ARP ASSOCIATES
CHARTERED CONSULTING ENGINEERS

1305/11

CAMSTEAD LTD

ABBEY ROAD NORTH

SHEPLEY

RESERVED MATTERS APPLICATION 2019/91879

STATEMENT ON FLOOD RISK ASSESSMENT

Introduction

1. Camstead Ltd are proposing to construct 22No. dwellings on a site off Abbey Road, Shepley. Planning approval had been granted for a previous development and a Reserved Matters Application has been made for the new development layout.

2. A Flood Risk Assessment Report by Fairhurst's, under reference 119607/02A dated June 2017 formed part of the original Planning Application. The report confirms there was no flood modelling of the watercourse which passes through the site. This is specified in Clause 2.6.2 of the Report. Therefore, to give an indication of the minimum floor levels, Fairhurst's interpreted the Environment Agency Flood Map for Planning against the topographical survey to give a final level of 148.6m A.O.D. This is based on a level of 148.0m A.O.D. for a 1 in 100 year plus climate change storm and 600mm freeboard.

3. In preparing the layout for the new development, it was considered that the Fairhurst's assessment of the flood level and finished floor levels was incorrect.

4. ARP Associates have been appointed to carry out an investigation of the flood implication and prepare a Statement to supplement the Reserved Matters Application.

Background

5. The 148.0m contour was marked on the topographical survey for the site and this showed there was a much greater area affected than shown on the Environment Agency Flood Map for Planning. If this contour was utilised as the Flood Zone 3 boundary across the site, then development would be compromised and the site would become unviable.

6. In order to make a more detailed appraisal of this situation, a request was made to Enjoy Design of Leeds (Architects for the scheme) to undertake a comparison of the Environment Agency Flood Map in relation to the topographical survey and a copy of drawing No. 00-105, entitled 'Flood Map' is appended to this Statement for reference. This shows that the Flood Map does not follow the 148.0m contour, as shown in purple on the plan, and the interpretation by Fairhurst's was considered, therefore, to be flawed.

Consultations

7. Consultations were undertaken with the Kirklees Council Land Drainage Department, as Lead Local Flood Authority, and the Environment Agency to discuss the above implications and advise on the proposals, as these are contrary to the Statement in the Flood Risk Assessment Report by Fairhurst's.

8. Both Authorities agreed with the flood boundary assessment.

Proposal

9. The enclosed Enjoy Design drawing No. 00-103, entitled Proposed Site Plan, shows the proposed layout of the new development and superimposes the line of the Flood Zone 3 area from the Environment Agency. It can be seen that the dwellings are all outside the Flood Zone 3 boundary.

10. The finished floor levels to the properties will be designed to allow surface water drainage to be accommodated within the Flood Zone 1 area with an outfall to the watercourse at a restricted greenfield run-off rate of 7l/s, previously agreed for the site. This shows that the

finished floor levels to properties adjacent to the Flood Zone 3 boundary to be between 148.30m - 148.45m A.O.D. It is interpreted that these levels will still be above the 1 in 100 year plus climate change storm and 600mm freeboard and, as roads, drives and gardens will be lower, the flood exceedance route would not compromise any possible flooding to buildings.

Other Matters

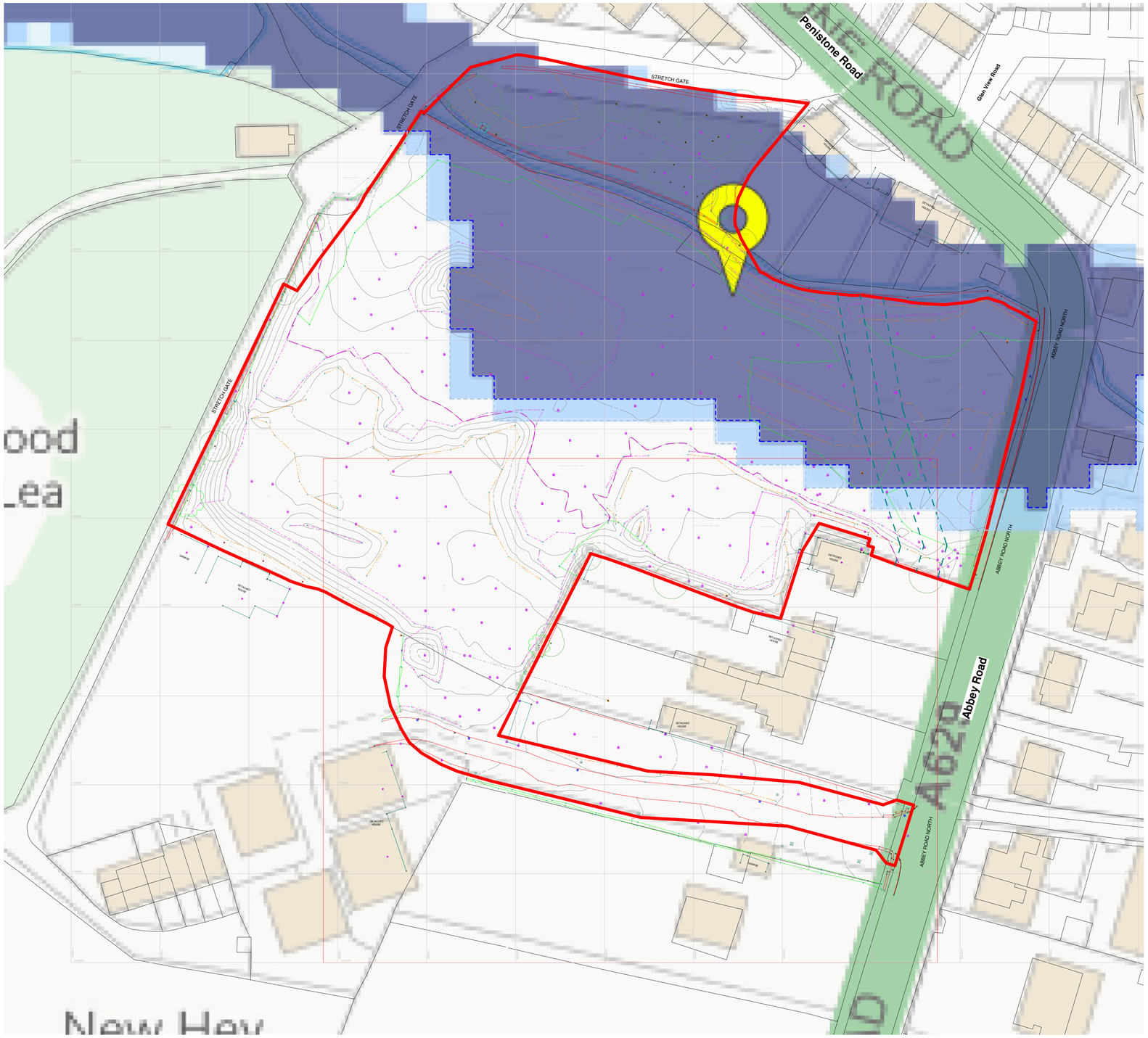
11. It is also a planning condition that the existing culvert passing through the site to the watercourse to the north will be opened up between the boundary of the site and the watercourse. Once the culvert is exposed and the size can be determined, an analysis of the maximum flow from the culvert to the south of the site will be made and the cross sectional area will ensure that the flow will be retained in the channel and will not compromise either the development or the Flood Zone. A typical example of the likely cross section area has been submitted as part of the Reserved Matters Application, but this will be updated when on-site details are obtained.

Summary

12. The proposed development layout shows that the Flood Zone 3 boundary is not compromised and no flood compensatory area/volume is required. Furthermore, the proposal shows that the finished floor levels will be above the interpretated 1 in 100 year plus climate change storm and 600mm freeboard.

13. Roads, drives and gardens levels will be lower than the finished floor level and the flood exceedance route will not result in flooding to buildings.

14. The proposed opening-up of the culvert through the eastern part of the site will be assessed once detailed information is obtained and an open channel will be designed to ensure that water will be retained in the channel and will not cause flooding of adjacent land. Details will be submitted to the Planning Authority for approval under Condition.



Site Plan with EA map

1 : 500

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.

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.

5. Line of drainage easement, site boundary and extents of flood zone 01 approximate based on overlaid PDF information. Upon determination of exact positions amendments to the proposed layout about may be required.

Rev.	Des.	Drawing Originated	By	Date	Ch
		MH		16/01/2019	WD

Status:

The Old Brewery
High Court
Leeds
LS2 7ES
Tel: 0113 242 3622
www.enjoy-design.co.uk

Client:		Job No:
Scotfield Ltd		18,019
Project:		
Abbey Road, Shepley		
Title:		
Flood Map		
Date:	Scale:	Checked by:
02/08/19	As indicated@A1	Checker
Drawing No:	Drawn By:	Revision:
00-105	Author	

ENJOY DESIGN



Site Plan

1 : 500

(GIA) Plots 01, 02 - 07, 22		
House	Area	Area sqft
01		
Ground Floor	63.8 m²	686 ft²
First Floor	59.9 m²	645 ft²
	123.7 m²	1331 ft²
02		
Ground Floor	63.8 m²	686 ft²
First Floor	59.9 m²	645 ft²
	123.7 m²	1331 ft²
07-08 (Townhouses)		
Ground Floor	46.3 m²	498 ft²
First Floor	39.9 m²	430 ft²
Ground Floor	46.3 m²	498 ft²
First Floor	39.9 m²	430 ft²
Second Floor	39.9 m²	430 ft²
Second Floor	39.9 m²	430 ft²
	252.2 m²	2714 ft²
09-10 (Townhouses)		
Ground Floor	46.3 m²	498 ft²
First Floor	39.9 m²	430 ft²
Ground Floor	46.3 m²	498 ft²
First Floor	39.9 m²	430 ft²
Second Floor	39.9 m²	430 ft²
Second Floor	39.9 m²	430 ft²
	252.2 m²	2714 ft²
11		
Ground Floor	58.2 m²	626 ft²
First Floor	73.9 m²	795 ft²
	132.1 m²	1422 ft²
12		
Ground Floor	58.2 m²	626 ft²
First Floor	73.9 m²	795 ft²
	132.1 m²	1422 ft²
13		
Ground Floor	62.7 m²	675 ft²
First Floor	62.7 m²	675 ft²
	125.4 m²	1350 ft²
14		
Ground Floor	62.7 m²	675 ft²
First Floor	62.7 m²	675 ft²
	125.4 m²	1350 ft²
15		
Ground Floor	58.2 m²	626 ft²
First Floor	73.9 m²	795 ft²
	132.1 m²	1422 ft²
16		
Ground Floor	58.2 m²	626 ft²
First Floor	73.9 m²	795 ft²
	132.1 m²	1422 ft²
17-18 (Townhouses)		
Ground Floor	46.3 m²	498 ft²
First Floor	39.9 m²	430 ft²
Ground Floor	46.3 m²	498 ft²
First Floor	39.9 m²	430 ft²
Second Floor	39.9 m²	430 ft²
Second Floor	39.9 m²	430 ft²
	252.2 m²	2714 ft²
19		
Ground Floor	57.6 m²	620 ft²
First Floor	70.9 m²	763 ft²
	128.5 m²	1383 ft²
20		
Ground Floor	57.6 m²	620 ft²
First Floor	70.9 m²	763 ft²
	128.5 m²	1383 ft²
21		
Ground Floor	57.6 m²	620 ft²
First Floor	70.9 m²	763 ft²
	128.5 m²	1383 ft²
22		
Ground Floor	62.7 m²	675 ft²
First Floor	62.7 m²	675 ft²
	125.4 m²	1350 ft²
	2293.9 m²	24691 ft²

(GIA) Affordable Plots 03 - 06		
House	Area	Area sqft
Affordable 03		
Ground Floor	54.6 m²	587 ft²
First Floor	54.6 m²	587 ft²
	109.1 m²	1175 ft²
Affordable 04		
Ground Floor	54.6 m²	587 ft²
First Floor	54.6 m²	587 ft²
	109.1 m²	1175 ft²
Affordable 05		
Ground Floor	54.6 m²	587 ft²
First Floor	54.6 m²	587 ft²
	109.1 m²	1175 ft²
Affordable 06		
Ground Floor	54.6 m²	587 ft²
First Floor	54.6 m²	587 ft²
	109.1 m²	1175 ft²
	436.5 m²	4699 ft²

Areas

Overall Site

1.78ha / 4.4acres

Site allocated for housing

1.07ha / 2.6acres

P.O.S (Public Open Space) requirment

@ 0.2ha per 50 units
= 0.09ha required

P.O.S acheived

0.75ha / 1.9acres

Units

Total Number

22

Of which are affordable

04

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.

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.

5. Line of drainage easement, site boundary and extents of flood zone 01 approximate based on overlaid PDF information. Upon determination of exact positions amendments to the proposed layout about may be required.

Rev.	Des.		By	Date	Ch
B		Alterations to flood zone 3/2 lines and layout	MH	08/02/2019	WD
A		Housing layout changed due to flood zone	MH	22/01/2019	WD
		Drawing Originated	MH	16/01/2019	WD

Status: Preliminary

The Old Brewery
High Court
Leeds
LS2 7ES
Tel: 0113 242 3622
www.enjoy-design.co.uk

Client:		Job No:
Scotfield Ltd		18,019
Project:		
Abbey Road, Shepley		
Title:		
Proposed Site Plan		
Date:	Scale:	Checked by:
08/23/18	As indicated@A1	WD
Drawing No:	Drawn By:	Revision:
00-103	MH	B

ENJOY DESIGN