As surface water discharge from the sites will be restricted, on-site surface water attenuation will be required. The following provides an initial calculation of the approximate volumes of attenuation using the 'Quick Storage Estimate' element of Windes Microdrainage:

Attenuation Volumes

Storage Design Parameters

- M5-60 = 19.000
- Ratio R = 0.385
- Restricted discharge rate = 6.12 litres/second.
- Proposed Impermeable area = 1.598 ha
- 1:30 Year Return Period = between 526m^3 & 773m^3
- 1:100 Year Return Period (+30% cc) = between 1029m^3 & 1434m^3

The proposed on-site drainage system shall be designed in accordance with the requirements of Sewers for Adoption and shall demonstrate that:

- No surcharge of pipes occurs in the 1 in 2-year rainfall event.
- No surface flooding occurs in 1 in 30-year rainfall event.
- No flooding to buildings and adjacent properties occurs in 1 in 100-year rainfall event (including an allowance of 30% for the effects of future climate change), as defined in Planning Practice Guidance Technical Guidance.

Foul Water Drainage

A Yorkshire Water pre-development enquiry response is provided in Appendix E, which advises foul water domestic waste can discharge to the 225mm diameter public combined sewer recorded in Woodwalk, at a point to the southwest of the site. It is proposed to discharge foul water in accordance with Yorkshire Waters advice.

8.0 CONCLUSIONS

This assessment has looked at the implications of a proposed residential development in relation to drainage and flood risk.

The site under consideration is located within Flood Zone 1 on the latest version of the Indicative Floodplain Maps produced by the Environment Agency (EA). A copy of the flood map is provided in Appendix D.

Flood Zone 1 is defined in the Planning Practice Guidance as a low-risk area, which comprises land assessed as having less than 1 in 1,000 annual probability of river or sea flooding (0.1%).

Planning Practice Guidance states that all uses of land are appropriate in Flood Zone 1.

As the site is located within Flood Zone 1 and has a site area greater than 1Ha other sources of flooding should be considered.

Other sources of flooding have been assessed and the risk of flooding from these sources is considered to be low and/or manageable with mitigation.

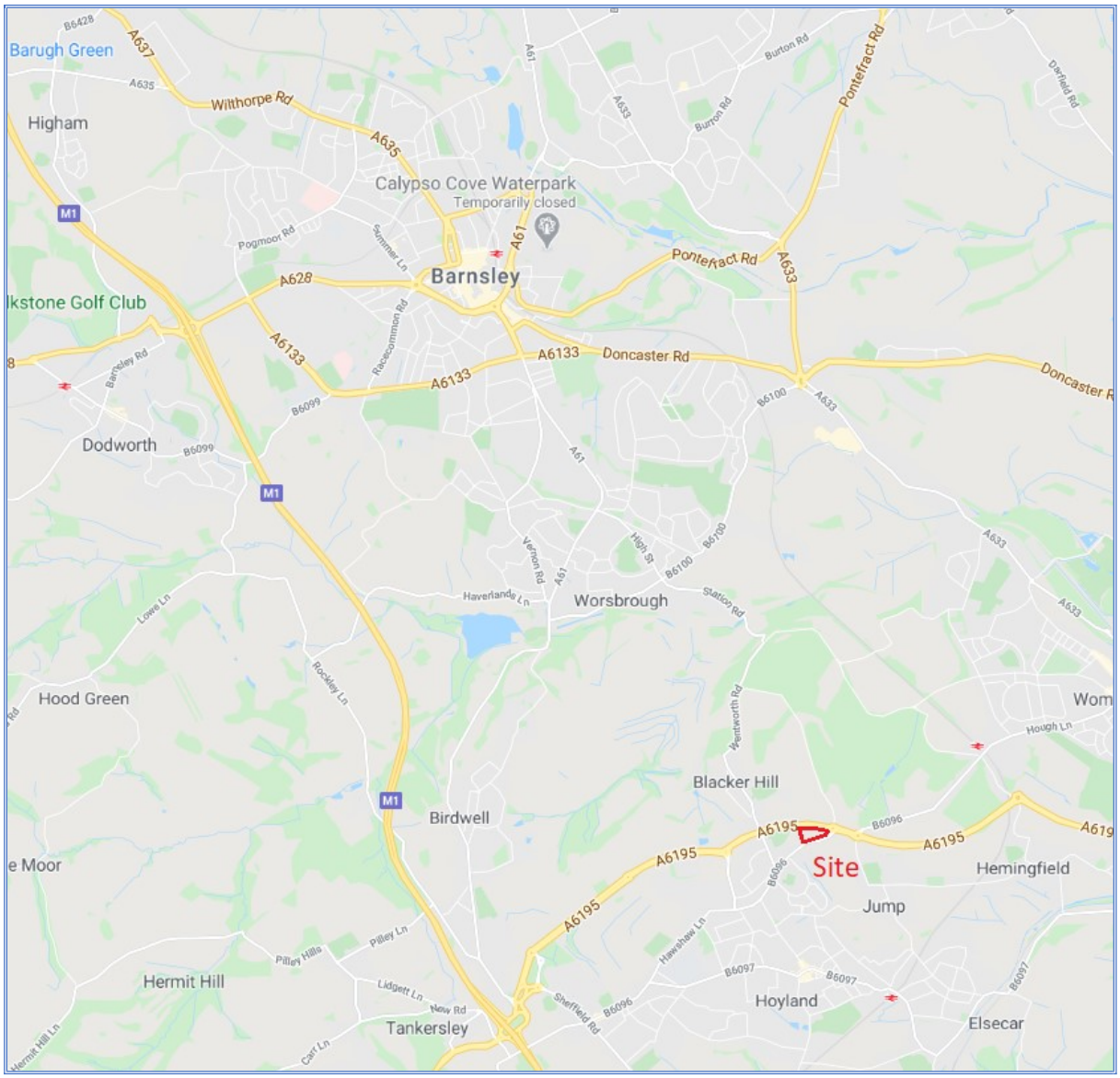
It is proposed to discharge surface water to the 375mm public surface water sewer at manhole ref 2512 in Wombwell Road at a rate of 6.1 litres/second, this being the equivalent greenfield discharge rate for the site. As surface water discharge from the sites will be restricted, on-site surface water attenuation will be provided.

Foul water disposal shall be in accordance with the Yorkshire Water pre-development enquiry response, to the 225mm diameter public combined sewer recorded in Woodwalk, at a point to the southwest of the site.




Andrew Fairburn
For and behalf of RWO Group
July 2021

Appendix A Site Location Plan



Location Map	
Site	Woodwalk, Barnsley
Client	Yelcon Limited
Job Number	Y19072
Scale	NTS

Appendix B Topographic Survey



Dearn Valley Parkway
Wood Walk
Wood Walk
Wood Walk
Wood Walk

Appendix C Propsed Site Layout

Gross Site Area

Name	Area m²	Area ft²	Area Ac.	Area ha.	Percentage
Overall Site Plan	36057 m²	388116 ft²	8.9 acres	3.6 hectare	100%

Site Constraints/Considerations

Name	Area m²	Area ft²	Area Ac.	Area ha.	Percentage
High Wall	8245 m²	88743 ft²	2.0 acres	0.8 hectare	83%
Existing Woodland	1664 m²	17907 ft²	0.4 acres	0.2 hectare	17%
Grand total	9908 m²	106651 ft²	2.4 acres	1 hectare	100%

Developable/P.O.S Area

Name	Area m²	Area ft²	Area Ac.	Area ha.	Percentage
Public Open Space	4213 m²	45351 ft²	1.0 acres	0.4 hectare	16%
Developable Area	22487 m²	242053 ft²	5.6 acres	2.2 hectare	84%
Grand total	26701 m²	287404 ft²	6.6 acres	2.7 hectare	100%

Accommodation Schedule

House Type	Quantity	Bedrooms	Area m²	Area ft²
TypeH (3Nr.)_TheBeamsley	12	2	850.4 m²	9154 ft²
TypeH (4Nr.)_TheBeamsley	4	2	284.5 m²	3062 ft²
TypeJ&K_Eastern_Kelham	18	2	1187.5 m²	12782 ft²
	34 (40.5%)		2322.3 m²	24998 ft²
TypeA(Detached)_Ingleborough	1	3	87.5 m²	942 ft²
TypeA_Ingleborough	8	3	689.0 m²	7417 ft²
TypeB_Lilac	4	3	363.0 m²	3907 ft²
TypeG_Whernside	7	3	656.9 m²	7071 ft²
	20 (23.8%)		1796.4 m²	19337 ft²
TypeC_Laurel	9	4	1049.4 m²	11296 ft²
TypeD_Sandringham	6	4	752.4 m²	8099 ft²
TypeE_Harewood	3	4	371.1 m²	3994 ft²
TypeF_Winterley	2	4	262.2 m²	2822 ft²
TypeL_Buckden	10	4	1305.8 m²	14056 ft²
	30 (35.7%)		3741.0 m²	40268 ft²
Grand total	84 Units		7859.8 m²	84602 ft²

00 Series General Arrangement Notes

1. Any areas indicated on the plans are approximate. They relate to the likely areas of the building at the current state of the design and are calculated using the stated eg(NIA) method from the Code of MEasuring Practice 5th Edition RICS/ISVA. Any decision to be made on the basis of these predictions, whether as to project viability, pre-letting, lease agreements or the like, should include due allowance for design development and building tolerances. Floor areas are subject to Planning, Building Control and other statutory approvals.

2. Any structural, services or fit out detail shown is for coordination only, refer to relevant Consultants/Clients information for details.

3. Refer to Enjoy NBS for full outline performance specification of Architectural Elements.

4. THE CONTENT OF THIS DRAWING IS FOR DESIGN INTENT AND REQUIRES FURTHER DESIGN DEVELOPMENT AND COORDINATION WITH ALL RELEVANT CONSULTANTS, SUB-CONTRACTORS, SPECIALIST DESIGNERS AND STATUTORY AUTHORITIES.

- Attenuation Area_ **1,424m²**
- Broadleaf Plantation Area_**1,277m²**
- Existing Hedgerow removed_ **0 linear m**
- Proposed Hedgerow added / relocated_ **36 linear m**

Key

- Vegetation - Existing
- New Hedgerow
- Vegetation - Removed
- Public Open Space
- Attenuation

Affordable houses *

Dearne Valley Parkway

Plot 33 Plot 34 Plot 35 Plot 36 Plot 37 Plot 38 Plot 39 Plot 40 Plot 41 Plot 42 Plot 43 Plot 44 Plot 45 Plot 46 Plot 47 Plot 32 Plot 31 Plot 30 Plot 29 Plot 28 Plot 15 Plot 06 Plot 16 Plot 07-08 Plot 17-18 Plot 09-10 Plot 19-20 Plot 21-22 Plot 11-12 Plot 13 Plot 14 Plot 23 Plot 01 Plot 02 Plot 03 Plot 04 Plot 05 Plot 24 Plot 25 Plot 26 Plot 27 Plot 48 Plot 49 Plot 50 Plot 51 Plot 52 Plot 53 Plot 54 Plot 55 Plot 56 Plot 57 Plot 58 Plot 59 Plot 60 Plot 61 Plot 62 Plot 63 Plot 64-65 Plot 66-67 Plot 68-69 Plot 70 Plot 71 Plot 72 Plot 73 Plot 74 Plot 75 Plot 76 Plot 77 Plot 78 Plot 79 Plot 80 Plot 81 Plot 82 Plot 83 Plot 84

SHARED SURFACE
PRIVATE DRIVE
PRIVATE DRIVE
SHARED SURFACE
PRIVATE DRIVE
SHARED SURFACE
PRIVATE DRIVE
SHARED SURFACE
SEWER ZONE

P.O.S
P.O.S
P.O.S
P.O.S

Existing woodland area

New access to and from the site

Bin collection point
Bin collection point
Bin collection point
Bin collection point

Highway - No-Build Zone
Highway - No-Build Zone
Highway - No-Build Zone
Overhead Power Lines
Overhead Power Lines

Ash Tree Retained
Existing Tree Retained
New Hedgerow added
Over head power lines to be re-routed (below ground) as indicated
Vegetation cut back
Overhead power line post to be removed and power lines to be sunk below ground

Wood Walk
Wood Walk

90532 Visibility Splay
97540 Visibility Splay

Single Garage	Double Garage	Type A	Type B	Type C	Type D	Type E	Type F	Type G	Type H (Typcial)	Type J/K	Type L
		The Ingleborough 3Bed 927ft² x 2 Semi Detached No Garage	The Lilac 3Bed 977ft² Detached Ext. Garage	The Laurel 4Bed 1255ft² Detached Ext. Garage	The Sandringham 4Bed 1350ft² Detached Ext. Garage	The Harewood 4 Bed 1331ft² Detached Ext. Garage	The Winterley 4Bed 1372ft² Detached Ext. Garage	The Whernside 3Bed 1010ft² Detached Ext. Garage	The Beamsley 2Bed 763ft² x 3 Terrace	The Easton/The Kelham 2Bed 685ft²/734ft² x 3 Apartments	The Buckden 4Bed 1406ft² Detached Int. Garage

Typical Elevation · Typical Section · Example Image
Typical Plan · Indicated on plan -

Knee Rail

Typical Elevation · Typical Section · Example Image
Typical Plan · Indicated on plan -

Perimeter and Separating wall with infill fence panel

Typical Elevation · Typical Section · Example Image
Typical Plan · Indicated on plan -

Perimeter and Separating 1.8m fence

Proposed Site Plan

1 : 500

1 : 200
0 2 4 6 8 10m

1 : 500
0 10 20 30m

N

Contractor must verify all dimensions on site before commencing any work or shop drawings. If this drawing exceeds the quantities taken in any way the Architects are to be informed before the work is initiated. Only figured dimensions to be taken from this drawing. Do not scale off this drawing. Drawings based on Ordnance Survey and / or existing record drawings - design and drawing content subject to Site Survey, Structural Survey, Site Investigations, Planning and Statutory Requirements and Approvals. Authorised reproduction from Ordnance Survey Map with permission of the Controller of Her Majesty's Stationery Office. Crown Copyright reserved. Enjoy Design Ltd.

Notes.

Rev.	Des.	By	Date	Ch.
P4	2 spaces shwon on Plots 28, 38, 39, 76, 77. Road aligned to tracking at Plot 2 bend.	WD	08.07.2021	WD
P3	Boundary treatments added, minor adjustments made to housing areas to now comply with the Nationally Described Housing Standards/South Yorkshire Design Guide & GIA areas added.	WD	24.06.2021	MH
P2	Plot 27 revised to Type C. Garage added	WD	10.06.2021	
P1	Draft Planning	WD	Date 1	

Status: Planning

The Old Brewery
High Court
Leeds
LS2 7ES
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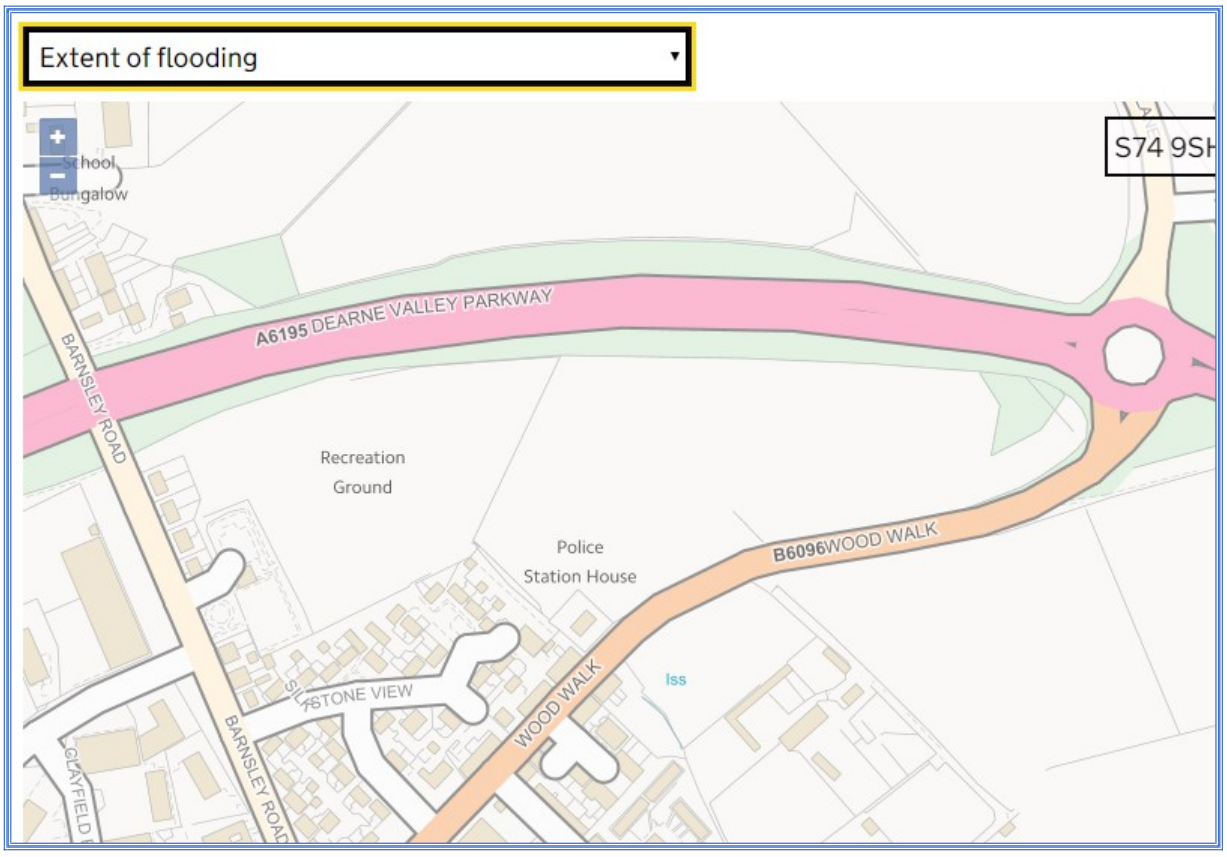
Client: Yelcon Ltd		Job No: 18,030
Project: Wood Walk, Hoyland, Barnsley		
Title: Proposed - Site Plan		
Date: 05/07/21	Scale: As indicated@A1	Checked by: WD
Drawing No: 00-001	Drawn By: MH	Revision: P4

ENJOY DESIGN

Appendix D Gov.UK Flood Map



Flood map (River & Sea) obtained from Gov.UK website



Flood map (Reservoirs) obtained from Gov.UK website

Appendix E Yorkshire Water Pre-Development Enquiry

YorkshireWater

Mr A Dalton
RWO
Second Floor - 4 Park Place
Leeds
LS1 2RU

Yorkshire Water Services
Developer Services
Sewerage Technical Team
PO BOX 52
Bradford
BD3 7AY

Tel: 0345 120 8482
Fax: (01274) 372 834

Email:
technical.sewerage@yorkshirewater.co.uk

For telephone enquiries ring:
Chris Roberts on 0345 120 8482

Your Ref:
Our Ref: W003861

31st March 2020

Dear Mr Walton,

Wood Walk, Stairfoot, Yorkshire and the Humber, Barnsley, S74 9SQ - Pre-Planning Sewerage-Enquiry-Residential T779951

Thank you for your recent enquiry and remittance. Our official VAT receipt has been sent to you under separate cover. Please find enclosed a complimentary extract from the Statutory Sewer Map which indicates the recorded position of the public sewers. Please note that as of October 2011 and the private to public sewer transfer, there are many uncharted Yorkshire Water assets currently not shown on our records.

The following comments reflect our view, with regard to the public sewer network only, based on a 'desk top' study of the site and are valid for a maximum period of twelve months.

Development of the site should take place with separate systems for foul and surface water drainage. The separate systems should extend to the points of discharge to be agreed.

Foul Water

Foul water domestic waste can discharge to the 225 mm diameter public combined sewer recorded in Woodwalk, at a point to the south west of the site.

Surface Water

The developer's attention is drawn to Requirement H3 of the Building Regulations 2000. This establishes a preferred hierarchy for surface water disposal. Consideration should firstly be given to discharge to soakaway, infiltration system and watercourse in that priority order.

Sustainable Drainage Systems (SuDS), for example the use of soakaways and/or permeable hardstanding etc, may be a suitable solution for surface water disposal appropriate in this situation. You are advised to seek comments on the suitability of SuDS in this instance from the appropriate authorities.

As the proposed site is currently undeveloped no surface water is known to have previously discharged to the public sewer network

As such, the local public sewer network does not have capacity to accept any surface water from the proposed site. If SuDS are not viable, the developer is advised to contact the Environment Agency/local Land Drainage Authority/Internal Drainage Board* with a view to establishing a suitable watercourse for discharge.