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**Wood Frampton**

**Land at Hamlet End, Haverhill  
Proposed Residential Development**

**Commentary on Drainage/Flooding Issues**

Handwritten notes and a faint stamp, possibly containing the name 'WSP Development Limited'.

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# LAND AT HAMLET END, HAVERHILL PROPOSED RESIDENTIAL DEVELOPMENT

## Commentary on Drainage/Flooding Issues

CONTENTS	PAGE
1.0 Introduction	1
2.0 Background	2
3.0 Current Situation	3
4.0 Drainage Considerations	4
5.0 Development Levels and Constraints	5
6.0 Conclusions	6

### Figures

# LAND AT HAMLET END, HAVERHILL PROPOSED RESIDENTIAL DEVELOPMENT

## Commentary on Drainage/Flooding Issues

### 1.0 INTRODUCTION

1.1 WSP are acting on behalf of Wood Frampton Chartered Town Planning Consultants in respect of the site at Hamlet End, Haverhill. This brief report has been commissioned to provide a commentary on flooding and drainage issues with regard to the relationship of the site to the River Stour Brook.

1.2 The report does not constitute a formal Flood Risk Assessment (FRA) as defined in Planning Policy Guidance Note 25: "Development and Flood Risk" (PPG 25). However, a formal FRA was undertaken on the Manor Farm Dairy site adjacent to Hamlet End and is now in the public domain. Consequently, some information gathered for the Manor Farm FRA is used in this report.

1.3 Reference is also made to a report prepared by Halcrow, commissioned by the Environment Agency, which assessed the Standard of Protection (SoP) afforded by the Haverhill Flood Defence Scheme.

1.4 Advice has been sought from the Environment Agency for this report. The EA office dealing with the technical vetting of developments in Haverhill is at Ipswich, however the planning consultation office is at Brampton. The relevant contacts are; Ipswich – Kate Mayes, tel. 01473 727712 and at Brampton – Alan Rich, tel. 01480 414581. The EA Conservation Officer is Merle Leeds, tel. 01473 706071.

## 2.0 BACKGROUND

2.1 The majority of the Hamlet End site is currently either paved or built over. The River Stour Brook flows through the site and is crossed by a footbridge and a vehicular bridge. Downstream of the site, the river passes under Ehringshausen Way, which is a major thoroughfare into the centre of Haverhill. The Stour Brook is a "Main River" watercourse which falls under the jurisdiction of the Environment Agency. There is no Internal Drainage Board (IDB) for this area. The Agency has permissive powers to enter the site and undertake improvement/maintenance works on the river.

2.2 No details of the proposed redevelopment of the site are available at this stage.

2.3 PPG 25 requires that developers making planning applications on sites potentially at risk from flooding should consult with the Environment Agency and produce a Flood Risk Assessment. The Agency require all new development considered to be at risk of fluvial flooding to be protected against flood events of a 1% annual probability.

2.4 The Environment Agency publishes Indicative Floodplain Maps showing those areas potentially at risk from the 1% annual probability (1 in 100 year) events. The Indicative Floodplain Map of Haverhill shows the majority of the Hamlet End site, together with Ehringshausen Way and the adjacent portion of Hamlet Road to be at risk from flooding in a 1% annual probability flood. The River Stour Brook is identified as being the only potential source of flooding which could affect the site.

2.5 The EA maps are a guide only and a site being identified as lying in flood plain does not mean that properties would be bound to flood. Many factors influence this eventuality and these are usually considered as part of the Flood Risk Assessment.

2.6 PPG 25: "Development and Flood Risk" sets out in detail the requirements of a Flood Risk Assessment. The scope of an FRA should include *inter alia*;

- topographical survey and building levels
- existing flood alleviation measures
- structures influencing hydraulics
- cross-sections through the site
- on-site sewer hydraulics
- climate change
- residual risks

These are wide-ranging topics beyond the scope of this report.

### 3.0 CURRENT SITUATION

3.1 The FRA for the Manor Farm site established that a flood defence scheme for Haverhill was implemented in the 1970's. This scheme comprised channel improvements through the town section and provision of washland areas so that flows through the town remained "within bank". There are no physical flood defence structures adjacent to the site itself.

3.2 The Hamlet End site is known to have flooded to a level of 63.71m in 1968, however Environment Agency records indicate that there have been no incidents of the Stour Brook flooding in Haverhill since 1973, on completion of the flood defence scheme.

3.3 More recently, the Environment Agency have commissioned a study of the Stour Brook by Halcrow, which reviewed the standard of protection afforded by the existing flood defences. This report resulted in the flood risk area being redefined to show that flood water for the 1 in 100 year event would be contained within the river's banks.

3.4 The Halcrow report concludes that the Haverhill Flood Defence Scheme allows accommodation of flows in excess of the 1 in 100 year event within the river's banks. Flooding of the Hamlet End site therefore might only result from storm events with return periods in excess of 1 in 100 years. Ⓢ

3.5 The EA do point out the site is still at risk should the flood event exceed the capacity of the washlands, but the Agency acknowledges that no new flood protection structures are required.

#### 4.0 DRAINAGE CONSIDERATIONS

4.1 On-site surface water drainage for the proposed development is likely to be designed in accordance with Sewers for Adoption 5<sup>th</sup> Edition, which requires no flooding from sewers for a 1 in 30 year storm event.

4.2 PPG 25 requires that new development shall not contribute to an increased risk of flooding elsewhere.

4.3 Surface Water discharges off the site are likely to have to mirror those from the existing development so as to retain the status-quo. It is anticipated that some form of storm water attenuation system to balance the 1 in 100 year storm to existing peak rates is likely to be required. Consequently, the discharges from the site will not increase the likelihood of flooding of the site or of land downstream.

4.4 Bridges on the Stour Brook were enlarged for the flood defence scheme. The effect of hydraulic structures was considered in the Manor Farm FRA and it was reported that there are no structures downstream of the Hamlet End site which cause significant backwater effects.

## 5.0 DEVELOPMENT LEVELS AND CONSTRAINTS

5.1 Levels across the site are not known at this stage, however the 1:1250 scale Ordnance Survey map of the area suggests that levels in Hamlet Road adjacent to the site range between 62.4m and 63.2m AOD. The impression of the site being relatively flat is reinforced by the aerial photograph.

5.2 Information received from the Environment Agency states that the maximum, recorded flood level for the Stour Brook is 63.71m, but that this occurred before the flood defence scheme was in place. As stated in Section 3, the 1 in 100 year flood can now be accommodated within bank.

5.3 The EA confirmed that they would not be specifying a minimum floor level for the site, but only suggested fixing floor levels as high above normal ground levels as possible. Waterproofing measures could be included to minimise the adverse effects of flooding should it ever occur.

5.4 EA usually require access to at least one bank of any main river watercourse for maintenance purposes. In the case of the Hamlet End site, EA have stated that written consent must be obtained for any works in, under, over or within 9 metres of the top of bank.

5.5 The current landowner will have certain riparian rights and responsibilities in relation to the watercourse. These can be explained in detail by the Environment Agency, but the responsibilities of riparian owners include maintenance of banks and acceptance of flood flows through the land, even if caused by inadequate capacity downstream. Such responsibilities may become pertinent in any future conveyancing of land.

5.6 The Environment Agency also has a responsibility for conservation and the presence of protected species along a riverbank can constrain development. EA confirmed that there is a County Wildlife Site along the disused railway some 300m downstream of the site. No constraints were notified for the site itself.

## 6.0 CONCLUSIONS

6.1 The proposed redevelopment of the Hamlet End site should take into consideration the requirements of PPG 25. It is a largely brownfield site and PPG 25 acknowledges the benefits of recycling previously developed land.

6.2 The formal Flood Risk Assessment carried out on the adjacent site can be applied to Hamlet End and for the purposes of discussions with Planning Officers and Environment Agency, similar conclusions may be drawn.

6.3 The presence of the Haverhill Flood Defence Scheme appears to have removed the risk of flooding at the site caused by the 1% probability event and therefore the site could be excluded from the Indicative Flood Map. More detailed analysis by the EA will be required to ratify this situation before their next revision of the IFMs.

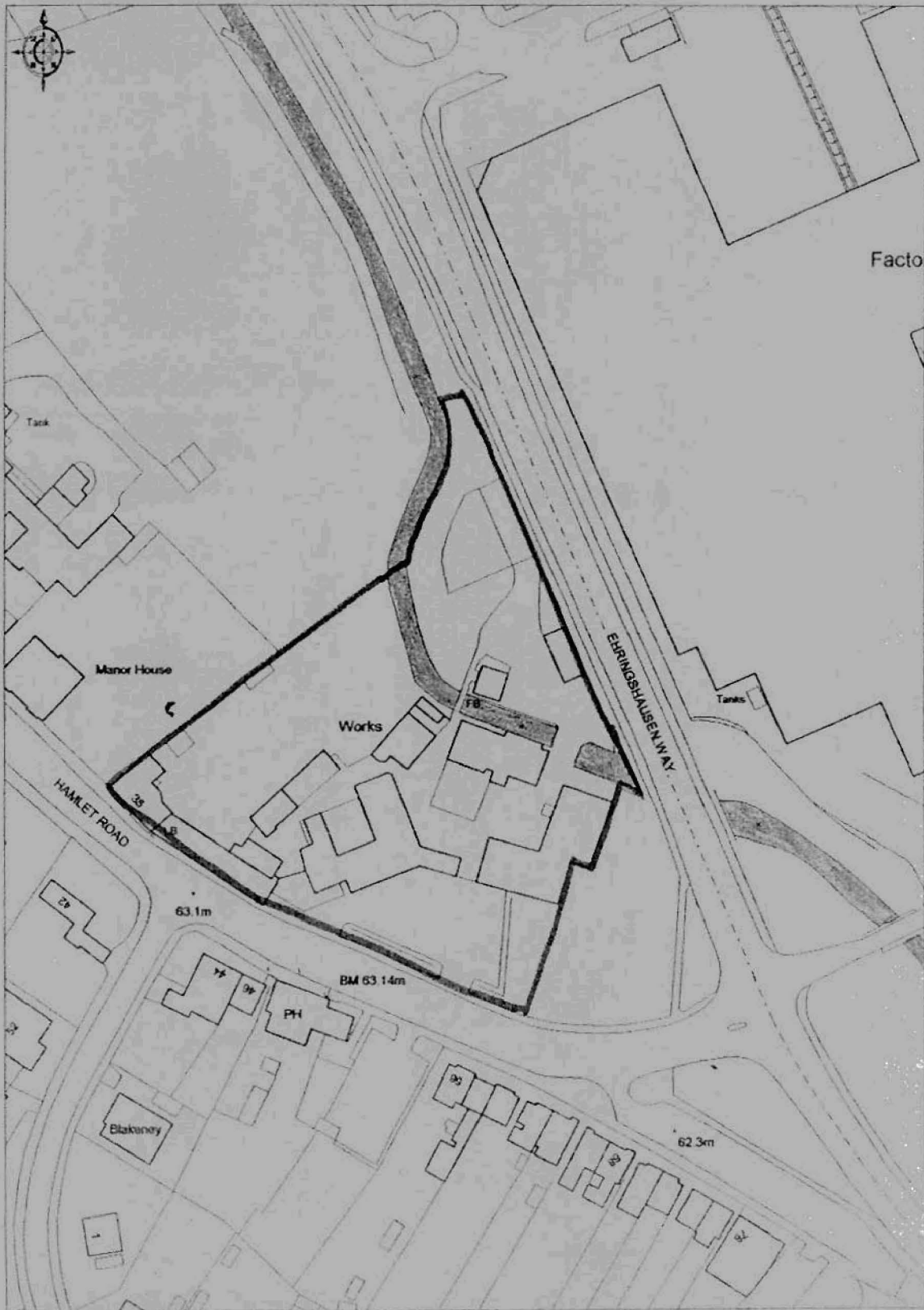
6.4 As the site is actually outside the floodplain, redevelopment of Hamlet End will not increase the risk of downstream flooding, provided the flows from the development do not exceed those at present.

**WSP Group**



**FIGURES**

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**OS** Ordnance Survey

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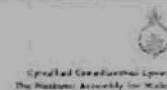
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