

FLOOD RISK ASSESSMENT AND DRAINAGE STATEMENT

PROPOSED DEVELOPMENT AT PARK PLACE, MANCHESTER

RUSHOLME GARDEN INVESTMENTS

Project No.: 10614				
Issue Date	Revision	Status	Issued By	Checked By
28.06.22	01		S Dop	S J Reid

Reid Jones Partnership Ltd
3 Cross Street
Preston
PR1 3LT

Tel: 01772 498007

Email: enq@reidjonespartnership.co.uk



CONTENTS

	Page No.
1.0 INTRODUCTION	3
1.1 Site Context	3
1.2 Legislative Context	3
1.3 Site Description and Location	3
1.4 Development Proposals	4
2.0 THIRD PARTY CONSULTANTS	4
2.1 Statutory Authorities	4
3.0 FLOOD RISK TO THE SITE	5
3.1 Fluvial and Tidal Flooding	5
3.2 Groundwater Flooding	6
3.3 Surface Water Flooding	6
3.4 Flooding from Public Sewers	7
3.5 Flooding from Artificial Sources	7
3.6 Summary of Potential Sources	7
3.7 Flood Risk Mitigation and Management	8
4.0 FLOOD RISK FROM THE SITE	8
5.0 HYDRAULIC ASSESSMENT	8
5.1 Existing Drainage	8
6.0 PROPOSED DRAINAGE	8
6.1 Foul Water	8
6.2 Surface Water	8

APPENDIX A – Urbane Forms drawing 18001, (0-)06

APPENDIX B – Reid Jones Partnership drawing No. 10614/101

APPENDIX C – Urbane Forms drawings 18001, (0-)20 and (0-)21

APPENDIX D – Flood Maps

APPENDIX E – United Utilities Sewer Records

APPENDIX F – Reid Jones Partnership drawing No. 10614/401

1.0 INTRODUCTION

1.0.1 Reid Jones Partnership has been commissioned by Rusholme Garden Investments to prepare a Flood Risk Assessment and Drainage Statement for a proposed residential development at Park Place, Chorlton-cum-Hardy, Manchester M21 8AY.

1.0.2 The site lies within the suburb of Chorlton-cum-Hardy, in the metropolitan borough of Manchester, where Manchester City Council is the designated Lead Local Flood Authority (LLFA).

1.0.3 The Flood Risk Assessment and Drainage Statement is in support of the planning application submission for the development.

1.1 Site Context

1.1.1 The site comprises approximately 0.17 hectares of land, located within an urban area. A sports bar/clubhouse currently occupies the majority of the site.

1.1.2 The site is located within Flood Zone 1 and 2, but lies on the boundary of Flood Zone 3, due to its proximity to the main river Chorlton Brook.

1.2 Legislative Context

1.2.1 Planning requirements for the development require a flood risk assessment and site specific drainage strategy or statement to demonstrate that the drainage scheme proposed is in compliance with both the NPPF (National Planning Policy Framework)/NPPG (National Planning Policy Guidance) and Non-Statutory Technical Standards.

1.3 Site Description and Location

1.3.1 The development location is shown on Figure 1 below.

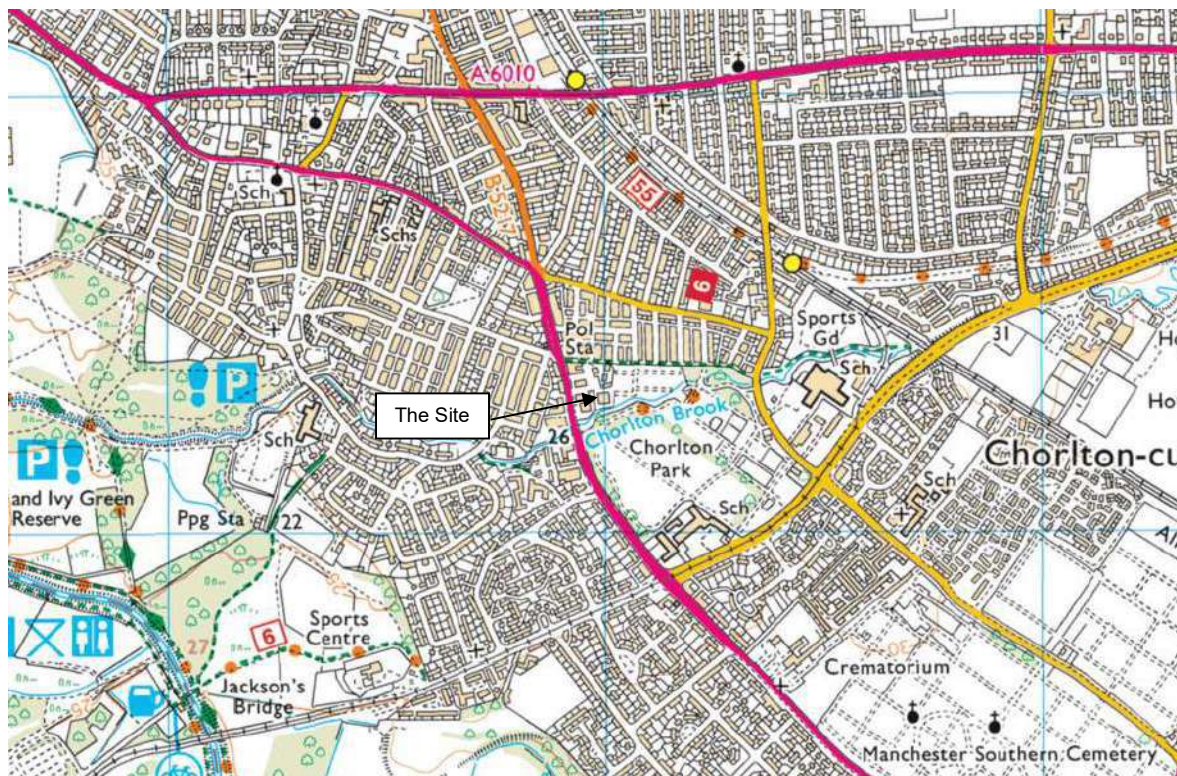


Figure 1 – Site Location Plan

1.3.2 The site covers an area of approximately 36 x 47m and houses a sports bar/clubhouse, with associated parking and external grassed areas.

1.3.3 The site is bounded by the access road (Park Place) and residential apartments to the north, allotments to the east, the main river Chorlton Brook to the south and light industrial/commercial units to the west. The arrangement is shown on Urbane Forms drawing 18001, (0-)06, Appendix A.

1.3.4 The site is centred at Ordnance Survey reference 381 995 E, 393 315 N.

1.3.5 The site lies directly adjacent and to the north of the main river Chorlton Brook (Chorlton Platt Gore). Chorlton Brook is a tributary of the River Mersey, which lies approximately 1.2 km to the south-west of the site.

1.3.6 Preliminary assessment based on the British Geological Survey map indicates the underlying solid rocks are Sandstone, of the Wilmslow Sandstone Formation. Superficial deposits are described as Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel, to the north and Till, Devensian - Diamicton, to the south areas of the site.

1.3.7 The access/parking area at the north of the site adjacent to Park Place is relatively level, at 27.5m AOD. The site falls from Park Place towards Chorlton Brook, where there is an embankment down to the river. Top of embankment level is approximately 27m to the west, falling to 26m to the east. The existing site topography is shown on Reid Jones Partnership drawing No. 10614/101, Appendix B.

1.4 Development Proposals

1.4.1 Planning permission is sought for the construction of an "L" shaped residential development with tiered terraces of three storey ends and five storeys at the intersection. The residential development will comprise 38 No. apartments, with parking provided at lower ground floor level.

1.4.2 It is proposed that lower ground floor level is set at 25.5m, with vehicular access to the car park provided at the south-west of the site at a level of 26.9m, to tie in with the existing access road.

1.4.3 Ground floor residential accommodation is set at 28.875m, with main pedestrian access via stairs and ramp up from Park Place (27.6m approximately).

1.4.4 The proposed layout of the site is shown on Urbane Forms drawings 18001, (0-)20 and (0-)21, Appendix C.

1.4.5 The lower ground floor level will be achieved by providing retaining walls on the north, east and west elevations, adjacent to the site boundary. The south elevation will be provided with a bund wall, with top of wall level set to suit site fluvial flood levels.

2.0 THIRD PARTY CONSULTANTS

2.1 Statutory Authorities

2.1.1 Information from the following Statutory Authorities has been examined to inform the flood risk assessment and provide a drainage strategy:

- Manchester City Council (MCC)
- Environment Agency (EA)
- United Utilities (UU)

2.1.2 Pertinent information and records received are contained within Appendix D (flood maps) and Appendix E (sewer record plan).

3.0 FLOOD RISK TO THE SITE

3.1 Fluvial and Tidal Flooding

Flood Zone

3.1.1 The majority of the site currently lies within Flood Zone 1, with the south-eastern corner in Flood Zone 2, see Flood Map for Planning, Appendix D.

3.1.2 Flood Zone 1 is defined as land having a less than 1 in 1000 annual probability of river or sea flooding. Flood Zone 2 is defined as land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.

Flood Risk Vulnerability Classification

3.1.3 The flood risk vulnerability classification of the development is “more vulnerable” (buildings used for dwelling houses, Table 2, NPPG).

Flood Risk Vulnerability and Flood Zone Compatibility

3.1.4 The development is compatible with the flood zones (Table 3, below).

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓*

Key:

✓ Development is appropriate

X Development should not be permitted.

Table 3

3.1.5 Due to the proximity of the river, and the proposed changes in layout and levels, a detailed flood map has been obtained from the EA, with flood levels modelled for the site (Appendix D). The flood levels provided allow the determination of the risk of fluvial flooding to the proposed development and the required height for the bund wall.

Climate Change

3.1.6 For more vulnerable developments in flood zone 2, the “central” climate change allowance is the EA’s minimum benchmark for flood risk mitigation, and in flood zone 3 the “higher central” climate change

allowance is the minimum benchmark for flood risk mitigation. In sensitive locations it may be necessary to use the higher central (in flood zone 2) and the upper end allowance (in flood zone 3).

3.1.7 DEFRA Upper Mersey Management Catchment peak river flow allowances are given for the 2020s, 2050s and 2080s. As a residential development, the design life is considered to be a minimum of 100 years.

3.1.8 The DEFRA Upper Mersey Management Catchment peak river flow allowances for the 2080s are given as 41%, 53%, and 85% for the central, higher and upper values respectively.

Flood Levels

3.1.9 The EA have provided flood modelling data for a 1% AEP (annual exceedance probability, thus 1 in year) with climate change allowances of 30%, 35% and 70%, for undefended and defended scenarios. In addition, flood levels for a 0.1% AEP (1 in 1000 year) event have been provided, for undefended and defended scenarios. The more onerous (undefended/defended) flood levels and proposed site levels are summarised below in Table A.

Event	Flood Level (mAOD)
Proposed lower ground floor level (car park)	25.5
1% AEP (1 in 100 year)	26.14
1% AEP + 70% increase	26.66
0.1% AEP (1 in 1000 year)	26.73
Proposed ground floor level (residential)	28.875

Table A

3.1.10 As can be seen from Table A, the lower ground floor level (car park) is below the flood level for a 1% AEP event. Thus, without protection, it has a more than 1 in 100 probability of flooding, to a depth of 640 mm.

3.1.11 The EA have also provided flood levels for a 10% AEP event at point 3 on the main river. The level is given as 25.52m. Thus by inspection, it can be determined that the probability of flooding of the car park, if left unprotected, is in the region of 1 in 10 years, excluding climate change.

3.1.12 The entrance to the car park is at an approximate level of 26.85m, above the 0.1% AEP level and therefore in flood zone 1.

3.1.13 Although modelled values for the higher and upper central climate change allowance have not been provided, it is clear that the proposed ground floor level (residential) is above the 1% AEP + 70% increase flood level by 2.2m. It is also above the 0.1% AEP by 2.1m.

3.2 Groundwater Flooding

3.2.1 There are no historic records of groundwater flooding in the area of the site (MST Level 1 SFRA).

3.2.2 The proposal does involve the installation of a lower ground floor car park, reducing levels from existing, and thus the risk of groundwater flooding to the car park cannot be discounted.

3.2.3 Any groundwater strikes will be noted when on-site borehole/site investigations are carried out.

3.2.4 As there are no records of groundwater flooding on the site, the groundwater flood risk is considered to be low.

3.3 Surface Water Flooding

3.3.1 The Environment Agency's long term flood risk map shows the site is at very low risk of flooding from surface water.

3.4 Flooding from Public Sewers

3.4.1 With reference to the United Utilities sewer record drawing, Appendix E, there are no public sewers within the site boundary or in the immediate vicinity of the site.

3.4.2 The closest public sewer is a foul sewer within the private courtyard, serving the Park Place apartments to the north of the site.

3.4.3 The closest accessible sewers are the combined sewers within the main road, Barlow Moor Road, approximately 55m to the west of the site.

3.4.4 Surface water and sewer flooding is often interconnected. For example, high water levels in receiving watercourses could prevent the free discharge of surface water or combined sewer overflows through the sewer network. This could cause the sewer network to back up and surcharge, causing flooding.

3.4.5 The MST SFRA reports *“sewer and drainage problems have been identified during rainfall events, with issues in Northenden, Didsbury, Fallowfield and in the city centre.”*

3.4.6 As the site is not within these areas and there are no public sewers in the immediate vicinity, flooding from public sewers is considered to be low.

3.5 Flooding from Artificial Sources

3.5.1 There are no canals in proximity to the site and the risk of flooding from canals is considered to be very low.

3.5.2 However, the area is at risk of flooding from reservoirs. The reservoir that could affect this area is:

Woodhead (grid reference SK0820099400)

Owner: United Utilities PLC

Lead Local Flood Authority: Derbyshire

3.5.3 The risk of flooding occurs when there is also flooding from rivers.

3.5.4 Government guidance states that flooding from reservoirs is extremely unlikely. An area is considered at risk if peoples 'lives could be threatened by an uncontrolled release of water from a reservoir.

3.6 Summary of Potential Sources

3.6.1 The site is currently located within Flood Zone 1 and 2, a low to medium risk zone.

3.6.2 The proposal comprises significant changes to the ground levels. The lower ground floor level will be achieved by providing retaining walls on the north, east and west elevations, adjacent to the site boundary. The south elevation will be provided with a bund wall, with top of wall level set to suit site fluvial flood levels. The ground floor residential dwellings will be elevated into a very low risk area.

3.6.3 All other risks of flooding are deemed to be low or very low.

3.6.4 Information to support this statement has been gathered from online EA flood maps, Manchester City, Salford City and Trafford Council Strategic Flood Risk Assessments (MST SFRA) and UU sewer records.

3.7 Flood Risk Mitigation and Management

3.7.1 Section 3.1 shows that a 1 in 100 year (1% AEP) event flood level is predicted to be 640mm above the proposed car park slab level. Thus, flood resilience measures are required to protect the lower ground floor.

3.7.2 It is proposed that the southern elevation is protected by a bund wall, tied in with the retaining wall on the eastern elevation.

3.7.3 The entrance to the car park is at an approximate level of 26.85m, which is above the 0.1% AEP level (flood zone 1) and it is recommended that the top of the protective bund wall is set to match this level.

3.7.4 Due to proximity of the river, it is recommended that residents sign up for the EA's flood warnings online, or register with Floodline by telephone (0345 988 1188).

3.7.5 Pedestrian escape routes out of the lower ground floor are provided via stairs and the vehicle access ramp either onto the access road or Park Place, both within Flood Zone 1.

3.7.6 Due to the proximity of the main river, an EA flood risk activity permit may be required, in addition to planning permission.

4.0 FLOOD RISK FROM THE SITE

4.0.1 The existing site houses a sports bar/clubhouse with associated foul and surface water drainage.

4.0.2 It is proposed that the surface water runoff from the proposed development will be minimized and limited to a greenfield runoff or reduced to 50% of the existing brownfield figure, in line with Core Strategy policy EN14.

5.0 HYDRAULIC ASSESSMENT

5.1 Existing Drainage

5.1.1 As stated in 4.0.1 the existing building is served by both foul and surface water drainage.

6.0 PROPOSED DRAINAGE

6.0.1 The proposed development is to be drained on a separate foul and surface water system of drainage.

6.1 Foul Water

6.1.1 It is anticipated that the proposed foul water from the site can be connected into the existing foul drain serving the site, subject to the size of the existing connection.

6.1.2 A formal connection agreement will be required with UU for this discharge.

6.2 Surface Water

6.2.1 The design of the surface water drainage has been considered in line with the SUDS hierarchy:

- Infiltration to ground
- Discharge to a watercourse
- Discharge to public sewer

6.2.2 The proposed site layout will not allow the siting of a soakaways for infiltration to ground.

6.2.3 Due to the proximity of the main river a limited discharge to the watercourse is considered the most appropriate option.

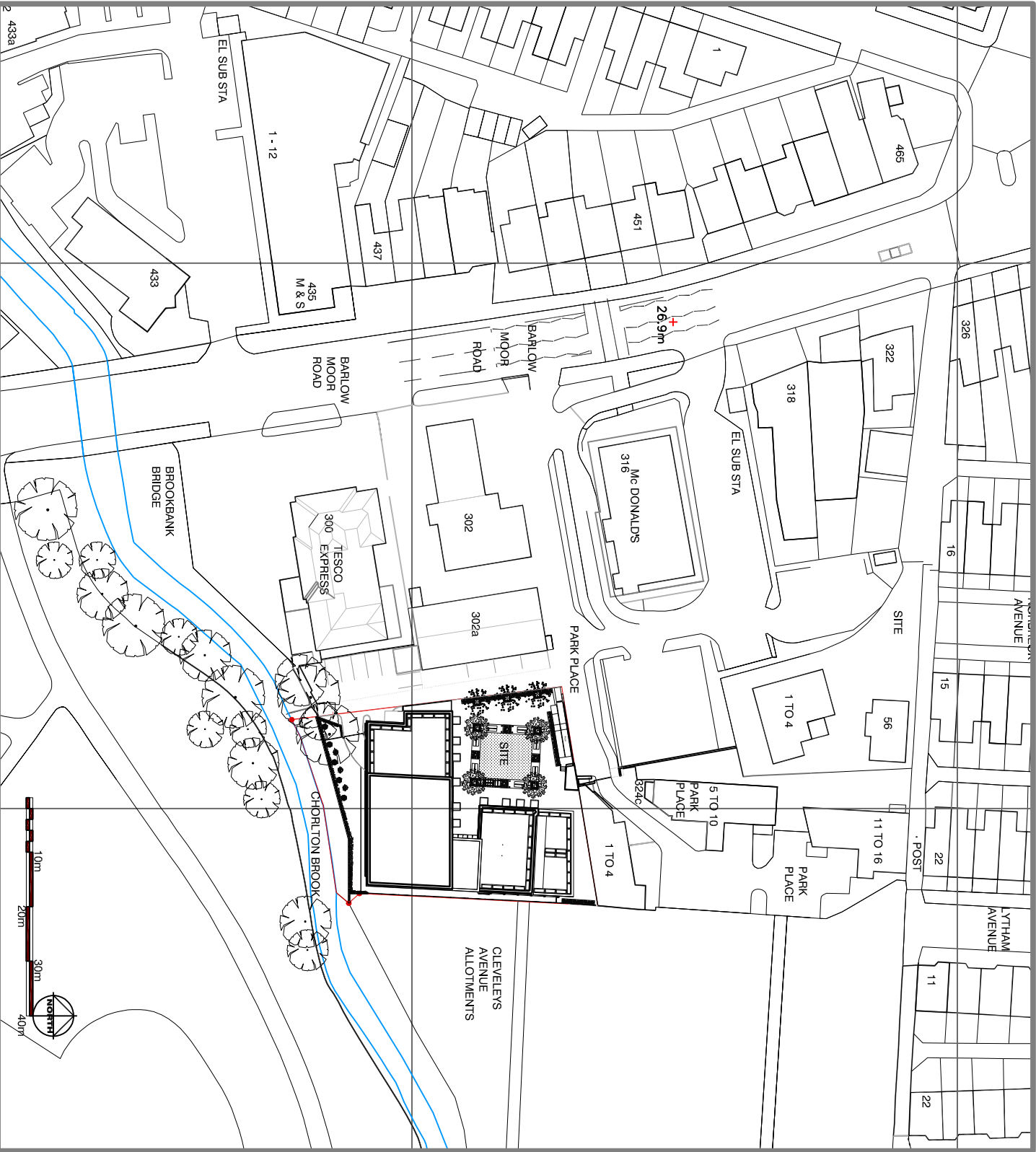
6.2.4 Preliminary calculations indicate that approximately 20m³ of attenuation storage will be required under the car park. An indicative general arrangement is shown on drawing 10614/401, Appendix F.

6.2.5 Due to the proposed use of the lower ground floor as a car park, a petrol/oil interceptor should be considered to mitigate the risk of pollution.

6.2.6 A formal agreement with the EA will be required for the surface water discharge.

APPENDIX A

Urbane Forms drawing 18001, (0-)06



LOCATION PLAN

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B HIGHWAY DETAILS ADDED AMENDED 07.10.21 JA
TO PLANNING OFFICER'S COMMENTS
A PLANNING ISSUE 15.06.21 JA

Status - PLANNING

Drawn - JA

Date - 15 JUNE 2020

Scale @ A4 - 1:1000

Review -

Client - RUSHOLME GARDEN INVESTMENTS

Project - RESIDENTIAL DEVELOPMENT
PARK PLACE, MANCHESTER

Drawing Number - 18001,(0-106C

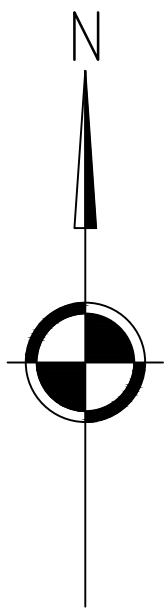
CAD File

Drawing Title - LOCATION PLAN

URBANE FORMS
58 Leamington Close
Warrington
WA5 3PY
T : +44(0)1925 711 061
E : info@urbaneforms.com
www.urbaneforms.com
architects
designers
project
managers

APPENDIX B

Reid Jones Partnership drawing No. 10614/101



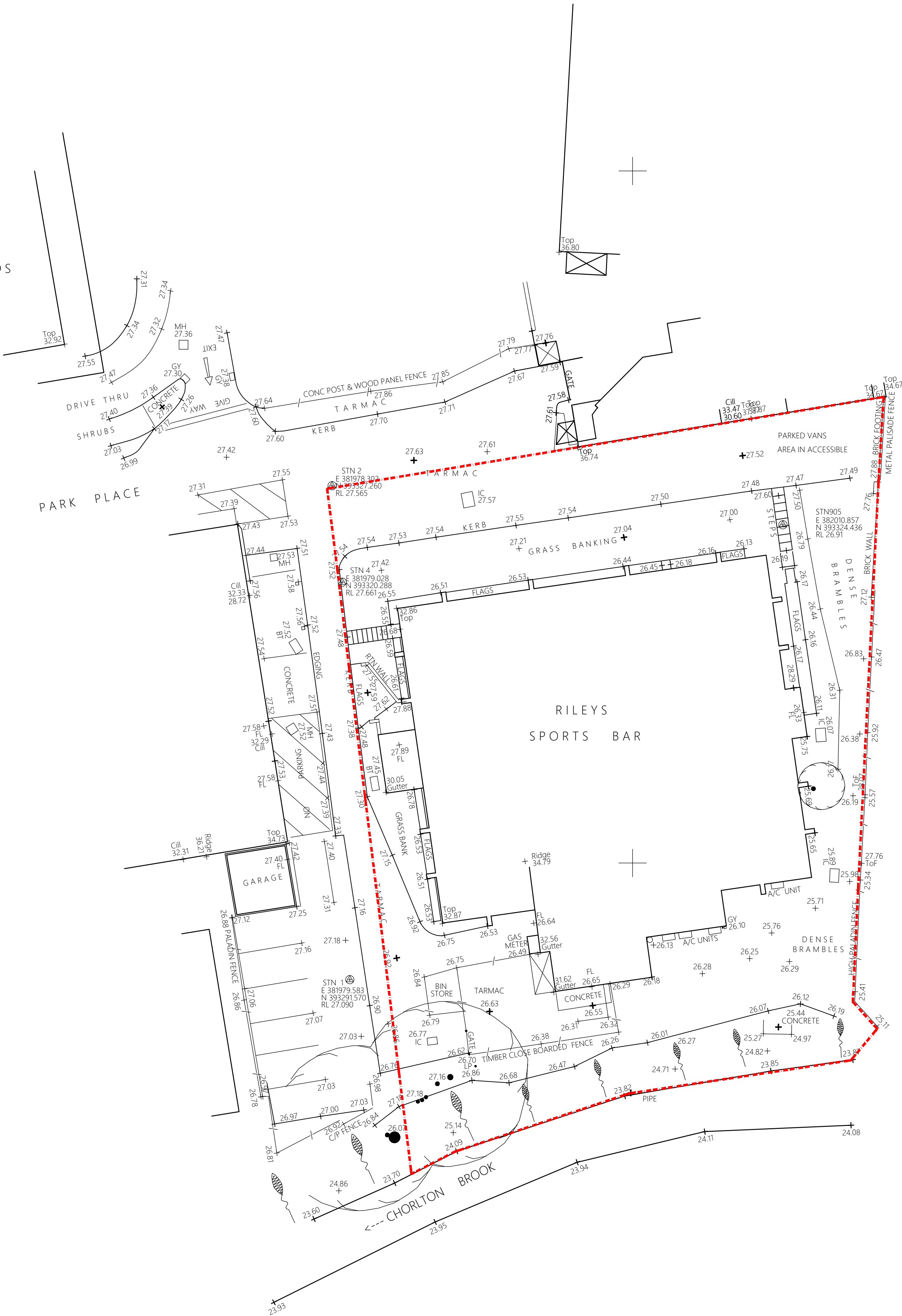
393350 N

McDONALDS

391950 E

393300 N

391950 E



392000 E

392000 E

393350 N

393300 N

392050 E

392050 E

PRELIMINARY DRAWING.
NOT FOR CONSTRUCTION.

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Rev	Details	Drawn By	Chk/App By	Date

Client:
RUSHOLME GARDEN INVESTMENTS

Project:
RESIDENTIAL DEVELOPMENT PARK PLACE MANCHESTER

Title:
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INFORMATION

Reid Jones partnership
Consulting Civil & Structural Engineers

9 Orrell Road
Orrell, Wigan
WNG 8EY
Tel 01942 216006

3 Cross Street
Preston
PR1 3LT
Tel 01772 498007

E-mail: eng@reidjonespartnership.co.uk
Web address: www.reidjonespartnership.co.uk

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APPENDIX C

Urbane Forms drawings 18001, (0-)20 and (0-)21

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A - TO PLANNING OFFICERS COMMENTS 15.06.21 JA
PLANNING

Status
Drawn - JA
Date - 15 JUNE 2020
Scale @ A1 - 1:100

Review
Client - RUSHOLME GARDEN INVESTMENTS
Project - RESIDENTIAL DEVELOPMENT
PARK PLACE, MANCHESTER

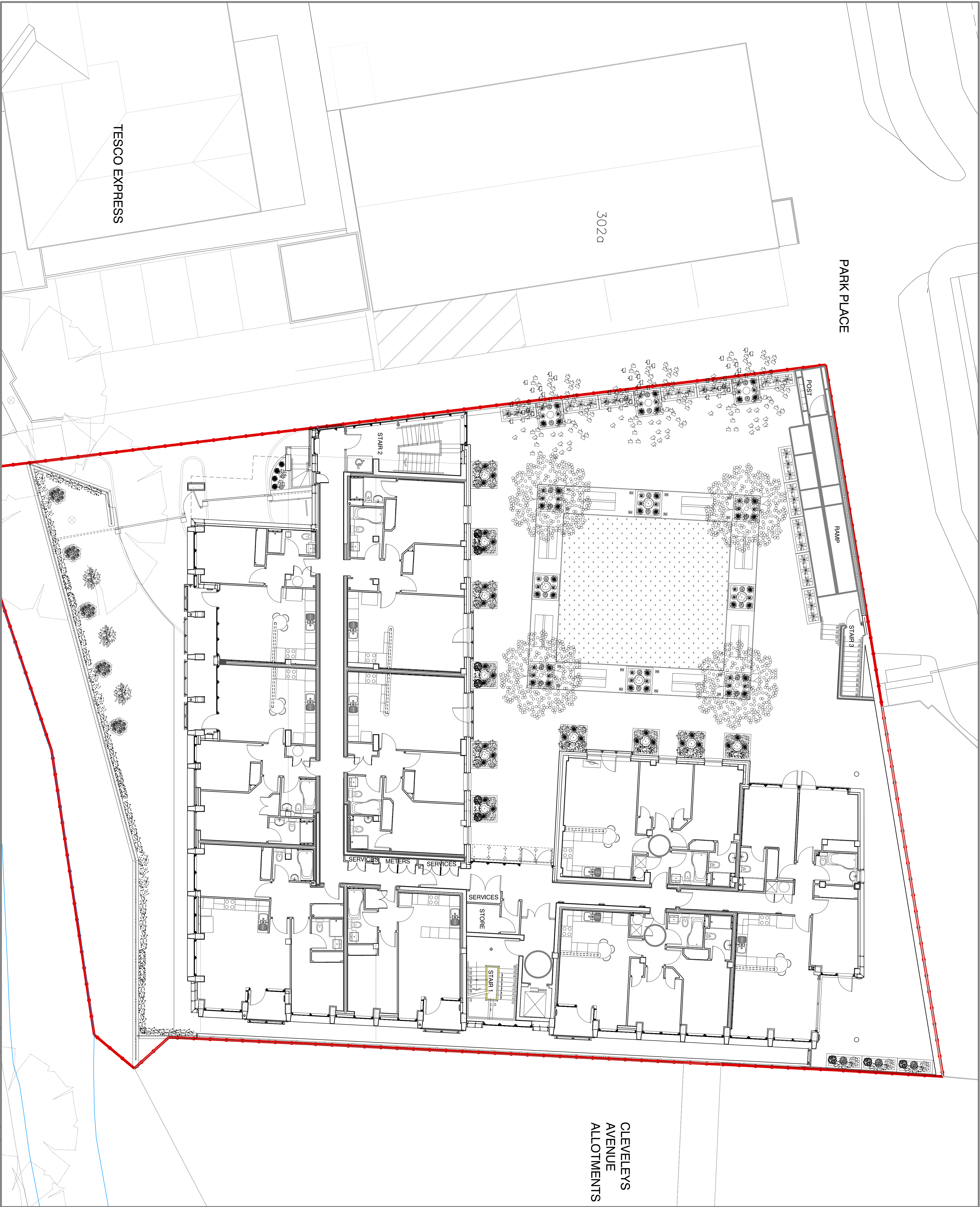
Drawing Number
18001,(0-)20C
CAD File

Drawing Title
LOWER GROUND FLOOR PLAN

URBANE FORMS
58 Leamington Close
Warrington
WA5 5TY
T : +44(0)1925 711061
E : info@urbaneforms.com
www.urbaneforms.com



LOWER GROUND FLOOR PLAN



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Date - 15 JUNE 2020

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Review

Client - RUSHOLME GARDEN INVESTMENTS

Project - RESIDENTIAL DEVELOPMENT
PARK PLACE, MANCHESTER

Drawing Number **18001,(0-)21C**
CAD File

Drawing Title **GROUND FLOOR PLAN**

URBAN FORMS
58 Leamington Close
Warrington
WA5 5TY
T : +44(0)1925 711061
E : info@urbanforms.com
www.urbanforms.com

GROUND FLOOR PLAN

APPENDIX D

Flood Maps

Flood map for planning

Your reference
park place

Location (easting/northing)
381999/393306

Created
30 Nov 2021 14:16

Your selected location is in flood zone 1, an area with a low probability of flooding.

This means:

- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2021 OS 100024198. <https://flood-map-for-planning.service.gov.uk/os-terms>

Flood map for planning

Your reference
park place

Location (easting/northing)
381999/393306

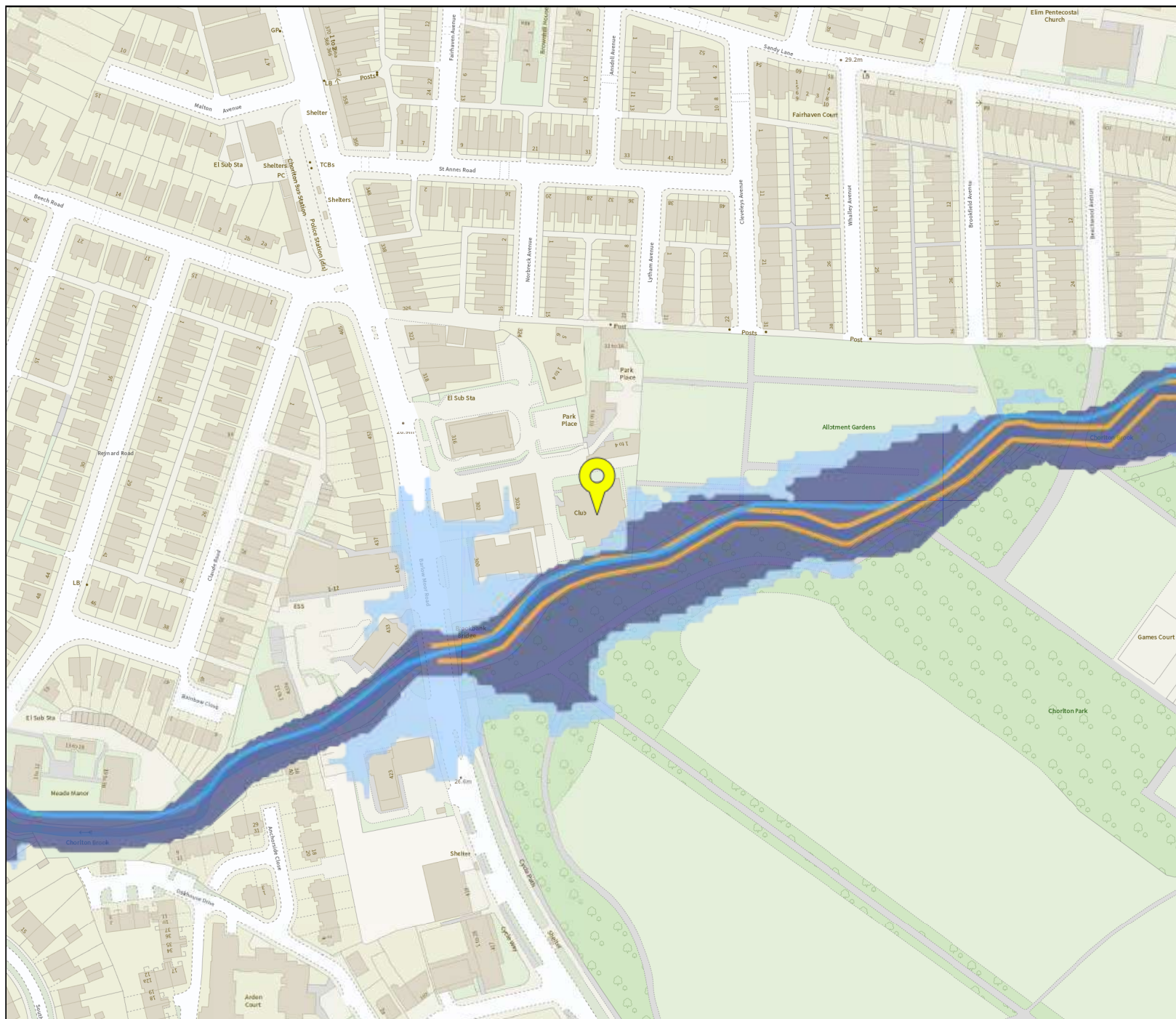
Scale
1:2500

Created
30 Nov 2021 14:16

-  Selected point
-  Flood zone 3
-  Flood zone 3: areas benefitting from flood defences
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Flood storage area

0 20 40 60m

Page 2 of 2



Detailed Flood Map centred on Barlow Moor Road, Chorlton, M21 8AY. Created on 02/12/2021 [GMMC2431180W]



Map Reference	Model Node Reference	Easting	Northing	Data	Undefended								Defended							
					10 % AEP (1 in 10 year)	4 % AEP (1 in 25 year)	1.33 % AEP (1 in 75 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + 30% Increase in Flow	1 % AEP (1 in 100 year) + 35% Increase Flow	1 % AEP (1 in 100 year) + 70% Increase Flow	0.1 % AEP (1 in 1000 year)	10 % AEP (1 in 10 year)	4 % AEP (1 in 25 year)	1.33 % AEP (1 in 75 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + 30% Increase in Flow	1 % AEP (1 in 100 year) + 35% Increase Flow	1 % AEP (1 in 100 year) + 70% Increase Flow	0.1 % AEP (1 in 1000 year)
1	ea013_0171_CHOP01_2564	382419	393351	Modelled Water Level (m aodN)	25.99	26.37	26.77	26.86	27.29	27.34	27.45	27.48	25.99	26.37	26.78	26.86	27.32	27.36	27.46	27.49
				Modelled Flow (cumecs)	10.78	13.52	16.11	16.65	19.50	19.97	21.02	21.18	10.78	13.53	16.13	16.67	19.81	20.17	21.12	21.24
2	ea013_0171_CHOP01_2328d	382210	393343	Modelled Water Level (m aodN)	25.69	25.96	26.23	26.28	26.58	26.62	26.75	26.81	25.69	25.97	26.23	26.28	26.61	26.65	26.76	26.82
				Modelled Flow (cumecs)	10.85	13.55	16.16	16.69	19.47	19.93	20.95	21.17	10.85	13.56	16.18	16.70	19.77	20.10	21.03	21.23
3	ea013_0171_CHOP01_2121	382022	393286	Modelled Water Level (m aodN)	25.52	25.82	26.12	26.18	26.52	26.58	26.71	26.78	25.52	25.82	26.12	26.19	26.56	26.60	26.72	26.79
				Modelled Flow (cumecs)	10.75	12.70	14.16	14.38	15.18	15.22	15.43	15.49	10.75	12.71	14.17	14.39	15.24	15.26	15.46	15.54
4	ea013_0171_CHOP01_1944	381871	393209	Modelled Water Level (m aodN)	25.25	25.48	25.70	25.74	25.98	26.02	26.12	26.21	25.25	25.48	25.70	25.74	26.00	26.03	26.13	26.23
				Modelled Flow (cumecs)	10.96	13.64	16.24	16.75	19.45	19.88	21.05	21.55	10.96	13.65	16.26	16.77	19.73	20.07	21.14	21.58
5	ea013_0171_CHOP01_1765u	381717	393182	Modelled Water Level (m aodN)	25.08	25.30	25.54	25.58	25.84	25.88	25.99	26.08	25.08	25.30	25.54	25.58	25.86	25.89	26.00	26.11
				Modelled Flow (cumecs)	11.04	13.72	16.33	16.83	19.54	19.97	21.15	22.27	11.04	13.73	16.34	16.84	19.82	20.16	21.24	22.48

Map Reference	Model Node Reference	Easting	Northing	Data	Undefended						Defended					
					4 % AEP (1 in 25 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 35% increase in flow	1 % AEP (1 in 100 year) + 70% increase in flow	0.1 % AEP (1 in 1000 year)	4 % AEP (1 in 25 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 35% increase in flow	1 % AEP (1 in 100 year) + 70% increase in flow	0.1 % AEP (1 in 1000 year)
6	2D Measurements	382002	393288	Modelled Water Level (m aodN)	25.78	26.14	26.46	26.51	26.65	26.71	25.78	26.14	26.49	26.54	26.66	26.73

Model data taken from Chorlton Platt Gore 2012

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

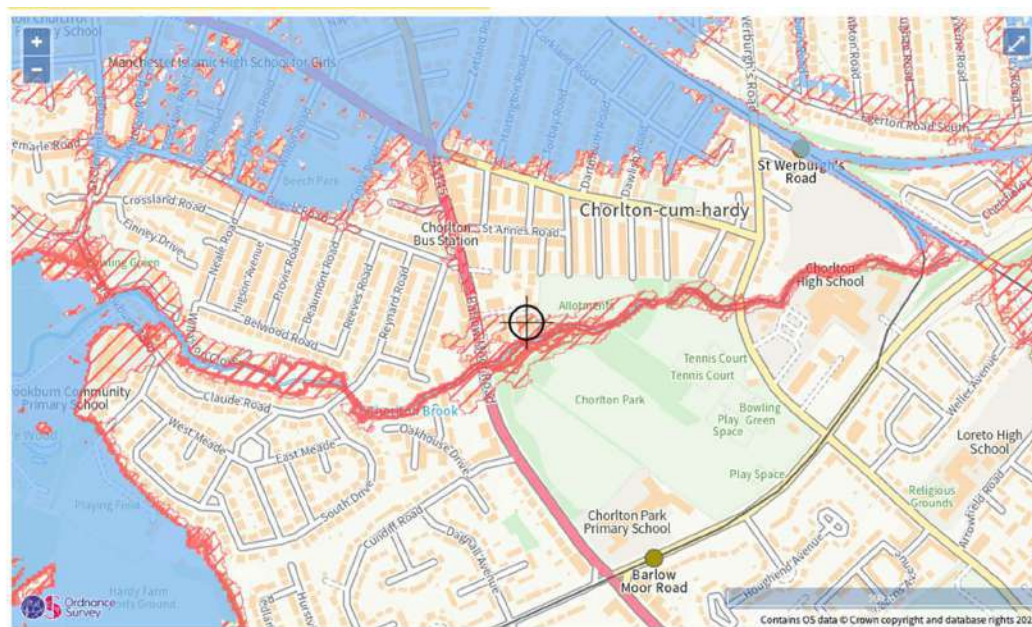
cumecs - cubic metres per second

Notes:

Climate Change Scenario - 30%, 35% and 70% increases in flow calculated for the 2080's (2070 - 2115). Please see <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances> for more information regarding the new climate change guidance. The location of the site and the type (vulnerability) of development determine the climate change allowances to consider in any flood risk assessment.



Extent of Flooding from Surface Water



Extent of Flooding from Reservoirs

APPENDIX E

United Utilities Sewer Records

Reid Jones Partnership

9 Orrell Road
9 Orrell Road,
Orrell, Lancashire
WN5 8EY

FAO:

How to contact us:

United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

Your Ref: Park Place
Our Ref: UUPS-ORD-351012
Date: 09/12/2021

Dear Sirs

Location: RILEYS SNOOKER CLUB 302B BARLOW MOOR ROAD, MANCHESTER, M21 8AY

I acknowledge with thanks your request dated 08/12/2021 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

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

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



Karen McCormack
Property Searches Manager

TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.



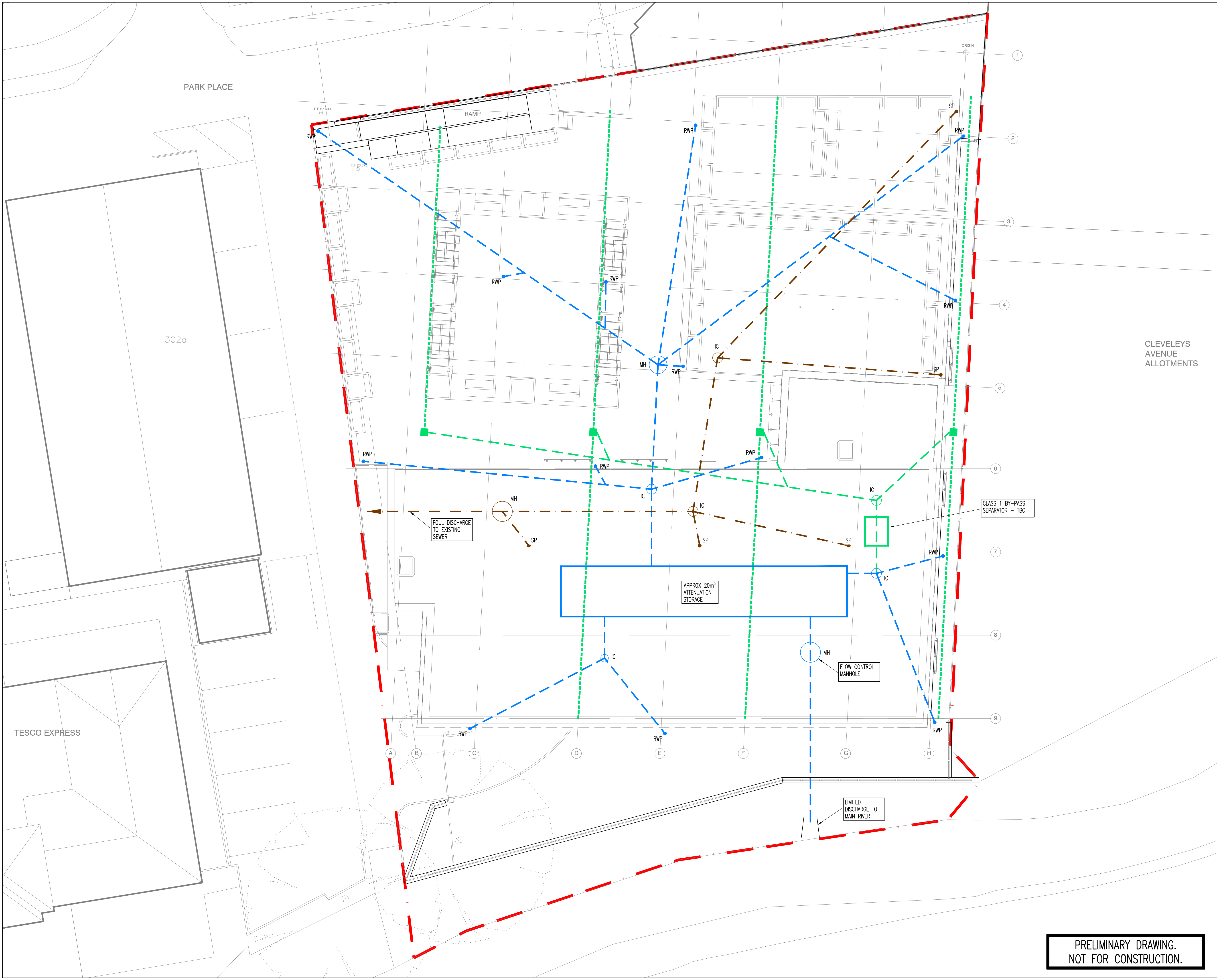
Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
7403	28.29	CO	26.07	225			VC	10.44031	1 in 8
8300	28.13	CO	0	225			VC	10.77033	
9303	28.09	CO	25.32	225			VC	2	
9309	28.06	CO	25.52	150			VC	9.053396	1 in 70
8901	28.54	CO	26.22	225			VC	35.4683	1 in 48
8509		CO	0	375			VC	41.81672	
0991		CO	0	150			VC	7.341507	
9410	28.39	CO	25.61	225			VC	10.04988	
0002		CO		225			VC	10.40276	1 in 120
8503	28.96	CO	26.73	225			VC	30.59412	1 in 38
3303	27.77	CO	24.83	300			VC	57.58878	1 in 280
0640		CO	0	150			VC	8.925557	
9500	28.31	CO	0	375			VC	28.17801	
9306	28.81	CO	23.79	375			VC	72.23073	1 in 80
7412		CO	0	150			VC	7.20405	
9304	28.09	CO	26.19	225			VC	37.31503	1 in 15
8501	28.23	CO	26.63	225			VC	30.01606	1 in 100
9406	27.79	CO	23.68	375			VC	70.05028	1 in 95
9533		CO	0					5.8055	1 in
9609	28.03	CO	21.41	2000			BR	86.82266	1 in 141
9411	28.36	CO	25.69	375			VC	78.18721	1 in 230
8505	28.19	CO	26.35	225			VC	56.89847	1 in 16
9407	27.92	CO	24.5	375			VC	66.12897	1 in 95

**SEWER
RECORDS**

 **United
Utilities**
Water for the North West

APPENDIX F

Reid Jones Partnership drawing No. 10614/401



KEY:

- PROPOSED SURFACE WATER DRAINS – ROOF AND UPPER PAVED AREAS
- PROPOSED SURFACE WATER DRAINS – CAR PARK
- PROPOSED FOUL DRAINS
- SP PROPOSED SOIL PIPE
- RWP PROPOSED RAIN WATER
- IC PROPOSED POLYPROPYLENE INSPECTION CHAMBER
- MH PROPOSED PRECAST CONCRETE MANHOLE

P1	ISSUED FOR INFORMATION	SD	SJR	21.06.22
Rev	Details	Drawn By	Chk/App By	Date

Client:
RUSHOLME GARDEN INVESTMENTS

Project:
RESIDENTIAL DEVELOPMENT PARK PLACE MANCHESTER

Title:
PROPOSED DRAINAGE GENERAL ARRANGEMENT

Issued For:
INFORMATION

Reid Jones partnership
Consulting Civil & Structural Engineers

9 Orrell Road
Orrell, Wigan
WNG 9EY
Tel 01942 216006

3 Cross Street
Preston
PR1 3LT
Tel 01772 498007

E-mail: eng@reidjonespartnership.co.uk
Web address: www.reidjonespartnership.co.uk

Scale:	1:100	@	(A1)		
Project No:	10614	Drawing No:	401	Issue:	P1

DO NOT SCALE - USE FIGURED DIMENSIONS ONLY.
This drawing is confidential and is the property of Reid Jones Partnership. It must not be disclosed to any third party, copied or lent without prior written consent. The contractor is to check all dimensions on site prior to commencement of works.

PRELIMINARY DRAWING.
NOT FOR CONSTRUCTION.