	387678E 397725N
Application Site Area (HA) – Red Boundary Line	21,666m ² = 2.17ha (Approximate area)
Development Type	“Greenfield” – the site is currently vacant and vegetated, with well-established dense vegetation present across part of the site. Historically the site was developed, including a dyeworks and terraced housing.
Local Planning Authority	Manchester City Council
Lead Local Flood Authority	Manchester City Council
Sewerage Undertaker	United Utilities

Table 1.1 Existing Site Details.

- 1.3 This report will outline both the current location and levels of the existing culvert pipe and outline where the proposed culvert diversion will go to.
- 1.4 This document is to be read in conjunction with all associated drawings, supported reports and documentation.
- 1.5 The report follows advice contained in the Department for Communities and Local Government’s National Planning Policy Framework (NPPF) and Planning Practice Guidance, which provides advice to planning authorities, developers, the public and Environment Agency (EA) on development and flood risk.

2. SITE LOCATION AND TOPOGRAPHY

2.1 The application site is an area of land in the east of Manchester, as indicated in Figure 2.1 below.



Figure 2.1 Site Location Plan – (Source: Google maps)

2.2 Figure 2.2 shows the aerial image of the site and the immediate surrounding area.



Figure 2.2 Satellite imagery – (Source: Google maps)

- 2.3 The site is greenfield undeveloped land, with vegetation present.
- 2.4 The eastern site boundary is Kelbrook Road, the southern boundary is Parkhouse Street, and the southern part of the western boundary is Clayton Lane. The remainder of the western boundary and the northern boundary is formed by commercial developments.
- 2.5 The site is within the Manchester District of the Greater Manchester Combined Authority area.
- 2.6 The proposed development is a large commercial bakery and includes HGV loading docks, service yard, vehicle parking with associated landscaping and infrastructure works.

Site Topography

- 2.7 The site can be identified by approximate National Grid Reference 387688 , 397722.
- 2.8 A topographical survey has been undertaken by The CAD Room in March 2021, reference 01-S-1038 (**Appendix 1**).
- 2.9 The topographical survey shows that there is a general trend of levels falling down to the west across the site. however, large parts of the site were unable to be surveyed due to the dense vegetation, so existing levels are unconfirmed across much of the site.
- 2.10 Levels around 60.30m AOD are present in the southeast corner, falling to around 58m AOD in the southwest corner. The northwest corner is around 60.70m AOD, and the northwestern point is approximately 61m AOD.

- 2.11 Levels are in the region of 60 – 61m AOD in the centre of the site.

3. LLFA COMMENTS

LLFA Comment 1 - Policy EN 14

- 3.1 LLFA have commented: “Where a culverted ordinary watercourse is indicated beneath the site, further investigation is required and the development proposal should account for its presence. We recommend the LPA should uphold Policy EN 14 due to the risk of collapse and flooding associated with inappropriate development around culverted watercourses.”

LLFA Comment 2 - Land Drainage Act 1991

- 3.2 LLFA have commented: “MCC records highlight that the underground is located within close the site while our records are frequently updated to ensure the highest level of accuracy, the records cannot guarantee 100% accuracy for all culverted assets. Therefore, we would request that the applicant informs the onsite contractor to remain observant and to take the appropriate safety precautions during excavation works. If any major unknown drainage assets are found beneath the site, then further investigation works should take place to identify the asset and MCC Lead Local Flood Authority (LLFA) should be contacted immediately. Any alterations to an ordinary watercourse will require consent from MCC LLFA under Land Drainage Act 1991.”

4. EXISTING CULVERT INFORMATION

CCTV SURVEY AND RECORDS

- 4.1 Following confirmation from the LLFA and Statutory providers that the culvert existed, as part of determining the position of the culvert to confirm existing records, a CCTV survey has been undertaken by Aquaspeed LLC. The results of the CCTV are included in Appendix 5 and summarized below:
- The Survey confirmed the existence of a culverted watercourse that is live.
 - The culvert is a consistent 1200 diameter throughout it’s plotted layout.
 - Having reviewed the CCTV footage and report it is noted that the culvert is in a relatively defect free condition however with the existence of obstructions.
 - The upstream and downstream connection points were noted as being off site.
 - There was noted potential foul noted on the survey however this could be attributed to debris within the channel.
 - The culvert is made up of a combination of cast iron and brick.
 - The depth is average around 4m deep across its route through the existing site.

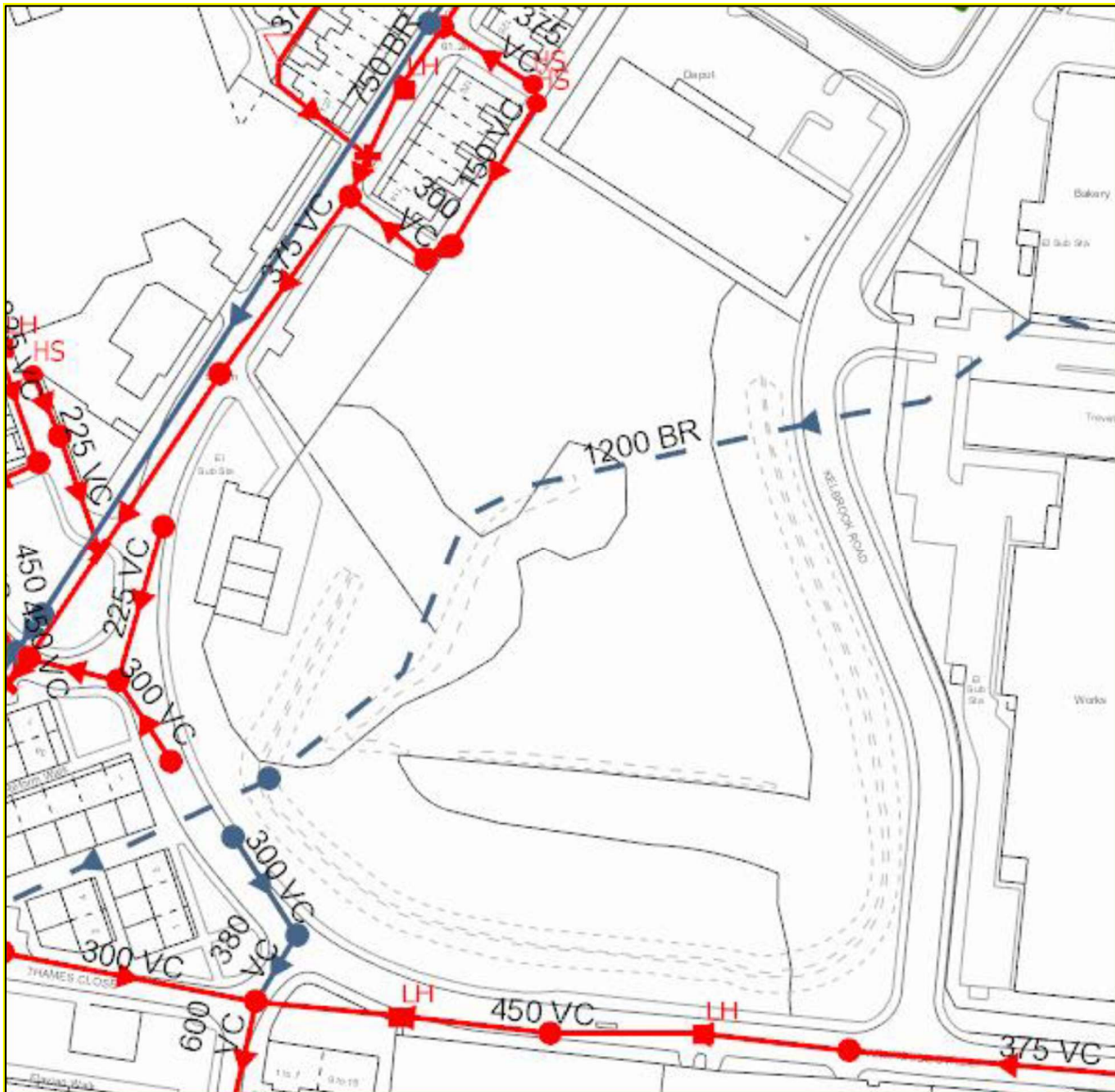


Figure 4.1 Extract from United Utilities sewer records. (Source: United Utilities).

CCTV Survey

- 4.2 A full CCTV survey has been undertaken and combined with existing public sewers records to generate the levels, dimensions and location of the existing culvert. This is available in Figure 4.2 and Appendix 5.
- 4.3 The cover levels and invert levels for the existing culvert are presented in Table 4.1 and Appendix 5.

Culvert Chamber	CL (m)	IL (m)
SW01	60.650	65.400
SW02	60.700	56.400
SW03	59.320	55.000

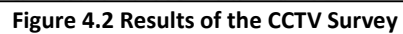
Table 4.1. Culvert Chambers information

- 4.4 Chamber invert levels are subject to final checks prior to the connection.
- 4.5 Diameters of existing culvert chambers have not been included as they are currently unknown.
- 4.6 Existing culvert continuous off site however CCTV survey was terminated within the boundary of the existing site. Final known cover level at site limit is 57.40m. This is shown in Figure 4.1 and Appendix 5.

Pipe	Length (m)	Diameter (mm)	Gradient	Material
SC1.000	59.61	1200	1:78.1	Cast Iron
SC1.001	52.43	1200	1:37.4	Cast Iron
SC1.002	57.86	1200	TBC	Brick

Table 4.2. Culvert pipe information

- 4.7 SC1.002 gradient unknown as invert level at extent of the site as CCTV survey terminated at site boundary (Section 4.4).
- 4.8 CCTV survey (Appendix 4) and existing records indicate that SC1.001 has a bend in its pipe route. Pipe Soffit to be exposed prior to construction to confirm.
- 4.9 Refer to Kelbrook Road AQUASPEED LLC CCTV report and plans for further information about existing culvert condition and location. This is in Appendix 4.



4.10 Travelling down the network, the condition of the culvert was found to be acceptable.

4.11 Further information regarding the culvert is in the CCTV survey report in Appendix 4.

5.1 The diversion has been proposed to the existing culvert which is located within the site boundary. A summary of the proposed culvert chambers and pipelines can be found in Tables 5.1 and 5.2 and the proposed pipe diversion is indicated in Figure 5.1 and in Appendix 6.

Culvert Chamber	CL (m)	IL (m)	Diameter (mm)
SD1	60.603	56.23	2100
SD2	60.539	55.860	2100
SD3	60.289	54.826	2100
SD4	58.444	TBC	2100

Table 5.1. Proposed Diverted Culvert Chambers information

Pipe	Length (m)	Diameter (mm)	Gradient	Material
10.000	37.00	1200	1:100.0	X
10.001	41.57	1200	1:40.2	X
10.002	118.76	1200	TBC	X

Table 5.2. Proposed Diverted Culvert Pipes information

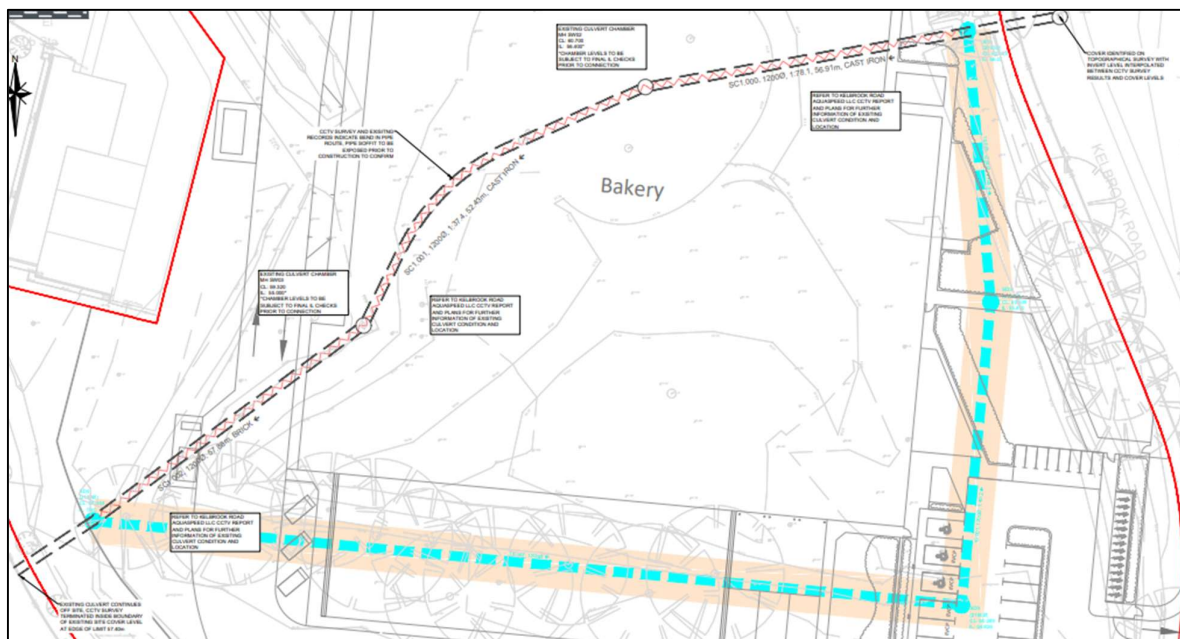


Figure 5.1. Proposed Culvert Diversion

- 5.2 The invert level of SD4 is currently unknown due to the invert level of SC1.002 being unknown (Section 4.6).
- 5.3 The gradient of pipe 10.002 is unknown as the invert level of SC1.002 is unknown (Section 4.6).
- 5.4 As shown on Figure 5.1, the proposed culvert diversion is all situated within the bounds of the proposed site and all proposed culvert chambers can be accessed easily.
- 5.5 Further detailed assessments will be undertaken before the commencement of construction.

6. HBL RESPONSE TO LLFA COMMENTS

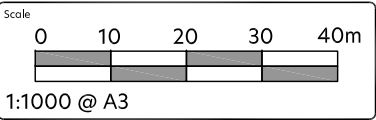
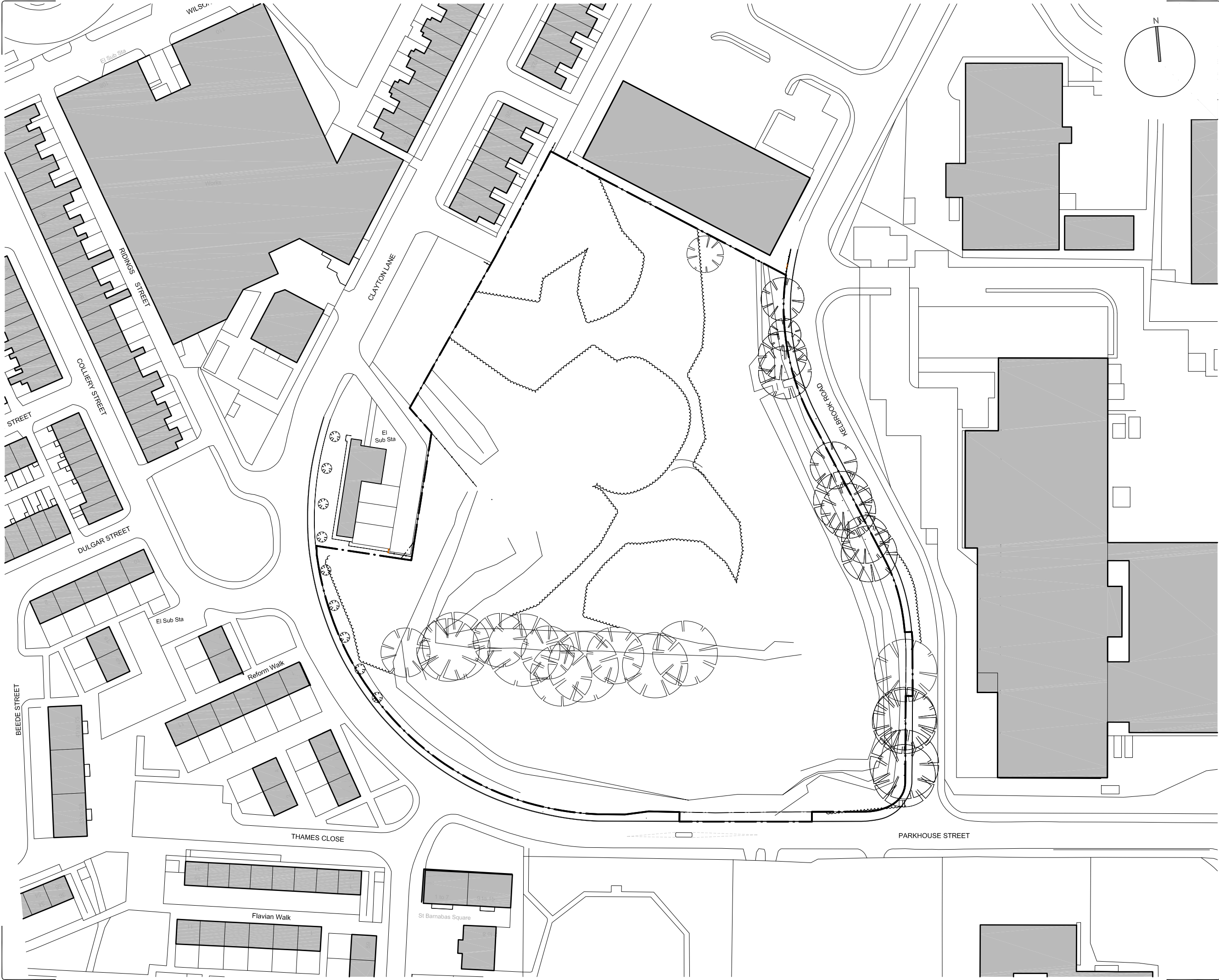
HBL Response Regarding Policy EN14

- 6.1 Having reviewed the CCTV information and the existing historic records it is now deemed that the existing route and condition is known for the site.
- 6.2 As part of this it is a requirement of the future development to divert this existing culvert.
- 6.3 The proposed Culvert is detailed and will be reviewed in more detail as part of the diversion request to be made with the statutory authority. All required details for approval and construction will be provided as part of this.
- 6.4 HBL are satisfied that the documented information allows for a clear understanding of the existing culvert and it's intended diversion to enable development works to proceed.

7. EXECUTIVE SUMMARY

- 7.1 A culvert diversion strategy has been prepared for the site providing an alternative pathway for the culvert across the site complete with inlet and cover levels.
- 7.2 The levels, dimensions and material of construction for the existing culvert have been gathered from using topographical data alongside a CCTV survey of the culvert.
- 7.3 Further detailed assessments such as exposing the pipe soffit for where the pipe bends and confirming the invert levels of the pipe will be undertaken before any construction takes place.
- 7.4 If the condition of the existing culvert is found to be acceptable, the new culvert will be constructed to LLFA adoptable standards and will be subject to a full S106 application process for its diversion.

APPENDIX 1 – TOPOGRAPHICAL SURVEY



Notes

Figured dimensions are to be used in all cases.

Dimensions should not be scaled from drawing unless for planning application purposes.

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This drawing is to be read in conjunction with all the relevant Mechanical and Electrical drawings.

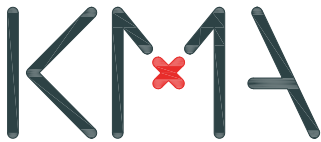
This drawing is to be read in conjunction with the relevant Structural Engineer's drawings, structural calculations and recommendations.

This drawing is to be read in conjunction with the relevant Fire Safety Strategy drawings.

Please note that the use of any quantification data is done so at the users own risk.

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Revision Notes				
Rev	Date	Revision Description	Drawn	Checked
P1	04.06.25	Initial Issue	CTW	AT



Project Name

Openshaw
Kelbrook Road

Drawing Title

Existing
Site Plan

Drawing Number

OKR-KMA-XX-XX-DR-A-7001

Project Number	Status	Revision
T1179	A3 Planning	P1

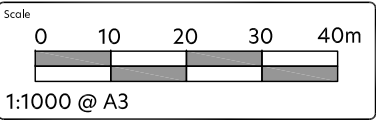
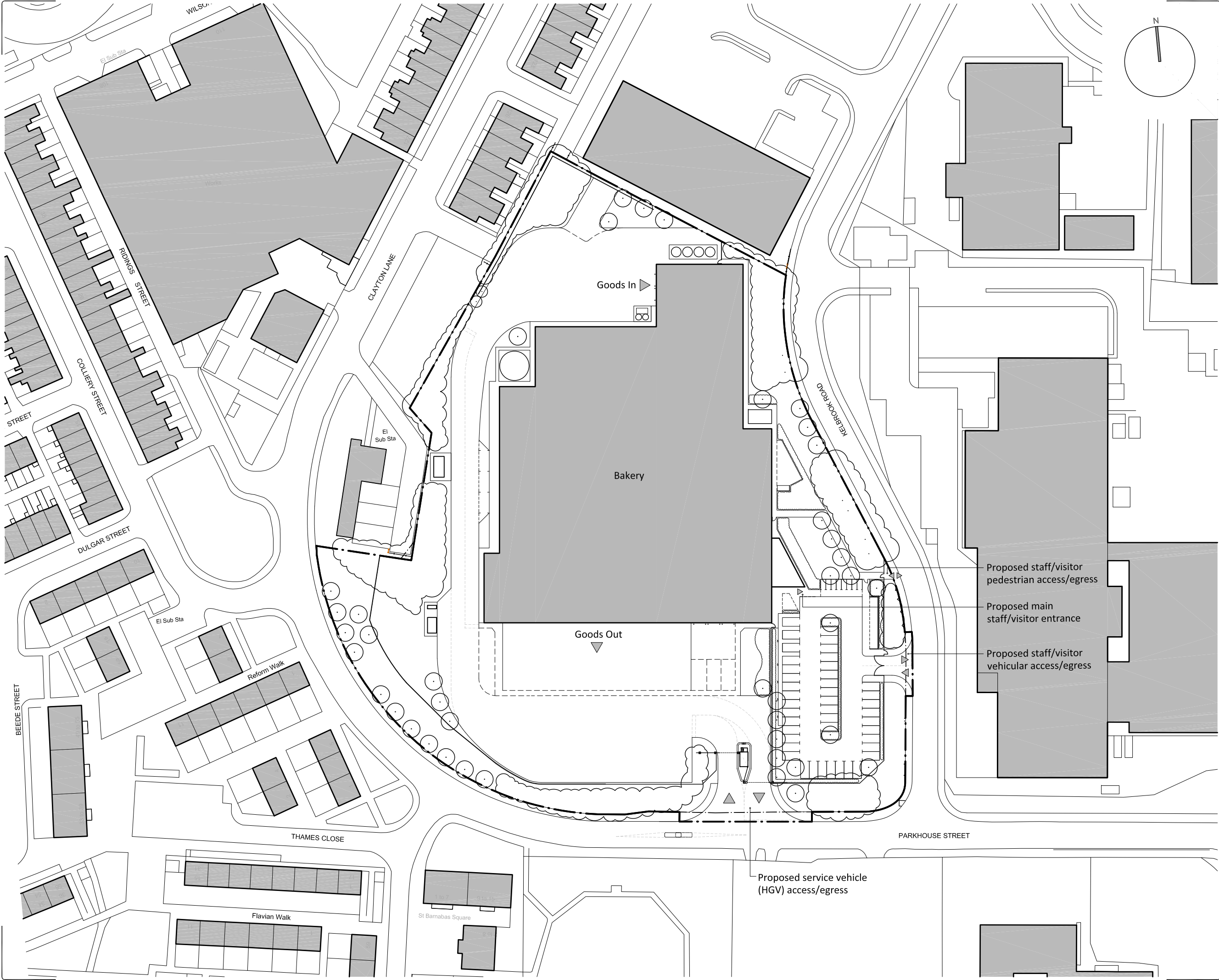
Drawn by	Authorised by	Date
CTW	AT	04.06.25

Studio KMA

Clarence Arcade | Stamford Street | Ashton-under-Lyne | OL6 7PT
T: 01457 873163

E: info@studiokma.co.uk www.studiokma.co.uk

APPENDIX 2 – PROPOSED SITE PLAN



Notes

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This drawing is to be read in conjunction with all the relevant Mechanical and Electrical drawings.

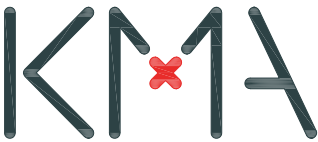
This drawing is to be read in conjunction with the relevant Structural Engineer's drawings, structural calculations and recommendations.

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Revision Notes					
Rev	Date	Revision Description	Drawn	Checked	
P2	25.07.25	General amendment	CTW	AT	
P1	04.06.25	Initial Issue	CTW	AT	



Project Name

Openshaw
Kelbrook Road

Drawing Title

Proposed
Block Plan

Drawing Number

OKR-KMA-XX-XX-DR-A-7002

Project Number	Status	Revision
T1179	A3 Planning	P2

Drawn by	Authorised by	Date
CTW	AT	25.07.25

Studio KMA

Clarence Arcade | Stamford Street | Ashton-under-Lyne | OL6 7PT
T: 01457 873163

E: info@studiokma.co.uk www.studiokma.co.uk

APPENDIX 3 – LLFA RESPONSE

Planning Application: 143634/FO/2025
Manchester City Council LLFA Response
LLFA Comments:

1. *The following matters as a minimum should be resolved pre-determination. Reason:*
Policy EN 14 -

Where a culverted ordinary watercourse is indicated beneath the site, further investigation is required and the development proposal should account for its presence. We recommend the LPA should uphold Policy EN 14 due to the risk of collapse and flooding associated with inappropriate development around culverted watercourses.

HBL Response: Following further investigations including a full CCTV survey, the route, size, condition and initial levels of the exiting culvert have been documented across the plans and CCTV survey report/videos.

2. *MCC records highlight that the underground is located within close the site while our records are frequently updated to ensure the highest level of accuracy, the records cannot guarantee 100% accuracy for all culverted assets. Therefore, we would request that the applicant informs the onsite contractor to remain observant and to take the appropriate safety precautions during excavation works. If any major unknown drainage assets are found beneath the site, then further investigation works should take place to identify the asset and MCC Lead Local Flood Authority (LLFA) should be contacted immediately. Any alterations to an ordinary watercourse will require consent from MCC LLFA under Land Drainage Act 1991.*

HBL Response: As per above further investigations have now documented the details of the existing culvert route which are included. In addition to this the proposed culvert diversion route has been updated alongside presenting the abandonment of the existing culvert and levels of the new diverted route.

APPENDIX 4 – CCTV SURVEY REPORT



1200mm BRICK

MH SW3

1200mm BRICK

MH SW1
4.25mtr

1200mm CAST
IRON

MH SW2

1200mm CAST
IRON

KELBROOK ROAD

ACCESS
LOCATION

Drainage Report



Prepared For
E & M BRENNAN

Site
**SHELDONS SITE
KELBROOK ROAD
MANCHESTER
M11 2DD**



AQUASPEED LLC
Surveyor: Lee Foden
lewis@aquaspeed.co.uk
01942 886722

Total Defects for Project



Total DRB Grades for Project



KELBROOK ROAD - CCTV Survey Report : 13/10/25

Name :	AQUASPEED LLC
Contact :	Mike Jones
Location :	171 Smallbrook Lane
Town :	Leigh
Region :	Lancashire
Postcode :	WN7 5PZ
Email :	lewis@aquaspeed.co.uk
Contact Number :	01942 886722
Surveyor :	Lee Foden
Valid Certification No :	

Client Information

Name :	E & M BRENNAN
Contact :	
Location :	
Town :	
Region :	
Postcode :	
Tel :	
Mobile :	
Email :	
Fax :	

Site Information

Name :	SHELDONS SITE
Contact :	
Location :	KELBROOK ROAD
Town :	MANCHESTER
Region :	M11 2DD
Postcode :	
Tel :	
Mobile :	
Email :	
Fax :	

Total Defects for Project



Total DRB Grades for Project



Report interpretation.

Overview:

Each section of the drainage system is allocated a score indicating areas that require attention. These areas are detailed in the Overview section on the following page and also at the bottom right of the first few pages. We use colour coding as an indicator of severity. Additional information concerning rehabilitation options/recommendations is included in the Overview page, which can also be used as an, "at a glance" indication of system condition. More in depth information for each section, including images can be found later in the report. Grade indicators are as follows:

Grade A: Drain is serviceable no recommendations required

Grade B: There is an issue that might require remedial works

Grade C: There is a defect that requires remedial works, the drain is not serviceable.

Observations:

Each section of drainage reported on (manhole to manhole for example), contains detailed information about that drain and any observations made concerning condition are detailed below the header section. The observations are colour coded and given a severity score, with more significant defects being given a higher score, using a scale from 1 to 5 as detailed below:

Severity 1 to 2: These defects may require remedial monitoring

Severity 3: These defects probably require some form of remedial works

Severity 4 to 5: Defects that will require remedial repair or replacement

General:

The information provided is relevant at the time of survey. The coding system in this report is based on the Manual of Sewer Condition Classification, 5th edition (MSCC5) domestic codes (BS EN 13508-1:2003). This is the official standard for the water industry.

The severity system is based on significant experience in general practice and the 1 -5 grades represent the severity of individual defects: 5 representing a more serious defect.

Please feel free to contact us for further explanation or pricing for remedial works required.

Total Defects for Project



Total DRB Grades for Project



Overview

Section: 1 From: MH SW1 To: MH SW2	NO RECORDE DEFECTS	DRB Grade: A Pipe Size: 1200 Material: Brick Use: Surface Water
Section: 2 From: MH SW2 To: UP STREAM	RECOMMEND FURTHER VISIT WITH TANKER AND CCTV UNITS IN ORDER TO CAT AND GENIE THE CAST IRON PIPE TO LOACTE AND EXPOSE MH SW2, TANKER TO CARRY OUT HIGH PRESSURE WATER JETTING TO ENABLE FURTEHR CCTV UPTO AREA OF KELBROOK ROAD VERY POOR ACCESS ISSUES FULL MAN ENTRY EQUIPMENT REQUIRED INVERT LEVEL - 4.25mtr	DRB Grade: B Pipe Size: 1200 Material: Cast Iron Use: Surface Water
Section: 3 From: MH SW1 To: MH SW3	NO RECORDED DEFECTS	DRB Grade: B Pipe Size: 1200 Material: Brick Use: Surface Water
Section: 4 From: MH SW3 To: DOWN STREAM	RECOMMEND TANKER ATTEND WITH REMOTE HIGH PRESSURE JETTING REEL IN ORDER TO BACK JET THE 1200mm BRICK SEWER TO ENABLE FURTHER CCTV. SURVEY TO INCLUDE THE SONAR PROBING AND MARKING OF THE LINE OF THE SEWER VERY POOR ACCESS TO WORKING AREA FULL MAN ENTRY EQUIPMENT REQUIRED	DRB Grade: B Pipe Size: 1200 Material: Brick Use: Surface Water

Total Defects for Project



Total DRB Grades for Project



Site: KELBROOK ROAD, MANCHESTER

Section 1

Client: E & M BRENNAN	Location (Street Name): KELBROOK ROAD	City/Town/Village MANCHESTER	Cust Job Ref.	Surveyors Name: Lee Foden	Date: 13/10/2025
Start Node Ref: MH SW1	Finish Node Ref: MH SW2	Direction: U	Height/Dia: 1200		
Start Node Depth: 0.00	Finish Node Depth: 0.00	Use: S	Shape: C		
Start Node Coordinate:	Finish Node Coordinate:	Material: BR	Cleaned N		

Node Type	Cover Condition	Benching Condition	1/2 Channel Condition	Node Condition Remarks
MH	Missing ✗	Poor ✗	Good ✓	NO MH COVER OR FRAME

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	45.65	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole		0_0		
00.00m	WL	Water level 5%		0_1	0:00:00	
00.00m	REM	General remark		0_2	0:00:00	
00.00m	REM	General remark		0_3	0:00:00	
01.67m	MC	Material of drain/sewer changes		0_4	0:00:50	
45.65m	MHF	Finish node type, manhole		0_99		

0m

45.65m

Total Defects for section

DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 1

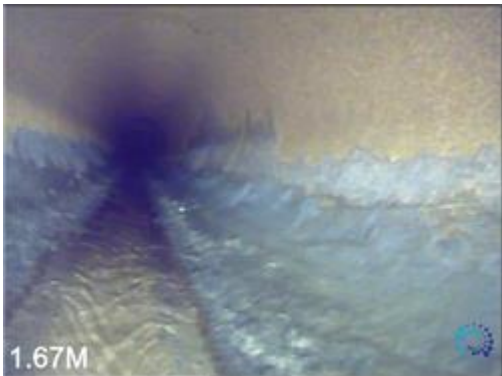
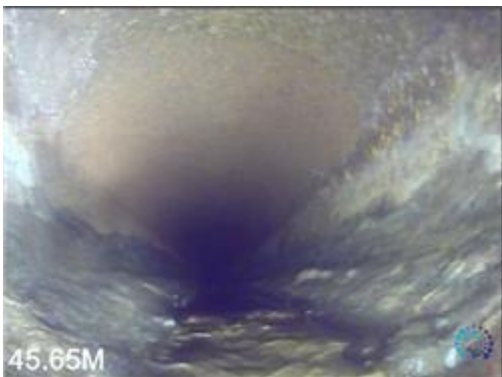
Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH SW 1	Image Provided - Ref: 0_0  0.41M
00.00m	0:00:00	WL	Water level: 5% Height/Diameter	Image Provided - Ref: 0_1  0.41M
00.00m	0:00:00	REM	General remark STEPS LEADING INTO MH	Image Provided - Ref: 0_2  0.41M

Total Defects for section



DRB Grade for Section



Pos	Video Ref	Code	Description	Image
00.00m	0:00:00	REM	General remark EVIDENCE OF FOUL WATER PRESENT	Image Provided - Ref: 0_3  0.41M
01.67m	0:00:50	MCCI	Material of pipe changes to Cast Iron	Image Provided - Ref: 0_4  1.67M
45.65m		MHF	Finish node type, manhole MH SW2	Image Provided - Ref: 0_9999  45.65M

Total Defects for section



DRB Grade for Section



Site: KELBROOK ROAD, MANCHESTER

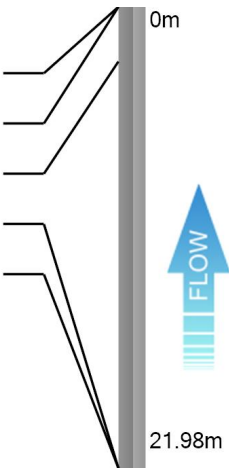
Section 2

Client: E & M BRENNAN	Location (Street Name): KELBROOK ROAD	City/Town/Village MANCHESTER	Cust Job Ref.	Surveyors Name: Lee Foden	Date: 13/10/2025
Start Node Ref: MH SW2	Finish Node Ref: UP STREAM	Direction: U	Height/Dia: 1200		
Start Node Depth: 0.00	Finish Node Depth: 0.00	Use: S	Shape: C		
Start Node Coordinate:	Finish Node Coordinate:	Material: CI	Cleaned N		

Node Type	Cover Condition	Benching Condition	1/2 Channel Condition	Node Condition Remarks
MH	Missing ✗	Poor ✗	Good ✓	NO COVER OR FRAME

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	21.98	

Position	Code	Description	CD	Pic	Video Ref
00.00m	MH	Start node type, manhole		1_0	
00.00m	WL	Water level 5%		1_1	0:00:00
02.60m	DEG	S1 Attached deposits, grease 05-07 10%	S1	1_2	0:00:11
21.98m	DEG	F1 Attached deposits, grease 05-07 10%	F1	1_-2	0:00:11
21.98m	SA	Survey abandoned		1_99	



Total Defects for section



DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 2

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH SW2	Image Provided - Ref: 1_0 
00.00m	0:00:00	WL	Water level: 5% Height/Diameter	Image Provided - Ref: 1_1 
02.60m	0:00:11	S1 DEG	Attached deposits, grease 2.6m - 21.98m from 05 o'clock to 07 o'clock: 10% Cross sectional area loss - Severity 3	Image Provided - Ref: 1_2 
21.98m	0:00:11	F1 DEG	Attached deposits, grease Defect End from 05 o'clock to 07 o'clock: 10% Cross sectional area loss - Severity 3	

Total Defects for section



DRB Grade for Section



Pos	Video Ref	Code	Description	Image
21.98m		SA	Survey abandoned CRWALER UNITS WHEELS SLIPPING ON GREASE RESIDUE, CAMERA UNABLE TO PROCEED	Image Provided - Ref: 1_9999 

Total Defects for section



DRB Grade for Section



Site: KELBROOK ROAD, MANCHESTER

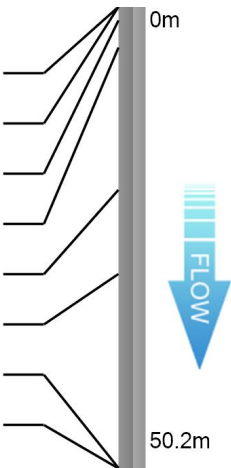
Section 3

Client: E & M BRENNAN	Location (Street Name): KELBROOK ROAD	City/Town/Village MANCHESTER	Cust Job Ref.	Surveyors Name: Lee Foden	Date: 13/10/2025
Start Node Ref: MH SW1	Finish Node Ref: MH SW3	Direction: D	Height/Dia: 1200		
Start Node Depth: 0.00	Finish Node Depth: 0.00	Use: S	Shape: C		
Start Node Coordinate:	Finish Node Coordinate:	Material: BR	Cleaned N		

Node Type	Cover Condition	Benching Condition	1/2 Channel Condition	Node Condition Remarks
MH	Missing ✗	Poor ✗	Good ✓	NO COVER ORFRAME

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	50.2	

Position	Code	Description	CD	Pic	Video Ref
00.00m	MH	Start node type, manhole		2_0	
00.00m	WL	Water level 10%		2_1	0:00:00
01.47m	DEE	Attached deposits, encrustation 04-07 20%		2_2	0:00:00
04.42m	WL	Water level 5%		2_3	0:00:57
19.90m	LLQ	S1 Line of drain/sewer deviates left [quarter]	S1	2_4	0:01:56
29.05m	LLQ	F1 Line of drain/sewer deviates left [quarter]	F1	2_-4	0:01:56
50.15m	REM	General remark		2_5	0:04:44
50.20m	MHF	Finish node type, manhole		2_99	



Total Defects for section



DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 3

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH SW1	Image Provided - Ref: 2_0 
00.00m	0:00:00	WL	Water level: 10% Height/Diameter	Image Provided - Ref: 2_1 
01.47m	0:00:00	DEE	Attached deposits, encrustation from 04 o'clock to 07 o'clock: 20% Cross sectional area loss - Severity 3	Image Provided - Ref: 2_2 

Total Defects for section



DRB Grade for Section



Pos	Video Ref	Code	Description	Image
04.42m	0:00:57	WL	Water level: 5% Height/Diameter	Image Provided - Ref: 2_3  4.42M
19.90m	0:01:56	S1 LLQ	Line of drain/sewer deviates left [quarter] 19.9m - 29.05m	Image Provided - Ref: 2_4  19.87M
29.05m	0:01:56	F1 LLQ	Line of drain/sewer deviates left [quarter] Defect End	
50.15m	0:04:44	REM	General remark MH SONAR PROBED, MARKED AND EXPOUSED	Image Provided - Ref: 2_5  50.15M

Total Defects for section



DRB Grade for Section



Pos	Video Ref	Code	Description	Image
50.20m		MHF	Finish node type, manhole MH SW3	Image Provided - Ref: 2_9999 

Total Defects for section



DRB Grade for Section



Site: KELBROOK ROAD, MANCHESTER

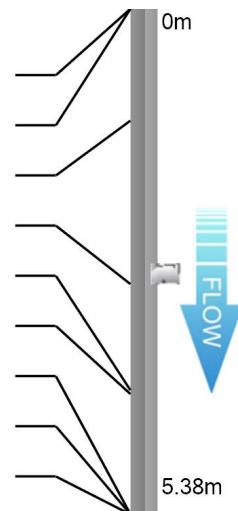
Section 4

Client: E & M BRENNAN	Location (Street Name): KELBROOK ROAD	City/Town/Village MANCHESTER	Cust Job Ref.	Surveyors Name: Lee Foden	Date: 13/10/2025		
Start Node Ref: MH SW3	Finish Node Ref: DOWN STREAM	Direction: D	Height/Dia: 1200	Start Node Depth: 0.00	Finish Node Depth: 0.00	Use: S	Shape: C
Start Node Coordinate:	Finish Node Coordinate:	Material: BR	Cleaned N				

Node Type	Cover Condition	Benching Condition	1/2 Channel Condition	Node Condition Remarks
MH				

Drain Type	Lining Type	Lining Mat.	Year Const.	Weather	Flow Cont.	Length	General Remarks
A			Z	D	N	5.38	

Position	Code	Description	CD	Pic	Video Ref	
00.00m	MH	Start node type, manhole		3_0		
00.00m	WL	Water level 5%		3_1	0:00:00	
01.19m	WL	Water level 10%		3_2	0:00:10	
02.93m	CN	Connection other than junction 09 : 100mm		3_3	0:00:21	
04.06m	WL	Water level 20%		3_4	0:00:29	
04.10m	DER	S1 Settled deposits coarse 25%	S1	3_5	0:00:29	
05.38m	DER	F1 Settled deposits coarse 25%	F1	3_-5	0:00:29	
05.38m	VR	Vermin Rat		3_6	0:00:48	
05.38m	SA	Survey abandoned		3_99		



Total Defects for section

DRB Grade for Section



Descriptive Report with Remarks and Observation Images

Section 4

Pos	Video Ref	Code	Description	Image
00.00m		MH	Start node type, manhole MH SW3	Image Provided - Ref: 3_0  0.40M
00.00m	0:00:00	WL	Water level: 5% Height/Diameter	Image Provided - Ref: 3_1  0.40M
01.19m	0:00:10	WL	Water level: 10% Height/Diameter	Image Provided - Ref: 3_2  1.19M

Total Defects for section



DRB Grade for Section



Pos	Video Ref	Code	Description	Image
02.93m	0:00:21	CN	Connection other than junction at 09 o'clock: 100mm Diameter	Image Provided - Ref: 3_3 
04.06m	0:00:29	WL	Water level: 20% Height/Diameter	Image Provided - Ref: 3_4 
04.10m	0:00:29	S1 DER	Settled deposits coarse 4.1m - 5.38m: 25% Cross sectional area loss - Severity 3	Image Provided - Ref: 3_5 
05.38m	0:00:29	F1 DER	Settled deposits coarse Defect End: 25% Cross sectional area loss - Severity 3	

Total Defects for section



DRB Grade for Section



Pos	Video Ref	Code	Description	Image
05.38m	0:00:48	VR	Vermin Rat - Severity 2 VISIBLE FURTHER DOWNSTREAM IN THE DEBRIS	Image Provided - Ref: 3_6 
05.38m		SA	Survey abandoned CRAWLER UNIT UNABLE TO PROCEED PAST HEAVY DEBRIS	Image Provided - Ref: 3_9999 

Total Defects for section



DRB Grade for Section

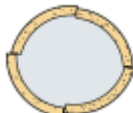


A guide to defects and other observations in drainage systems

More detailed information can be found in the National Standard (BS EN 13508-1:2003) and in the Manual of Sewer Condition Classification (MSCC) 5th Edition, written by the Water Research Centre (WRC).

Use	
Code	Description
C	Combined
F	Foul
S	Surface Water
T	Trade Effluent
W	Culverted Watercourse
Z	Other
Common Materials	
Code	Description
VC	Vitrified Clay
PVC	Polyvinyl Chloride
CO	Concrete
CI	Cast Iron
PF	Pitch Fibre
PE	Polyethylene
DI	Ductile Iron

Start Node	Description	Finish Node
MH	Manhole	MHF
IC	Inspection Chamber	ICF
GY	Gulley	GYF
RE	Rodding Eye	REF
SK	Soakaway	SKF
BN	Buchan Trap	BNF
BR	Major Connection without Ref	BRF
CP	Catch Pit	CPF
OC	Other Special Chamber	OCF
OF	Outfall	OFF
OS	Oil Separator	OSF
WR	Major Connection without mh	WRF
LH	Lamphole	LHF

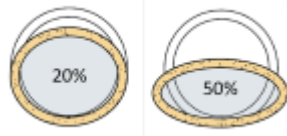
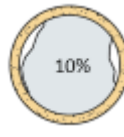
Code	Observation	Description	Attributes	
B	Broken	Pieces pipe have visibly moved	Defined by clock references. Associated with deformity in rigid pipe	
CC CL CM CR	Cracks	Cracks are break lines that are not visibly open	Defined by clock reference position/s. Longitudinal and radiating cracks attract only one clock reference	
CN	Connection	Lateral pipe has been connected after original construction	Described by clock reference position and diameter	

Total Defects for section



DRB Grade for Section



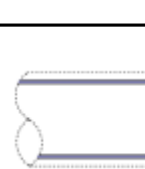
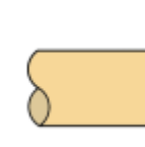
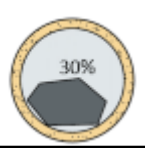
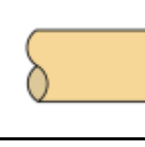
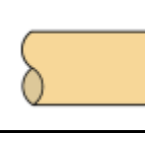
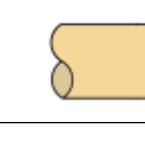
CX(I)	Defective Connection (Intruding)	Defective by intrusion or damage due to factors including: cracks, fractures, obstruction, position etc	Described by clock reference position and diameter (+ % intrusion)	
CU	Loss of Vision	Lens of camera is obscured by debris, water etc. Operator is unable to see drain clearly	'W' can be added if loss of vision is due to water	
D	Deformed	Pipe has lost its structure	Described by percentage loss of height or width. Recorded in 5% increments	
DEE	Deposits Encrustation	Eg. Attached scale deposits evident	Described by clock referenced position and percentage loss of cross-sectional area (5% increments)	
DEG	Deposits Grease	Attached grease deposits evident	Described by clock referenced position and percentage loss of cross-sectional area (5% increments)	
DER DES	Deposits Coarse/Fine	Settled deposits on the invert of the pipe.	Described by percentage loss of height or diameter. Recorded in 5% increments.	
FC FL FM FR	Fractures	Fractures are visibly open. Pieces of pipe have not moved	Defined by clock reference position/s. Longitudinal and radiating fractures attract only one clock reference	
H	Holes	Section of pipe fabric is missing	Defined by clock reference location. Normally two clock references	
I	Infiltration	Water is infiltrating the pipe, normally via a joint but could be via another defect	Can be described in Remarks using terms such as Seeper, Dripper and Runner	
JDL	Joint Displaced Large	Pipe has moved at joint, perpendicular to axis of pipe	More than 1.5 times the pipe wall thickness must be visible	

Total Defects for section



DRB Grade for Section



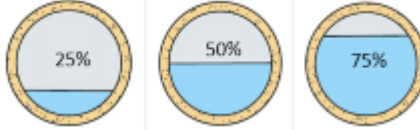
JDM	Joint Displaced Medium	Pipe has moved at joint, perpendicular to axis of pipe	Between 1 and 1.5 times the pipe wall thickness must be visible	
JN	Junction	Lateral pipe was installed at construction	Described by clock reference position and diameter	
JX	Defective Junction	Lateral pipe was installed at construction but is defective in some way	Joint can be defective due to factors including: cracks, fractures, obstruction, position etc	
LD LU LL LR	Line Deviation	LD = Line Down, LU = Line Up, LL = Line Left, LR = Line Right. Not related to CIPP lining.	Additional modifiers are added: Q = Quarter (22.5), H = Half (45), F = Full (90). In degrees.	
LC	Lining Changes	If the drain is lined, the lining material has changed	Position of lining material change	
MC	Material Change	The pipe material has changed	Position of change is noted. Type of material change can be defined	
OB	Obstruction/Obstacle	An obstruction or obstacle is affecting the flow through the pipe	Described in percentage loss of cross-sectional area	
OJL	Open Joint Large	Pipe has moved at joint, along the axis of pipe	More than 1.5 times the pipe wall thickness must be visible	
OJM	Open Joint Medium	Pipe has moved at joint, along the axis of pipe	Between 1 and 1.5 times the pipe wall thickness must be visible	
PC	Pipe Length Changes	Length of individual pipe changes	New length described at this position	

Total Defects for section

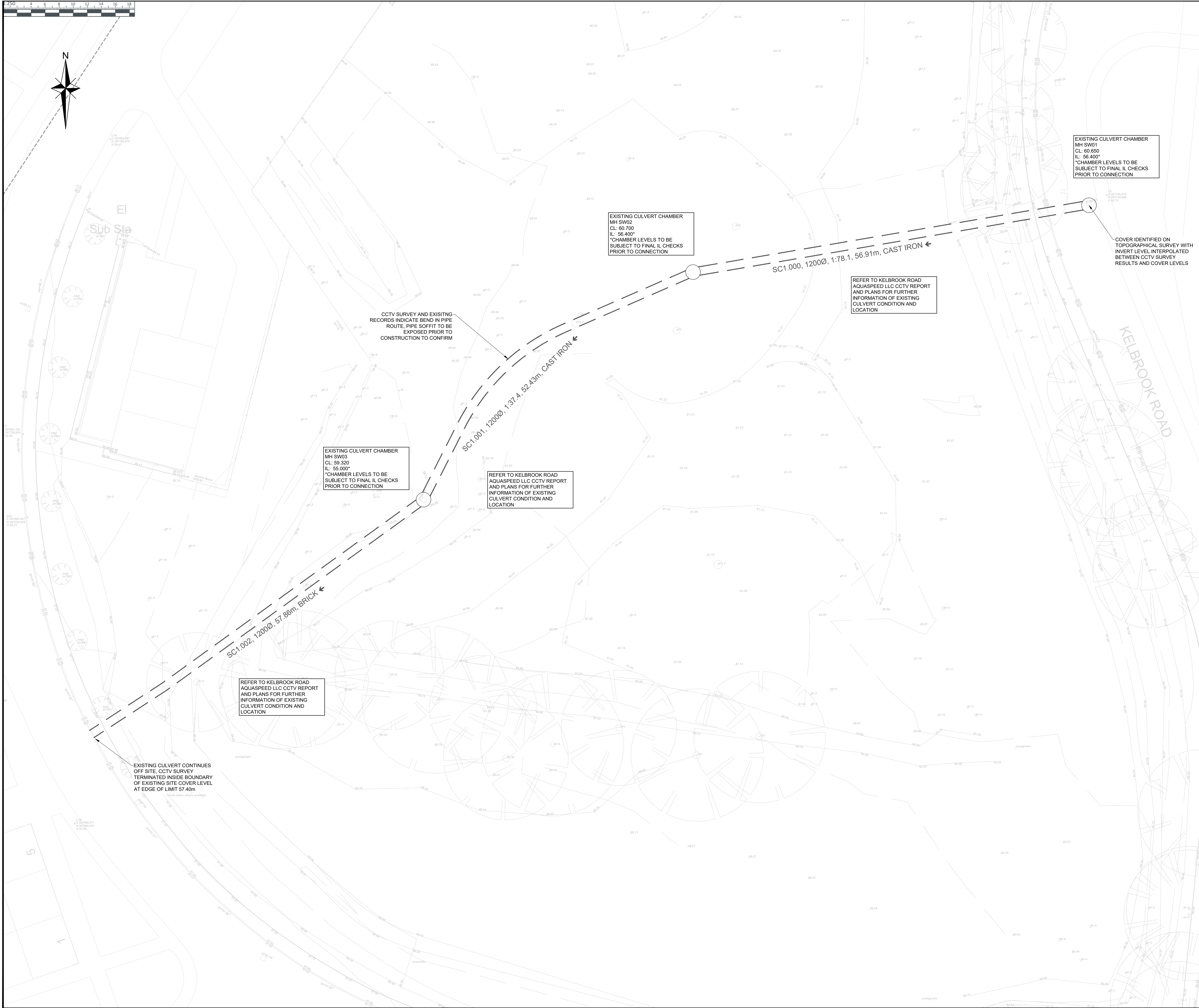


DRB Grade for Section



R	Roots	Evidence of root ingress	Roots will normally infiltrate via bad joints, cracks, fractures, breaks etc	
REM	Remark	General remark	Used for additional information	
S	Surface Damage	This might include corrosion, spalling and chemical attack	Position only. Additional information can be added in Remarks	
SA	Survey Abandoned	Used when a survey cannot continue for any reason	The reason for abandoning a survey should be noted in the remarks area	
SC	Shape Changes	Dimension of drain changes	Diameter dimension change recorded. Second dimension is recorded for no circular pipe changes	
SR	Sealing Ring	Sealing ring intrudes into pipe at joint	Described by clock reference position	
V	Vermin	Evidence of Vermin in pipe	Can also be used for evidence within manhole etc	
WL	Water Level	Used to record changes in water level. Always shown at the beginning of every survey, if dry noted as 00.	Described by percentage of height or diameter. Recorded in 5% increments	
XP	Collapsed	Drain is suffering from complete loss of structural integrity. Always followed by SA - Survey Abandoned	Percentage loss of cross-sectional area is recorded. Other related structural defects are not recorded	

APPENDIX 5 – EXISTING CULVERT PATH



DO NOT SCALE FROM THIS DRAWING

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER HBL DRAWINGS ISSUED FOR THIS PROJECT

- NOTES
- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DRAWINGS AND SPECIFICATIONS.
 - THE DRAINAGE CONTRACTOR IS RESPONSIBLE TO MAKING AN APPLICATION TO ANY SEWERAGE UNDERTAKER PRIOR TO CONSTRUCTION OF ANY CONNECTION INTO A PUBLIC MANHOLE.
 - THE ENGINEER IS TO BE NOTIFIED OF ANY DISCREPANCIES TO THE DETAILS SHOWN ON THE DRAINAGE AND ANY UNRECORDED CONNECTIONS NOT SHOWN ON THE DRAWINGS.
 - THE CONTRACTOR IS RESPONSIBLE FOR CHECKING DIMENSIONS AND LEVELS AND FOR CONFIRMING THE GIVEN LEVEL OF OUTFALL INTO PUBLIC SEWER, WATERCOURSE OR OTHER OUTFALL PRIOR TO CONSTRUCTION WORKS COMMENCING.
 - UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT AUTHORITIES ALL DRAWINGS ISSUED ARE AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR COMMENCE SITE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT THEIR OWN RISK.
 - THE DESIGN IS BASED ON THE INFORMATION AVAILABLE ON THE DATE OF ISSUE FROM OTHER PARTIES (E.G. ARCHITECT AND M&E ENGINEER). IT IS SUBJECT TO CHANGE RESULTING FROM UPDATES TO THE AVAILABLE INFORMATION FROM OTHERS.

FOUL AND STORM DRAINAGE DESIGN SUBJECT TO CONFIRMATION OF DISCHARGE ALLOWANCE. IF STORM DISCHARGE IS RESTRICTED, FURTHER ON SITE ATTENUATION WILL BE REQUIRED. INFORMATION TO BE CONFIRMED WITHIN DEVELOPERS ENQUIRY

PRELIMINARY SCHEME FOR COMMENT AND REVIEW ONLY. DESIGN IS BASED UPON INFORMATION AVAILABLE AT THE TIME.

DESIGN IS SUBJECT TO FULL REVIEW AS ADDITIONAL INFORMATION BECOMES AVAILABLE. DESIGN IS SUBJECT TO FULL REVIEW UPON RECEIPT OF COMMENTS FROM:

- DEVELOPMENT CONTROL
- LA PLANNING AUTHORITY
- SEWERAGE UNDERTAKER

P01	19.11.25	RJ	ISSUED FOR INFORMATION		RJ RJ
REV.	DATE	DRAWN	DESCRIPTION		CHKD APPRD
STATUS DESCRIPTION					STATUS
FOR INFORMATION					P01



Brook House
Weybrook Road,
Manchester M19 2QD
+44 (0)161 432 9977 | www.hbl.ltd
Consulting Civil & Structural Engineers

PROJECT

SHELDON BAKERY
OPENSHAW, MANCHESTER

DRAWING TITLE

EXISTING CULVERTED WATERCOURSE
ROUTE

CLIENT

S.H. SHELDON WHOLESALE BAKERY

HBL REF.	8885	DATE	18.11.25	SCALE(S)	1:250	A1
DRAWN	RJ	CHECKED	RJ	APPROVED	RJ	
DRAWING No. 8885-HBL-XX-XX-DR-C-5103						REV. P01

APPENDIX 6 – PROPOSED CULVERT DIVERSION



DO NOT SCALE FROM THIS DRAWING

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH
ALL OTHER HBL DRAWINGS ISSUED FOR THIS PROJECT

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DRAWINGS AND SPECIFICATIONS.
3. THE DRAINAGE CONTRACTOR IS RESPONSIBLE TO MAKING AN APPLICATION TO ANY SEWERAGE UNDERTAKER PRIOR TO CONSTRUCTION OF ANY CONNECTION INTO A PUBLIC MAINHOLE.
4. THE ENGINEER IS TO BE NOTIFIED OF ANY DISCREPANCIES TO THE DETAILS SHOWN ON THE DRAINAGE AND ANY UNRECORDED CONNECTIONS NOT SHOWN ON THE DRAWINGS.
5. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING DIMENSIONS AND LEVELS AND FOR CONFIRMING THE GIVEN LEVEL OF OUTFALL INTO PUBLIC SEWER, WATERCOURSE OR OTHER OUTFALL PRIOR TO CONSTRUCTION WORKS COMMENCING.
6. UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT AUTHORITIES ALL DRAWINGS ISSUED ARE AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR COMMENCE SITE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT THEIR OWN RISK.
7. THE DESIGN IS BASED ON THE INFORMATION AVAILABLE ON THE DATE OF ISSUE FROM OTHER PARTIES (E.G. ARCHITECT AND M&E ENGINEER). IT IS SUBJECT TO CHANGE RESULTING FROM UPDATES TO THE AVAILABLE INFORMATION FROM OTHERS.

FOUL AND STORM DRAINAGE DESIGN
SUBJECT TO CONFIRMATION OF
DISCHARGE ALLOWANCE. IF STORM
DISCHARGE IS RESTRICTED, FURTHER ON
SITE ATTENUATION WILL BE REQUIRED.
INFORMATION TO BE CONFIRMED WITHIN
DEVELOPERS ENQUIRY

PRELIMINARY SCHEME
FOR COMMENT AND REVIEW ONLY.
DESIGN IS BASED UPON INFORMATION
AVAILABLE AT THE TIME.

DESIGN IS SUBJECT TO FULL REVIEW AS
ADDITIONAL INFORMATION BECOMES AVAILABLE.
DESIGN IS SUBJECT TO FULL REVIEW UPON
RECEIPT OF COMMENTS FROM:

- DEVELOPMENT CONTROL
- LA PLANNING AUTHORITY
- SEWERAGE UNDERTAKER

KEY:

- | | | |
|---|---|-------------------------------|
|  | SITE BOUNDARY | |
|  | TOTAL SITE AREA APPROX. | 21,666m ² (2.17Ha) |
|  | TOTAL IMPERMEABLE AREA APPROX. | 15,521m ² (1.58Ha) |
|  | EXISTING CULVERT | |
|  | EXISTING CULVERT TO BE ABANDONED | |
|  | PROPOSED CULVERT DIVERSION | |
|  | PROPOSED CULVERT EASEMENT | |