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Manor Court,
Harmondsworth

Flood Risk
Assessment

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MC/17/L01 – Proposed Layout

1 INTRODUCTION

1.1 General

1.1.1 Lanmor Consulting Ltd has been appointed to produce a site specific Flood Risk Assessment (FRA) for the proposed development site at Manor Court, High Street, Harmondsworth, West Drayton, UB7 0AQ. Figure 1 below shows the location plan for the site.

1.2 Scope

1.2.1 This report describes the existing site condition, development proposals and implications of flooding on the site as described in the governments guidance document; National planning Policy framework (NPPF) and its technical guidance. This report will consider the following:

- Development proposals
- Sources of flooding and flood defences
- Flooding extents, depth and climate change predictions
- Impact of flooding on the development
- Dangers presented by flooding

1.2.2 This FRA has been produce in support of a planning application for residential development of fifteen new dwellings on the site of, Manor Court, High Street in Harmondsworth. The proposed dwelling will have the same floor area as the existing buildings. Drawing MC/17/L01 in Appendix A shows the proposed site layout.

1.2.3 This flood risk assessment has been prepared in accordance with the requirements of the National Planning Policy Framework and will demonstrate that the proposed development will be safe from flooding and will not increase the risk of flooding in the surrounding area.

2 BASELINE CONDITIONS

2.1 Existing Site

2.1.1 The site is located in Harmondsworth, approximately 250m to the east of the Duke of Northumberland's River. The site is approximately 0.78ha in size. The site is currently occupied by a mixture of offices and a 10 bedsit HMO. Figure 1.1 below shows the location of the proposed development.

2.1.2 The existing premises comprises of 3,567m² of impermeable area, of which roof area of the combined buildings totals 900m² and hardstanding with an area of 2,667m². The level difference on site is 1m from north to south.

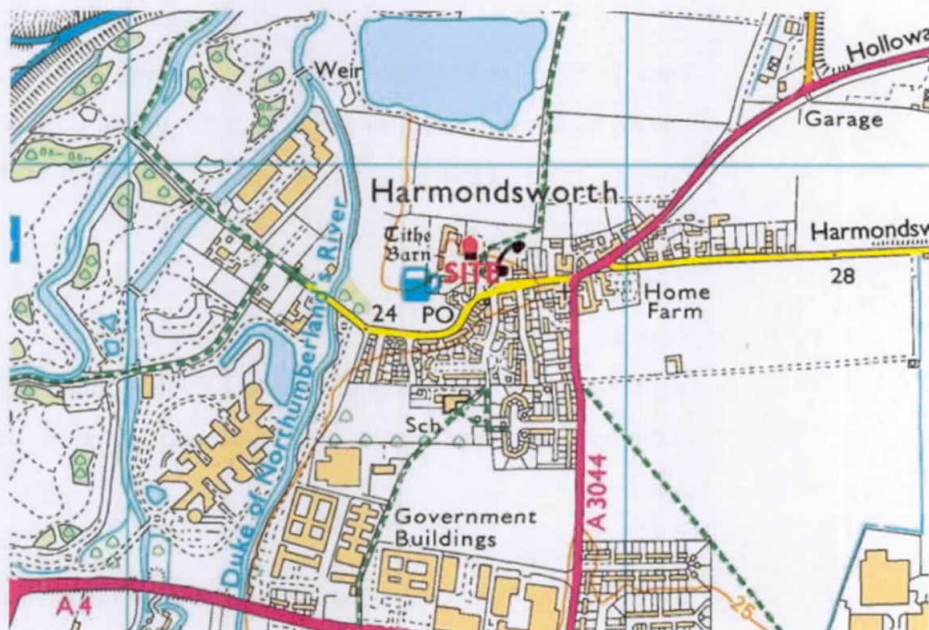


Figure 1.1 – Location Map

2.2 Geology

2.2.1 Due to the location of the site, the British Geology Survey records indicates the sites underlying bedrock is formed of London Clay formation, however the site may have two different types of superficial deposits; Langley Silt Member and Taplow Gravel Formation. London Clay formation consists of Clay, Silt and Sand. Sedimentary Bedrock formed approximately 34 to 56 million years ago in the Palaeogene Period. Local environment previously dominated by deep seas.

3 SOURCES OF FLOODING

3.1 Fluvial/Tidal Flooding

3.1.1 Detailed flood information was requested from the Environment Agency (EA) for the site. The EA have confirmed the site was in flood zone 1 and they do not hold information on flood levels across the site only flood extents which indicate the site is in zone 1. The Confirmation from the EA is attached in Appendix B. Planning Practice Guidance - Flood Risk and Coastal Changes (England) defines the flood zones as follows:

- Zone 1: 'Low Probability' This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding (<0.1%)
- Zone 2: 'Medium Probability' – This zone comprises land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1%) 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' – This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
- Zone 3b: 'The Functional Floodplain' – This zone comprises land where water has to flow or be stored in times of flood. SFRAs should identify this Flood Zone (land which would flood with an annual probability of 1 in 20 (5%) or greater in any year or is designed to flood in an extreme (0.1%) flood, or at another probability to be agreed between the LPA and the Environment Agency, including water conveyance routes).

- 3.1.2 Figure 2 below shows the flood extents map from the Environment Agency, the proposed site is within flood zone 1, this is defined as land assessed as having a less than 0.1% probability of river or sea flooding in any year. The site is some distance from the main river and therefore will not be subject to fluvial flooding.



Figure 1.2 – EA Flood Map

- 3.1.3 There are 3 main rivers west of the site, Wraysbury River (727m), River Colne (563m) and the Duke of Northumberland's River (200m). The watercourses flows in a southwards direction towards Egham which eventually joins to the River Thames.

3.2 Sewer Flooding

- 3.2.1 In the past Thames Water has provided a database of surface water incidences. Thames Water report that 164 properties have previously flooded from overloaded sewers in the last ten years. 93 of these have been flooded by surface water from overloaded sewers, 63 from foul sewers and 8 properties from combined sewers. From the 164 properties 21 properties have flooded from overloading sewers in the past 10 years. However, there is no recorded history of the site being subject to sewer flooding.

3.3 Groundwater Flooding

3.3.1 Information has been provided by the Environment Agency regarding groundwater flooding incidents within the Borough. Some properties are susceptible to groundwater flooding due to high water table levels. Problems encountered may include ingress of water into cellars and basements, or waterlogged ground. The majority of the study area underlying geology is formed of London Clay and the Lambeth Formation.

3.3.2 Very large water bearing gravel deposits lie within the southern area of Hillingdon's boundary. These can pose a risk of groundwater flooding, especially where property is close to main rivers such as the Frays River, River Colne, River Crane, River Pinn, and the Yeading Brook where shallow groundwater levels may be high, however figure 4 of the Strategic Flood Risk Assessment shows the site not being subject to groundwater flooding.

3.4 Existing Flood Defences

3.4.1 There are no flood defences in the vicinity of the site that provide any protection from fluvial flooding.

4 MODELLED FLOOD EVENTS AND CLIMATE CHANGE

4.1 Modelled Flood Levels

4.1.1 The Environmental Agency has confirmed they do not hold flood data for the site. The site is classified by the Environmental Agency as zone 1, having a fluvial risk of flooding with a probability of 0.1% or less and the risk of flooding from other sources is considered low.

4.1.2 This Assessment has considered changes in water level due to climate change. However, as the proposed site is positioned some distance from flood zones 2 & 3 and well above the flood level for an event with a probability of 1%, climate changes will not result in an increased risk of flooding to the site. The site will still be a considerable distance from flood zone 3 even when climate changes are factored in.

5 IMPACT OF FLOODING

5.1 Impact on Flood Flows

5.1.1 The proposed development is outside of flood zone 2 and 3 so it will not be subject to flooding with a probability of 0.1% or greater. There is no recorded history of the site being subject to fluvial flooding or flooding from any other source.

5.1.2 The development will therefore not have any impact on the flow of flood waters in the area from a flood event with a probability of 1.0% including allowances for climate change.

5.2 Impact on Storage Volumes

5.2.1 The proposed development is outside of flood zone 2 and 3 and will therefore not result in a loss of flood storage volumes associated with a flood event with a probability of 1.0% or greater. When increases in flood levels due to climate change are considered, the site is still outside flood zone 3 so even in an extreme case the development will still not result in the loss of any flood storage volume for an event with a probability of 1% or greater.

5.3 Flooding Impact on Development

5.3.1 The site is a considerable distance from the nearest source of fluvial flooding; there is no history of the site flooding in the past, surface and ground water flooding has never been a problem on site.

5.3.2 Flood waters from a 1.0% probability event, including allowances for climate change will therefore have no impact on the proposed development.

5.3.3 As explained previously there is no recorded history that the site has been subject to flooding in the past. As the site is within flood zone 1. A 1.0% plus CC or greater probability flood event would not cause flooding on the site or surrounding area. A safe access can therefore be provided to and from the site at all times.

5.4 Residual Risk

- 5.4.1 The residual risk is considered to be negligible given the site is within flood zone 1 and a dry access can be provided at all times.

6 DRAINAGE

6.1 Assessment of Existing Discharge

6.1.1 The existing roof areas and car park are positively drained to several soakaways on site. There will be no increase in the roof areas resulting from these proposals, the existing building will be reused for residential accommodation.

6.1.2 There will be a small extension to Manor Court however will have the same building footprint as the existing. There will also be an increase in the hard standing on site to accommodate additional parking, the proposed parking areas will be constructed in permeable paving so there will be no increase in impermeable surfaces as a result of these proposals. A separate drainage strategy has been prepared for the site and cover the aspects of drainage for the new development in detail refer to Lanmor Consulting Drainage Strategy ref:- 160742-DS-TS-KTP-01.

7 SEQUENTIAL TEST

7.1.1 The principal of the sequential test is to assess locations and prioritise development to areas at less risk of flooding. NPPF suggest that Regional Planning Bodies and Local Planning Authorities should ensure their regional spatial strategies include a broad consideration of flood risk.

7.1.2 As the proposed development is in flood zone 1 defined as “low risk” by the NPPF. The allowable uses in low flood risk areas are defined as all. The proposed development will have a mixture of “less vulnerable” use, as this is an acceptable use in flood zone 1 the development proposals meets the sequential test set out in NPPF to allocate development to areas at less risk of flooding.

8 SUMMARY AND CONCLUSION

- 8.1.1 The site is within flood zone 1 so therefore it will not be subject to fluvial flooding from an extreme event with a probability of 0.1% or greater including allowance for climate change. The site will not present a restriction to the flow of flood waters or result in a loss of any storage volumes across the site. It will not suffer damage as a result of flooding, it is not at risk of flooding from other sources and a safe access can be provided at all times to an area within flood zone 1.
- 8.1.2 This site meets the sequential test to allocate development to areas at less risk of flooding in accordance with NPPF.
- 8.1.3 There proposals are to reuse the existing buildings and therefore the existing drainage system will also be reused, there has been no historic flooding on site so the soakaways are currently able to deal with the runoff for the buildings. The additional hardstanding's areas will be permeable paving so there will be no increase in the runoff from the site resulting from these proposals and therefore there is no increased risk of flood to the development or surrounding area.
- 8.1.4 For the above reasons, we do not believe the proposed development will have any impact on the current flood regime or result in an increased flood risk and can see no reason why the site is not suitable for the development

APPENDIX A

MC/17/L01 – Proposed Layout

PROPOSED SCHEDULE		
BLOCK	UNITS	TYPE
MANOR LODGE	2	2 X 4 BED HOUSE,
STABLES	8	4 X 1 BED FLAT, 2 X 2 BED FLAT, 2 X 2BED HOUSE,
OFFICE	5	1 X STUDIO, 1 X 1 BED FLAT, 2 X 2BED HOUSE, 1 X 3 BED HOUSE
TOTAL	15	1 X STUDIO, 5 X 1 BED FLAT, 2 X 2 BED FLAT, 4 X 2BED HOUSE, 1 X 3BED HOUSE, 2 X 4BED HOUSE.

PARKING - 30 SPACES
(1 space per 1 bed, 2 space per 2 bed, 3 spaces per 3 bed & 4 bed + 2 disabled spaces +1 visitors space)

For Highways details refer to Transport Statement prepared by Milestone Transport Planning

BOUNDARY TREATMENT
North & West boundary - Existing 1.2- 1.3m post and rail fence retained with existing landscaping retained and reinforced where required.

East Boundary - 1.9m high Grade II Listed Wall to boundary with St Mary's Church

Listed Wall protection zone 1.5m offset from site boundary - Ground to be banked up to Engineers specification

Boundaries between units - 1.2m timber post and rail fence with native hedging on one side

HARDSTANDING
Access roads and Parking areas- Permeable Resin Bonded Gravel (Smoothed natural aggregate)

Pathways - Permeable Paving
Paving around Manor Court (Grade II Listed) - Flagstone Paving (as existing)

Mixture of Grass and Grasscrete In Farmyard area In front of Office Barn and Listed Barn

LANDSCAPING
For full details of landscaping refer to Landscaping Scheme prepared by DCCLA



Rev.	Date	Details
Project:	Manor Court	High Street
Content:	P R O P O S E D	Site Plan
North:	Drawn By: TH	Date: APR 15
Notes:	Scale: 1:500@A2	Rev: -

The Old School House Bridge Road Hunton Bridge
Kings Langley Hertfordshire WD4 8RQ
T 0 1 9 2 3 2 6 7 4 8 8
wakelin-admin@wakelin.co.uk
www.wakelin.co.uk
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Architects

MC/17/L01