

CONSULTING CIVIL, STRUCTURAL,
HIGHWAY AND TRANSPORTATION ENGINEERS



Flood Risk Assessment

Forest Hill Golf Club

**Markfield Lane
Botcheston
Leicester
LE9 9FH**

For

Forest Hill Golf Club

Ref: 1/8286/E

November 2024



www.gca-consulting.com

*GCA (UK) Ltd, Babington Lodge, 128 Green Lane, Derby
DE1 1RY*

Document Control

Project: Forest Hill Golf Club, Leicester

Document Title: Flood Risk Assessment

Our Ref: 1/8286/E

Prepared By S.Hudson MEng (Hons)

Reviewed By M.Barker MEng (Hons), CEng, MIStructE

Date November 2024

RECORD OF AMENDMENTS TO DOCUMENT

Ref	Description	Date
A	Flood Risk Assessment Submitted	31 st July 2020
B	Minor Amendment – Client review	5 th August 2020
C	Documents updated following changes to the Hotel Layout	May 2022
D	Appendix B revised to show revised site plan	June 2022
E	Document revised for revised site plan	November 2024

Executive Summary

SITE INFORMATION	Client	Forest Hill Golf Club
	Site	Forest Hill Golf Club
	Site Location	The development site is located within the existing Forest Hill Golf Club site, off Markfield Lane, Botcheston, Leicester, LE9 9FH
	Current Land Use	Existing Forest Hill Golf & Conference Centre, including restaurant & bar, conference facilities and golf club amenities.
	Proposed Development	A 49 room hotel with associated car parking and external works.
GENERAL FLOOD RISK INFORMATION	Flood Zone	Based on environment Agency Flood Mapping the site lies in Flood Zone 1 (FZ1) – land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).
	Ground water	Risk of ground water flooding is considered to be very low.
	Surface Water	Based upon the latest Surface Water Flood Risk Mapping issued by the Government, the site is designated to be at low risk from surface water flooding. A minor band of pluvial risk within the site has been identified, although this will be removed as a result of the development. Surface water is collected in gullies and conveyed to the local public sewer.
	Soakaways	Soakaways are not used on the existing site.
	Impact of Development	The development does not result in a displacement of fluvial flood plain or increase flood risk elsewhere.

CONTENTS

EXECUTIVE SUMMARY

- 1. INTRODUCTION**
- 2. SITE DESCRIPTION**
- 3. FLOOD RISK TO SITE**
- 4. CONCLUSION AND SUMMARY**

APPENDICIES

- A. SITE LOCATION PLANS**
- B. PROPOSED LAYOUT PLAN**
- C. LEICESTERSHIRE & LEICESTER CITY SFRA MAPPING**

1. INTRODUCTION

- 1.1. GCA (UK) Ltd. (GCA) has been commissioned by Forest Hill Golf Club to undertake a Flood Risk Assessment to support an outline planning application for a proposed Hotel development at the existing Forest Hill Golf Club, Leicester, LE9 9FH.
- 1.2. A site location plan is provided in **Appendix A**.
- 1.3. This assessment has been undertaken to ascertain the constraints of the development to the site, and to assess the impact of the change of use, with respect to flooding and impact of the proposed drainage.
- 1.4. This assessment has been prepared using our best engineering judgement but there are levels of uncertainty implicit in the historical data and methods of analysis. The report is based on the following information:
 - British Geological Survey Mapping
 - Flood Zone Maps from the Environment Agency and Government websites
 - EA Flood Risk Data
 - Topographical Data
 - Severn Trent Water Asset Mapping
 - Leicestershire & Leicester City SFRA (Strategic Flood Risk Assessment) Levels 1 (2017)
- 1.5. All comments and opinions contained in this report, including any conclusions are based on the information available to GCA at the time of writing this report. The conclusions drawn by GCA could therefore differ if the information is found to be inaccurate, incomplete or misleading. GCA accepts no liability should this prove to be the case, or, if additional information exists or becomes available with respect to this site.
- 1.6. GCA has completed this report for the benefit of the organisations/individuals referred to in the “Introduction” section; and any relevant Statutory Authority which may require reference in relation to approvals for the proposed redevelopment of the site. Other third parties should not use or rely upon the contents of the report unless written approval has been gained from GCA.
- 1.7. GCA accepts no responsibility or liability for:
 - The consequences of this documentation being used for any purpose or project other than that for which it was commissioned, and
 - This documentation to any third party with whom approval for use had not been agreed.

2. SITE DESCRIPTION

Site Location and Features

- 2.1. The existing site is located approximately ten miles north west of Leicester, adjacent to the Markfield Lane. The site is located at Grid Reference 448045 (Easting), 306410 (Northing), Botcheston, LE9 9FH.



Figure 1: Site Location Plan

- 2.2. The wider site boundary is shown in Figure 1 above. The wider site extents shown encompass the existing Golf Club & Conference building and associated car parking facilities to the north, and the proposed Hotel development to the south. This has allowed for additional run of calculations and capacity.
- 2.3. The site is bound by Markfield Lane to the west, greenfield land to the north & south, and the associated golf course to the east. The immediate local area is predominantly greenfield land.
- 2.4. Topographical data indicates that the existing ground levels range from approximately 138.0mAOD within the northern extents (existing Golf Club & Conference Centre), to 136.0mAOD in the southern extents.
- 2.5. The external arrangement is to remain as per the existing layout, with the minor addition of additional plant facilities. The site location is shown in Figures 1 and 2 with the proposed layout in **Appendix B**.

3. **FLOOD RISK TO SITE**

Flood Zone Maps & Flood Defence Data

- 3.1. According to the latest Flood Zone Mapping issued by the Environment Agency, the entire site lies within Flood Zone 1 (FZ1).
- 3.2. Flood Zone 1 (FZ1) is classed as; 'land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%)'.
- 3.3. Figure 2 below shows an extract of the current Flood Zone website map:

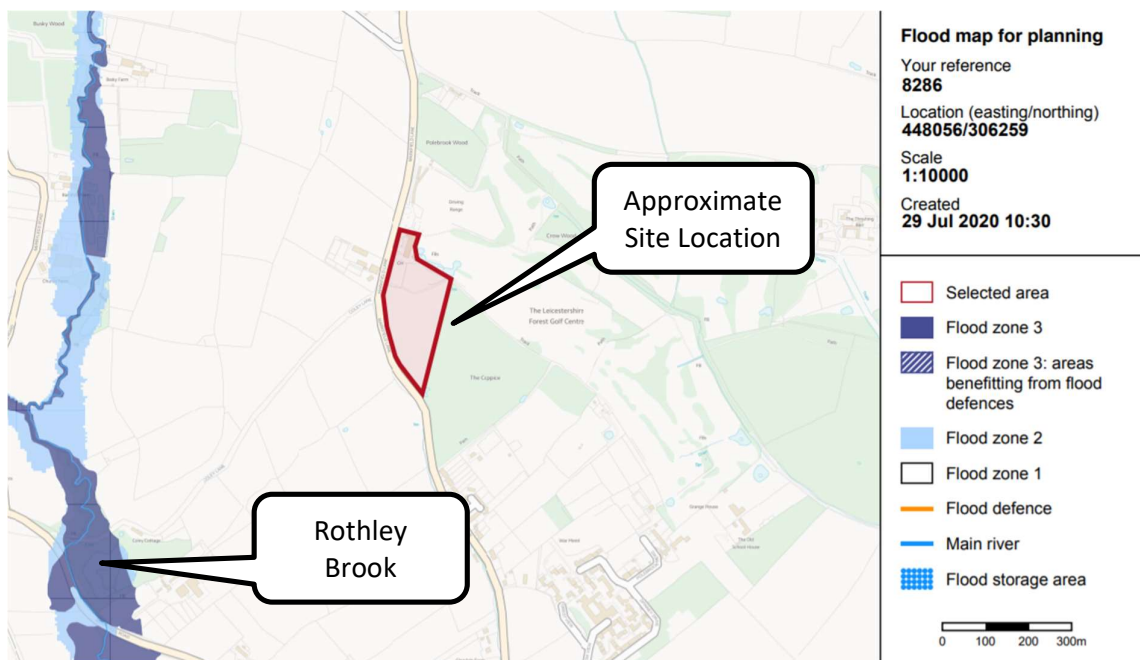


Figure 2: Environment Agency Flood Mapping

Watercourse & Hydrology

- 3.4. The site lies approximately 720m west of the Rothley Brook, an EA designated Main River watercourse.
- 3.5. The Rothley Brook has associated extents of Flood Zones 2 & 3, which are confined to the immediate channel area, as well as surrounding low-lying areas. Therefore, due to the intervening distance and topography, the Rothley Brook does not pose a Flood Risk to the site.

-
- 3.6. The Leicestershire & Leicester City SFRA includes supporting Flood Risk Mapping for the site area, which is included for reference as **Appendix C**. This mapping indicates that a minor (unnamed) watercourse (part of the mapped 'Detailed River Network') is present to the eastern site boundary.
- 3.7. This watercourse acts as a drainage ditch, as observed during a site visit.
- 3.8. Topographical data (and LCC SFRA Mapping) indicates that the drainage ditch flows south along its alignment on Markfield Lane, before discharging to the Rothley Brook at a location approximately 1.8km south of the site off Desford Lane.
- 3.9. The SFRA mapping indicates that there are no Flood Zones (therefore, no fluvial risk) associated with the drainage ditch. The Flood Risk posed to the site is therefore considered to be consistent with the identified pluvial risk extents, which is to be outlined within the Surface Water Flood Risk section.
- 3.10. The SFRA also includes Fluvial Flood Risk extents for future climate change events within the 2080s epoch. The site remains well removed within the 1% AEP Climate Change, including Lower, Central & Upper allowances. Refer to flood risk mapping in **Appendix C**.

Historic Flooding

- 3.11. The LCC SFRA holds historical flooding records, however there are no recorded incidents within close proximity to the site.

Surface Water (Pluvial) Flood Risk

- 3.12. Within the site boundary, minor areas of low and medium surface water flood risk are present, according to the Environment Agency "Risk of Flooding from Surface Water" maps (see **Figure 3** below). Low Risk is classed as an area that has a chance of flooding between 0.1% and 1% (annual probability) and medium risk classed as between 1% and 3.3% annual probability. The majority of the site is at very low flood risk.

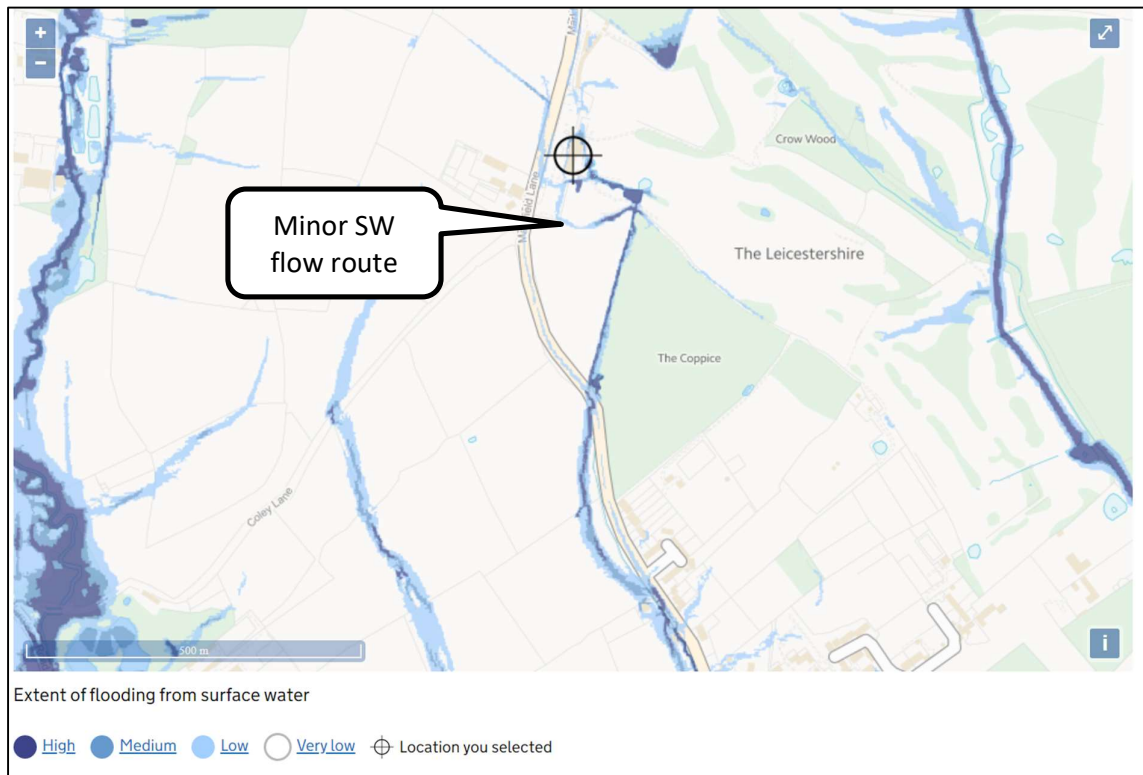


Figure 3: Risk of Flooding from Surface Water Plan

- 3.13. The majority of the risk shown is associated with the topography of drainage ditch, which will continue to act as a conduit for surface water under extreme conditions. However, a band of pluvial risk (medium & low) is shown outside of the ditch channel (at a location to the south of the existing clubhouse area).
- 3.14. The area of pluvial flood risk is linear in nature, and consistent with the location of an informal vehicle track which is present to the south of the existing.
- 3.15. There is a minor extent of upstream connectivity to the potential pluvial flow route, which is located to the west of Markfield Lane, north of the site. A further pluvial flow route is located to the rear of the clubhouse building (associated with the alignment of the pond network and footpaths). This flow route will be maintained post-development; therefore, the upstream connectivity is maintained and flood risk will not be increased as a result of the development.
- 3.16. Overall, the risk of flooding from pluvial sources is considered to be low.

Other Flooding Risk and other Allocation

- 3.17. Geological maps indicate that the site is underlain by a bedrock geology of Edwalton Member - Mudstone, with superficial deposits of Oadby Member - Diamicton. Strata within the mudstone group generally has low permeability for the movement of groundwater, minimising the flood risk to this part of the site from this source. Furthermore, the LCC SFRA indicates that the site is located within an area at <25% susceptibility to groundwater flooding (very low risk).
- 3.18. The proposed development does not fall under an area that is exposed to flood risk from reservoirs.
- 3.19. The site is not within a Groundwater Source Protection Zone, as designated by the Environment Agency.
- 3.20. There are no public sewers located within the site, as confirmed by Severn Trent Water (asset plans included for reference as **Appendix D**).

Source	Potential Flood Risk to Site			
	High	Medium	Low	No
Fluvial				✓
Ordinary Watercourse			✓	
Tidal				✓
Infrastructure Failure			✓	
Pluvial			✓	
Reservoir				✓
Artificial drainage systems			✓	
Groundwater			✓	

Table 1: A Summary Table of the Flood Risks to the Site

Vulnerability Classification of Proposed Development

3.21. Table 2 of the Planning Policy Guidance Flood Risk and Coastal Change to the National Planning Policy Framework (PPG-FRCC) provides information on the Vulnerability Classification of various developments. The proposed end use of this site is in the “more vulnerable” classification of the Table. Table 3 in PPG-FRCC details compatibility of the end use with different Flood Zone classifications.

3.22. Comparison of More Vulnerable use with the proposals within FZ1 areas shows that the “Development is Appropriate”.

Flood risk vulnerability classification (see table 2)		Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood zone (see table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test required	✓	✓
	Zone 3a	Exception Test required	✓	✗	Exception Test required	✓
	Zone 3b functional floodplain	Exception Test required	✓	✗	✗	✗

Key: ✓ Development is appropriate.
 ✗ Development should not be permitted.

Notes to table 3:

This table does not show:

- the application of the Sequential Test which guides development to Flood Zone 1 first, then Zone 2, and then Zone 3;
- flood risk assessment requirements; or
- the policy aims for each flood zone.

Table 2: Flood risk vulnerability and flood zone ‘compatibility’

Sequential Test

3.23. According to PPG-FRCC, the sequential test gives preference to locating new development in Flood Zone 1 (FZ1 – Least risk of flooding).

3.24. In line with PPG-FRCC, the Sequential Test will not be required as the development is located within Flood Zone 1.

Exception Test

3.25. In line with PPG-FRCC, the Exception Test will not be required as the development is located entirely within Flood Zone 1.

4. **CONCLUSION AND SUMMARY**

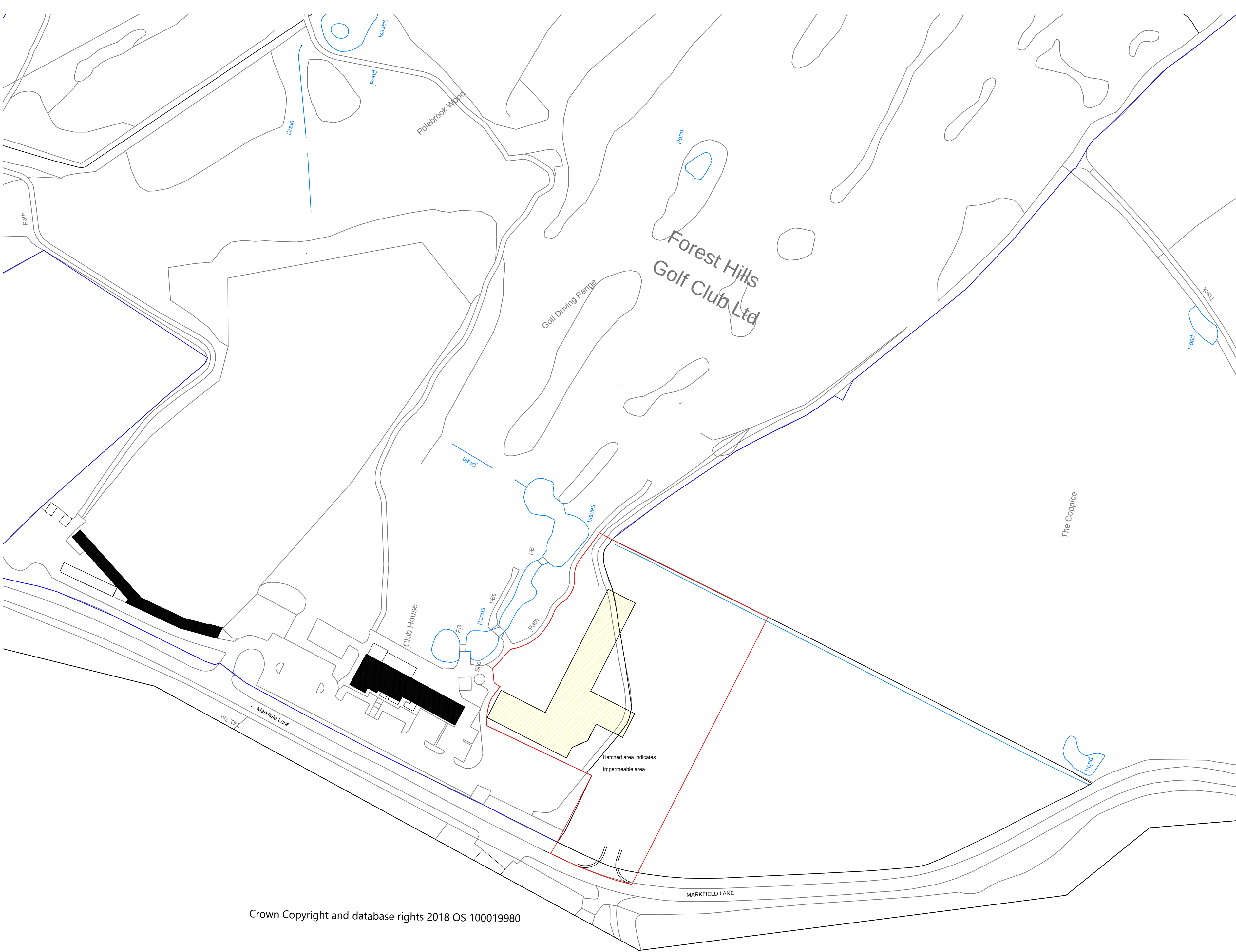
4.1 GCA (UK) Ltd. (GCA) has been commissioned by the Forest Hill Golf Club to undertake a Flood Risk Assessment to support a planning application for a proposed Hotel & Spa development at the existing Forest Hill Golf Club, Leicester, LE9 9FH. Key points are outlined below:

- The site lies within Flood Zone 1 which has a low probability of annual flooding.
- According to PPG-FRCC, no Exception Test or Sequential Test is required for the proposed development.
- A minor pluvial flow route has been identified, which will be removed as part of the development proposals. This will not increase flood risk, as the minor upstream connectivity is maintained via alternative existing flow routes.
- Overall, the site is considered to be at low risk from surface water flooding.
- The nature and extents of the redevelopment does not increase flood risk elsewhere or result in a displacement of functional floodplain.

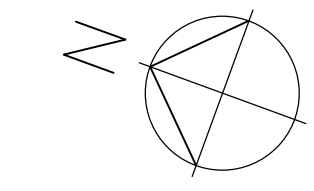
4.2 The proposed development does not create any flood risk issues to the wider area.

Appendix A

Site Location Plan



rev	description	date
B	Red line boundary revised	30/09/2024



New Hotel
Forest Hills Golf Club
Markfield Lane Botcheston
Leicester LE9 9
for Forest Hill Golf Club Ltd

Site Plan

drg. no.	rev.	
F116(90)09	B	
scale	date	ref
1:1250 @ A2	Sept '24 ©	mac/tmc

Crown Copyright and database rights 2018 OS 100019980

MAC
design consultants

5 Geddington Close
Wigston
leicester LE18 3QU
mob: 07739663249
collins.knighton@btinternet.com

Appendix B

Proposed Site Layout Plan



Crown Copyright and database rights 2018 OS 100019980

DO NOT SCALE

This drawing is the copyright protected intellectual property of Diamond Wood & Shaw Limited and is not to be used or reproduced in any way without our written permission.

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DWS DRAWINGS, CALCULATIONS, REPORTS AND SPECIFICATIONS (WHERE APPLICABLE) AND, ALL OTHER RELEVANT ENGINEERS, ARCHITECTS & SPECIALIST DESIGN DETAILS.

2. STANDARD NOTES & DETAILS:
Refer to drawing number 0-170 onwards for standard notes - CIVIL
Refer to drawing number 0-180 onwards for standard details - CIVIL

SCALE BAR TEST

1:50

3m @ 1:50

1:50

All dimensions to be verified by accurate site measurement prior to commencing work or ordering materials.

P2	Layout amended	05.11.24	BP
P1	First issue	31.10.24	BP
Ref	Revision	Date	By

Issue

PRELIMINARY

DWS Consulting Engineers

Diamond Wood & Shaw Limited

The Old School • Blaby Road • Enderby • Leicester • LE19 4AR
Tel: 0115 284 8889 • Email: mail@dwsl.co.uk

Project Title

FOREST HILL GOLF CLUB HOTEL

Drawn
BP

Engineer
BP

Checked
BP

Scale at
1:500 @ A1

Date
OCT 2024

Drawing Title

SUGGESTED CAR PARKING LAYOUT

Project No.
24-21545

Drawing No.
0-200

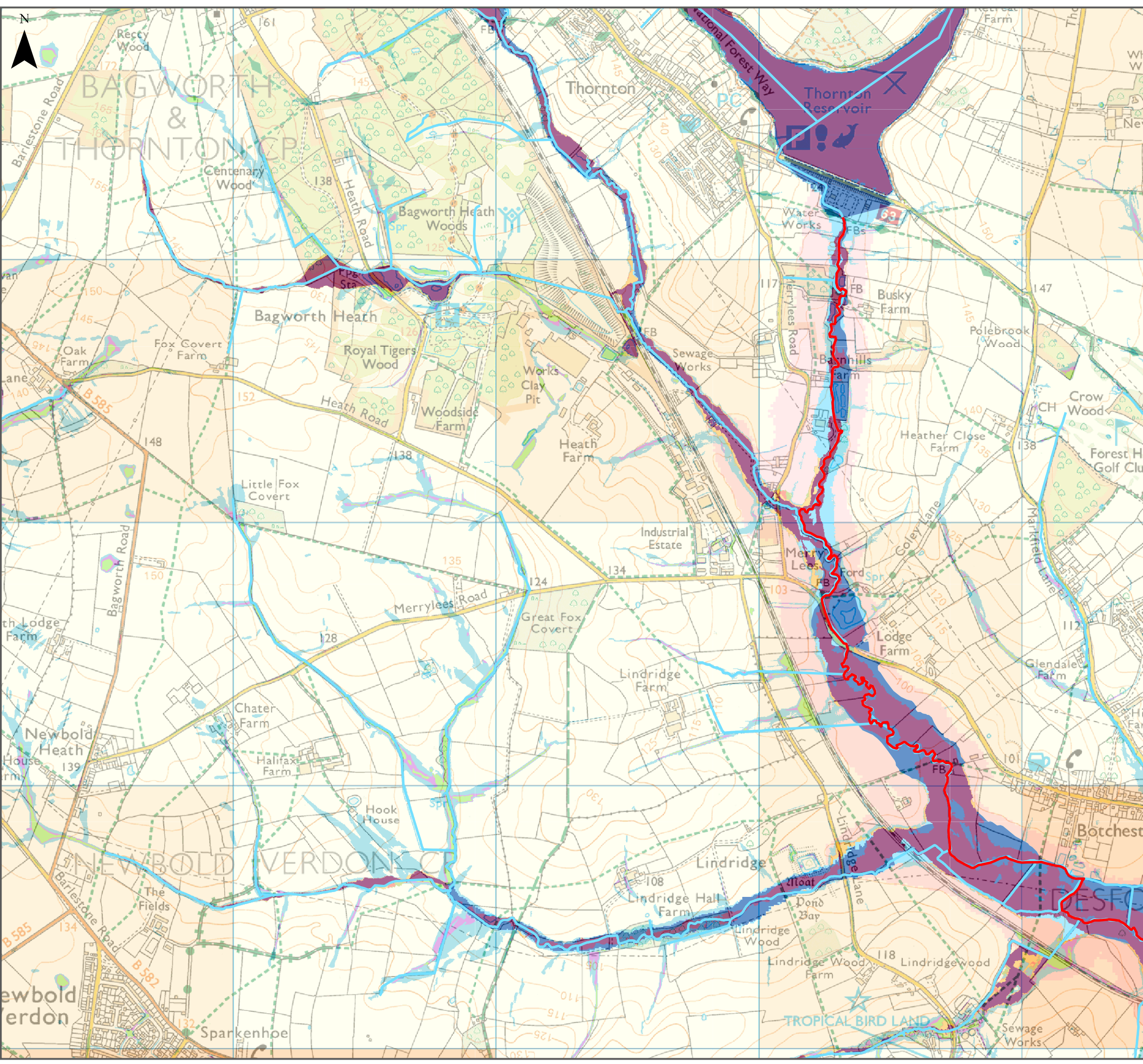
Revision
P2

BIM Code

NOT FOR CONSTRUCTION

Appendix C

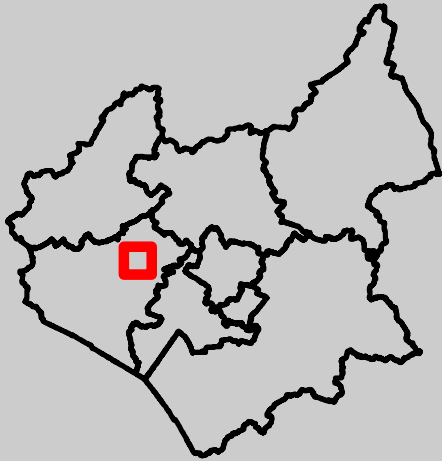
Leicestershire & Leicester City SFRA Mapping



STRATEGIC FLOOD RISK ASSESSMENT
LEVEL 1

APPENDIX A: FLOOD RISK MAPPING

INDEX GRID: 75



LEGEND

Authority Information

- ☒ Study boundary
- ☒ Main Rivers
- ☒ Detailed River Network

Climate Change (2080s)

- ☒ 1% AEP Climate Change Lower
- ☒ 1% AEP Climate Change Central
- ☒ 1% AEP Climate Change Upper

Flood Zones

- ☒ Flood Zones 3b
- ☒ Flood Zones 3a
- ☒ Flood Zones 2

Areas Susceptible to Groundwater Flooding

- ☒ >= 75%
- >= 50% <75%
- >= 25% <50%
- < 25%

Surface Water

- ☐ RoFfSW 3.3% AEP
- ☐ RoFfSW 1% AEP
- ☐ RoFfSW 0.1 AEP

Reservoir Inundation

- ☒ Reservoir Inundation

Mapping Supporting Information

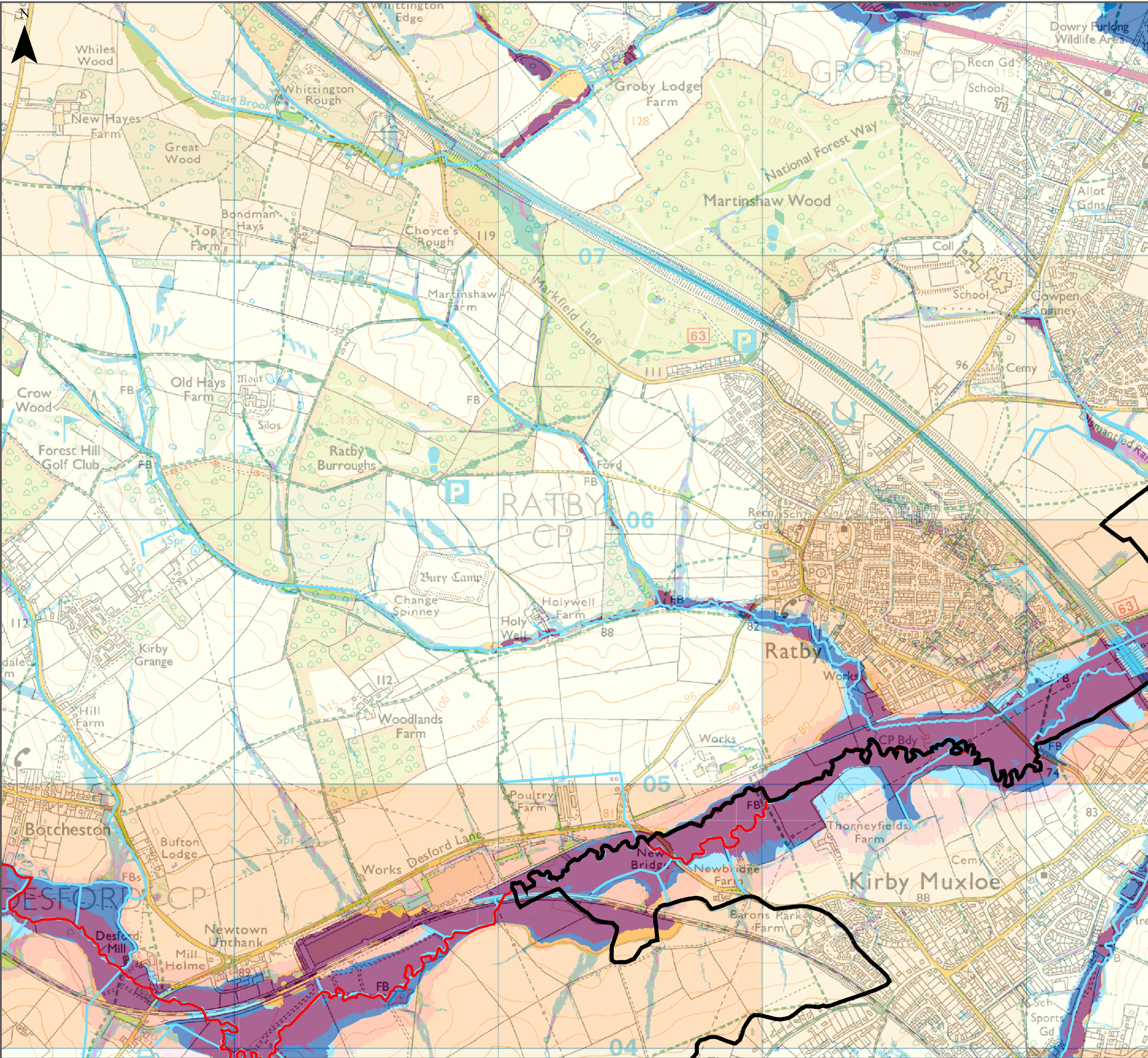
Return to Index Map



Reproduced from Ordnance Survey mapping with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office. © Crown copyright and database right 2017
© Ordnance Survey 100019271. Use of this data is subject to terms and conditions.

This document is the property of Jeremy Benn Associates Ltd. It shall not be reproduced in whole or in part, not disclosed to a third party, without the permission of Jeremy Benn Associates Ltd.

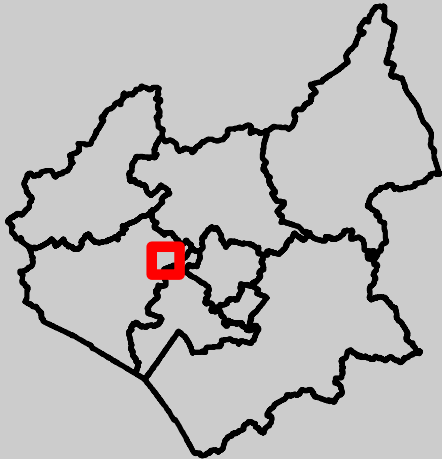
JBA
consulting



STRATEGIC FLOOD RISK ASSESSMENT
LEVEL 1

APPENDIX A: FLOOD RISK MAPPING

INDEX GRID: 76



LEGEND

Authority Information

- Study boundary
- Main Rivers
- Detailed River Network

Climate Change (2080s)

- 1% AEP Climate Change Lower
- 1% AEP Climate Change Central
- 1% AEP Climate Change Upper

Flood Zones

- Flood Zones 3b
- Flood Zones 3a
- Flood Zones 2

Areas Susceptible to Groundwater Flooding

- >= 75%
- >= 50% <75%
- >= 25% <50%
- < 25%

Surface Water

- RoFfSW 3.3% AEP
- RoFfSW 1% AEP
- RoFfSW 0.1 AEP

Reservoir Inundation

- Reservoir Inundation

Mapping Supporting Information

Return to Index Map



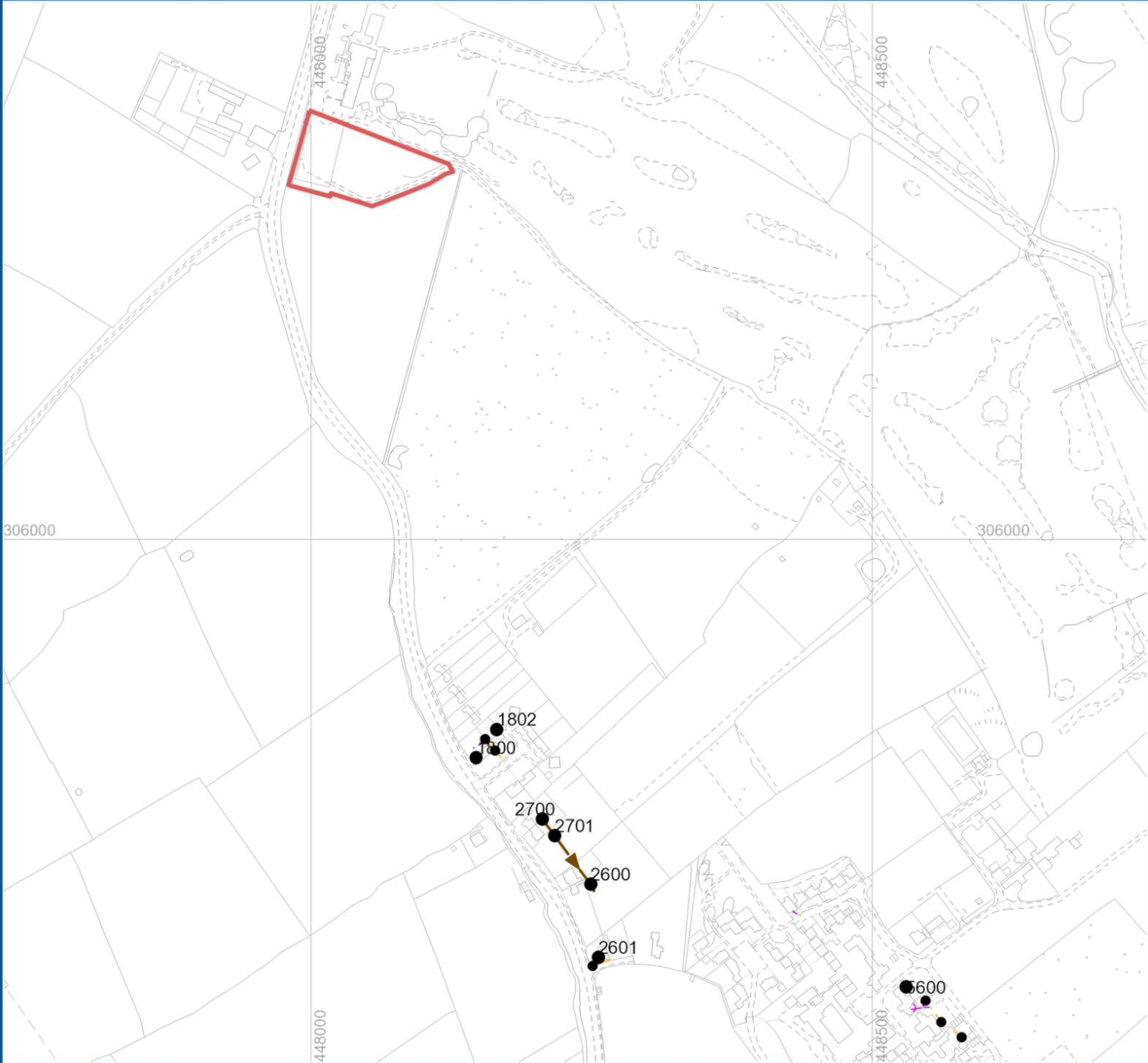
Reproduced from Ordnance Survey mapping with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office. © Crown copyright and database right 2017
© Ordnance Survey 100019271. Use of this data is subject to terms and conditions.

This document is the property of Jeremy Benn Associates Ltd. It shall not be reproduced in whole or in part, not disclosed to a third party, without the permission of Jeremy Benn Associates Ltd.

JBA
consulting

Appendix D

Severn Trent Water Sewer Plans



Reference	Cover Level	Invert Level Upstream	Invert Level Downstream	Purpose	Material	Pipe Shape	Max Size	Min Size	Gradient	Year Laid
SK48052700	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	0	01/12/2010 00:00:00
SK48052701	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	0	01/12/2010 00:00:00
SK48052600	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	0	01/12/2010 00:00:00
<UNK>	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	<UNK>	08/06/2012 00:00:00
<UNK>	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	<UNK>	03/02/2012 00:00:00
<UNK>	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	<UNK>	03/02/2012 00:00:00
SK48052601	<UNK>	<UNK>	<UNK>	F	U	U	<UNK>	<UNK>	0	08/06/2012 00:00:00
SK48051800	<UNK>	<UNK>	<UNK>	F	U	U	<UNK>	<UNK>	0	03/02/2012 00:00:00
SK48051802	<UNK>	<UNK>	<UNK>	F	U	U	<UNK>	<UNK>	0	03/02/2012 00:00:00
<UNK>	<UNK>	<UNK>	<UNK>	F	VC	<UNK>	<UNK>	<UNK>	<UNK>	31/12/1899 00:00:00
<UNK>	<UNK>	<UNK>	<UNK>	F	VC	<UNK>	<UNK>	<UNK>	<UNK>	31/12/1899 00:00:00

LEGEND

Ancillary

Balancing Lagoon

Grease Trap

Interceptor

Screen

Chamber

Flushing Chamber

Scalaway

Overflow

Fitting

Blind Shaft

Facility Connector

Head Node

Lamphole

Sewerage Air Valve

Sewerage Chemical Injection Point

Sewerage Hatch Box

Sewerage Pressure Washout

Vent Column

Waste Water Outfall

Control Valve

Hydroblade

Penstock

Sewerage Isolation Valve

Sewerage Non Return Valve

Manhole

Foul Bifurcation Manhole

Combined Bifurcation Manhole

Surface Water Bifurcation Manhole

Dual Manhole

Foul Single Manhole

Combined Single Manhole

Surface Water Single Manhole

Twin Manhole

Foul Adopted Manhole

Combined Adopted Manhole

Surface Adopted Manhole

Transfered Manhole

Unsurveyed Manhole

Operational Site

Waste Water Pump

S104

Transfered Asset

S102

Null STW

Adopted Sewer

None

Highway Drain

Null Private

S24

Storage

Disposal Site

Off-Line Waste Water Storage

On-Line Waste Water Storage

Wet Well

Waste Water Process Structure

S1P

S1P

S1P

S1P

Gravaty Sewer Pipe

Foul Gravity Sewer

Combined Gravity Sewer

Surface Water Gravity Sewer

S104 Surface Water Gravity Sewer

S104 Combined Gravity Sewer

S104 Foul Gravity Sewer

Private Surface Water Gravity Sewer

Private Combined Gravity Sewer

Private Foul Gravity Sewer

Surface Water Unserved Pipe

Combined Unserved Pipe

Foul Unserved Pipe

Transfered Surface Water Sewer

Transfered Combined Sewer

Transfered Foul Sewer

Disposal Pipe

Overflow Pipe

Culverted Water Course

Waste Internal Site Pipe

Sewer Service Connection

Gravity Sewer Others

Pressure Sewer Pipe

Surface Water Pressure Sewer

Combined Pressure Sewer

Foul Pressure Sewer

S104 Surface Water Pressure Sewer

S104 Combined Pressure Sewer

S104 Foul Pressure Sewer

Private Surface Water Pressure Sewer

Private Combined Pressure Sewer

Private Foul Pressure Sewer

Service Pipe

Private Foul Gravity Sewer

Surface Water Unserved Pipe

Combined Unserved Pipe

Foul Unserved Pipe

Transfered Surface Water Sewer

Transfered Combined Sewer

Transfered Foul Sewer

Disposal Pipe

Overflow Pipe

Culverted Water Course

Waste Internal Site Pipe

Sewer Service Connection

Gravity Sewer Others

Pressure Sewer Pipe

Surface Water Pressure Sewer

Combined Pressure Sewer

Foul Pressure Sewer

S104 Surface Water Pressure Sewer

S104 Combined Pressure Sewer

S104 Foul Pressure Sewer

Private Surface Water Pressure Sewer

Private Combined Pressure Sewer

Private Foul Pressure Sewer

Service Pipe

Surface Water Vacuum Sewer

Foul Vacuum Sewer

S104 Surface Water Vacuum Sewer

S104 Combined Vacuum Sewer

S104 Foul Vacuum Sewer

Private Surface Water Vacuum Sewer

Private Combined Vacuum Sewer

Private Foul Vacuum Sewer

Surface Water Siphon

Combined Siphon

Foul Siphon

Private Surface Water Siphon

Private Combined Siphon

Private Foul Siphon

S104 Surface Water Siphon

S104 Combined Siphon

S104 Foul Siphon

Surface Water Unserved Pipe

Combined Unserved Pipe

Foul Unserved Pipe

Transfered Surface Water Lateral Drain

Transfered Combined Lateral Drain

Transfered Foul Lateral Drain

Surface Water Lateral Drain

Foul Lateral Drain

S104 Surface Water Lateral Drain

S104 Combined Lateral Drain

S104 Foul Lateral Drain

Private Surface Water Lateral Drain

Private Combined Lateral Drain

Private Foul Lateral Drain

Transfered Surface Water Lateral Da

Transfered Combined Lateral Drain

Transfered Foul Lateral Drain

MATERIALS

- NONE
- AC - ASBESTOS CEME
- BR - BRICK
- CC - CONCRETE BOX CULVERT
- CI - CAST IRON
- CO - CONCRETE
- CSB - CONCRETE SEGMENTS (BOLTED)
- CSU - CONCRETE SEGMENTS (UNBOLTED)
- DI - DUCTILE IRON
- GRP - GLASS REINFORCED PLASTIC
- MAC - MASONRY IN REGULAR COURSES
- MAR - MASONRY RANDOMLY COURSED
- PE - POLYETHLENE
- PF - PITCH
- PP - POLYPROPYLENE
- PSC - PLASTIC STEEL COMPOSITE
- PVC - POLYVINYL CHLORIDE
- RPM - REINFORCED PLASTIC MATRIX
- SI - SPUN (GREY) IRON
- ST - STEEL
- U - UNKNOWN
- VC - VITRIFIED CLAY
- XXX - OTHER

CATEGORIES

- W - WEIR
- C - CASCADE
- DB - DAMBOARD
- SE - SIDE ENTRY
- FV - FLAP VALVE
- BD - BACK DROP
- S - SIPHON
- D - HIGHWAY DRAIN
- S104 - SECTION 104

SHAPE

- C - CIRCULAR
- E - EGG SHAPED
- O - OTHER
- R - RECTANGLE
- S - SQUARE
- T - TRAPEZOIDAL
- U - UNKNOWN

PURPOSE

- C - COMBINED
- E - FINAL EFFLUENT
- F - FOUL
- L - SLUDGE
- S - SURFACE WATER



Severn Trent Water Limited
Asset Data Management
PO Box 5344
Coventry
CV3 9FT
Telephone: 0345 601 6616

SEWER RECORD (Tabular)

O/S Map Scale: 1:5,000
Date of Issue: 10-12-19
This map is centred upon:
X: 448234.96 Y: 306006.03

Disclaimer Statement

1 Do not scale off this Map.

2 This plan and any information supplied with it is furnished as a general guide, is only valid at the date of issue and no warranty as to its correctness is given or implied. In particular this plan and any information shown on it must not be relied upon in the event of any development or works (including but not limited to excavations) in the vicinity of SEVERN TRENT WATER assets or for the purposes of determining the suitability of a point of connection to the sewerage or distribution systems.

3 On 1 October 2011 most private sewers and private lateral drains in Severn Trent Water's sewerage area, which were connected to a public sewer as at 1 July 2011, transferred to the ownership of Severn Trent Water and became public sewers and public lateral drains. A further transfer takes place on 1 October 2012. Private pumping stations, which form part of these sewers or lateral drains, will transfer to ownership of Severn Trent Water on or before 1 October 2016. Severn Trent Water does not possess complete records of these assets. These assets may not be displayed on the map.

4 Reproduction by permission of Ordnance Survey on behalf of HMSO. Crown Copyright and database right 2004. All rights reserved.

5 Ordnance Survey licence number: 100031673

6 Document users other than SEVERN TRENT WATER business users are advised that this document is provided for reference purpose only and is subject to copyright, therefore, no further copies should be made from it.



Reference	Cover Level	Invert Level Upstream	Invert Level Downstream	Purpose	Material	Pipe Shape	Max Size	Min Size	Gradient	Year Laid
SK48052700	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	0	01/12/2010 00:00:00
SK48052701	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	0	01/12/2010 00:00:00
SK48052600	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	0	01/12/2010 00:00:00
<UNK>	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	<UNK>	08/06/2012 00:00:00
<UNK>	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	<UNK>	03/02/2012 00:00:00
<UNK>	<UNK>	<UNK>	<UNK>	F	<UNK>	<UNK>	<UNK>	<UNK>	<UNK>	03/02/2012 00:00:00
SK48052404	0	0	0	F	VC	C	100	0	0	31/12/1899 00:00:00
SK48052601	<UNK>	<UNK>	<UNK>	F	U	U	<UNK>	<UNK>	0	08/06/2012 00:00:00
SK48051800	<UNK>	<UNK>	<UNK>	F	U	U	<UNK>	<UNK>	0	03/02/2012 00:00:00
SK48051802	<UNK>	<UNK>	<UNK>	F	U	U	<UNK>	<UNK>	0	03/02/2012 00:00:00
SK48052402	108.3	105.79	105.93	F	VC	C	150	<UNK>	<UNK>	31/12/1899 00:00:00
SK48052403	105.8799	103.36	101.67	F	VC	C	150	<UNK>	34.63	31/12/1899 00:00:00
SK48052401	107.2399	105.86	103.41	F	VC	C	150	<UNK>	19.61	31/12/1899 00:00:00

LEGEND

Ancillary

- Balancing Lagoon
- Grease Trap
- Interceptor
- Screen
- Chamber
- Flushing Chamber
- Scalaway
- Overflow
- Fitting
- Blind Shaft
- Facility Connector
- Head Node
- Lamphole
- Sewerage Air Valve
- Sewerage Chemical Injection Point
- Sewerage Hatch Box
- Sewerage Pressure Washout
- Vent Column
- Waste Water Outfall
- Control Valve
- Hydrobalke
- Penstock

Manhole

- Foul Bifurcation Manhole
- Combined Bifurcation Manhole
- Surface Water Bifurcation Manhole
- Dual Manhole
- Foul Single Manhole
- Combined Single Manhole
- Surface Water Single Manhole
- Twin Manhole
- Foul Adopted Manhole
- Combined Adopted Manhole
- Surface Adopted Manhole
- Transfered Manhole
- Unsurveyed Manhole

Storage

- Disposal Site
- Off-Line Waste Water Storage
- On-Line Waste Water Storage
- Wet Well
- Waste Water Process Structure
- Sewage Treatment Point
- Sewage Treatment Structure
- Sludge Treatment Point
- Sludge Treatment Structure
- Gravity Sewer Pipe
- Foul Gravity Sewer
- Combined Gravity Sewer
- Surface Water Gravity Sewer
- S104 Surface Water Gravity Sewer
- S104 Combined Gravity Sewer
- S104 Foul Gravity Sewer
- Private Surface Water Gravity Sewer
- Private Combined Gravity Sewer

Private Foul Gravity Sewer

- Surface Water Unserved Pipe
- Combined Unserved Pipe
- Foul Unserved Pipe
- Transfered Surface Water Sewer
- Transfered Combined Sewer
- Transfered Foul Sewer
- Disposal Pipe
- Overflow Pipe
- Culverted Water Course
- Waste Internal Site Pipe
- Sewer Service Connection
- Gravity Sewer Others
- Pressure Sewer Pipe
- Surface Water Pressure Sewer
- Combined Pressure Sewer
- Foul Pressure Sewer
- S104 Surface Water Pressure Sewer
- S104 Combined Pressure Sewer
- S104 Foul Pressure Sewer
- Private Surface Water Pressure Sewer
- Private Combined Pressure Sewer
- Private Foul Pressure Sewer

Surface Water Vacuum Sewer

- Foul Vacuum Sewer
- Combined Vacuum Sewer
- S104 Surface Water Vacuum Sewer
- S104 Combined Vacuum Sewer
- S104 Foul Vacuum Sewer
- Private Surface Water Vacuum Sewer
- Private Combined Vacuum Sewer
- Private Foul Vacuum Sewer
- Surface Water Siphon
- Combined Siphon
- Foul Siphon
- Private Surface Water Siphon
- Private Combined Siphon
- Private Foul Siphon
- S104 Surface Water Siphon
- S104 Combined Siphon
- S104 Foul Siphon
- Surface Water Unserved Pipe
- Combined Unserved Pipe
- Foul Unserved Pipe
- Disposal Pipe
- Service Pipe

Surface Water Lateral Drain

- Combined Lateral Drain
- Foul Lateral Drain
- S104 Surface Water Lateral Drain
- S104 Combined Lateral Drain
- S104 Foul Lateral Drain
- Private Surface Water Lateral Drain
- Private Combined Lateral Drain
- Private Foul Lateral Drain
- Transfered Surface Water Lateral Da
- Transfered Combined Lateral Drain
- Transfered Foul Lateral Drain

MATERIALS

- NONE
- AC - ASBESTOS CEME
- BR - BRICK
- CC - CONCRETE BOX CULVERT
- CI - CAST IRON
- CO - CONCRETE
- CSB - CONCRETE SEGMENTS (BOLTED)
- CSU - CONCRETE SEGMENTS (UNBOLTED)
- DI - DUCTILE IRON
- GRP - GLASS REINFORCED PLASTIC
- MAC - MASONRY IN REGULAR COURSES
- MAR - MASONRY RANDOMLY COURSED
- PE - POLYETHYLENE
- PF - PITCH
- PP - POLYPROPYLENE
- PSC - PLASTIC STEEL COMPOSITE
- PVC - POLYVINYL CHLORIDE
- RPM - REINFORCED PLASTIC MATRIX
- SI - SPUN (GREY) IRON
- ST - STEEL
- U - UNKNOWN
- VC - VITRIFIED CLAY
- XXX - OTHER

CATEGORIES

- W - WEIR
- C - CASCADE
- DB - DAMBOARD
- SE - SIDE ENTRY
- FV - FLAP VALVE
- BD - BACK DROP
- S - SIPHON
- D - HIGHWAY DRAIN
- S104 - SECTION 104

SHAPE

- C - CIRCULAR
- E - EGG SHAPED
- O - OTHER
- R - RECTANGLE
- S - SQUARE
- T - TRAPEZOIDAL
- U - UNKNOWN

PURPOSE

- C - COMBINED
- E - FINAL EFFLUENT
- F - FOUL
- L - SLUDGE
- S - SURFACE WATER



Severn Trent Water Limited
Asset Data Management
PO Box 5344
Coventry
CV3 9FT
Telephone: 0345 601 6616

SEWER RECORD (Tabular)

O/S Map Scale: 1:2,500
Date of Issue: 10-12-19
This map is centred upon:
X: 448280.45 Y: 305612.08

Disclaimer Statement

1 Do not scale off this Map.

2 This plan and any information supplied with it is furnished as a general guide, is only valid at the date of issue and no warranty as to its correctness is given or implied. In particular this plan and any information shown on it must not be relied upon in the event of any development or works (including but not limited to excavations) in the vicinity of SEVERN TRENT WATER assets or for the purposes of determining the suitability of a point of connection to the sewerage or distribution systems.

3 On 1 October 2011 most private sewers and private lateral drains in Severn Trent Water's sewerage area, which were connected to a public sewer as at 1 July 2011, transferred to the ownership of Severn Trent Water and became public sewers and public lateral drains. A further transfer takes place on 1 October 2012. Private pumping stations, which form part of these sewers or lateral drains, will transfer to ownership of Severn Trent Water on or before 1 October 2016. Severn Trent Water does not possess complete records of these assets. These assets may not be displayed on the map.

4 Reproduction by permission of Ordnance Survey on behalf of HMSO. Crown Copyright and database right 2004. All rights reserved.

5 Ordnance Survey licence number: 100031673

6 Document users other than SEVERN TRENT WATER business users are advised that this document is provided for reference purpose only and is subject to copyright, therefore, no further copies should be made from it.