FLOOD RISK ASSESSMENT

Rockingham Plot 2
Birdwell
Barnsley

Reference	**5419-JPG-XX-XX-RP-D-0621-S2-P02**
Date	**March 2021**
Revision	**P02**
Author	**IB**

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Appendix C Yorkshire Water Sewer Records

Appendix D Proposed Development Plan

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CONFIDENTIALITY STATEMENT

This report is addressed to and may be relied upon by the following:

Gregory Property Group
12 Cardale Court
Cardale Park
Beckwith Head Road
HARROGATE
HG3 1RY

This report has been prepared for the sole use and reliance of the above named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of JPG (Leeds) Limited. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

DOCUMENT HISTORY

Rev	Date	Revision Details	Status	Author(s)	Approved
P01	19.03.2021	First Issue	Information	IB	JDM
P02	26.03.2021	Second Issue - Report amended to suit revised architect's layout	Information	IB	JDM

1.0 INTRODUCTION

JPG (Leeds) Limited has been instructed by Gregory Property Group to carry out a Flood Risk Assessment for a proposed commercial development on land immediately to the south of Dearne Valley Parkway.

The report will review the drainage and flood risk issues associated with the proposed development and recommend any mitigation which should take place as part of the development.

A separate Drainage Impact Assessment document will cover the detailed drainage strategy document reference 5419-JPG-XX-XX-RP-D-0622-S2.

This document is prepared in accordance with the requirements of and in response to the Planning Practice Guidance & National Planning Policy Framework (NPPF) which states that those proposing developments are responsible for:

- Providing an assessment of whether any proposed development is likely to be affected by flooding and whether it will increase the flood risk elsewhere and of the measures proposed to deal with these effects and risks; and
- Satisfying the local planning authority that any flood risk to the development or additional risk arising from the proposal will be successfully managed with the minimum environmental effect, to ensure that the site can be developed and occupied safely.

NPPF defines flood zones as follows:

- Zone 1 – Low Probability – less than 1 in 1000 annual probability (< 0.1%) of river or sea flooding in any year.
- Zone 2 – Medium Probability – between a 1 in 100 and 1 in 1000 annual probability (1% - 0.1%) of river flooding or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% - 0.1%) in any year.
- Zone 3a – High Probability – 1 in 100 or greater annual probability (> 1%) of river flooding or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
- Zone 3b – Functional Floodplain – 1 in 20 or greater annual probability (5%) of river flooding in any year. This is land on which water must flow or be stored in times of flood.

A Flood Risk Assessment is required for all sites more than 1ha within Zone 1 and all sites within Zones 2 and 3.

2.0 THE SITE

The site is located to the north east of Junction 36 of the M1 motorway, on the south side of the Dearne Valley Parkway, approximately 2.05km north west of Hoyland town centre. The approximate centre of the site is located at NGR E435283, N400720.

The site is located to the south of Dearne Valley Parkway and is an irregular shape covering an area of approximately 4.03ha.

The site is bounded by Dearne Valley Parkway to the north, Sheffield Road to the west, Hoyland Dismantling and Riverside Truck Rental to the south and beyond this is a residential estate.

Adjacent to the eastern boundary there is a watercourse/ditch running from south to north including a small pond in the north east corner. Further over to the east is future development land.

The site comprises of restored former opencast working and currently is an open field.

The site generally falls from south west to north east in the order of 6.6m.

A Site Location Plan is included in Appendix A and a topographic survey of the site in Appendix B.

3.0 EXISTING DRAINAGE AND SEWER NETWORK

A Yorkshire Water public sewer plan is provided in Appendix C, this indicates the following public sewers near the site.

- Adjacent to the eastern site boundary there is an existing surface water sewer and outfall structure into the existing pond.

Along the northern site boundary there are existing foul and surface water drains running in an approximate south west to north east direction. These were designed and installed by Waddington's who developed a drive thru coffee shop on a site to the west of the proposed development.

These drainages are currently privately owned and maintained. With only the coffee shop connected they are unlikely to meet with Yorkshire Water adoption requirements.

However, once the proposed development is connected the adoption criteria may be met and as such could be adopted at some point in the future via a Section 102 agreement.

There are several existing ditches located within the proposed development land across the north eastern and central parts of the site.

An open watercourse and pond exist running adjacent to the east of the site outside of the development boundary which flows in a south to north direction.

This passes beneath Dearne Valley Parkway in a culvert and becomes open watercourse again with a further pond located to the east of the Car Supermarket depot.

This watercourse is understood to be a tributary of the downstream watercourse known as Short Wood Dike which is located further north east.

4.0 DEVELOPMENT PROPOSALS

It is proposed to redevelop the site for a commercial end use.

The Harris Partnership drawing 15315 – (P)111 shows the proposed development masterplan and is provided in Appendix D.

Total development area is approximately 4.03 Ha.

Total impermeable area for the proposed development is approximately 2.997 Ha.

5.0 FLOOD RISK ASSESSMENT

Publicly available information on flooding obtained from the Environment Agency (EA) website database is provided in Appendix E.

The site is indicated to fall within Flood Zone 1 which comprises land assessed as having a low risk of flooding from watercourse and/or sea with less than a 1:1000 annual probability of river or sea flooding.

NPPF Technical Guidance states all uses of land are appropriate in Flood Zone 1.

As the site area is greater than 1ha other sources of flooding need to be considered.

These include:

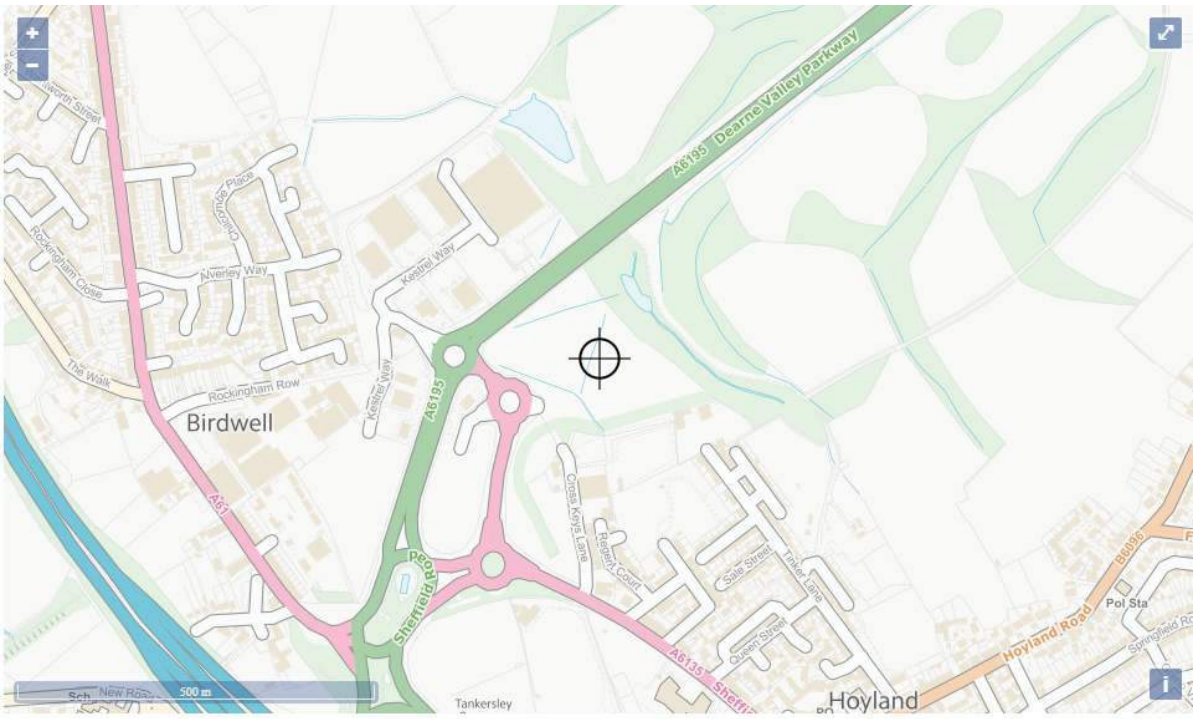
- Rivers and the sea (fluvial).
- Adjoining land (pluvial).
- Ground water.
- Flooding from sewers.
- Flooding from reservoirs, canals, and other artificial sources.

5.1 Flooding from Rivers and the Sea (Fluvial)

The site is located 2.7km south from the River Dove which flows from Worsbrough Reservoir to its confluence with the River Dearne.

A copy of the map produced by the Environment Agency showing the extent of flooding from rivers and the sea is below.

The risk to the development from any such potential flooding source is considered to be **low**.



5.2 Flooding from Adjoining Land (Pluvial)

Overland flow/surface water flooding typically arises because of intense rainfall, often for a short duration. This is unable to soak into the ground or enter drainage systems. It can run quickly off land and result in localised flooding.

A copy of the map produced by the Environment Agency showing the extent of flooding from surface sources is below.

The site sits in an elevated position above the land to the north (Dearne Valley Parkway). Surface flooding is indicated on Dearne Valley Parkway, however, due to the topography of the proposed site flooding from adjoining land to the north is considered unlikely.

To the west the proposed site is bounded by Sheffield Road which is slightly higher than the proposed development. The level difference between the back of the footway on Sheffield Road and the proposed site boundary is in the order of 750mm but is generally less than this.

Any runoff from the public highway would be contained within the confines of the highway and associated drainage system. As such surface flooding from adjoining land to the west is considered unlikely.

East of the site is currently bounded by further development land which is undeveloped. The existing watercourse/ditch runs in a south to north direction and is at a lower level to the proposed development plot. As such surface flooding from the land to the east is considered unlikely.

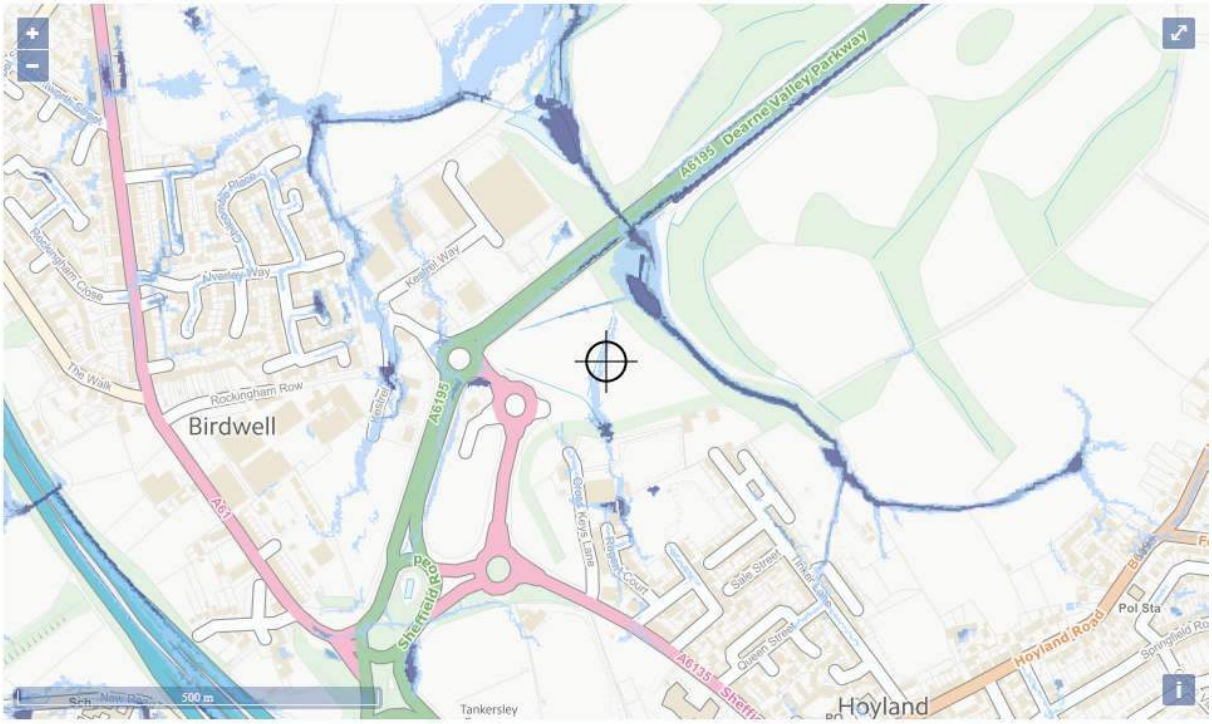
Three ditches are noted to cross the site. Reference to historic OS maps show these were not present prior to the open cast operations which were completed in 1995. A site inspection did not identify any drainage connections to the ditches. It is assumed that these were formed on completion of the reinstatement works to collect any surface water run-off from the site. If any drainage connections are uncovered during the proposed development works these will need to be dealt with accordingly.

Overland surface flooding is indicated beyond the southern boundary on Regent Court and to the east of Riverside Truck Rental building running north towards the proposed southern boundary of the development plot. Surface flooding is also indicated on the line of the existing ditch running in an approximate south west to north east direction and across the proposed development.

Overland surface flooding is also shown on the line of the existing ditch running in an approximate north west to south east direction across the north part of the site.

Both routes identified flow towards the existing pond and watercourse on the eastern boundary.

The identified overland flow route will be redirected through the site such that the risk to the proposed buildings is minimised. Details of the proposed routing will be provided as part of the detailed design stage.



Extent of flooding from surface water

High Medium Low Very low Location you selected

5.3 Flooding from Groundwater

The proposed sites will be in an elevated position in relation to the nearest watercourses, thus it is unlikely there will be an issue with groundwater effecting the site.

The risk of flooding from ground water is considered to be **low**.

5.4 Flooding from Sewers

The highway drains near the site are owned by the local highways authority and will be subject to regular maintenance and inspection, therefore blockage of these drains is unlikely.

There are some foul and surface water drains located within the proposed development along the northern boundary. These drains are currently maintained by a third party and may be adopted by Yorkshire Water when the requirement for adoption is met. As such they will be subject to regular maintenance and inspection and therefore blockage of these drains will be unlikely.

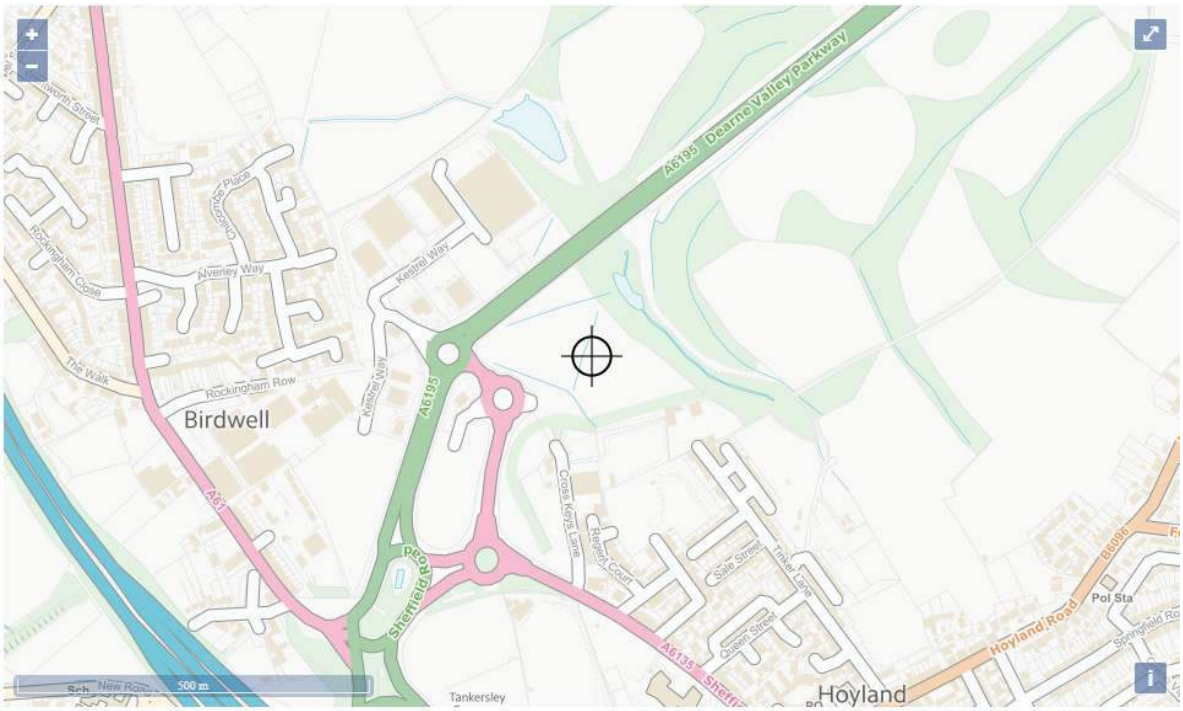
The risk of flooding from sewers is considered to be **low**.

5.5 Flooding from Reservoirs, Canals and Other Artificial Sources

A surface water balancing pond is located to the north of Dearne Valley Parkway. This feature is understood to be a facility associated with the adjacent public highway (Dearne Valley Parkway), which is owned/maintained by the highway authority and will be subject to regular maintenance and inspection and therefore blockage/overtopping of this facility is unlikely.

There are no other known reservoirs, canals, or artificial sources within the vicinity of the site. The site is therefore not at risk from such sources.

The risk of flooding from sewers is considered to be **low**.



Extent of flooding from reservoirs

Maximum extent of flooding Location you selected

6.0 SURFACE AND FOUL WATER DRAINAGE

The proposed site drainage will comprise of a separate surface and foul water drainage system. For a more detailed analysis of the drainage proposals refer to the Drainage Impact Assessment report (ref. 5419-XX-XX-RP-D-0622). The proposals are summarised below.

6.1 Surface Water Drainage

The disposal of surface water shall be in accordance with the Requirement H3 of Building Regulations 2000. This establishes a preferred hierarchy for surface water disposal. Consideration should firstly be given to discharge to soakaway/infiltration system, watercourse, and public sewer in that priority order.

Initial investigations indicate the site is underlain by significant depths of made ground/fill due to former mine workings in the area, therefore the disposal of surface water by infiltration methods is not deemed feasible.

Surface water discharge from the site would be restricted to agreed greenfield run off rates with the LLFA (Barnsley MBC).

To balance excess flows, attenuation storage will be provided on site.

Proposed allowance for climate change for this development is 30% which is in line with Hoyland Master Plan Strategy previously approved by Barnsley MDC.

In summary, therefore, if surface water discharges are limited to greenfield rates and excess flows balanced in line with the above principles, flood risk from surface water flows from the proposed scheme can be taken as low.

6.2 Foul Water Drainage

Based upon Sewers for Adoption methodology and calculation, design foul water flows from the proposed development are 1.507 l/s. This is 6xDWF+10%. For design purposes and to allow for any variation to the proposed site layout the maximum design foul water flow is assumed to be 2.000 l/s.

Preliminary drainage calculations and proposed drainage strategy layout are included in the separate Drainage Impact Assessment report.

Discharge from the site is proposed to drain into the existing 150 diameter existing foul water drain running along the northern boundary.

It is considered that such a low rate of discharge would have negligible impact on the public drainage network.

7.0 CONCLUSIONS

This assessment has looked at the flood risk issues to support a planning application for a proposed commercial development on land adjacent to Dearne Valley Parkway.

The site lies within Flood Zone 1 and is at low risk of flooding from river or sea. NPPF Technical Guidance states all uses of land are appropriate in Flood Zone 1.

Surface / overland flooding has been identified within the proposed development.

The identified overland flow route will be redirected through the site such that the risk to the proposed buildings is minimised. Details of the proposed routing will be provided as part of the detailed design stage.

Existing ditches are recorded within the proposed development plot. A site inspection did not identify any drainage connections to the ditches. If any drainage connections are uncovered during the proposed development works these will need to be dealt with accordingly.

Other sources of flooding have been assessed and the risk of flooding from these sources is considered to be low.

Discharge from the site will be restricted to a greenfield run off rate as detailed in the Drainage Impact Assessment report.

Surface water shall discharge to the existing private surface water drain running along the northern site boundary.

Surface water attenuation will be provided on the development plot. Refer to the Drainage Impact Assessment Report for details.

An allowance for climate change for this development is proposed at 30% which is in line with Hoyland Master Plan Strategy previously approved by Barnsley MDC.

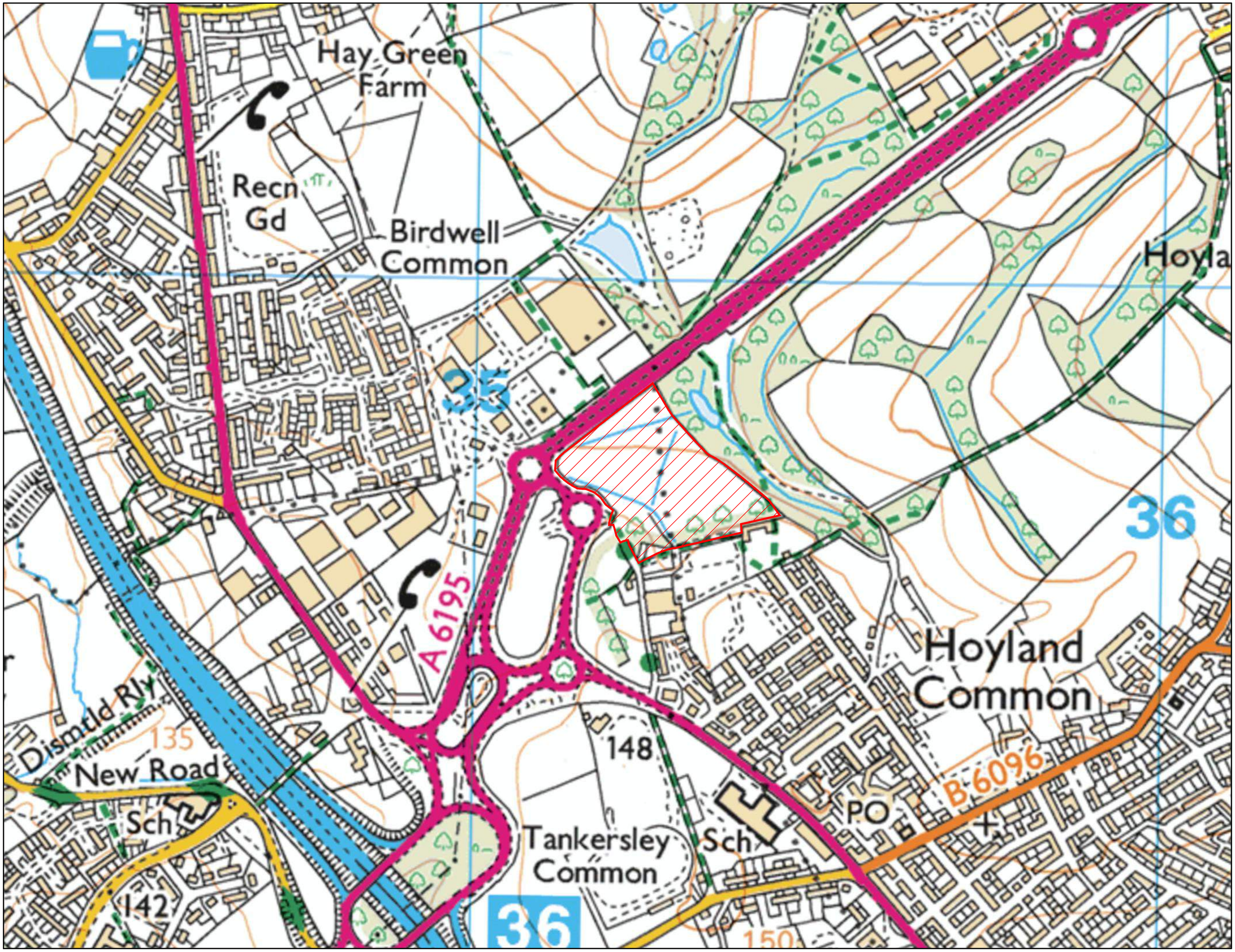
Foul water drainage will discharge to the existing 150 diameter foul water drain running along the northern site boundary.

Overall, this report demonstrates that flood risk to the development is considered to be low.

Ieva Baciulyte
For and behalf of JPG (Leeds) Limited

March 2021

Appendix A Site Location Plan



SITE LOCATION PLAN

SCALE 1:2500

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DO NOT SCALE (A1)

NOTES

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP IS TO COMPLY WITH JPG CONSULTANTS STANDARD SPECIFICATION & ALL RELEVANT BRITISH & EUROPEAN STANDARDS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, M & E CONSULTANTS AND JPG CONSULTANTS DRAWINGS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO COMMENCEMENT OF WORKS.

SITE INFORMATION

SITE ADDRESS	SHEFFIELD ROAD, BARNSLEY, SOUTH YORKSHIRE
NEAREST POSTCODE	S74 0QA
OS SHEET/TILE	SE351010
OS COORDINATES	E:435283, N: 400720

SITE LOCATION

0m 62.5m 125m

SCALE 1:2500

REV	DESCRIPTION	DATE	CHK	BY
P01	FIRST ISSUE	15/03/21	JDM	IB

Project
ROCKINGHAM
PLOT 2
BIRDWELL
BARNSLEY

Drawing Title
LOCATION PLAN

INFORMATION ISSUE

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5419-JPG-SW-XX-DR-D-1451 | S2 | P01

Appendix B Topographic Survey

N

Station Information:

Station	Easting (m)	Northing (m)	Level (m)
J3	435882.1325	401329.6624	137.5958
J9	435461.1431	401030.8561	133.7290
J10	435379.0995	400966.2000	133.1627
J11	435297.9100	400902.7972	132.5586
J101	435584.3756	401567.5944	115.8042
J102	435740.2869	401523.5149	125.2937
J103	435810.8799	401448.4666	131.4481
R1	435197.5609	400844.8155	132.8223
GH1	435043.1610	400723.1770	134.9460
GH2	435031.6440	400619.6290	137.2870
GH3	435120.3913	400749.6597	134.5070

OS Note:

Some services may have been omitted due to parked vehicles. The Ordnance Survey tile is to be used as a guide only.

OS Buildings *Surveyed Buildings*

This survey has been orientated to the Ordnance Survey (O.S) National Grid (OSGB36) via Global Navigational Satellite Systems (GNSS) and the O.S. Active Network (OS Net).

A true OSGB36 coordinate has been established near to the site centre via a transformation using the OSTN02 & OSGM02 transformation models.
The survey has been correlated to this point and a further one or more OSGB36 points established to create a true O.S. bearing for angle orientation.

No scale factor has been applied to the survey therefore the coordinates shown are arbitrary & not true O.S. Coordinates which have a scale factor applied.

Please refer to Survey Station Table to enable establishment of the on-site grid and datum.

Legend:

Buildings; Wall; Kerb line; Line marking; Drop kerb; Centre line; Overhead Cable; Concrete edge; Tarmac edge; Grass verge; Canopy/Overhang; Verge; Station and Name; Station Level; Tree / Bush / Sapling; Area of Undergrowth; Woodland; R: Ridge Level; E: Eaves Level; F: Flat Roof Level; Gate; Fence Types: SW, HR, WRM, PIR, PW, CL, WVF, CIP, SIP; Interwoven; Iron Railings; Wire Mesh; Post & Rail; Post & Wire; Chain Link; Wooden Panels; Concrete Panels; Steel Palisade; IC Inspection chamber; Pinv Pipe invert; Gy Gully; Bg Back gully; Dp Down pipe; Pipe Pipe above ground; MH Manhole; WL Water level; FL Flood light; Lp Lamp post; Tp Telegraph post; Ep Electricity post; Tl. Traffic light; Bus Bus stop; Sv Stop valve; St Stop tap; Er Earth rod; Wm Water meter; Gas Gas valve; Av Air valve; ICU Undentified inspection; Wb Wash out; Re Rodding eye; BB Belisha beacon; CTV Cable tv; Mkr Marker post; Gmkr Gas marker post; Sp Suffo; Bolt Bollard; IB Illuminated bollard; Bin Rubbish bin; Vp Vent pipe; Gri Ground light; Lbox Letter box; Ld Ladder; Sty Stile; FL Internal floor level; THL Threshold level; Sp Sign post; TH Trialhole; BH Borehole; ELC Electric; BT British Telecom; CTbox Control box; TT Tactile; BP Brick paved; CPS Concrete paving slab; CVR Cover; IC Inspection chamber; Retaining wall; UTL Unable to lift; TCL Tree canopy level; G Girth; MG Multi girth; Stump Tree Stump; CL Cover level; IL Invert level

Rev.	Date	Description	Drawn	Ch. Ref.
4	11.01.19	Survey extension Plot 2	JT	GH4278
3	20.07.17	Survey extension	JC	C1489
2	Sept 14	All phases surveyed. Site grid updated	BG	C1191
1	12.06.14	Drainage info added	CS	A1042

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- Topographical Surveys
- Site Engineering
- Utility / CCTV Surveys
- Measured Building Surveys
- 3D Laser Scanning
- Revit & BIM Models

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CLIENT
Harworth Estates Ltd

PROJECT
Rockingham Dearne Valley Parkway Birdwell

TITLE
Topographical Survey

SCALE	DATE
A1@ 1: 2000	05-06.06.14
DRAWN	QUALITY REF
LP	A1042

Level datum	See OS Note
Grid orientation	See OS Note
Job number	20379

Drawing No.	Rev.
20379_OGL	4

Comments
This plan should only be used for its original purpose. Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.

All dimensions should be checked on site prior to design and construction.

Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.

Notes:

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N

Station Information:

Station	Easting (m)	Northing (m)	Level (m)
JC1	435004.5070	401532.2286	117.0630
JC2	434906.5536	401494.6448	121.4947
JC3	434803.9817	401438.6245	128.7390
JC4	434709.7214	401393.8639	131.6309
JC5	434795.7565	401252.9290	131.2561
JC6	434873.1119	401061.9135	128.0374
JC7	435101.1215	401098.9856	126.6099
JC8	435032.4588	401195.4740	124.2577
JC9	434951.9381	401357.6965	120.4226
BB1	434586.1723	401377.1065	131.2154
BB2	434591.4801	401345.7262	131.5619

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Legend:

Buildings
Wall
Kerb line
Line marking
Drop kerb
Drop kerb
Centre line
100.000
Station and Name
Station Level
Tree / Bush / Sapling
Area of Undergrowth
Woodland
R: Ridge Level
E: Eaves Level
F: Flat Roof Level
Gate
Fence Types:
SW
HR
WM
PIR
PW
CL
WIP
CIP
SIP
Interwoven
Iron Railings
Wire Mesh
Post & Rail
Post & Wire
Chain Link
Wooden Panels
Concrete Panels
Steel Palisade
Overhead Cable
Concrete edge
Tarmac edge
Grass verge
Canopy/Overhang
Verge
IC Inspection chamber
Pipe Pipe invert
Gy Gully
Bg Back gully
Dp Down pipe
Pipe Pipe above ground
MH Manhole
WL Water level
Fl Flood light
Lp Lamp post
Tp Telegraph post
Ep Electricity post
Tl Traffic light
Bus Bus stop
Sv Stop valve
St Stop tap
Er Earth rod
Wm Water meter
Gas Gas valve
Av Air valve
ICU Unidentified inspection
Rs Wash out
Re Rodding eye
BB Bellsha beacon
CTV Cable tv
Mkr Marker post
Gmkr Gas marker post
Sp Suffo
Bol Bollard
Il Illuminated bollard
Bin Rubbish bin
Vp Vent pipe
Gri Ground light
Lbox Letter box
Ld Ladder
Sty Stile
FL Internal floor level
THL Threshold level
Sp Sign post
TH Trafhole
BH Borehole
ELC Electric
BT British Telecom
CBox Control box
TT Tactile
BP Brick paved
CPS Concrete paving slab
CVR Cover
IC Inspection chamber
Retwall Retaining wall
UTL Unable to lift
TCL Tree canopy level
G Girth
MG Multi girth
Stump Tree Stump
CL Cover level
IL Invert level

Rev.	Date	Description	Drawn	Ch. Ref.
4	11.01.19	Survey extension Plot 2	JT	GH4278
3	20.07.17	Survey extension	JC	C1489
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CLIENT
Harworth Estates Ltd

PROJECT
Rockingham
Dearne Valley Parkway
Birdwell

TITLE
Topographical Survey

SCALE	DATE
A1@ 1: 2000	05-06.06.14
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Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.

Notes:

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NOTES;

In all cases please call the BT Dial before you dig service to mark their own plant before any site works commence 0800 917 7777

Always consult utility plans

1. *Drainage information provided has been determined without man entry into the chambers. Whilst every effort has been made to correctly identify the size/pipes/number detail, it is recommended that this information should be checked in areas that are critical to the future proposal/development.*
2. *Invert levels have been taken from the lowest visible connections between chambers unless proven otherwise by the use of a sonde or CCTV survey.*
3. *Some information has been added to the drawing using the statutory records where needed.*
4. *Some areas of site were unable to be surveyed due to the dense nature of the vegetation.*

UTILITY KEY

HV E HV E HV E HV E	ELECTRICITY CABLE		UNABLE TO SURVEY AREA
earth E EARTH earth E	EARTH		MULTIPLE SERVICES
HV ELEC HV ELEC HV ELEC HV ELEC	HIGH VOLTAGE ELECTRICITY CABLE		
TL TL TL TL	TRAFFIC LIGHT SIGNAL CABLE		BUILDING
OH ELEC OH ELEC OH ELEC OH ELEC	OVERHEAD ELECTRIC LINES		CANOPY OUTLINE
OH TEL OH TEL OH TEL OH TEL	OVERHEAD TELECOM LINES		
AT AT AT AT	AT CABLE	MH	MANHOLE
FO FO FO FO FO FO	FIBRE OPTICS	IC	INSPECTION COVER
CATV CATV CATV CATV	CABLE TELEVISION		
TEL TEL TEL TEL	TELECOM CABLE		CHANGE OF SURFACE
GAS GAS GAS GAS	GAS		SCAR OUTLINE
WATER WATER WATER WATER	WATER (SUPPLY) PIPE		
FOUL FOUL FOUL FOUL	FOUL WATER DRAINAGE		STATION LOCATION
SURF SURF SURF SURF	SURFACE WATER DRAINAGE		
COMB COMB COMB COMB	COMBINED DRAINAGE		GULLY
GPR GPR GPR GPR	GROUND PENETRATING RADAR		
UNKN U U U UNKN	UNKNOWN/FIXED - SEE NOTES		CHANGE OF GROUND LEVEL
OIL OIL OIL OIL	OIL PIPE		APPROXIMATE LOCATION
HEAT HEAT HEAT HEAT	HEATING MAIN		END OF TRACE
DUCT DUCT DUCT DUCT	EMPTY DUCT		PUMPING MAIN
FUEL FUEL FUEL FUEL	FUEL LINE - PETROL		
FUEL FUEL FUEL FUEL	FUEL LINE - DIESEL, AERO OR PARAFFIN		
TRAN TRAN TRAN TRAN	TRAN CAUSE LINE OR COMMS CABLE		
DIR DIR DIR DIR	DIP-DIET FILL		
VERT VERT VERT VERT	VERT-VERT		
SOS SOS SOS SOS	LIMIT OF SURVEY		
EXT EXT EXT EXT	CHANGE OF EXTENTS		
TRENCH TRENCH TRENCH TRENCH	TRENCH SCAR		

ABBREVIATIONS

AB	Abandoned	NVE	No visible Exit
A/C	Air Conditioner	NVP	No visible Pipes
ACP	Assumed Connection Point	NB	Notice Board
AG	Above Ground	OH	Overhead
AR	Assumed Route	OS	Ordnance
B	Bollard	OSBM	Ordnance Survey Benchmark
BH	Borehole	OSA	Off Survey Area
BL	Base Level	PC	Pilot Cable
BTB	British Telecom Box	PE	Polyethylene
BT	British Telecom Cover	PR	Pipe Riser
CI	Cast Iron	PM	Phone Mast
CR	Cable Riser	RWP	Rain Water Pipe
CTV	Cable TV	RS	Road Sign
CP	Catch Pit	RE	Rodding Eye
Co	Concrete	SoA	Soakaway
CL	Cover Level	SP	Sign Post
CWS	Combined Water Sewer	ST	Steel
DI	Ductile Iron	SV	Sluice Valve
DP	Down Pipe	SVP	Soil Vent Pipe
DCB	Electric Control Box	SVS	Soil Vapour Sample
ER	Earth Rod	TFR	Taken From Records
EIC	Electricity IC	TK	Tank
EOT	End of Trace	TL	Traffic Light
EP	Electricity Pole	TP	Telegraph Pole
FH	Fire Hydrant	UI	Unidentified
FP	Fence Post	UTL	Unable to Locate
GV	Gas Valve	UTR	Unable to Raise
GU	Gully	UTS	Unable to Survey
HV	High Voltage	UTT	Unable to Trace
IC	Inspection Cover	VR	Vapour Recovery
INT	Interceptor	VP	Vent Pipe
IL	Invert Level	WL	Water Level
LC	Lighting Column	WM	Water Meter
LP	Lamp Post	WO	Wash Out
LV	Low Voltage	LP	Low Pressure
MH	Manhole Cover	MIP	Medium Pressure
MW	Monitoring Well	HIP	High Pressure

SURVEY CATEGORY	QUALITY LEVEL	CRITERIA USED IN THE DETERMINATION OF QUALITY LEVEL
		TYPE A - SURVEY
TYPE B - DETECTION	Qs -0x	A UTILITY SEGMENT WHICH IS SUSPECTED TO EXIST BUT HAS NOT BEEN DETECTED AND THEREFORE SHOWN AS AN ASSUMED ROUTE. **(NO DETECTION POSSIBLE)**
	Qs -0/3	POSITION OF THE UTILITY DETECTED BY ONE OF THE GEOPHYSICAL TECHNIQUES **(EML OR GPR DETECTION WITH LIMITED CONFIDENCE IN DEPTH).**
	Qs -0/2	POSITION AND DEPTH OF THE UTILITY DETECTED BY ONE OF THE GEOPHYSICAL TECHNIQUES **(EML OR GPR DETECTION WITH CONFIDENCE IN DEPTH).**
	Qs -0/1	POSITION AND DEPTH OF THE UTILITY DETECTED BY MULTIPLE GEOPHYSICAL TECHNIQUES **(EML / GPR DETECTION).**

DISCLAIMER

Whilst every effort has been taken in the preparation of this drawing, the original land marks/apparatus configuration may have been altered since the survey/drawing was produced. The user shall make further enquiries and investigations to satisfy himself as to the accuracy of this drawing and position of the apparatus. The exact positions of the apparatus should be verified by the use of suitable detection devices and safe digging practices in accordance with HSG47, further advice on the location of apparatus should be recommended by the owner. No representation is made by Greenhatch Group, its agents or servants as to the accuracy, completeness, and sufficiency or otherwise of this drawing and the position of the apparatus.

All apparatus shall be treated as live unless proved otherwise by the owner. It is the users responsibility to ensure that the information on the location of apparatus is provided to all persons (either direct labour or contractors) working in proximity to the apparatus.

Rev	Date	Description	Drawn	Q. Ref
4	11.01.19	Survey extension Plot 2	JT	GH4278
3	20.07.17	Survey extension	JC	C1489
2	Sept 14		BG	C1191
1	12.06.14	Drainage info added	CS	A1042

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CLIENT

Harworth Estates Ltd

PROJECT

Rockingham Dearne Valley Parkway Birdwell

TITLE

Utility Survey

SCALE	DATE
A1@ 1: 1000	11.01.19
DRAWN	**QUALITY REF**
SM	A1042

Level datum	See OS Note
Grid orientation	See OS Note
Job number	20379

Drawing No.	Rev.
20379_OGL	4

Comments

This plan should only be used for its original purpose. Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.

All dimensions should be checked on site prior to design and construction.

Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.

Notes:

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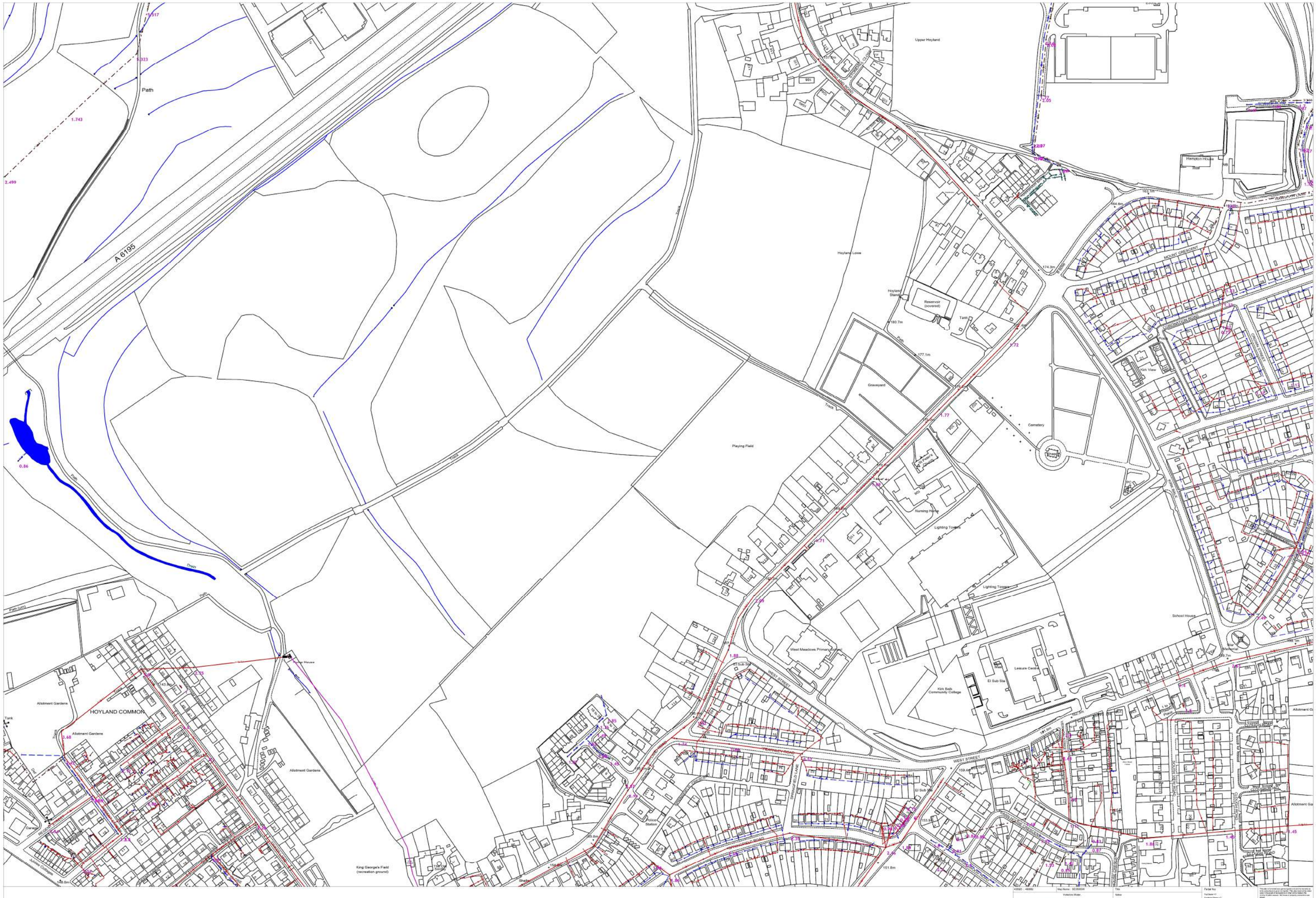
Appendix C Yorkshire Water Sewer Records


A 6195
Path
Upper Hoyland
Hoyland Lowe
Hoyland Stand
Reservoir (covered)
Tarn
Graveyard
Cemetery
Playing Field
Nursing Home
Lighting Towers
Hampton House
Mount Crescent
Ironwalls Road
Fair View
School House
West Meadows Primary School
Kirk Bank Community College
Leisure Centre
El Sub Sta
West Street
Hoyland Common
Allotment Gardens
Garage
Police Station
King George's Field (recreation ground)
Shelter
Tank
Pond
Drain
Track
Footbridge
Pole
Yorkshire Water
Map Name : SE3300SW
Yorkshire Water
PO Box 500
Halifax Road,
Bradford BD6 2LZ
Contact Name:
Yorkshire Advisor C ROBERTS
Contact Tel : 07 0000
Title
Notes
Partial Key
Fuel Stack = F
Condensed Stream = C
Surface Water Sewer = SW
Trace Stream = TS
Foulder Reservoir = FR
Date Req : 07/03/2016, 07:33:38
Date Gen : 07/03/2016, 07:38:11
Source : Sewer Network Enquiry

Appendix D Proposed Development Plan

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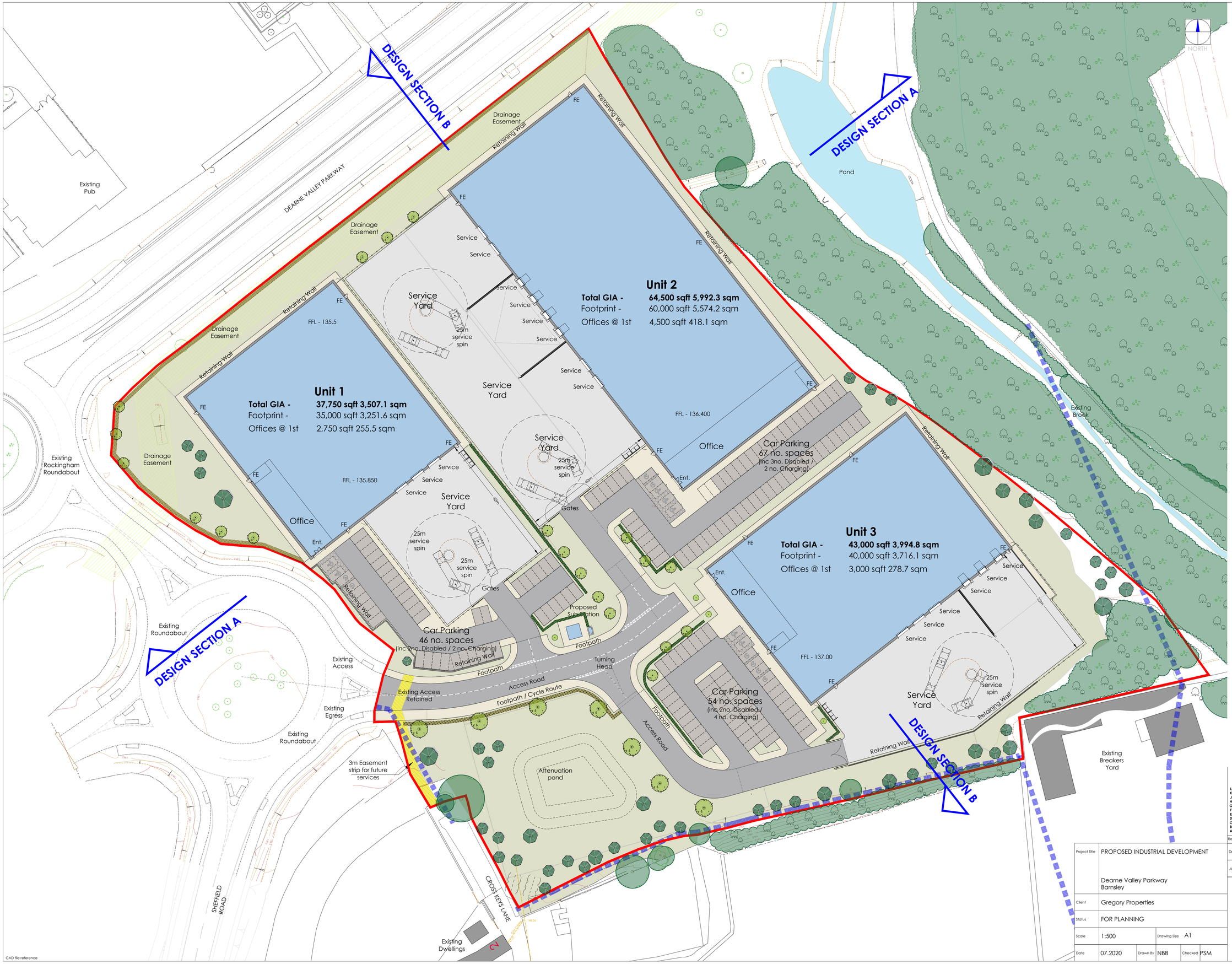

Note:
Information is based on OS map and received information and is subject to full topographical and building survey.
Assumed site boundary and site constraints subject to confirmation.
All Legal easements and extent of existing underground services locations are subject to confirmation.

0 5 10 15 20 25m
SCALE 1:500

Rev	Date	Description	Rev By	Chk'd By
L	25.03.21	Units office content amended	NBB	PSM
K	19.03.21	Cut and fill & Landscape Updated	NBB	PSM
J	12.03.21	Cut and fill Updated	NBB	PSM
H	04.03.21	Sub Station Added	NBB	PSM
G	25.02.21	Updated for planning submission	NBB	PSM
F	19.02.21	Updated inline with discussions	NBB	PSM
E	20.01.21	Redline adjusted & public footpaths added	NBB	PSM
D	16.11.20	Updated	NBB	PSM
C	02.11.20	Updated	NBB	PSM
B	20.10.20	Added side Road	AL	PSM
A	21.07.20	Updated	NBB	PSM

Project Title	PROPOSED INDUSTRIAL DEVELOPMENT Dearne Valley Parkway Barnsley	Drawing Title	PROPOSED SITE PLAN
		Job-Dwg No	15315 - (P)111 — Rev L
Client	Gregory Properties		
Status	FOR PLANNING		
Scale	1:500 — Drawing Size A1		
Date	07.2020 — Drawn By NBB — Checked PSM		

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☐ The Old Rectory, 79 High Street, Newport Pagnell, MK16 8AB t. 01908 211577
☐ 101 London Road, Reading, RG1 5BY t. 0118 9507700
☐ 10 Gees Court, St Christophers Place, London, W1U 1JJ t. 0207 4091215

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CAD file reference

Appendix E Environment Agency Flood Mapping

Flood map for planning

Your reference	Location (easting/northing)	Created
5419	**435283/400720**	**15 Mar 2021 9:39**

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.

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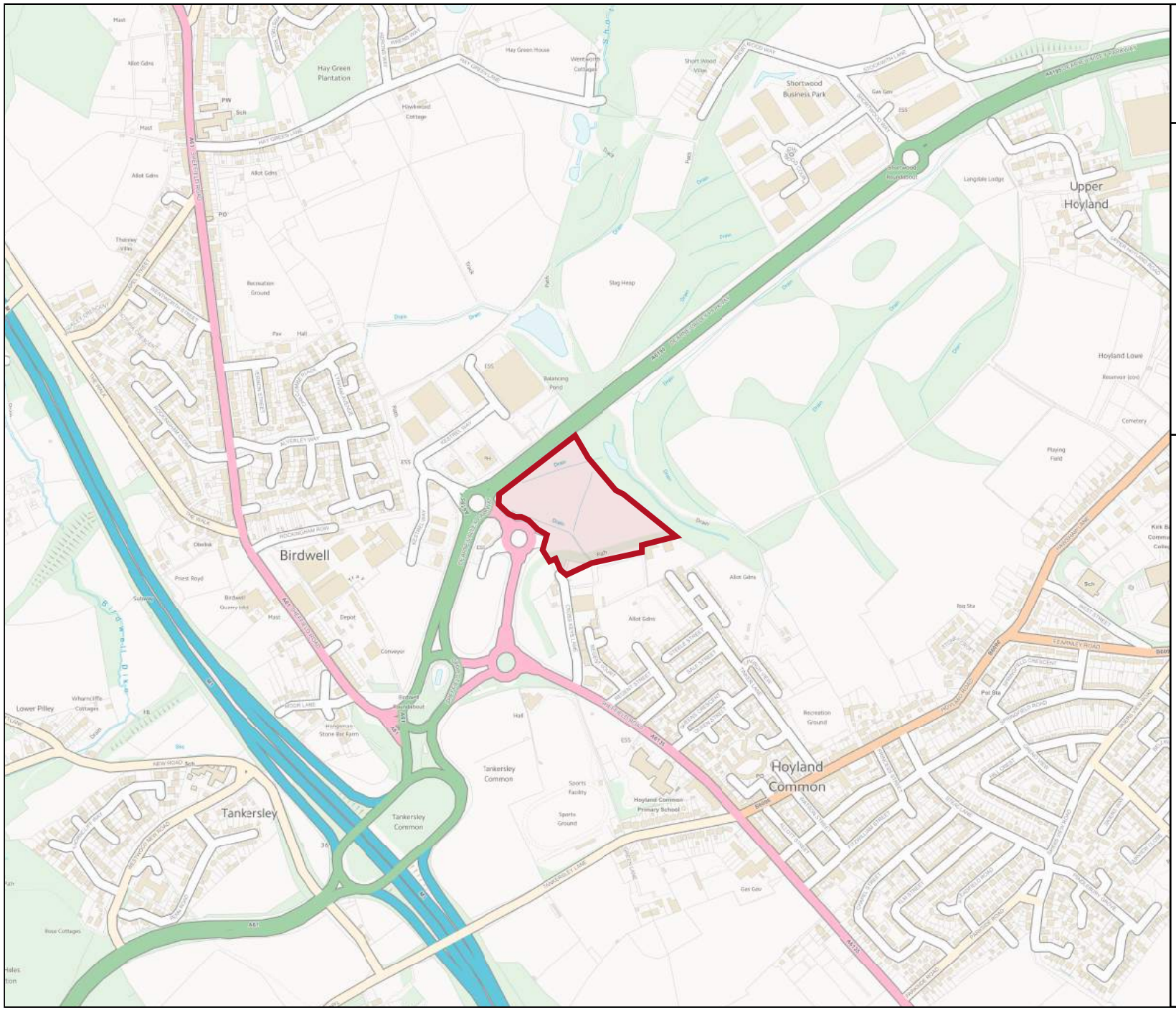

Environment Agency

Flood map for planning

Your reference
5419

Location (easting/northing)
435283/400720

Scale
1:10000

Created
15 Mar 2021 9:39

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

0 100 200 300m

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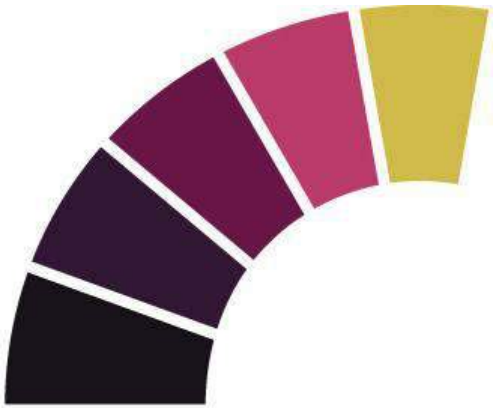
LS12 6QA

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