FLOOD RISK ASSESSMENT

LARKS LEAZE, EDINGTON ROAD, STEEPLE ASHTON,

TROWBRIDGE, BA14 6HP

GRID REFERENCE ST907561

FEBRUARY 2024

JOB REFERENCE: 47300

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1.0 Introduction and Site Context

1.1 AAH Consultants have been commissioned to undertake a Flood Risk Assessment (FRA) in support of an application seeking full planning permission for the '*erection of 1 no. detached dwelling and garage; with associated parking, turning, landscaping, private amenity space and access*' at Larks Leaze, Edington Road, Steeple Ashton (the 'Site').

1.2 This Flood Risk Assessment has been produced in accordance with the National Planning Policy Framework (December 2023), the Non-Statutory Technical Standards for SuDS (March 2015), the SuDS Manual C753 (2015) and the Wiltshire Council Level 1 Strategic Flood Risk Assessment (May 2019).

1.3 The information presented is as follows:

- A background to the Site
- An assessment of existing flood risk
- Development proposals

The Site

1.4 The Site is located within the village of Steeple Ashton, approximately 3.5 miles southeast of Trowbridge Town Centre. The Site is accessed from Edington Road (a public highway) adjacent to the Site to the west and measures approximately 0.12Ha.

1.5 The Site lies within the administrative area of Wiltshire Council as Local Planning Authority (LPA) and Lead Local Flood Authority (LLFA), and Wessex Water as Water and Sewerage Company (WaSC).

Topography

1.6 The Site topography indicates an overall fall from west to east, with levels at the Site ranging from 80.0mAOD to 78.7mAOD respectively, as shown on the topographic survey included as Appendix A.

1.7 The Site exists in a largely rural area with neighbouring residential dwellings to the north, south and west. Agricultural fields extend towards the east. Currently, the exposed footings of a detached dwelling are present within the confines of the proposed Site, with the same footings also encroaching into an adjacent area of land, also owned by the applicant.



Figure 1: Aerial image of the Site (Google Earth)

Geology

1.8 According to British Geological Society (BGS) 1:50,000 scale mapping, the Site is underlain by bedrock geology of TODBER FREESTONE MEMBER – LIMESTONE, OOIDAL. A high soluble rock risk associated with the chalk formation within the bedrock is present on Site.

Hydrogeology

1.9 According to BGS 1:625,000 scale mapping, the Site is underlain by the CORALLIAN GROUP, a moderately productive aquifer said to be locally important. The Site has been recorded as a secondary A (bedrock) aquifer and lies outside all groundwater Source Protection Zones.

Hydrology

1.10 There are no watercourses within or adjacent to the Site boundary. Some drainage ditches appear present within the frontages between Edington Road and the dwellings which face it, however the outfalls of such are currently unknown.

2.0 Development Proposals

2.1 The Development proposals include the erection of a singular detached dwelling and garage. To support the Development, the provision of a parking and turning area at the front of the property is also proposed. The proposals largely replace areas previously of hard standing at the Site, however an additional impermeable area of 9m^2 has been created as a result of the Development. The development proposals are outlined in Appendix C.

2.2 For flood risk purposes, the nature of the Development places it within the 'more vulnerable' category.

3.0 Existing Flood Risk

3.1 The National Planning Policy Framework (NPPF) sets strict tests to protect people and property from flood risk, which all local planning authorities are expected to follow. Where these tests are not met, national policy is clear that new development should not be allowed.

3.2 For the purposes of applying the National Planning Policy Framework, "flood risk" is a combination of the probability and the potential consequences of flooding from all sources – including from rivers and the sea (fluvial flooding), directly from rainfall on the ground surface (surface water or pluvial flooding) and rising groundwater (groundwater flooding), overwhelmed sewers and drainage systems (sewer flooding), and from reservoirs, canals and lakes and other artificial sources (artificial flooding).

3.3 The following assesses the potential for flood risk from all sources to determine the overall flood risk to the Site.

Tidal and Fluvial Flood Risk

3.4 According to the Environment Agency's (EA) Flood Map for Planning service (**Figure 2**), the Site lies within Flood Zone 1 and is, therefore, at low risk of flooding from rivers and the sea.

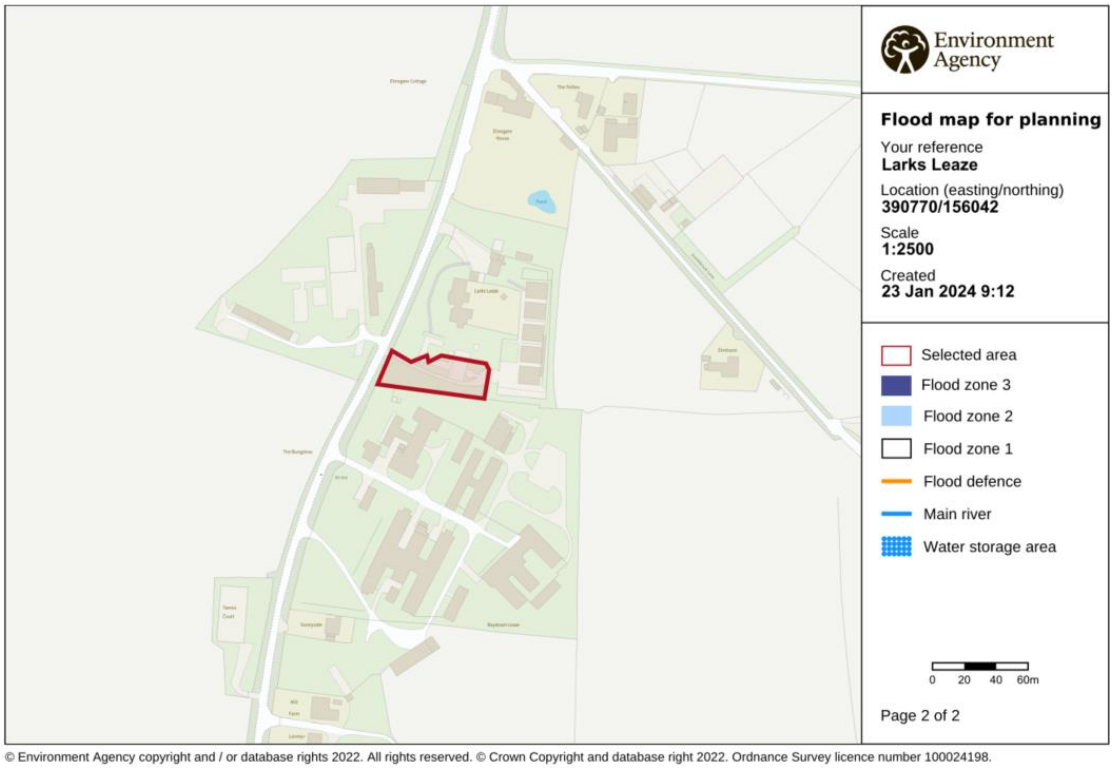

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Figure 2: Environment Agency Flood Map for Planning (Site indicated in red)

Pluvial and Sewer Flood Risk

3.5 The EA flood map for surface water (FMfSW) divides England and Wales in to areas with a very low, low, medium and high risk of pluvial flooding. 'Very low' means that each year this area has a chance of flooding of less than 1 in 1000 (0.1%). 'Low' means that each year this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%), 'Medium' means that each year this area has a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%) and 'High' means that each year this area has a chance of flooding of greater than 1 in 30 (3.3%).

3.6 According to the available data (**Figure 3**), the Site is at very low risk of pluvial flooding.

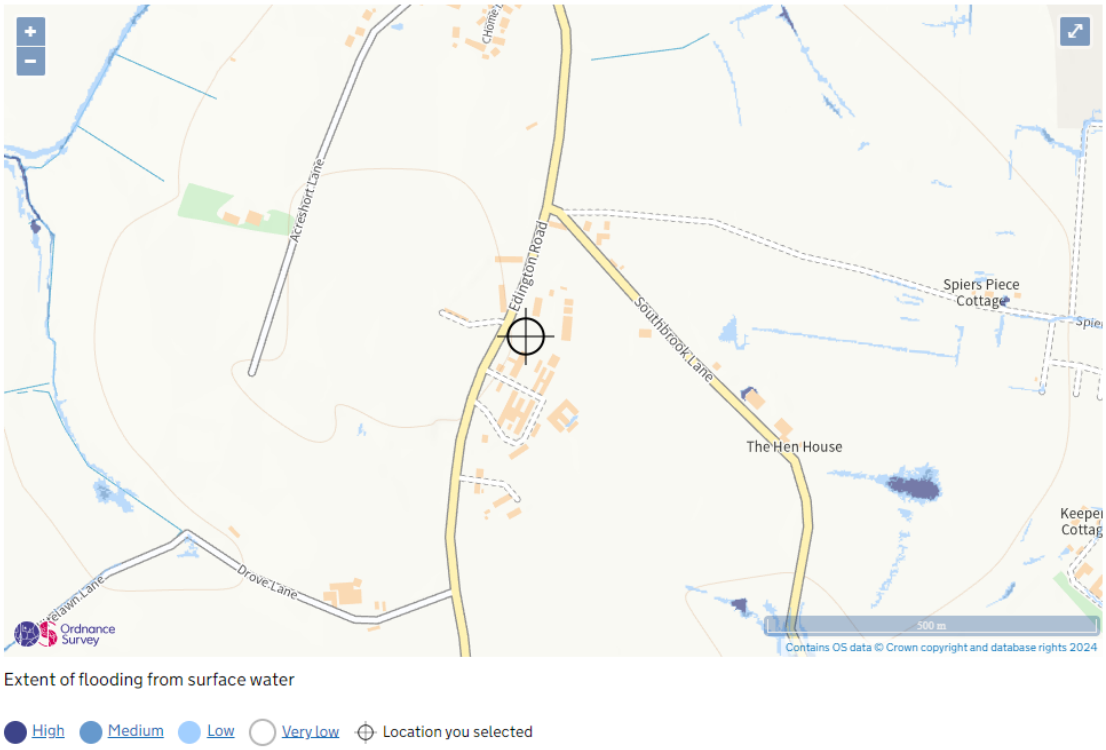

Figure 3: Flood Risk from Surface Water (Site indicated by crosshair)

3.7 Intense rainfall can create runoff, which temporarily overwhelms the capacity of the local drainage systems. Under these conditions, localised 'flash' flooding can occur. In addition, surface water can flood into the sewer networks and overload both the surface water and combined sewer networks. This type of flooding is especially problematic when these systems become overloaded simultaneously.

3.8 There appear to be no public sewers located within Edington Road or the vicinity of the site. As such, the risk of pluvial and sewer flooding is deemed to be low and satisfactory.

Groundwater Flood Risk

3.9 Groundwater flooding is most commonly caused by rainfall, which causes the groundwater table beneath a Site to rise and eventually exceed ground level. Groundwater flooding can also occur where the water table is sufficiently close to the Site surface that it inundates subterranean development. Like other sources of flooding, groundwater flooding will be affected by increased rainfall attributable to climate change.

3.10 The pervious nature of the anticipated superficial and bedrock soils contributes to the fluctuation of groundwater levels throughout the year and can enable groundwater to reach near surface level.

3.11 The Wiltshire Council SFRA depicts Trowbridge as an area within or close to, areas of high groundwater flood risk. However, the village of Steeple Ashton is not recorded as an area at risk of groundwater flooding, nor is it declared as being an area where historic groundwater flooding has occurred.

3.12 According to Appendix G of the Level 1 SFRA, the Site is situated in an area that is predicted to have groundwater levels between 0.025m and 0.500m below ground surface level. Despite this, excavation has been undertaken at the Site within November 2023 and shows no groundwater was found to be present to a depth of 1.5m below ground surface level, as illustrated by **Figures 4** and **5** below.



Figure 4: Site Excavation (pooling shown as a result of rainfall) [November 2023]



Figure 5: Site Excavation [November 2023]

3.13 In the unlikely event of groundwater emergence, the topography of the Site is such that the Development is situated higher than the surrounding ground levels to the east, and as such, would enable exceedance flows (as a result of groundwater emergence at the surface) to be conveyed away from the Development towards agricultural fields. In addition to this, there are no proposals for subterranean development which will reduce the likelihood of groundwater entering the Development.

3.14 The risk of groundwater emergence at surface level is low, and the risk of groundwater flooding to the Site and the Development is deemed to be low and mitigated.

Artificial Flood Risk

3.15 The EA's Risk of Flooding from Reservoirs' map indicates areas where peoples' lives would be in danger as a result of an uncontrolled release of water from a reservoir or static body of water. In terms of the probability of occurrence, the EA acknowledges in their flood map annotations that reservoir flooding is extremely unlikely to happen. There has been no loss of life in the UK from reservoir flooding since 1925, with all large reservoirs inspected and supervised by reservoir panel engineers. As the enforcement authority for the Reservoirs Act 1975 in England, the Environment Agency ensures that reservoirs are inspected regularly, and essential safety work is carried out.

3.16 The EA Risk of Flooding from Reservoirs map (**Figure 6**) indicates that the Site is not at risk from this source.

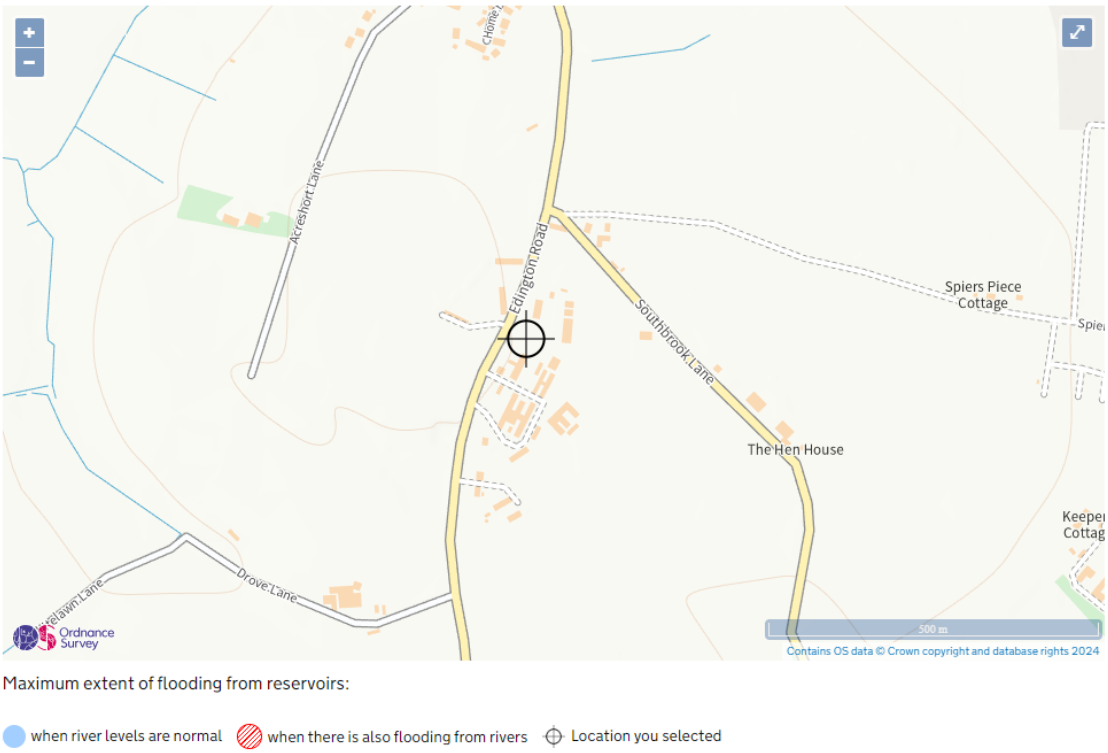

Figure 6: Risk of Flooding from Reservoirs (Site indicated by crosshair*)*

4.0 Conclusion

4.1 A Flood Risk Assessment has been produced in accordance with the Wiltshire Council Level 1 Strategic Flood Risk Assessment (May 2019) and guidance within the National Planning Policy Framework (December 2023) in support of an application for the erection of a singular detached dwelling and garage, with associated landscaping.

4.2 The Site lies within Flood Zone 1, and the Development is classed as 'more vulnerable'. As such, standing advice produced by the Environment Agency has been followed in undertaking the flood risk assessment. There are no requirements for Sequential or Exception Tests.

4.3 The overall existing flood risk to the Site from all sources is considered to be low, with the main source of flood risk being in the form of groundwater flooding. The Site has been excavated within the months of the winter season and shows no groundwater was found to be present to a depth of 1.5m. As such, the proposals are deemed appropriate for the anticipated flood risk.

4.4 This Flood Risk Assessment concludes that the development will be safe for its lifetime, taking account of the vulnerability of its users without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

APPENDIX A

TOPOGRAPHIC SURVEY



Revision

Rev A : 04.04.2018 Additional details added to kennels
Rev B : 17.07.2023 Buildings removed

Tree Abbreviations

ASH	Ash	LP	London Plane
BAY	Bay	MAP	Maple
BEE	Beech	OAK	Oak
CB	Copper Beech	POP	Poplar
CED	Cedar	RM	Red Maple
CHE	Cherry	RW	Redwood
CON	Coniferous	SB	Silver Birch
EUC	Eucalyptus	SER	Service Tree
FR	Fruit	SP	Scots Pine
HAW	Hawthorn	SYC	Sycamore
HAZ	Hazel	WAL	Walnut
HC	Horse Chestnut	WILL	Willow
HOL	Holly	WP	Weeping Willow
LAB	Laburnum	YEW	Yew
LAU	Laurel	**MB	Multiple stems/trunks Overall dia. shown
LI	Lime		

Trees denoted with "approx" have been surveyed by remote methods and therefore their positions & dimensions cannot be guaranteed.

Tree Dimensions (average) Spread/Trunk Dia/Height — AS - As shown, UTS - Unable to survey

Key

AV	Air Valve	LP	Lamp Post
BL	Bollard	M	Meter
BM	Bench Mark	MH	Manhole Cover
BP	Boundary Point	MK	Marker
BT	BT Cover	MS	Milestone
CATV	Cable Television Cover	RG	Ridge Level
cab	Cabinet	RS	Road Sign
cl	Cover Level	rwp	Rain Water Pipe
EP	Electric Power Pole	SC	Stop Cock
EV	Eaves Level (u/s fascia)	Str	Strainer
FH	Fire Hydrant	SV	Stop Valve
FL	Floor Level	svp	Soil Vent Pipe
FP	Fence Post	TH	Threshold Level
G	Gully	TL	Traffic Light
GP	Gate Post	TP	Telephone Pole
GV	Gas Valve	UTL	Unable To Lift
IC	Inspection Chamber	VP	Vent Pipe
il	Invert Level	WM	Water Meter
KO	Kerb Outlet	WO	Wash Out
	Buildings & Walls		Double Gates
	Glass Roofed		Single Gate

Coordinate System

This survey has been oriented to the O.S. National Grid (OSGB36) via a global position system and the O.S. Active Network (OS Net) OSGB36. True OSGB36 coordinates have been established at STN5 E 390785.992 N 156039.251 and a further OSBG36 point established to create a true O.S. bearing for angle orientation. All levels are based on O.S.Datum. A scale factor of 1:1 has been applied to the survey and therefore the coordinate system must be considered arbitrary.

Linetypes

Bank
Building
Drop kerb
Channel
Electric
Fence
Foliage
FWS (Estimated Size From Surface)
Grid Cross
Hedge
Kerb
Manhole
Pipe
Ridge
SWS (Estimated Size From Surface)
Telephone
Track/Path
Tree Canopy
Verge
Water line
Wall

DANDO surveying ltd
Land & Measured Building Surveyors

27-29 New Street
Charfield
South Glos.
GL12 8ES

Tel: 01453 845017
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www.dandosurveying.co.uk
enquiries@dandosurveying.co.uk

Project Name:
Steeple Ashton Kennels & Cattery
Edington Road, Steeple Ashton, BA14 6HP

Drawing Title:
Topographical Survey

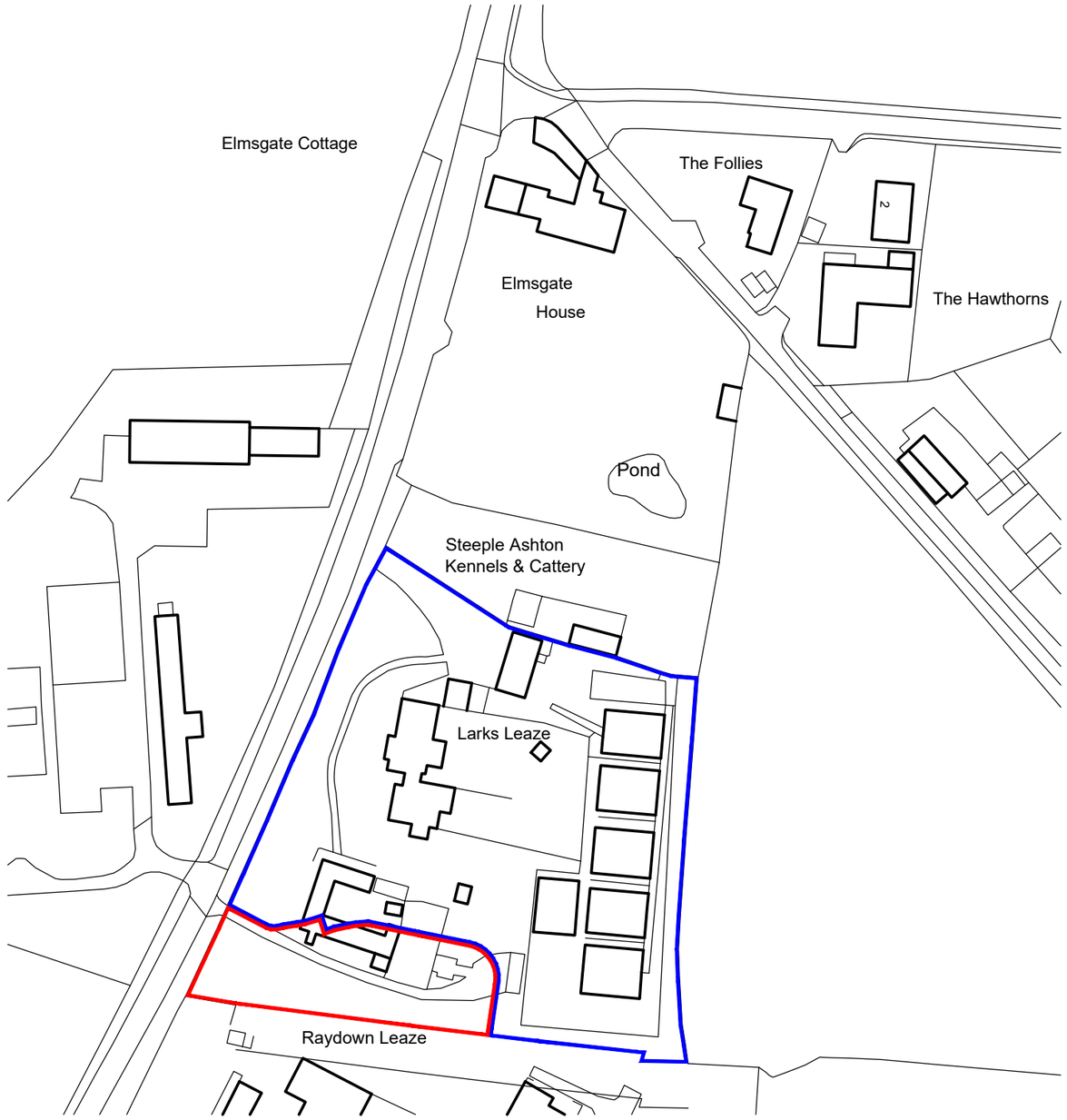
Client:

Agent:
Fowler Architecture & Planning Ltd

Date: 15th March 2018	Scale: 1:200 @ A0	
Grid Orientation North GPS	Sheet ID MFsakcTOPO	Rev B
Site Level Datum OS GPS	Surveyed By JTS/MB	Drawn By JTS/MB

APPENDIX B

SITE LOCATION PLAN



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revisions		initial	date
A	Boundary updated (MF 06/09/23)	-	06/09/23

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project

LARKS LEAZE
Steeple Ashton

drawing

Location Plan

scale	drawn by	date
1:1250 @A3	HB	June '23

drawing no	rev
230322-01	A

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APPENDIX C

DEVELOPMENT PROPOSALS

KEY

EXISTING TREES

EXISTING TREES TO BE FELLED

EXISTING HEDGE

NEW HEDGE

GRANTED UNDER FULL PLANNING PERMISSION PL/2021/11368

NEW APRON/TURNING AREA

EXISTING DWELLING "RELOCATED"

EXISTING DWELLING

EXISTING HEDGE & BOUNDARY PLANTING RETAINED

NEW "REPLACEMENT" DWELLING

GRAVEL DRIVE

NEW HEDGE

VERGE

EXISTING ACCESS

DITCH

EPPINGTON ROAD

NEW DOUBLE GARAGE

TARMAC

EXISTING ACCESS

EXISTING HEDGE PLANTING TO BOUNDARY

0 2 4 6 8 10m

Scale 1:200

F	REVISED	SB	
C	ACCESS AMENDED TREES UPDATED	SB	July '23
B	REVISED	SB	JUNE'23
A	REVISED	SB	JUNE'23
revisions		int	date

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STEEPLE ASHTON

drawing

SITE PLAN

scale	date
1:200 @ A1	MAY '23
230322-02	F
drawing no	rev

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