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FLOOD RISK ASSESSMENT FOR UNIVERSITY OF MANCHESTER AMBS MILLS CAFÉ PROJECT

Prepared on behalf of
UNIVERSITY OF MANCHESTER

June 2026

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Rev. P01

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Document Revisions

Revision	Date	Revision Description	Author	Reviewer	Auditor
P01	17.06.26	First Issue	AC	CD	NB

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1. EXECUTIVE SUMMARY

1.1. Summary

1.1.1. Clancy Consulting Ltd. has been commissioned by the University of Manchester to prepare a Flood Risk Assessment for the AMBS Mills Café Project development at the University of Manchester.

Table 1.1-1 Executive Summary

Item		Key Information
A)	Existing Site Usage & Constraints	Grassed, soft landscaping to the south of The Mill Restaurant. The site is within the University of Manchester campus.
B)	Existing Site Area & Impermeable Area (not infiltrating or stored for reuse)	262m^2 (0.0262ha)
C)	Topography	The site is a flat, grassed area, with a small area of wood chippings to the south.
D)	Hydrology (Nearby Watercourse and/or Bodies of Water)	The nearest watercourse is the River Medlock, approximately 650m to the north
E)	Geology (Surface, Superficial strata, Bedrock strata)	Made ground above clay, with a sandstone bedrock
F)	Hydrogeology (Source Protection Zone, Water table, Infiltration testing)	Site lies within Source Protection Zone 3.
G)	Drainage (Public & private)	There is existing drainage for the surrounding hardstanding areas, and an existing private surface water network lies within the site boundary, including an attenuation tank.
H)	Flood Risk – Fluvial (River)	Zone 3
I)	Flood Risk – Tidal, Surface Water (Overland), Ground Water, Artificial, Sewer and/or Historical	Site is at risk of surface water flooding to a depth of 150-300mm in the 1 in 100 year event.
J)	Proposed Development & Constraints	The Development comprises a new paved area, creating an outdoor seating area for the café to the north.
K)	Sequential Test	Low Vulnerability category, permitted for Flood Zone 3
L)	Exception Test / Mitigation	Not required

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2. INTRODUCTION

2.1. Commission

2.1.1. Clancy Consulting Ltd. has been commissioned by the University of Manchester to prepare a Flood Risk Assessment for the AMBS Mills Café Project development at the University of Manchester.

2.1.2. This report shall refer to the site in its predevelopment form (existing site) as the "Site", and the proposed works as the "Development". A site location plan is provided in Appendix A.

2.2. Project Overview

2.2.1. The Site (existing site) currently is a grassed, soft landscaped area to the south of a café / restaurant.

2.2.2. The Development (proposed site) is to comprise a new hard landscaped area to create an outdoor seating / eating area for the restaurant.

2.3. Objective

2.3.1. This report has been prepared in accordance with the National Planning Policy (NPPF), the accompanying Planning Practice Guide (PPG) and the Lead Local Flood Authority (LLFA)

2.3.2. The objective of this FRA report is to

- Assess the Site's characteristics & constraints
- Assess existing flood risks
- Complete Sequential Test and, if required, Exception Test
- Provide any flood risk mitigation

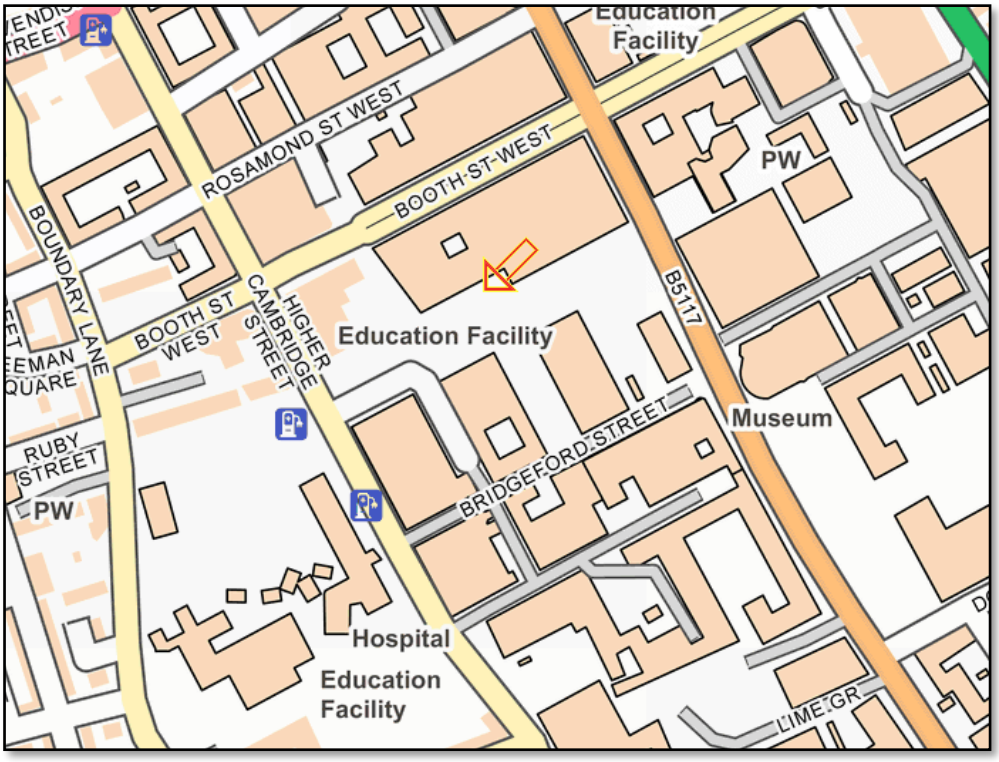
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3. SITE CHARACTERISTICS

3.1. Location

3.1.1. The site is located at Booth Street West in the University of Manchester, as illustrated by the figure below (red arrow) with a location plan provided in Appendix A. The post code for the site is M15 6PB with central coordinates of 384388E, 396758N. Manchester City Council are the Local Planning Authority (LPA) and the Lead Local Flood Authority (LLFA).

Figure 3.1-1 Location Plan (Source: StreetMap)



3.2. Boundaries & Usage

3.2.1. On the following page is an aerial view of the Site, indicated by the red boundary, and the adjacent areas.

3.2.2. The Site is bounded by the University of Manchester, with the Alliance Manchester Business School (AMBS) to the north, with an open, pedestrian area to the south featuring a mixture of soft landscaping and several footpaths.

3.2.3. The Site currently is used as a grassed soft landscaped area.

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Figure 3.2-2 Location Plan



3.3. Topography

3.3.1. A topographical survey has been completed and shows the site to be flat. The western edge of the site is flat, whilst the eastern edge falls from south to north at approximately 1 in 40.

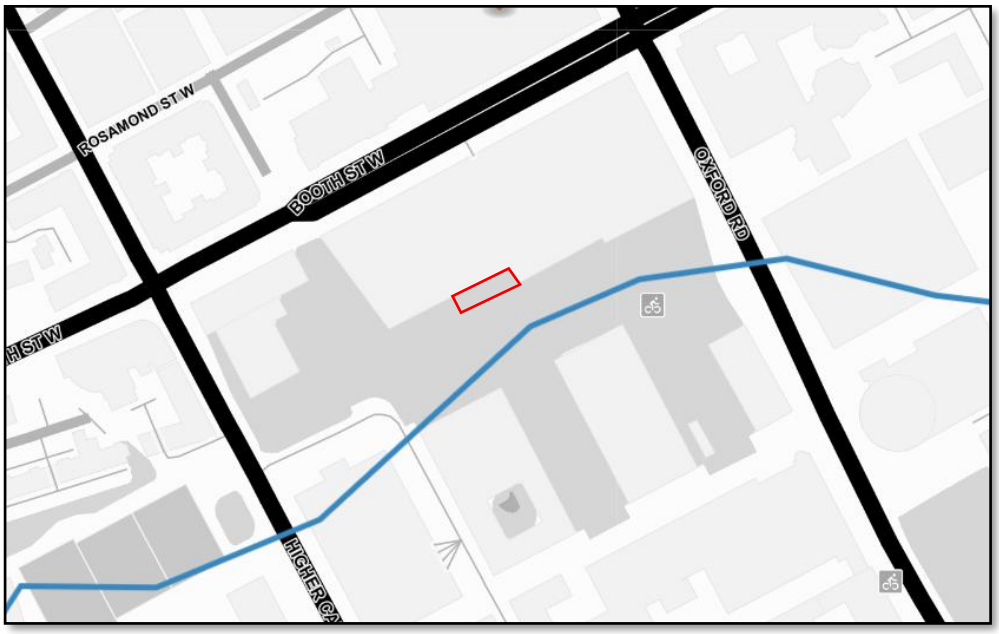
3.4. Hydrology

3.4.1. The topographical survey does not show any watercourses, bodies of water or dry ponds / swales.

3.4.2. The nearest open watercourse or waterbody is the River Medlock which is approximately 650m north of the Site. The Manchester City, Salford City and Trafford Councils Level 2 SFRA identifies a culverted section of the Corn Brook watercourse to run through to the University. This is considered the source of fluvial flood risk to the site.

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Figure 3.4-2 Approximate Route of the Corn Brook



3.5. Existing Drainage – Private

3.5.1. The existing private network for the Site has surveyed and a copy of their findings is provided in Appendix B and shows an existing surface water network within the boundary of the site. This includes surface water pipe conveying flows west to east, into an attenuation tank, before being directed northwards beneath the AMBS.

3.6. Geology

3.6.1. A site investigation has not been carried out at this time however, the British Geological Survey website provides maps of the local geology and show the site to be made ground, over a clay soil. This in turn lies above a sandstone bedrock.

3.7. Hydrogeology

3.7.1. The site is located in a level 3 Source Protection Zone (SPZ).

3.7.2. The presence of clay in the historic borehole logs from the British Geological Survey, shows that infiltration is not considered to a suitable option for drainage of the site.

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4. FLOODING

4.1. Types of Flooding

4.1.1. The National Planning Policy Framework (NPPF) in combination with the Lead Local Flood Authorities (LLFA) lists five types of flooding (flood maps provided in Appendix D) any new development is to be assessed against. The Strategic Flood Risk Assessment (SFRA) provided by the LLFAs also includes the last flood type in the list. The six flood types are:

Table 4.1-2 Flood Types

Flood Type
A – Fluvial (River)
B - Tidal
C - Surface Water
D - Ground Water
E - Artificial
F - Sewer

4.2. Fluvial (River)

4.2.1. PPG statement 25 list causes of fluvial flooding which includes inundation of floodplains, artificially raising of water levels due to constraints, overtopping of defences and blockages of watercourses or flood corridors.

4.2.2. The Environment Agency has carried out surveys of its existing defences against flooding and has published a series of nationwide 'Indicative Floodplain Maps' based upon information from historic flood events and basic hydraulic modelling. In general terms, these maps give a good indication of the areas likely to be affected by flooding.

4.2.3. Flood zones are classified as such:

- Zone 1 - as being Low Probability, comprised of land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any one year. (<0.1%)
- Zone 2 - as being Medium Probability, comprised of land assessed as having between 1 in 100 and 1 in 1000 annual probability of river flooding (1%-0.1%) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% - 0.1%) in any year.
- Zone 3a - as being High Probability, comprised of land assessed as having between 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
- Zone 3a - as being Functional Flood Plain, comprised of land where water must flow or be stored in times of flood. SFRA should identify this zone.

4.2.4. The Site (marked by a red boundary) is located within Flood Zone 3 noted by dark blue hatching.

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Figure 4.2-2 Fluvial Flood Map (Source: flood-map-for-planning.service.goc.uk)



4.2.5. The Manchester City, Salford City and Trafford Councils Level 2 SFRA identifies the Corn Brook as a culverted watercourse running through the university campus, approximately following the open space to the south of the site. This culvert is the source of flood risk between Cambridge Street to the north and Coupland Street to the south. Flooding occurs in the 1 in 100 year event, to a depth of less than 0.5m, with a hazard categorisation of very low. The 1 in 1000 year event and 1 in 1000 year plus climate change event show no significant changes.

4.3. Tidal (Sea)

4.3.1. PPG statement 25 list causes of tidal flooding which includes the sea, estuary, wave action and overtopping or breaching of flood defences.

4.3.2. The Corn Brook is not tidal, therefore the site is not affected by Tidal Water Flooding.

4.4. Surface Water

4.4.1. PPG statement 25 list causes of surface water flooding from sheet run-off from adjacent land and surcharging of sewers.

4.4.2. Root causes of this normally are due to poor drainage maintenance and/or lack of means to collect surface water runoff and/or existing topography, causing the means to collect runoff to be overwhelmed and/or poorly positioned and/or non-existent, leading to areas of overland flows. The table below explains the flood risk categories used by the map

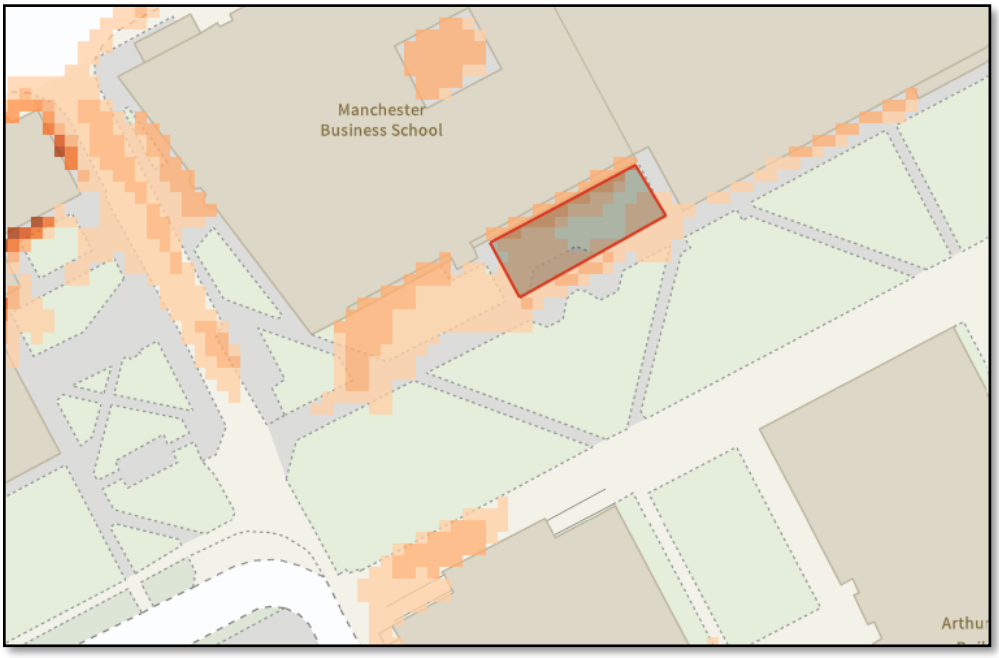
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Table 4.4-3 Surface Water Flood Risk Categories

Risk	Description
High	Flooding occurring as a result of rainfall with a greater than 1 in 30 chance in any given year (annual probability of flooding 3.3%)
Medium	Flooding occurring as a result of rainfall of between 1 in 30 (3.3%) and 1 in 100 (1%) chance in any given year
Low	Flooding occurring as a result of rainfall of between 1 in 100 (1%) and 1 in 1000 (0.1%) bvchance in any given year
Very Low	Flooding occurring as a result of rainfall with less than 1 in 10000 (0.1%) chance in any given year

4.4.3. The EA's flood map shows the Site (marked by a red outline) does include areas of Medium Risk to the north and Low Risk across much of the site.

Figure 4.4-3 1 in 100 year Surface Water Flood Map (Source: flood-map-for-planning.service.goc.uk)



4.5. Ground Water

4.5.1. PPG statement 25 list causes of ground water flooding including rising water table levels from prolonged rain and low lying areas over permeable rock

4.5.2. Ground water flooding is typically provided in the SFRA completed by the LLFA and a copy of their map is provided in Appendix C.

4.5.3. The plan shows the site is not located within a groundwater flood risk area.

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4.6. Artificial

4.6.1. PPG statement 25 list causes of infrastructure failure flooding from the failure of reservoirs, canals, industrial process, burst water mains and failed pumping stations.

4.6.2. The EA's flood map shows the Site is not at risk of artificial flooding.

4.7. Sewer

4.7.1. PPG statement 25 list causes of surface water flooding from sheet run-off from adjacent land and surcharging of sewers.

4.7.2. The SFRA summarises sewer flood risk and breaks down Critical Drainage Areas. The Site falls within the "Conurbation Core". This area is known to have localised flooding problems due to lost watercourses connecting with sewers, canals and open channel watercourses.

4.8. Summary

4.8.1. The table summarises the above noted flood types and the risk associated for this site before any of the proposed SuDS features are implemented in Section 8 later in this report.

Table 4.8-4 Flood Types Summary

Flood Type	Risk Level
A – Fluvial (River)	HIGH
B - Tidal	VERY LOW
C - Surface Water	MEDIUM
D – Ground Water	VERY LOW
E - Artificial	VERY LOW
F - Sewer	LOW

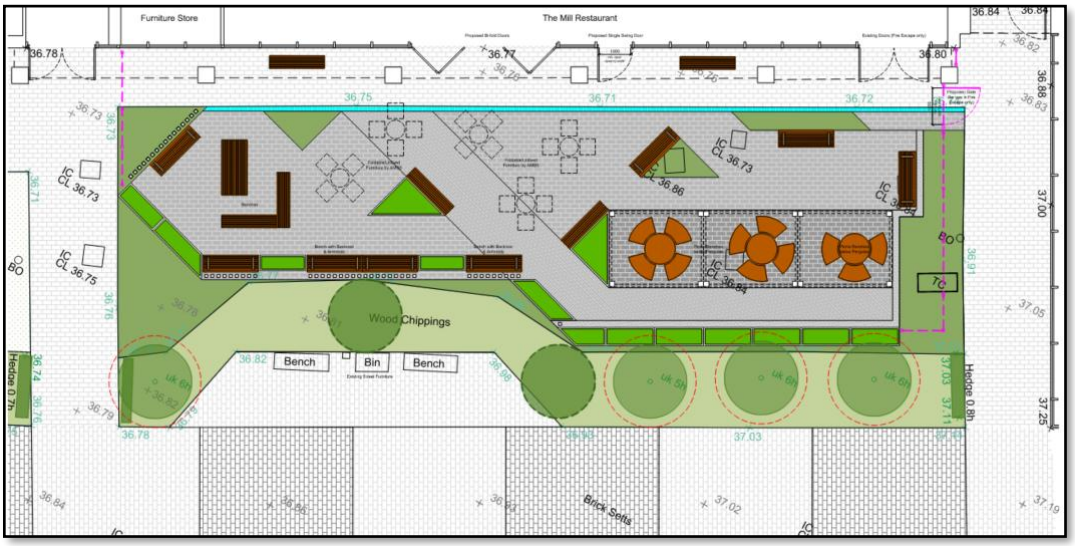
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5. PROPOSED DEVELOPMENT

5.1. Development & Usage

5.1.1. The development comprises a small outdoor seating area for the Mills café, located to the north. This will include an impermeable surface, and a variety of seating and street furniture. There shall be a variety of raised planters placed around the Site too. A copy of the proposed site plan is provided in Appendix D. Some areas of soft landscaping shall be retained to the west, south and east of the Site.

Figure 5.1-4 Proposed Development Plan



6. SEQUENTIAL TEST

6.1. National Planning Policy Framework (NPPF) & Planning Practice Guidance (PPG)

6.1.1. The NPPF sets out the national planning policies including those relating to protecting people and property from flooding now and in the future and is supported by the statutory consultee the Environment Agency. These policies form the Planning Policy Statement 25: Development & Flood Risk Practice Guide that details both the Sequential Test and the Exception Test (see section 7) that are to be carried out in this order.

6.2. Sequential Testing Overview

6.2.1. The NPPF (Technical Guidance) provides the table below, indicating the highest risk category allowed per flood zone with & without the Exception Test (if required).

Table 6.2-5 Flood Risk Vulnerability and Flood Zone Compatibility

Flood Risk Vulnerability Classification					
Flood Zones	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
1	✓	✓	✓	✓	✓
2	✓	ET Required	✓	✓	✓
3a†	ET Required†	×	ET Required	✓	✓
3b*	ET Required*	×	×	×	✓

✓ Development is appropriate

X Development should not be permitted

† In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

" * " In Flood Zone 3b (functional floodplain) essential infrastructure that has to be there and has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

6.2.2. The Sequential test, as applied by the NPPF & its technical guidance, compares the proposed development site against other potential sites to determine which site has the lowest flood risk with the aim of preventing development in flood prone zones. If the development is to be carried out in the higher risk flood zones (2, 3a or 3b), than the Exception Test is to be carried out as further explained in the following section.

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6.3. Sequential Test

6.3.1. The Development is an outdoor eating terrace and seating area, and is considered to be a Less Vulnerable classification

6.3.2. The Development is located in Flood Zone 3 in which Less Vulnerable developments are permitted, therefore the Sequential Test has been passed.

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7. EXCEPTION TEST

7.1. Exception Testing (ET) Overview

7.1.1. If it is not possible for development to be in areas with a lower risk of flooding, the exception test must be applied by offering mitigation measures.

7.1.2. The ET purpose as set out by the NPPF is to demonstrate that flood risk to people and property will be managed satisfactorily when sites of lower flood risk are not available. It must be demonstrated that:

- it will provide wider sustainability benefits to the community and wider area.
- it will be safe for its lifetime taking account of the vulnerability of its users without increasing flooding elsewhere and where possible, reduce flood risk overall.

7.2. ET & Elevated Flood Risks

7.2.1. As stated in 6.3, the ST is not required and as such, the ET is not required. There are some elevated flood risks, and the Development needs to provide reasonable mitigation measures regardless with the goal of achieving the bullets listed above.

7.2.2. The elevated flood risks are from fluvial and surface water flooding.

7.3. Flood Mitigation

7.3.1. Flood Risk Mitigation has been provided in the form of a surface water drainage strategy. The surface water drainage design provides a linear channel along the Sites northern edge. This captures overland flow and directs it into the existing private surface water sewer.

7.3.2. As the site is surrounded to the west and south by further landscaped areas and pedestrian footpaths, there are flood evacuation routes in several directions.

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8. CONCLUSION

8.1. Existing Site

8.1.1. The Site usage is a small, grassed, landscaped area to the south of the Alliance Manchester Business School.

8.1.2. Key characteristics of the site are that it is a predominantly flat area and is home to below ground surface water drainage features, including an attenuation tank, for the wider university.

8.2. Existing Flood Risks

8.2.1. A review of the flood risks to Site found that those that have elevated risk levels are fluvial, surface water and sewer flooding. The culverted Corn Brook runs to the south of the site, through the university campus. It is considered a lost watercourse within the SFRA, however it introduces fluvial flood risk to the site. The site is within Flood Zone 3.

8.2.2. The site is also at risk of surface water flooding within the 1 in 30 year flood event. This risk is related to the sewers flood risk level. The site falls within the LLFA's Conurbation Core designation, which relates to flood risk from historic sewers and culverted watercourse, interlinking the with sewer network.

8.3. Proposed Development & Constraints

8.3.1. The Development shall introduce an impermeable, paved area with associated seating and street furniture. This shall provide an outdoor seating and eating space for the Mills café/restaurant to the north.

8.4. Sequential Test

8.4.1. All developments classed as Less Vulnerable are suitable in Flood Zone 3, meaning the Sequential Test has been passed.

8.5. Exception Tests & Mitigation Measures

8.5.1. Elevated flood risks identified for the Site are fluvial, surface water and sewer flooding.

8.5.2. A surface water flood risk strategy has been provided to prevent overland flow leaving the site. The site is surrounded by pedestrian areas on all sides, and evacuation routes are available to the south and west.

8.6. Conclusion

8.6.1. Therefore, the design has met the objectives of this report:

- Assess the Site's characteristics & constraints

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- Assess existing flood risks
- Complete Sequential Test and, if required, Exception Test
- Provide any flood risk mitigation

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Appendix A – Location Plan

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NOTES

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Site Boundary

Ownership Boundary

Proposed Tree
(outside Site Boundary)

Rev	Description	Rev	By	Chk'd	Auth
P3	Ownership boundary added. Issued for Planning.	16/04/26	MM	MM	HMA
P2	Red line boundary updated.	23/03/26	MM	MM	HMA
P1	First issue.	15/01/26	MM	MM	HMA

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Drawing Status: PLANNING

Project: AMBS The Mill Event Space

Building Name: Alliance Manchester Business School | Building No.:

Site Name: University of Manchester

Sub Site Name: Oxford Road

Drawing Title: Location Plan

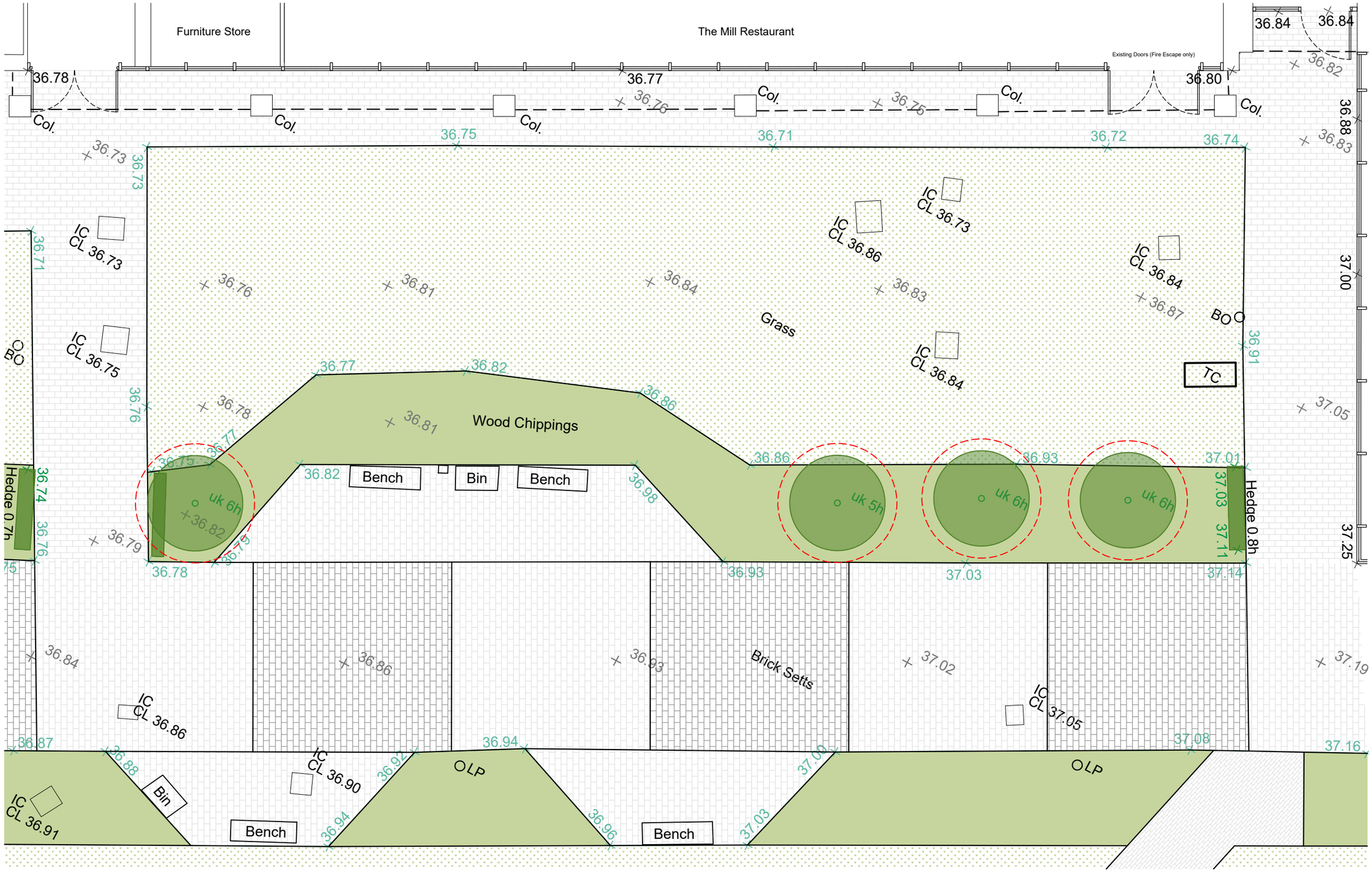
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Drawing No.: 5928-HMA-AMBS-00-DR-A-00001 | Revision: P3

Original Drawing Paper Size 297mm x 420mm

Plot Stamp: G:\59005928 AMBS Building The Mill Cafe\1-WIP\BIM\Location Plan.dwg



Key:

- Existing Grass
- Existing Planting Bed
- Existing Paving 1
  (Hardscape Kellen Breccia `Tagenta B`
  150x300x80mm sett paving, staggered bond)
- Existing Paving 2
  (Hardscape Kellen Breccia `Tagenta B`,
  `Tagenda C`, `Tagenta E` & `Bianco`
  150x300x80mm sett paving, staggered bond)
- Existing Paving 3
  (Hardscape Kellen Breccia `Tagenta B`
  75x300x80mm plank, staggered bond)
- Existing Hedge
- Existing Tree
  (Root Protection Area dotted red)

0 4 8 12

1:100 @ A3

NOTES

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NB.: Refer to Structural/Civil Engineer & MEP Consultant information for existing and proposed.

Rev	Description	Rev	By	Chk'd	Auth
P1	Issued for Planning.	17/04/26	MM	FW	HMA

MANCHESTER 1824
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Drawing Status
PLANNING

Project
AMBS The Mill Event Space

Building Name
Alliance Manchester Business School

Building No.

Site Name
University of Manchester

Sub Site Name
Oxford Road

Drawing Title
Existing Site Plan

PM	Drawn	Checked	Authorised
	MM	FW	HMA

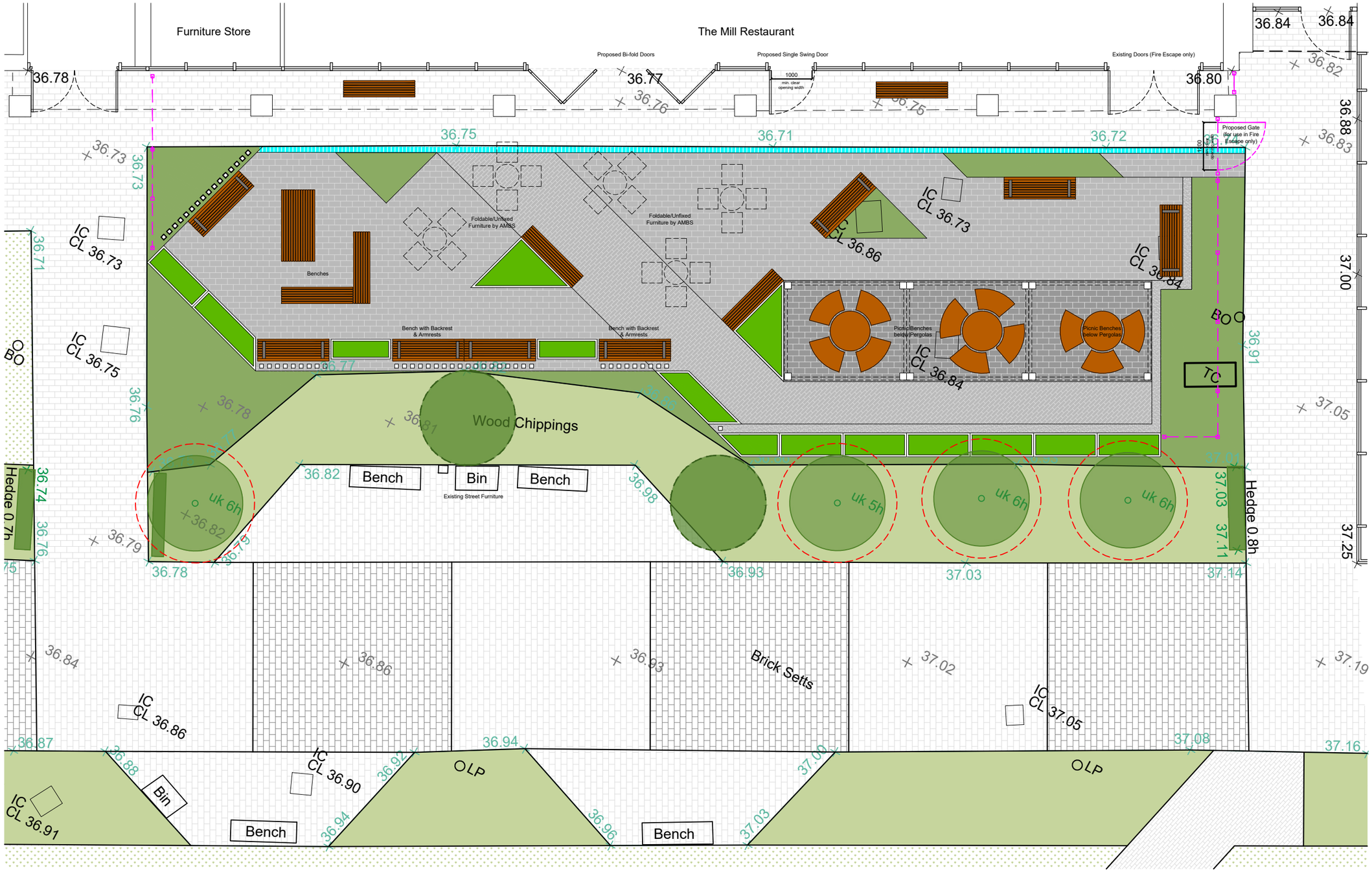
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Drawing No.
5928-HMA-AMBS-00-DR-A-00100

Revision
P1

Original Drawing Paper Size 297mm x 420mm

Plot Stamp: G:\55005228 AMBS Building The Mill Cafe\1-WIP\BIM\Existing Site Plan.dwg



Key:

- Existing Grass
- Existing Planting Bed
- Existing Paving 1 (Hardscape Kellen Breccia `Tagenta B` 150x300mm sett paving, staggered bond)
- Existing Paving 2 (Hardscape Kellen Breccia `Tagenta B`, `Tagenda C`, `Tagenta E` & `Bianco` 150x300mm sett paving, staggered bond)
- Existing Paving 3 (Hardscape Kellen Breccia `Tagenta B` 75x300mm planks, staggered bond)
- Existing Hedge
- Existing Tree (Root Protection Area dotted red)
- Proposed Planting Bed (Ornamental shrub planting)
- Proposed Paving 1 (Hardscape Kellen Breccia `Tagenta B` 150x300mm sett paving, staggered bond)
- Proposed Paving 2 (Hardscape Kellen Breccia `Tagenta B`, `Tagenda C`, `Tagenta E` & `Bianco` 150x300mm sett paving, staggered bond)
- Proposed Paving 3 (Hardscape Kellen Breccia `Tagenta B` 75x300mm planks, staggered bond)
- Proposed Kerb (Providing ground retention)
- Stainless Steel Edging (between surface/paving types)
- Proposed Raised Planter (Grey, 800mm high, ornamental shrub planting)
- Proposed Raised Planter (Grey, 500mm high, ornamental shrub planting)
- Proposed Ornamental Tree (*Pyrus calleryana* 'Chanticleer')
- Proposed Composite Fence & Gate (Height 1100mm, black)
- Proposed Decorative Timber Posts (Height 1100mm & 1200mm)
- Proposed Channel Drain

Furniture Key:

- Proposed Pergola (White Stores Legacy Aluminium Metal Pergola, Graphite Grey, 3m x 2.4m)
- Proposed Picnic Set (Bailey Streetscene Springwell Picnic Set, grey PPC metal base & hardwood timber, D: 2125mm x H: 800mm, wheelchair spaces as indicated on plan)
- Proposed Bench 1 (Bailey Streetscene Greengate Seat, grey PPC metal base, hardwood timber seat, L: 1800mm x D: 410mm x H: 450mm)
- Proposed Bench 2 (Bailey Streetscene Greengate Seat, grey PPC metal base & arms, hardwood timber seat, L: 1800mm x D: 550mm x H: 775mm)

0 4 8 12

1:100 @ A3

NOTES

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5. DIRECTORATE OF ESTATES AND FACILITIES TO BE NOTIFIED OF ANY DISCREPANCIES.

NB.: Refer to Structural/Civil Engineer & MEP Consultant information for existing and proposed.

Rev	Description	Rev	By	Chk'd	Auth
P1	Issued for Planning.	17/04/26	MM	FW	HMA

The University of Manchester
Directorate of Estates and Facilities
Beyer Building
The University of Manchester
Oxford Road
Manchester
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+44 (0)203 440 3173
hma@hallidaymeecham.com
www.hallidaymeecham.com

Drawing Status: PLANNING

Project: AMBS The Mill Event Space

Building Name: Alliance Manchester Business School
Building No.:
Site Name: University of Manchester
Sub Site Name: Oxford Road
Drawing Title: Proposed Site Plan

PM	Drawn	Checked	Authorised
	MM	FW	HMA

Scale @ A3	Date	Date	Date
1:100	12/03/26	17/04/26	17/04/26

Drawing No.: 5928-HMA-AMBS-00-DR-A-00200
Revision: P1

Original Drawing Paper Size 297mm x 420mm

Plot Stamp: G:\5000\5928 AMBS Building The Mill\Cafe\1-WIP\BIM\Proposed Site Plan.dwg

Appendix B – Drainage CCTV Survey

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DRAIN ALERT®
Prospect Hill, Old Brown Lane, Bamber Bridge, Preston PR5 6ZA
Telephone : 01254 851500

Manchester University
Room4.001,
4th Floor Beyer Building
Manchester

17th April 2026

Dear Anne,

Reference: - JN37287, The Mill Café.

May we thank you for your valued custom. As requested, we have conducted a CCTV inspection at the above premises. We have emailed a link to you to access the Wincan VX video clips and documents via the cloud.

We trust that the report is to your satisfaction; however, should you have any queries then please do not hesitate to contact me.

Yours sincerely,



Mr S W Ormisher, B.A.(Hons.),
Technical Services Consultant

Plan of the drainage system, not to scale.
Enclosed

Conclusion

As requested, attended site at the Mill Café to carry out a CCTV Survey of the drainage in and around the area as shown on the photo/drawing issued. Upon arrival visible inspection found some of the foul system to be partially blocked, requiring HPWJ to be carried out to allow for surveying.

Evidence from the survey found the lines to be PVC, VC, and Concrete construction, and ranging in sizes from 100mm to 675mm in diameter. During the survey several structural faults were found, which will require remedial works to be carried out to prevent further damage and deterioration occurring over time.

During the survey several branch lines are assumed to be redundant, and therefore no remedial works will be recommended for these sections. Previous patch repairs were visible on part of the foul water system. Due to the nature of the bend on the outlet of MH 5B, (internal foul manhole), it wasn't possible to confirm where this outfalls to, it may drop into the existing Public Sewer which runs parallel to this system under the building. We attempted to survey the existing Public Sewer which runs under the building however due to elevated water levels and a large diameter pipe (675mm), this wasn't possible at the time.

During the survey it was noticed that the channel and angle of Branch B into MH 8 is causing foul waste to sit within the manhole and cause partial blockages to occur, it is recommended to carry out remedial works on the benching/channel to allow foul waste to flow down the system more efficiently.

Faults Found

Section 4. MH 1 to Branch A. 150mm. PVC.
Bag or similar object stuck in pipework at 2.00m.

Section 14. MH 8 to MH 7. 150mm. VC.
Displaced joint seen at 0.50m.
Crack seen at 5.00m.

Section 15. MH 7 to MH 6. 150mm. VC.
Displaced joint seen at 0.70m.

Section 18. MH 7 to MH 7a. 100mm. VC.
Displaced joint seen at 0.20m. flexi

Section 20. MH 6 to MH 5. 150mm. VC.
Displaced joint seen at 0.20m.

Section 21. MH 6 to Branch B. 100mm. VC.
Cracks seen at 1.40m. These are on a vertical section of pipework and may not be patchable – confirmation required off lining engineer.

Section 22. MH 5 to MH 4. 100mm. VC.
Hydro break outlet not fitted correctly.

Recommendations

Section 4. MH 1 to Branch A. 150mm. PVC.
HPWJ with warthog or similar to remove bag/or similar stuck within pipework.

Section 14. MH 8 to MH 7. 150mm. VC.
Installation of 2x 150mm epoxy patch repairs at 0.50m and 5.00m.

Section 15. MH 7 to MH 6. 150mm. VC.
Installation of 1x 150mm epoxy patch repair at 0.70m.

Section 18. MH 7 to MH 7a. 100mm. VC.
Installation of 1x 100mm flexi patch at 0.20m.

Section 20. MH 6 to MH 5. 150mm. VC.
Installation of 1x 100mm epoxy patch repair at 0.20m.

Section 21. MH 6 to Branch B. 100mm. VC.
Installation of 1x 100mm flexi patch at 1.40m. These are on a vertical section of pipework and may not be patchable – confirmation required off lining engineer.

Section 22. MH 5 to MH 4. 100mm. VC.
Refitting of Hydro break outlet required.

Additional Repairs as stated above
Redesign channelling of Branch B into the Outlet of MH 8 due to foul waste sitting in the manhole.

We trust that the above is acceptable; however, should you require any further information, please do not hesitate to contact me.

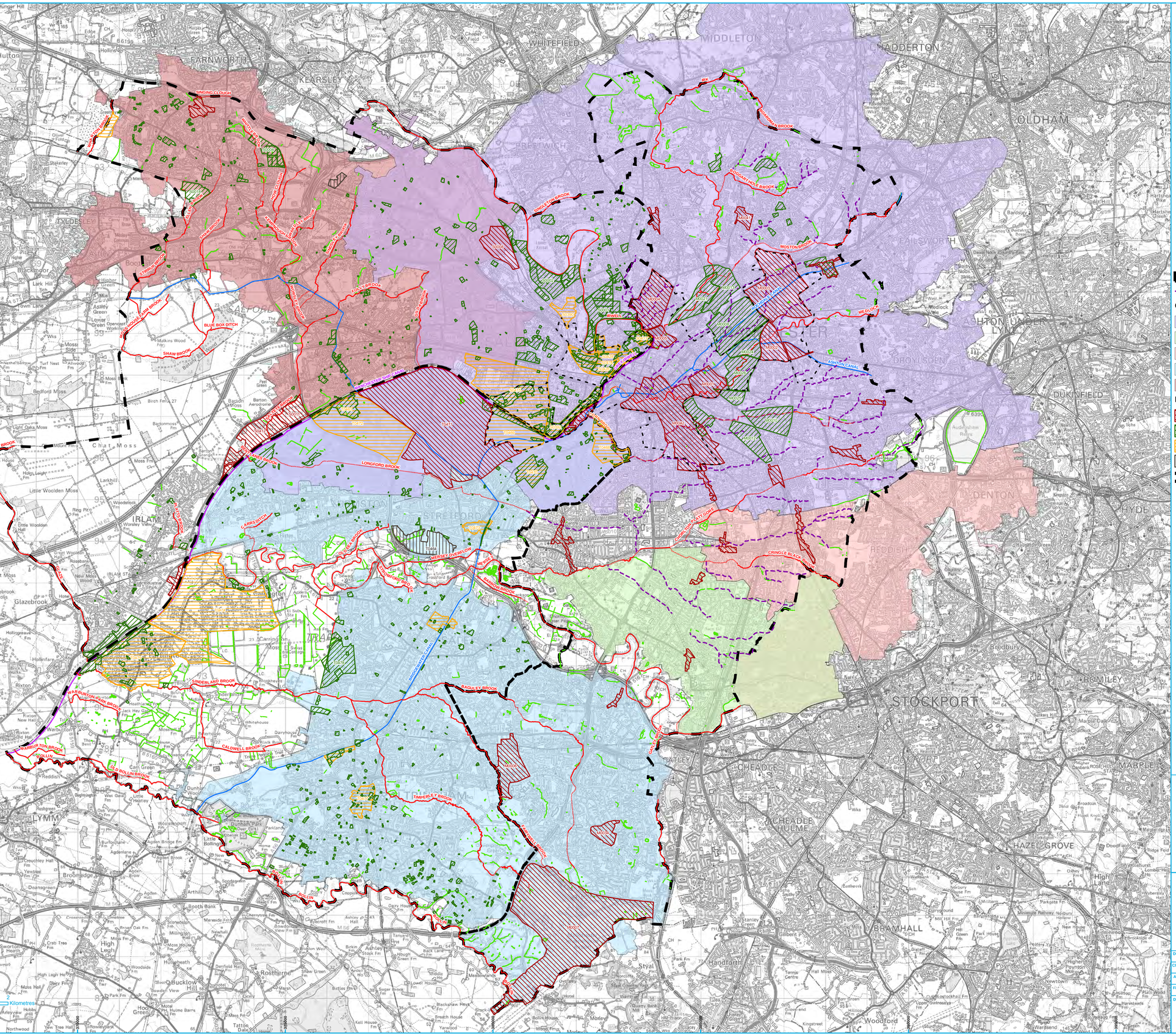
Yours sincerely,

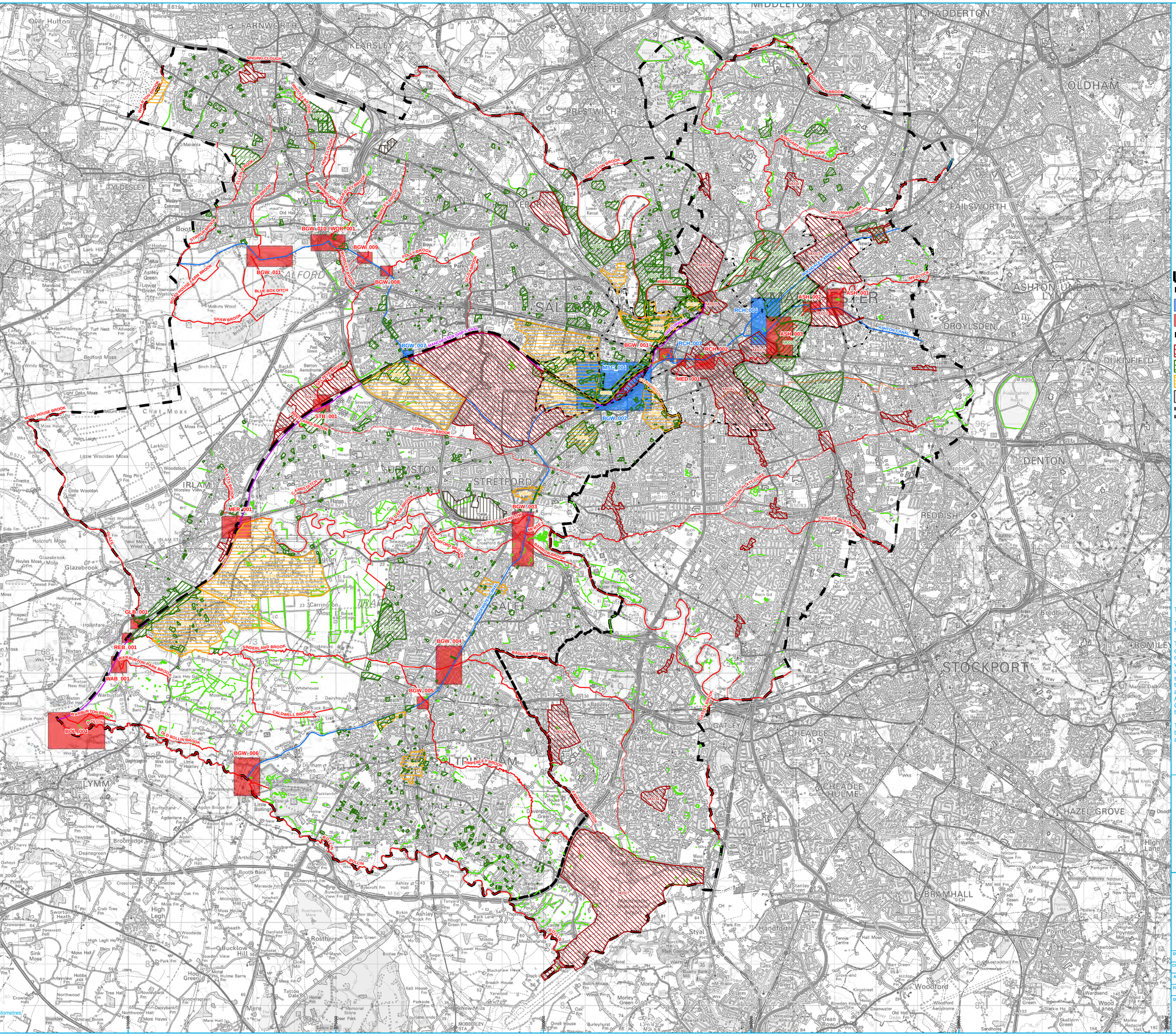
Mr S W Ormisher,
Technical Services Consultant

Disclaimer - Please note that any dimensions, levels, and drainage layout drawings that are provided by Drain Alert, should be checked before being relied upon. All updated drawings are not to scale. It is the responsibility of the client to verify all information given with regards to the drainage prior to commencing any design or work site.

Appendix C – SFRA Map Extracts

© Clancy Consulting 2023


Salford
Manchester
Trafford
SINGING CLOUGH
PRICKLEDEN BROOK
HOLE CROUGH
CLEAN BROOK
ROWLEY BROOK
PARKLEE BROOK
FOLLY BROOK
GLAZEBROOK
TYLDESLEY
ATHERTON
LEIGH
FARNWORTH
KEARSLEY
WHITEFIELD
MIDDLETON
PRESTWICH
RADDERTON
OLDHAM
FAILSWORTH
DROYLSDEN
DUKINFIELD
HYDE
DENTON
REDDISH
STOCKPORT
CHEADLE
CHEADLE HULME
HAZEL GROVE
BRAMHALL
MARPLE
ROMILEY
Chat Moss
Little Woolden Moss
Culcheth
IRLAM
CARRINGTON
PARTINGTON
LYMM
Bollin Valley
Dunham Massey
Bowdon
Hale
Altrincham
Timperley
Sale
Stretford
Urmston
Flixton
Davyhulme
Partington
Woodford
Poynton
Disley
Hazel Grove
Bramhall
Cheadle
Gatley
Heaton Chapel
Heaton Moor
Reddish
Denton
Hyde
Dukinfield
Stalybridge
Mossley
Ashton-under-Lyne
Droylsden
Audenshaw
Failsworth
Middleton
Whitefield
Prestwich
Radcliffe
Farnworth
Kearsley
Tyldesley
Atherton
Leigh
Boothstown
Ellenbrook
Worsley
Eccles
Salford
Pendlebury
Swinton
Irlam
Carrington
Partington
Lymm
Warburton
Rixton
Glazebrook
Culcheth
Glazebury
Leigh
Astley
Mosley Common
Tyldesley
Shakerley
Hollinfare
Risley Moss
Holcroft Moss
Glazebrook Moss
Rixton Moss
Little Woolden Moss
Chat Moss
Bedford Moss
Glazebury
Astley Green
Mosley Common



Council Boundary

Hydraulic Interactions

- Canal/Canal
- Canal/River

Potential Development Sites / Locations

- Employment
- Housing
- Mixed Use
- Other
- Regional Centre Boundary

- Ashton, Bridgewater and Rochdale Canals
- Manchester Ship Canal / Grey Irwell
- Other Waterbodies

Main Rivers (V8.0)

- Culverted
- Open

Digitised River Lines

- Culverted
- Open

This map has been produced in accordance with PPS25: Development and Flood Risk.

The map shows the interactions between different sources of flooding. This identifies where further consideration of hydraulic interactions is required in site specific FRAs.

The Main River information shown in the SFRA is provided by the Environment Agency; the centreline data may deviate from that shown on basemapping due to inherent differences in data resolution. Further information on Main Rivers is provided on the Environment Agency's website. The mapping of culverted sections of watercourse is a strategic screening only based upon Ordnance Survey 1:10,000 mapping and should be confirmed for more detailed studies such as site specific Flood Risk Assessment. The canals layer does not necessarily cover all the canal arms, but the modelled overtopping/breaching and hydraulic interactions with rivers and other waterbodies is complete and accurate as appropriate for a Strategic Flood Risk Assessment. The River Irwell downstream from Victoria Station and the Manchester Ship Canal function as a single (hydraulically linked) watercourse. The rectangles represented on this map show an indicative area over which hydraulic interactions are considered possible.

The River Irwell between Victoria Station and Pomona Island is not shown as a Main River on the Environment Agency's Flood Map although Flood Zones related to the river are. The same approach has been taken in this SFRA.

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for

Manchester City, Salford City and Trafford Councils Level 2 Hybrid SFRA

Hydraulic Interactions

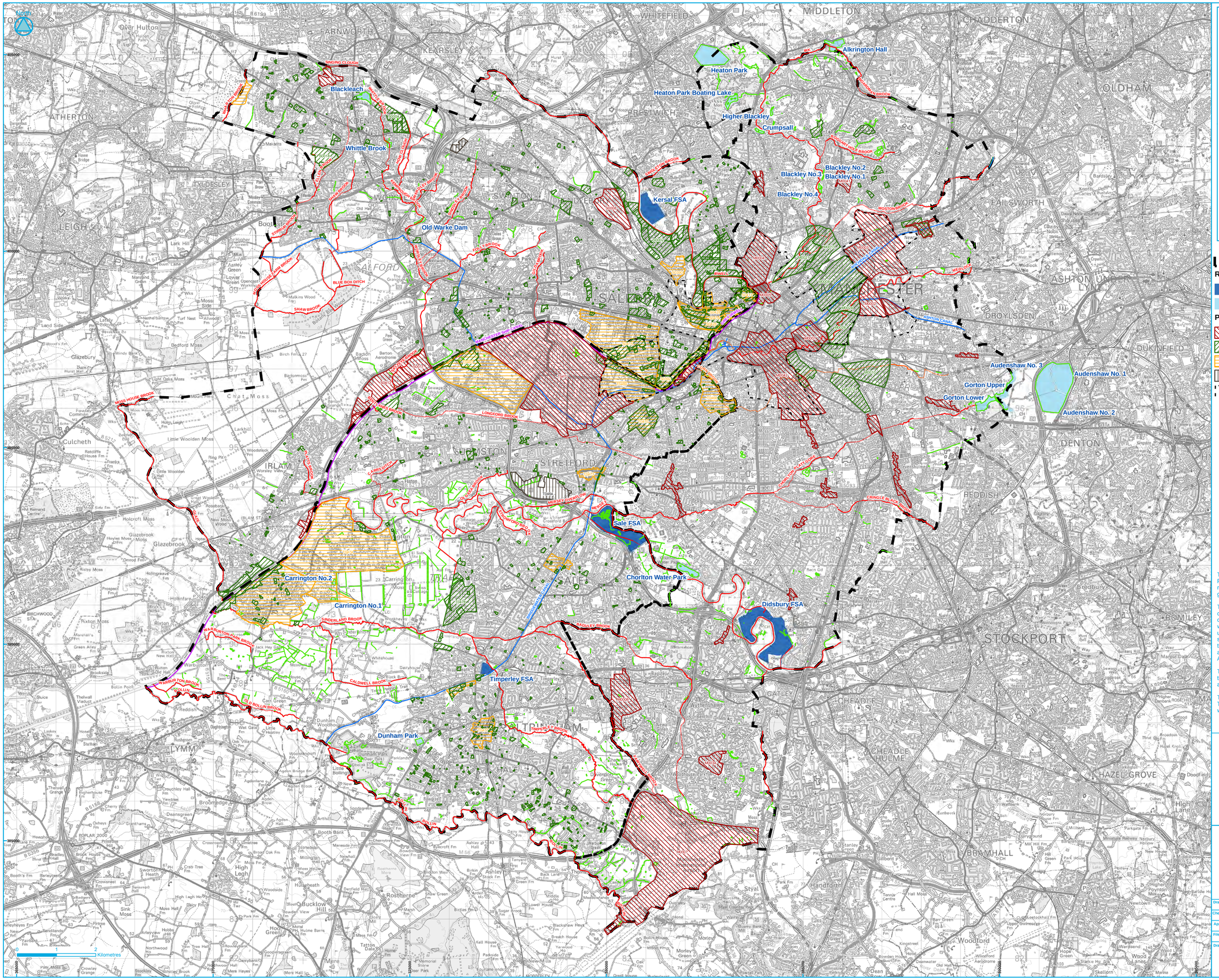
Drawn by:	J Cheetham	Date:	08/03/2011
Checked by:	J Dimelow	Date:	01/02/2011
Approved by:	J Cooper	Date:	01/02/2011

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Drawing Number:	Status:	Scale:
HI_5.1	FINAL	1:45,000

Original @ A1



Council Boundary

Reservoirs

- Flood Storage Area
- Reservoir

Potential Development Sites / Locations

- Employment
- Housing
- Mixed Use
- Other
- Regional Centre Boundary

- Ashton, Bridgewater and Rochdale Canals
- Manchester Ship Canal / Grey Irwell
- Other Waterbodies

Main Rivers (V8.0)

- Culverted
- Open

Digitised River Lines

- Culverted
- Open

This map has been produced in accordance with PPS25: Development and Flood Risk and its Practice Guide. The reservoirs within and near to proposed development sites have been mapped to show their location only. The information is based on OS MasterMap and data gathered in the AGMA Sub-regional Level 1 SFRA.

The Main River information shown in the SFRA is provided by the Environment Agency; the centreline data may deviate from that shown on basemapping due to inherent differences in data resolution. Further information on Main Rivers is provided on the Environment Agency's website. The mapping of culverted sections of watercourse is a strategic screening only based upon Ordnance Survey 1:10,000 mapping and should be confirmed for more detailed studies such as site specific Flood Risk Assessment. The canals layer does not necessarily cover all the canal arms, but the modelled overtopping/breaching and hydraulic interactions with rivers and other waterbodies is complete and accurate as appropriate for a Strategic Flood Risk Assessment.

The River Irwell between Victoria Station and Pomona Island is not shown as a Main River on the Environment Agency's Flood Map although Flood Zones related to the river are. The same approach has been taken in this SFRA.

This map should not influence the spatial placement of development during the Sequential Test; however, it should inform the need for emergency planning to take account of the risk within community plans.

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for

Manchester City, Salford City and Trafford Councils Level 2 Hybrid SFRA

Reservoir Screening

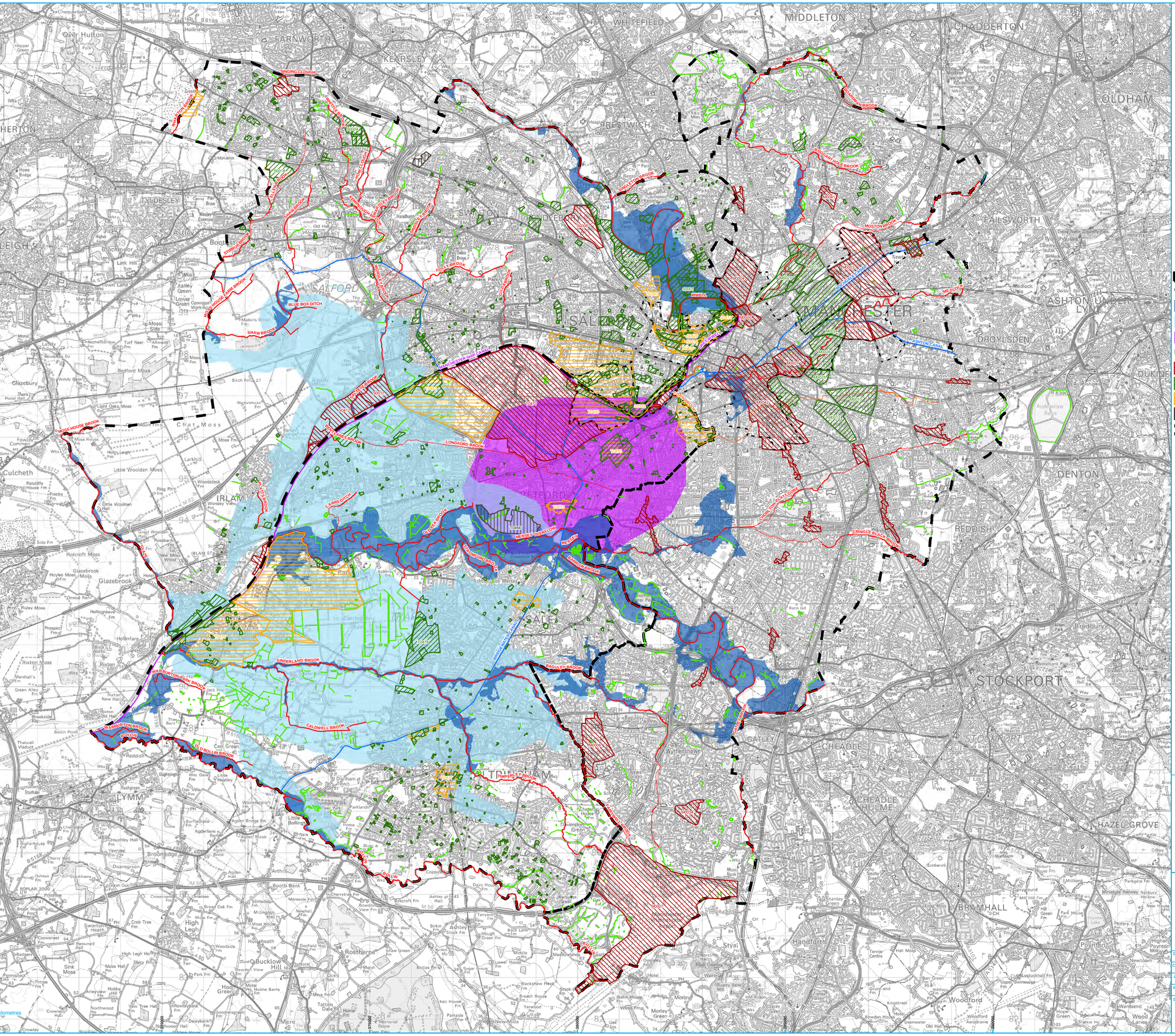
Drawn by:	J Cheetham	Date:	08/03/2011
Checked by:	J Dimelow	Date:	01/02/2011
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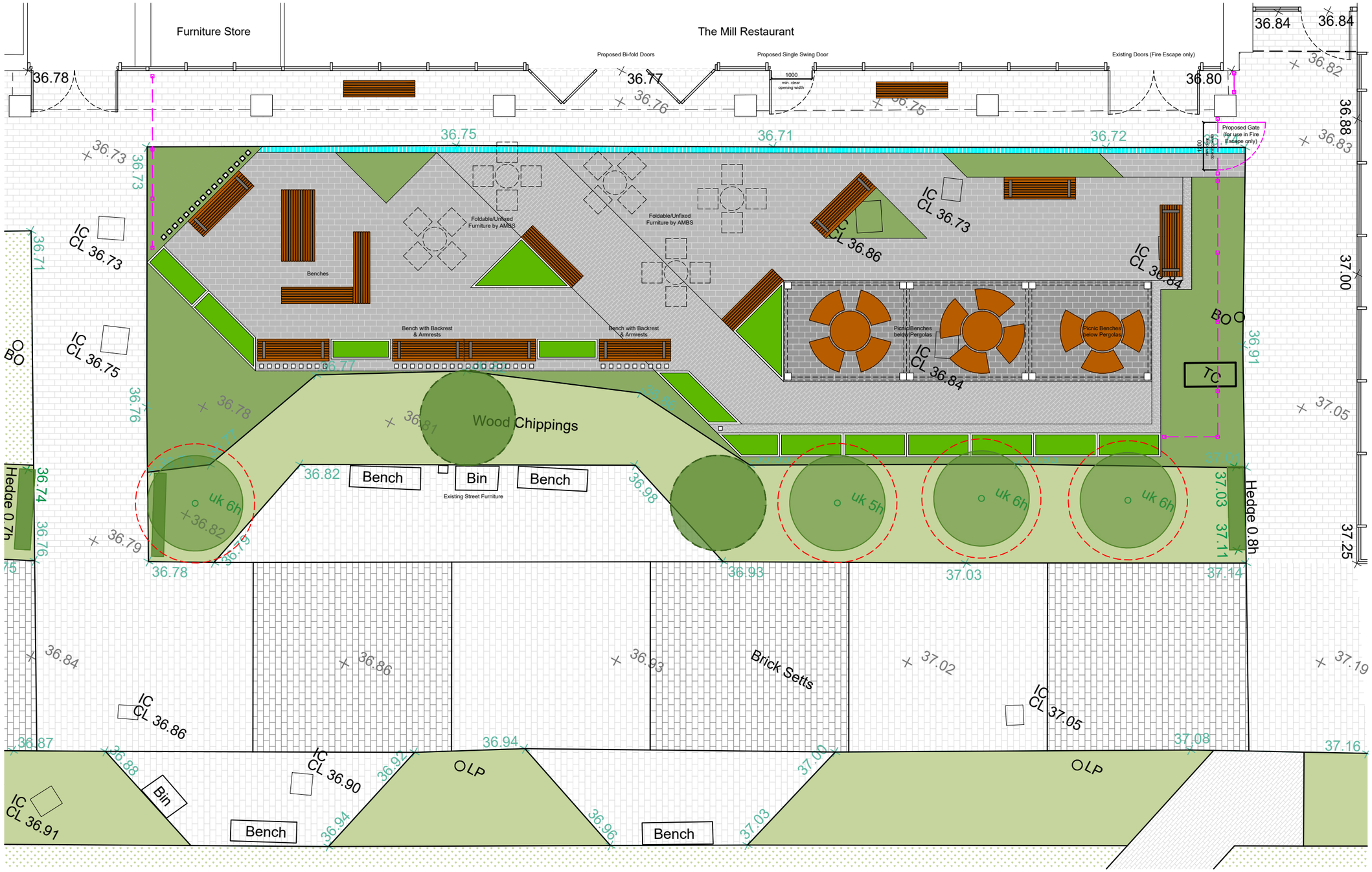
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Original @ A1


North
0
1
2
Kilometres
SALFORD
MANCHESTER
TRAFFORD
STOCKPORT
ECCLES
SWINTON
WORSLEY
ATHERTON
LEIGH
FARNWORTH
KEARSLEY
PRESTWICH
MIDDLETON
CHADDERTON
OLDHAM
ASHTON-UNDER-LYNE
DROYLSDEN
DENTON
REDDISH
HAZEL GROVE
CHEADLE
CHEADLE HULME
GATLEY
BRAMHALL
Woodford
STRETFORD
TIMPERLEY
SALE
ALTRINCHAM
LYMM
IRLAM
Culcheth
Glazebrook
Chat Moss
Little Woolden Moss
Rixton Moss
Holcroft Moss
Bedford Moss
Risley Moss
Glazebury
Rostherne
Tatton Dale
Whitley Reed
Pass Mare
Pass Moss
Sink Moss
Poplar 2000
Broomedge
Arthill
Bucklow Hill
Booth Bank
Dairy House
Ashley
Agden
Agden Hall
Agden Bridge Fm
Dunham Massey
Dunham Park
Dunham Woodhouses
Oldfield Brow
Timperley Wedge
Sinderland Brook
Bollin
Carrington
Partington
Broadheath
Sale Water Park
Ashton Canal
Bridgewater Canal
Manchester Ship Canal
Mersey
Irwell
Medlock
Corridor Brook
Cringle Black Brook
Moston Brook
Newton Brook
Micker Brook
Longford Brook
Chester Farm Brook
Blue Box Ditch
Shaw Brook
Moss House Brook
Carrington Moss
Carr Ditch
Cadishead Moss
Pickering's Pasture
Pool Bank
Pool Bank Brook
Warburton Brook
Warburton Park Brook
Caldwell Brook
Ragley Brook
Dane Bridge Brook
Dane Bridge Ditch
Dunham Brook
Timperley Brook
Hollin Brook
Hollin Brook Ditch
Micker Overflow
Micker Ditch
Dane Brook
Dane Ditch
Singing Clough
Stony Brook
Stony Brook Ditch
Flow Clough
Flow Clough Brook
Middle Brook
Middle Brook Ditch
Whitefield Brook
Whitefield Brook Ditch
Mocker Hole Brook
Mocker Hole Brook Ditch
Moston Brook
Moston Brook Ditch
Newton Brook
Newton Brook Ditch
Micker Brook
Micker Brook Ditch
Cringle Black Brook
Cringle Black Brook Ditch
Corridor Brook
Corridor Brook Ditch
Irwell
Irwell Ditch
Medlock
Medlock Ditch
Ashton Canal
Ashton Canal Ditch
Bridgewater Canal
Bridgewater Canal Ditch
Manchester Ship Canal
Manchester Ship Canal Ditch
Mersey
Mersey Ditch
Longford Brook
Longford Brook Ditch
Chester Farm Brook
Chester Farm Brook Ditch
Blue Box Ditch
Blue Box Ditch Ditch
Shaw Brook
Shaw Brook Ditch
Moss House Brook
Moss House Brook Ditch
Carrington Moss
Carrington Moss Ditch
Carr Ditch
Carr Ditch Ditch
Cadishead Moss
Cadishead Moss Ditch
Pickering's Pasture
Pickering's Pasture Ditch
Pool Bank
Pool Bank Ditch
Pool Bank Brook
Pool Bank Brook Ditch
Warburton Brook
Warburton Brook Ditch
Warburton Park Brook
Warburton Park Brook Ditch
Caldwell Brook
Caldwell Brook Ditch
Ragley Brook
Ragley Brook Ditch
Dane Bridge Brook
Dane Bridge Brook Ditch
Dane Bridge Ditch
Dane Bridge Ditch Ditch
Dunham Brook
Dunham Brook Ditch
Timperley Brook
Timperley Brook Ditch
Hollin Brook
Hollin Brook Ditch
Hollin Brook Ditch
Hollin Brook Ditch Ditch
Micker Overflow
Micker Overflow Ditch
Micker Ditch
Micker Ditch Ditch
Dane Brook
Dane Brook Ditch
Dane Ditch
Dane Ditch Ditch
Singing Clough
Singing Clough Ditch
Stony Brook
Stony Brook Ditch
Stony Brook Ditch
Stony Brook Ditch Ditch
Flow Clough
Flow Clough Ditch
Flow Clough Brook
Flow Clough Brook Ditch

Appendix D – Proposed Development and Drainage Plans

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Key:

- Existing Grass
- Existing Planting Bed
- Existing Paving 1 (Hardscape Kellen Breccia `Tagenta B` 150x300mm sett paving, staggered bond)
- Existing Paving 2 (Hardscape Kellen Breccia `Tagenta B`, `Tagenda C`, `Tagenta E` & `Bianco` 150x300mm sett paving, staggered bond)
- Existing Paving 3 (Hardscape Kellen Breccia `Tagenta B` 75x300mm planks, staggered bond)
- Existing Hedge
- Existing Tree (Root Protection Area dotted red)
- Proposed Planting Bed (Ornamental shrub planting)
- Proposed Paving 1 (Hardscape Kellen Breccia `Tagenta B` 150x300mm sett paving, staggered bond)
- Proposed Paving 2 (Hardscape Kellen Breccia `Tagenta B`, `Tagenda C`, `Tagenta E` & `Bianco` 150x300mm sett paving, staggered bond)
- Proposed Paving 3 (Hardscape Kellen Breccia `Tagenta B` 75x300mm planks, staggered bond)
- Proposed Kerb (Providing ground retention)
- Stainless Steel Edging (between surface/paving types)
- Proposed Raised Planter (Grey, 800mm high, ornamental shrub planting)
- Proposed Raised Planter (Grey, 500mm high, ornamental shrub planting)
- Proposed Ornamental Tree (*Pyrus calleryana* 'Chanticleer')
- Proposed Composite Fence & Gate (Height 1100mm, black)
- Proposed Decorative Timber Posts (Height 1100mm & 1200mm)
- Proposed Channel Drain

Furniture Key:

- Proposed Pergola (White Stores Legacy Aluminium Metal Pergola, Graphite Grey, 3m x 2.4m)
- Proposed Picnic Set (Bailey Streetscene Springwell Picnic Set, grey PPC metal base & hardwood timber, D: 2125mm x H: 800mm, wheelchair spaces as indicated on plan)
- Proposed Bench 1 (Bailey Streetscene Greengate Seat, grey PPC metal base, hardwood timber seat, L: 1800mm x D: 410mm x H: 450mm)
- Proposed Bench 2 (Bailey Streetscene Greengate Seat, grey PPC metal base & arms, hardwood timber seat, L: 1800mm x D: 550mm x H: 775mm)

0 4 8 12

1:100 @ A3

NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL MEASUREMENTS ARE IN MILLIMETERS UNLESS STATED OTHERWISE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE SPECIFICATION AND ALL RELEVANT ARCHITECTURAL, ELECTRICAL, MECHANICAL AND STRUCTURAL DRAWINGS.
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5. DIRECTORATE OF ESTATES AND FACILITIES TO BE NOTIFIED OF ANY DISCREPANCIES.

NB.: Refer to Structural/Civil Engineer & MEP Consultant information for existing and proposed.

Rev	Description	Rev	By	Chk'd	Auth
P1	Issued for Planning.	17/04/26	MM	FW	HMA

The University of Manchester
Directorate of Estates and Facilities
Beyer Building
The University of Manchester
Oxford Road
Manchester
M13 9PL

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111 Piccadilly, Manchester M1 2HY
+44 (0)161 661 3066
4 Devonshire Street London W1W 5DT
+44 (0)203 440 3173
hma@hallidaymeecham.com
www.hallidaymeecham.com

Drawing Status: PLANNING

Project: AMBS The Mill Event Space

Building Name: Alliance Manchester Business School
Building No.:
Site Name: University of Manchester
Sub Site Name: Oxford Road
Drawing Title: Proposed Site Plan

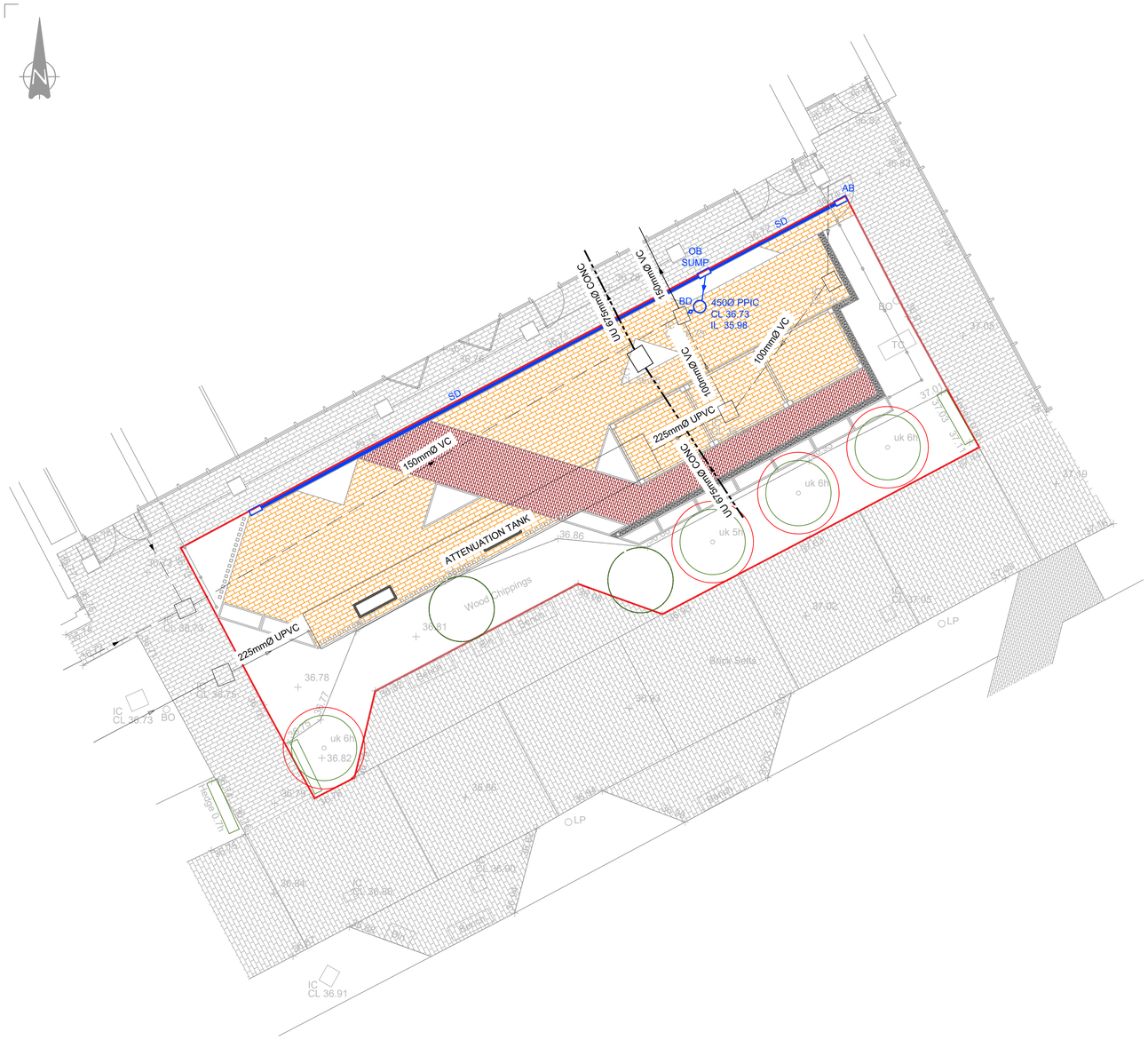
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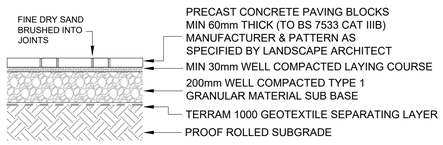
Drawing No.: 5928-HMA-AMBS-00-DR-A-00200
Revision: P1

Original Drawing Paper Size 297mm x 420mm

Plot Stamp: G:\5000\5928 AMBS Building The Mill\Cafe\1-WIP\BIM\Proposed Site Plan.dwg



GENERAL ARRANGEMENT
SCALE 1:100



CONCRETE PAVING CONSTRUCTION
DESIGN BASED ON MIN. CBR 5% AT FORMATION
TO BE VERIFIED AT FORMATION ON SITE

IN ACCORDANCE WITH CD239 Table 3.18b

LEGEND:

- DENOTES PROPOSED IMPERMEABLE BLOCK PAVING TO LANDSCAPE ARCHITECTS SPECIFICATION & PATTERNS & COLOURS TO BE CONFIRMED BY LANDSCAPE ARCHITECT. CONSTRUCTION MAKE-UP SHALL BE IN ACCORDANCE WITH THE SPECIFICATION BELOW
- DENOTES PROPOSED SOFT LANDSCAPING PROVISIONS TO LANDSCAPE ARCHITECTS SPECIFICATION.
- DENOTES EXISTING HARD STANDING TO REMAIN UNCHANGED BY THE PROPOSED WORKS
- SD — DENOTED PROPOSED PROPRIETARY SLOT DRAIN IN ACCORDANCE WITH DETAILS SHOWN ON DRAWING CCL-1-21955-XX-XX-DR-C-00501
- AB — DENOTES ACCESS BOX AT HEAD OF PROPOSED PROPRIETARY SLOT DRAIN
- OB SUMP — DENOTES OUTLET BOX WITH SUMP FOR SILT CAPACITY AT PROPOSED OUTLET OF PROPRIETARY SLOT DRAIN
- BD — DENOTES EXTERNAL BACKDROP TO EXISTING MANHOLE CHAMBER
- DENOTES EXISTING SURFACE WATER DRAINAGE
- DENOTES EXISTING FOUL WATER DRAINAGE
- DENOTES EXISTING COMBINED WATER DRAINAGE
- DENOTES EXISTING PUBLIC SEWER
- DENOTES EXTENT OF WORK AREA AS DEFINED BY ARCHITECTURAL DRAWING

KERBS & EDGING NOTES;

- REFER TO ARCHITECT'S DRAWINGS FOR TYPES, LOCATIONS & EXTENTS OF KERBS AND EDGINGS.
- REFER TO CLANCY CONSULTING EXTERNAL WORKS DETAILS DRAWING CCL-1-21955-XX-XX-DR-C-00501 FOR CONSTRUCTION DETAILS FOR KERBS AND EDGINGS
- ANY KERB DENOTED AS EXISTING AND TO REMAIN BUT ARE DAMAGED SHALL BE CAREFULLY REMOVED & REPLACED IN ACCORDANCE WITH THE KERB CONSTRUCTION DETAILS SHOWN ON DRAWING CCL-1-21955-XX-XX-DR-C-00501.

ORIGIN OF INFORMATION;

- ALL LEVELS SHOWN & POSITIONING OF EXISTING DRAINAGE APPARATUS IS TAKEN FROM THE TOPOGRAPHICAL SURVEY 84871 MCLS-01 PROVIDED TO CLANCY CONSULTING & ORIGINATED BY SURVEY SOLUTIONS LIMITED.
- ALL LANDSCAPING PROVISIONS ARE TAKEN FROM LANDSCAPING DRAWING 5928-HMA-AMBS-00-DR-A-00200 ORINGINATED BY HALLIDAY MEECHAM ARCHITECTS

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DESIGN BASED ON TOPOGRAPHICAL SURVEY AND SURVEY INFORMATION AVAILABLE AT THE TIME OF DESIGN.
3. ALL EXISTING SEWERS, CONNECTIONS, PIPE SIZES AND INVERT LEVELS TO BE CONFIRMED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS TO ENSURE CONNECTIVITY. ANY VARIANCE FROM THE INFORMATION SHOWN SHOULD BE REPORTED TO THE ENGINEER FOR REVIEW.
4. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
5. ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
6. FOR SW AND FW CONNECTIONS TO EXISTING PUBLIC SEWERS, A SECTION 106 PART 1 & 2 ARE REQUIRED. IF THE PRIVATE SW CONNECTIONS INTO THE S104 DRAINAGE ARE INSTALLED AS PART OF THE S104 WORKS, A S104 PART 2 MAY NOT BE REQUIRED, AS THE INSPECTION WOULD BE UNDERTAKEN BY UU DURING THE S104 INSTALLATION WORKS. TBC.
7. REFER TO DRAWING CCL-1-21955-XX-XX-DR-C-00501 FOR DETAILED NOTES AND DETAILS.

EXISTING SERVICES NOTES;

1. EXISTING SERVICES ARE PRESENT IN THE WORK AREA & ARE SHOWN ON RECORD DRAWING WHICH SHALL BE OBTAINED FROM THE CLIENT - ANY SUCH POSITIONS SHALL TO BE ASSUMED TO BE APPROXIMATE & MAY BE INCOMPLETE.
2. THERE MAY BE OTHER SERVICES WHICH HAVE NOT BEEN IDENTIFIED TO DATE - CONTRACTOR TO ALLOW FOR CAT SCANNING THE WORK AREA & HAND DIGGING TO LOCATE ANY SERVICE (EITHER INDICATED OR UNIDENTIFIED) PRIOR TO COMMENCING ANY EXCAVATIONS.
3. ALL RETAINED EXISTING SERVICES SHALL BE PROTECTED AS NECESSARY FOR THE DURATION OF THE WORKS.
4. THE CONTRACTOR SHALL REPORT ANY DIVERGENCE FROM THESE RECORDS IMMEDIATELY, PRIOR TO CONTINUING WITH WORKS.
5. ANY EXISTING SERVICES DENOTED FOR DIVERSION ARE SHOWN ON THE UNDERGROUND SERVICES DRAWINGS - REFERENCE SHALL BE TO ALL RELEVANT DRAWINGS PRIOR TO COMMENCEMENT OF EXCAVATIONS / INSTALLATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RAISE QUERIES IF IN ANY DOUBT.

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX
Construction Risks
• REFER TO SITE INVESTIGATION FOR DESCRIPTION OF GROUND CONDITIONS EXPECTED TO BE ENCOUNTERED FOR REDUCED LEVEL EXCAVATIONS. TEMPORARY SUPPORT IS NOT EXPECTED TO BE REQUIRED BUT THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY STABILITY OF EXCAVATIONS. • EDUCATION BUILDINGS EXIST IMMEDIATELY ADJACENT TO THE WORK AREA - CONTRACTOR TO PROPOSE SUITABLE HOARDINGS, PROTECTION & MAINTAIN SAFE ACCESS AT ALL TIMES. • TYING INTO THE EXISTING HARD STANDINGS IS REQUIRED TO THE PERIMETER OF THE WORK AREA. CONTRACTOR SHALL WORK IN COMPLIANCE WITH THE REQUIREMENTS OF THE ESTATE MANAGEMENT TEAM. • EXISTING ADOPTED 675mm PUBLIC SEWER CROSS THE WORK AREA IN THE LOCATION SHOWN - REFER TO CCTV REPORT & SURVEY • EXISTING PRIVATE ATTENUATION TANK EXISTS WITHIN THE WORK AREA - CONTRACTOR SHALL TAKE ACCOUNT WHEN OPERATING PLANT & MACHINERY THAT THE LOADING CAPACITY OF THE TANK IS NOT EXCEEDED. CONTRACTOR SHALL TAKE ADVICE FROM THE TANK MANUFACTURER AS NECESSARY.
Maintenance/Cleaning risks
• NO SPECIAL MEASURES ENVISAGED FOR POSITIVELY DRAINED AREAS - STANDARD MAINTENANCE REGIME TO LINEAR DRAINS & INSPECTION CHAMBERS. • MAINTENANCE OF EXTERNAL WORKS CONSTRUCTIONS SHALL BE IN ACCORDANCE WITH THE ARCHITECT'S MAINTENANCE PLAN.
Demolition/adaptation risks
IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPE OF WORK DETAILED ON THIS DRAWING - THE CONTRACTOR IS TO TAKE NOTE OF THE ABOVE & ALSO THE HAZARDS IDENTIFIED IN THE RISK ASSESSMENT DOCUMENT. IT IS ASSUMED THAT ALL WORKS DETAILED ON THIS DRAWING WILL BE PERFORMED BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

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P01	08.05.26	ISSUED FOR INFORMATION	SJT	CD	NB

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Project: UNIVERSITY OF MANCHESTER
AMBS MILLS CAFE PROJECT

Office: MANCHESTER

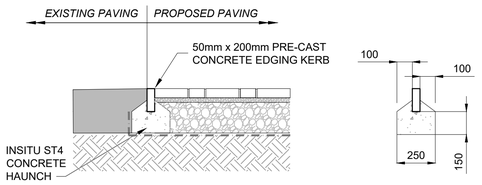
Discipline: CIVILS

Title: DRAINAGE & EXTERNAL WORKS
GENERAL ARRANGEMENT & DETAILS

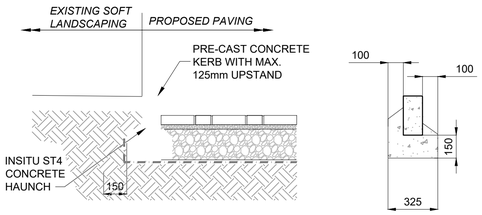
Scale @ A1	Status
1:100 U.O.N.	PRELIMINARY

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CCL	1/21955	C	XX
Type	**Level**	**Drawing No.**	**Revision**
DR	XX	00500	P01

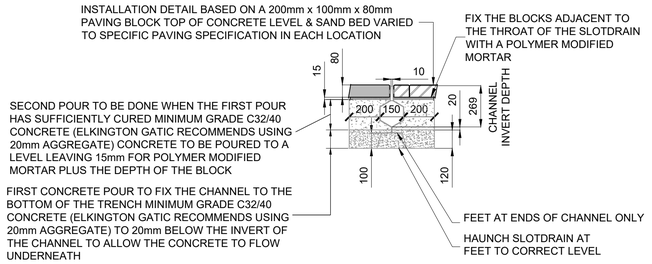


EDGING KERB (EK)
REQUIRED AT EXTENTS OF NEW PAVING & INTERFACES WITH EXISTING PAVING
SCALE 1:20

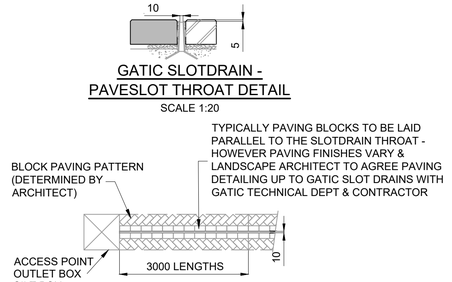


ARCHITECTURAL KERB (AK)
SCALE 1:20

TYPICAL CONCRETE KERB DETAILS ONLY, REFER TO LANDSCAPE ARCHITECT PROPOSED KERBING TYPES AND INSTALLATION DETAILS.

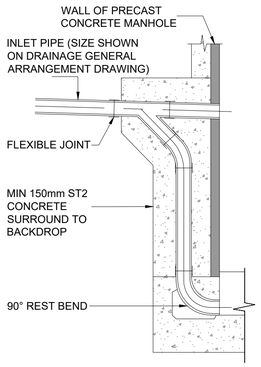


GATIC SLOTDRAIN - 150mm PAVESLOT
SCALE 1:20

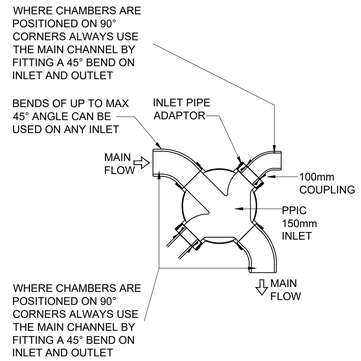


GATIC SLOTDRAIN - PAVESLOT THROAT DETAIL
SCALE 1:20

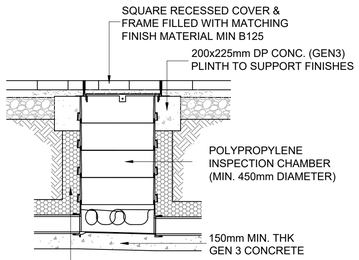
GATIC SLOTDRAIN - PAVESLOT PLAN DETAIL
SCALE 1:20



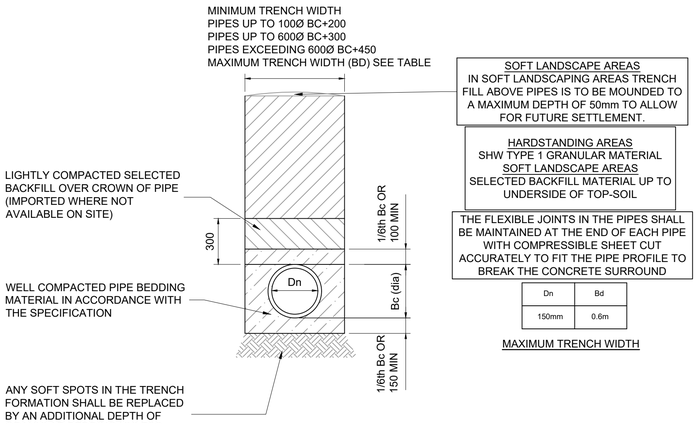
TYPICAL EXTERNAL BACKDROP DETAIL
SCALE 1:20



TYPICAL INSPECTION CHAMBER BASE DETAILS
SCALE 1:20



SHALLOW PPIC INSPECTION CHAMBER DETAIL
MAXIMUM DEPTH 1.2m



CLASS S - 360° GRANULAR SURROUND PIPE BEDDING DETAIL
SCALE 1:20

DRAINAGE NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. ALL ADOPTABLE DRAINAGE WORKS INCLUDING WORKS TO EXISTING PUBLIC SEWERS TO BE UNDERTAKEN IN ACCORDANCE WITH "SEWERS FOR ADOPTION 7th EDITION" AND "CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION" AND CONSTRUCTED TO THE RELEVANT STATUTORY UNDERTAKERS DETAILS.
3. ALL PRIVATE DRAINAGE WORKS TO BE IN ACCORDANCE WITH CLANCY DRAINAGE SPECIFICATION, "CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION", BS EN 752 2017 'DRAIN AND SEWER SYSTEMS OUTSIDE BUILDINGS' AND THE BUILDING REGULATIONS APPROVED 'DOCUMENT H'.
4. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
5. DESIGN BASED ON TOPOGRAPHICAL SURVEY AND CCTV SURVEY INFORMATION AVAILABLE AT THE TIME OF THE DESIGN.
6. OUTFALL CONNECTION(S) SUBJECT TO AGREEMENT WITH THE APPROVING AUTHORITY.
7. ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
8. COVER LEVELS, GULLY POSITIONS, AND BUILDINGS LOCATION ARE APPROXIMATE AND SHALL BE CONFIRMED BY ARCHITECT/ LANDSCAPE ARCHITECT. CONTRACTOR TO ALLOW FOR ADJUSTMENT TO SUIT AGREED POSITIONS AND FINISHED LEVELS, AND CONFIRM ALL COVER LEVELS ON SITE.
9. ALL SLOT DRAIN OUTLETS AND TERMINATION POINTS TO BE TRAPPED AND RODDABLE. INTERNAL GULLIES AND CHANNEL DRAINS TO BE SPECIFIED BY OTHERS.
10. INVERT LEVELS AT MANHOLES/ INSPECTION CHAMBERS TO BE USED TO SET OUT PIPEWORK. PIPE GRADIENTS ARE SHOWN INDICATIVELY ONLY.
11. ALL PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS.
12. ALL SEWERS, UNLESS AGREED OTHERWISE STATED, SHALL BE:
    - 100mm to 300mm DIA TO BE VITRIFIED CLAY.
    - 375mm DIA AND GREATER TO BE CLASS 120 CONCRETE PIPES.
13. AS AN ALTERNATIVE THE CONTRACTOR MAY USE AN APPROVED UNPLASTICISED POLYVINYL CHLORIDE (PVCU) WITH APPROVAL FROM THE ENGINEER.
14. SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS.
15. THE FIRST PIPE OUT OF MANHOLES TO BE AS SHORT AS PRACTICABLE SO AS TO PROVIDE A FLEXIBLE JOINT AS CLOSE AS POSSIBLE TO THE OUTSIDE FACE OF THE CONCRETE SURROUND AND CONNECTED TO A LENGTH OF ROCKER PIPE.
16. ALL NEW CONNECTIONS INTO EXISTING MANHOLES (OR INTO EXISTING SEWERS) TO BE 'SOFFITS LEVEL' UNLESS OTHERWISE NOTED.
17. ALL PRIVATE DRAINAGE PIPES WITH A COVER OF LESS THAN 600mm IN NON-TRAFFICKED AREAS AND LESS THAN 1200mm IN TRAFFICKED AREAS TO BE BEDDED AND SURROUNDED IN CONCRETE (CLASS Z). COMPRESSIBLE MATERIAL SHALL BE PROVIDED AT EVERY PIPE JOINT. WHERE COVER EXCEEDS THIS DEPTH, PIPES ARE TYPICALLY BEDDED AND SURROUNDED IN CLASS S. REFER TO PIPE EMBEDMENT DETAILS DRAWING FOR SPECIFIC TYPES.
18. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED TO PROVE THAT SUCH PRECAUTIONS ARE NOT REQUIRED.
19. ALL MANHOLE COVERS IN BLOCK/SLAB AND EXTERNAL PAVING AREAS TO HAVE RECESSED COVERS OF THE APPROPRIATE GRADE TO ACCEPT ARCHITECT'S PAVING PROPOSAL.
20. UNLESS NOTED OTHERWISE IN THE MANHOLE SCHEDULE, ALL MANHOLE, GULLY AND CHANNEL COVERS (IRONWORK) SHOULD BE B125 LOAD CLASS IN PEDESTRIAN AREAS .
21. ALL PROPRIETARY PRODUCTS TO BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS, INSTRUCTIONS AND RECOMMENDATIONS

EXTERNAL WORKS NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
3. ALL WORKS AND MATERIALS TO BE IN ACCORDANCE WITH CURRENT BRITISH STANDARDS AND BUILDING REGULATIONS.
4. THE LANDSCAPE ARCHITECT'S DRAWING HAS BEEN USED AS A BASE FOR THIS PLAN. PLEASE REFER TO THE LATEST LANDSCAPING LAYOUT.
5. REFER TO LANDSCAPE ARCHITECTS SPECIFICATION FOR SURFACE FINISHES.
6. KERBING REQUIREMENTS/DETAIL TO BE CONFIRMED BY ARCHITECT OR LANDSCAPE ARCHITECT.
7. REFER TO ARCHITECT OR LANDSCAPE ARCHITECTS SPECIFICATION FOR JOINTING MATERIAL. CONSIDERATION REQUIRED OF COMPATIBILITY OF JOINTING AND BEDDING MATERIAL AND WHETHER SUB-SURFACE DRAINAGE IS REQUIRED.
8. WHERE PERMEABLE FINISHES AND/OR PERMEABLE BEDDING IS SPECIFIED, CONSIDERATION IS REQUIRED TO CONFIRM WHETHER SUB-SURFACE DRAINAGE IS REQUIRED.
9. ALL SUB-BASES AND CAPPING LAYERS TO BE GRADED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS (SFHW).
10. ALL PAVEMENT CONSTRUCTIONS ARE BASED ON AN ASSUMED CBR VALUE OF 5%. TO BE CONFIRMED BY IN-SITU TESTING AT FORMATION.
11. IT IS RECOMMENDED THAT CBR TESTS ARE CARRIED OUT TO CONFIRM AND SUB-BASE ADJUSTED IN ACCORDANCE WITH THE CAPPING AND SUB-BASE THICKNESS TABLE.
12. CBR TEST PROCEDURE IS DETAILED WITHIN DMRB CD225 AND BS 1377-4.
13. MEASURED CBR VALUE TO BE AT FORMATION LEVEL AND TO BE A 'SOAKED' CONDITION.
14. ANY VARIATIONS IN GROUND CONDITIONS SHOULD BE NOTIFIED TO THE ENGINEER PRIOR TO CONSTRUCTION.
15. THE CONSTRUCTION DEPTHS GIVEN ARE THE MINIMUM REQUIRED (COMPACTED).
16. THE CONSTRUCTION DEPTHS GIVEN ASSUME FORMATION IS NON-FROST SUSCEPTIBLE.
17. WHERE FORMATION IS FROST SUSCEPTIBLE PROVIDE CAPPING MATERIAL TO GIVE A MINIMUM 450mm OVERALL CONSTRUCTION THICKNESS. (VEHICLE LOADED AREAS ONLY).
18. IN AREAS WHERE LEVELS ARE TO BE RAISED, ACCEPTABLE FILL MATERIAL IS TO BE USED TO THE UNDERSIDE OF THE PROPOSED CONSTRUCTION.
19. NO REGULATING OR FILL MATERIAL HAS BEEN INCLUDED IN CONSTRUCTION BUILD UP. CONTRACTOR TO INCLUDE FOR REGULATING/FILL MATERIAL IN THEIR RATES.
20. LAYING COURSE TO BE NATURALLY OCCURRING SAND OR MORTAR IN ACCORDANCE WITH BS7533 REQUIREMENTS, UNLESS NOTED OTHERWISE.
21. CGBM TO MCHW SERIES 800 (REF 6.I) CLAUSE 821, MCHW SERIES 100 (REF 19.N).
22. TYPE 1 SUB-BASE TO MCHW SERIES 800 (REF 6.I) CLAUSE 803, MCHW SERIES 100 (REF 19.N).

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX
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Office: MANCHESTER

Discipline: CIVILS

Title: DRAINAGE & EXTERNAL WORKS NOTES & DETAILS

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Originator	Job Number	Discipline	Building/Zone
CCL	1/21955	C	XX
Type	**Level**	**Drawing No.**	**Revision**
DR	XX	00501	P01