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FLOOD RISK ASSESSMENT

SITE 31-33 WHITE HART LANE,

HOCKLEY,

ESSEX. SS5

"Contains Environment Agency information © Environment Agency and database right

PROPOSED ERECTION OF 3NO HOUSE AND 4NO BUNGALOWS TO FRONT & REAR OF SITE, INCLUDING ACCESS DRIVE. C3 RESIDENTIAL USE

FLOOD RISK ASSESSMENT

CONTENTS

Appendices

1.0 Introduction

1.1 I have been instructed to prepare a flood risk assessment in support of a planning application, to erect 7 number detached dwellings (use C3) at land 31-33 WHITE HART LANE, ESSEX.

1.2 The National Planning Policy Framework (NPPF) technical guidance identifies that Flood Risk Assessments should be conducted for developments proposed on the floodplains of rivers, sites potentially subject to coastal flooding, and for developments greater than 1 hectare, or located within critical drainage areas. The site falls within Flood Zone 1, but is situated within a critical drainage area so will require a flood risk assessment.

1.3 Flood Zone 1 is defined as

Flood Zone 1 – Low Probability

Definition

This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).

Appropriate uses

All uses of land are appropriate in this zone.

Flood risk assessment requirements

For development proposals on sites comprising one hectare or above the vulnerability to flooding from other sources as well as from river and sea flooding, and the potential to increase flood risk elsewhere through the addition of hard surfaces and the effect of the new development on surface water run-off, should be incorporated in a flood risk assessment. This need only be brief unless the factors above or other local considerations require particular attention.

Policy aims

In this zone, developers and local authorities should seek opportunities to reduce the overall level of flood risk in the area and beyond through the layout and form of the development, and the appropriate application of sustainable drainage systems.

1.4 Residential development is defined as 'more vulnerable' developments to flooding in table 2 of the NPPF technical guidance. The NPPF requires buildings to be designed taking into account AEP 0.5% flood levels.

1.5 This flood risk assessment will quantify the fluvial, tidal, pluvial, and groundwater flood risk to the development over its lifetime. Means of mitigating actual flood risk and hazard to the new property and its occupants are specified

1.6 The site is situated within Rochford District Council and information has been obtained from their strategic flood risk assessment, also information about flood maps, defences etc has been obtained from the Environment Agency.

2.0 Existing

2.1 The site is located on white hart lane, in the middle of a built up area. It has good access to all amenities and transport links.

2.2 The site is at present 2 residential properties with large garden areas. It is mainly laid to grass but has a driveways leading to parking areas and hardstandings.

2.3 The site is in an elevated position. There is no evidence of historic flooding on the site, although surface water problems have occurred in the area.

3.0 Proposed development

3.1 The proposal is to demolish the existing houses and to construct 7 new dwellings with associated access drives and garage.

3.2 The proposal will be suds compliant, so the drives and access will be porous paving on 300mm shingle base. A gully (aco) will also be provided along the back edge of footpath to capture any excess flow.

3.3 The surface water discharge from the proposed dwellings will be discharged partially to the main sw sewer. All drives and hard surfacing will be SUDS compliant. With any overflow sw discharge to designed soakaways.

3.4 Floor levels of proposed dwellings will be sited 300mm above finished ground levels.

4.0 Fluvial & tidal flooding

4.1 The site is designated as being within flood zone 1.

4.2 The site is not at risk from Fluvial or Tidal flooding.

5.0 Flood evacuation

5.1 The site is at low risk of flooding and any occupants would have from several hours notice prior to inundation. This would give them opportunity to reach a place of safety away from the site.

5.2 The ground floors of the proposed dwellings are sited above any flood level, so occupants could remain safely in their properties; there is also a first floor, to the lower lying properties, some 2.7m higher for even greater safety in extreme events.

5.3 The rear gardens of the properties are in flood zone 1 so could be a place of refuge as well.

6.0 Pluvial flooding

6.1 The site is not recorded as being subject to pluvial flooding.

6.2 Being on sloping land and with the ground floor level raised a minimum of 300mm above surrounding ground levels the risk of the property being flooded is extremely low.

6.3 By connecting the proposed properties to the sw sewer the area of collected rainfall on the ground will be decreased. Any risk will therefore be reduced to that at present.

6.4 The topsoil layer will provide an ideal infiltration layer for surface water. It is also proposed to improve filtration levels by providing a 50mm layer of shingle under all landscaped areas.

6.5 The proposal will be suds compliant, so the drives and access will be porous paving on 300mm shingle base. A gully (aco) will also be provided along the back edge of footpath to capture any excess flow.

6.6 The surface water discharge from the proposed dwellings will be discharged to the main sw sewer. All drives and hard surfacing will be SUDS compliant. With any overflow sw discharge to designed soakaways.

7.0 Ground Water flooding

7.1 The geology of the site is claygate beds

"The Claygate Beds and Bagshot Beds are the uppermost formations of Eocene age in south Essex, the former resting on the London Clay. The Claygate Beds consist primarily of silts and clays with subordinate sands, whilst sands are more common in the Bagshot Beds. "

7.2 It would appear previous problems have occurred due to excessive run off, once the ground becomes saturated. By improving the permeability of the lawned areas this will improve the storage capability and lessen run off.

7.3 Being on sloping land and with the ground floor level raised a minimum of 300mm above surrounding ground levels the risk of the properties being flooded is extremely low.

8.0 surface water drainage

8.1 As above the geology of the site is claygate beds, but with an overlaying strata of topsoil.

8.2 The topsoil layer will provide an ideal infiltration layer for surface water. It is also proposed to improve filtration levels by providing a 50mm layer of shingle under all landscaped areas.

8.3 It will be necessary to provide a connection to the public surface water sewer for any excess flow. This has been investigated and is present in White Hart Lane.

9.0 Conclusion

9.1 The properties are situated within flood zone 1. The area is designated a critical drainage area.

9.2 The floor levels of the proposed dwellings will be sited 300mm above surrounding ground level. They will not be at risk of flooding.

9.3 The surface water runoff from the dwellings will be taken to the public sewer. This will decrease the amount of surface water runoff over the surrounding ground.

9.4 All hard surfacing will be SUDS compliant

9.5 As such the situation will be an improvement to that which exists; the proposed and adjoining properties will not be at greater risk of flooding if the proposal should be approved.

9.6 The proposal should therefore be approved

Appendix A

Extract from Strategic Flood Risk Assessment

3.4 Pluvial Flood Sources

3.4.1 Pluvial flooding typically arises when intense rainfall, often of short duration, is unable to soak into
the ground and/or enter drainage systems. It can run quickly over land, resulting in localised flooding. The Pitt Review (2008) revealed that two-thirds of the flooding in summer 2007 was a result of surface runoff in urban areas, as rainwater runs over the surface of the ground or ponds in low lying areas, and there is a growing likelihood of similar flooding in the future.

National Level Pluvial Modelling

3.4.2 The Environment Agency has undertaken pluvial modelling at a national scale and produced mapping identifying those areas susceptible

- The mapping does not show the interface between the surface water network, the sewer systems and the watercourses;
- It does not show the susceptibility of individual properties to surface water flooding;
- This mapping excludes buildings, and uses a single rainfall event.

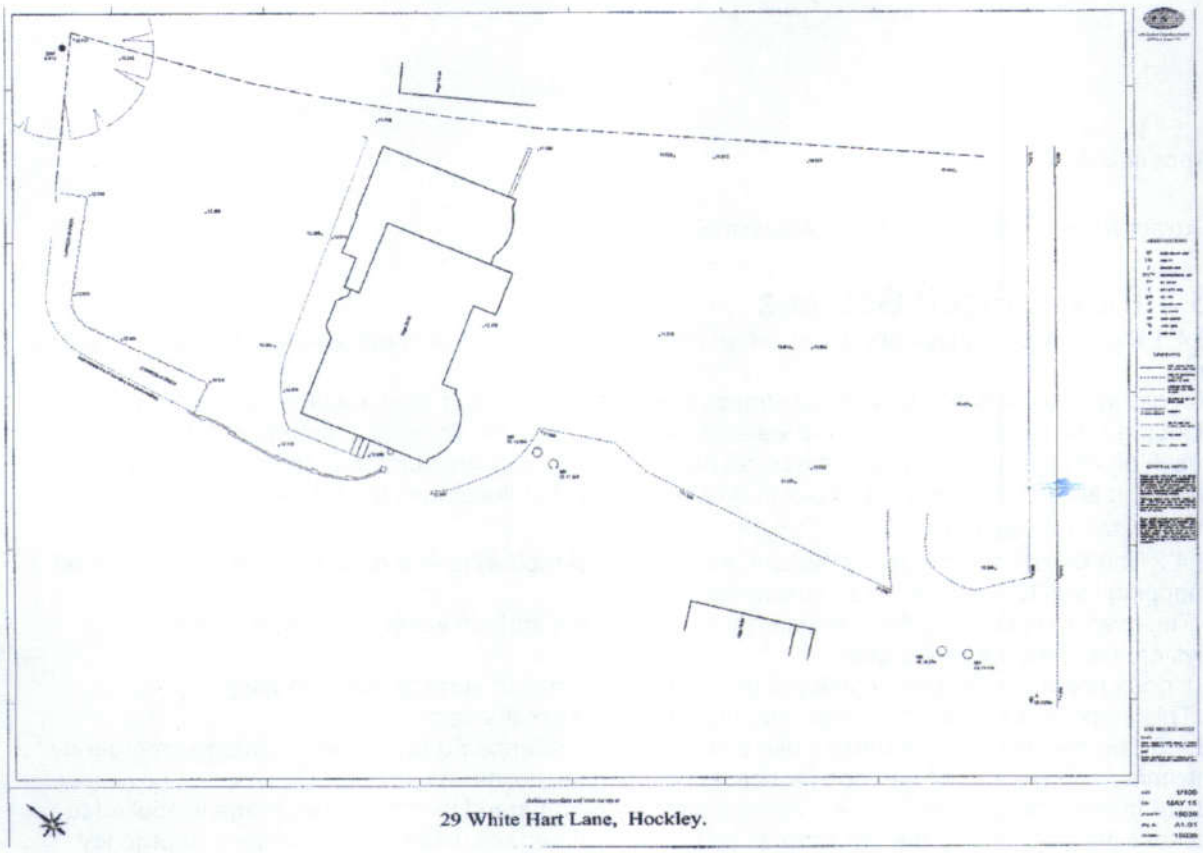
3.4.3 This mapping is intended for use by the Local Resilience Forums solely to inform emergency planning and should not be used for spatial planning decisions.

3.4.4 In addition, the Environment Agency strongly recommend that local knowledge is applied to assess the suitability of the mapping as an indicator of surface water flooding before emergency planners make decisions based upon it.

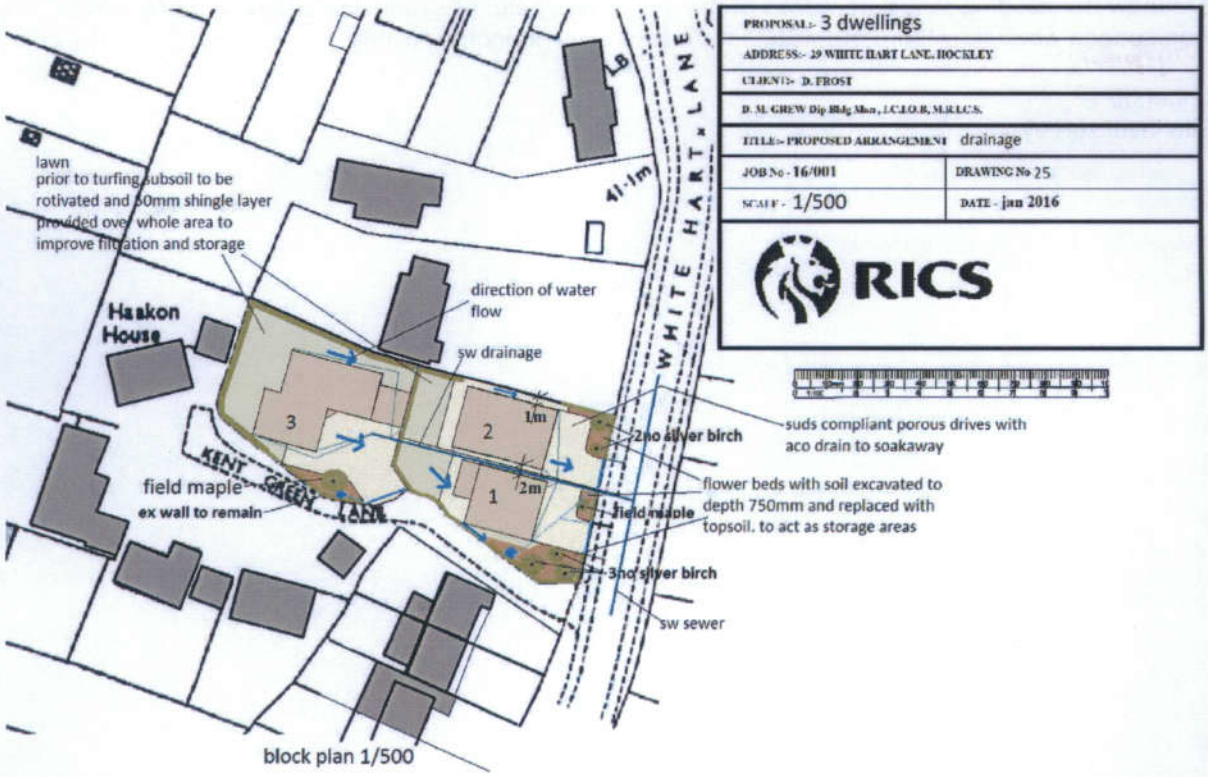
3.5 Groundwater Flooding Sources

3.5.1 Groundwater flooding occurs when water levels in the ground rise above surface elevations. Groundwater flooding may take weeks or months to dissipate, as groundwater flow is much slower than surface water flow therefore water levels take much longer to recede.

Appendix b
Site level survey

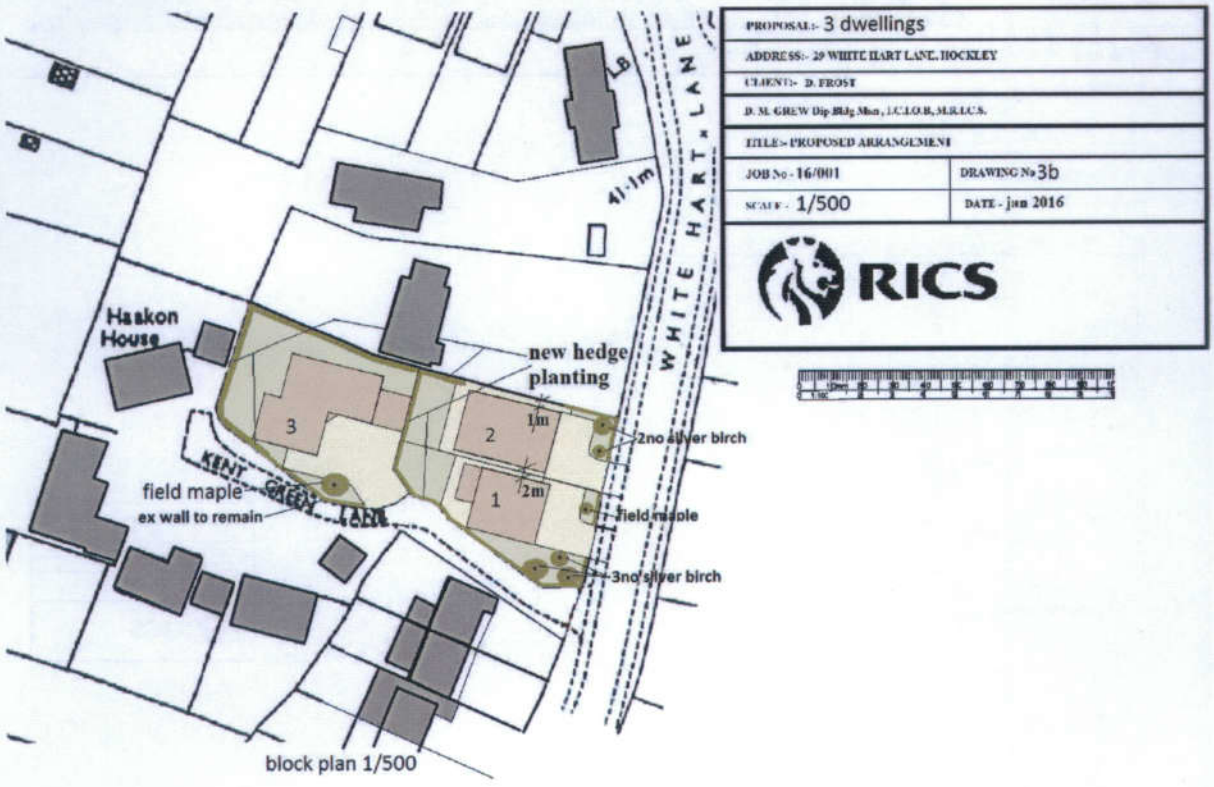


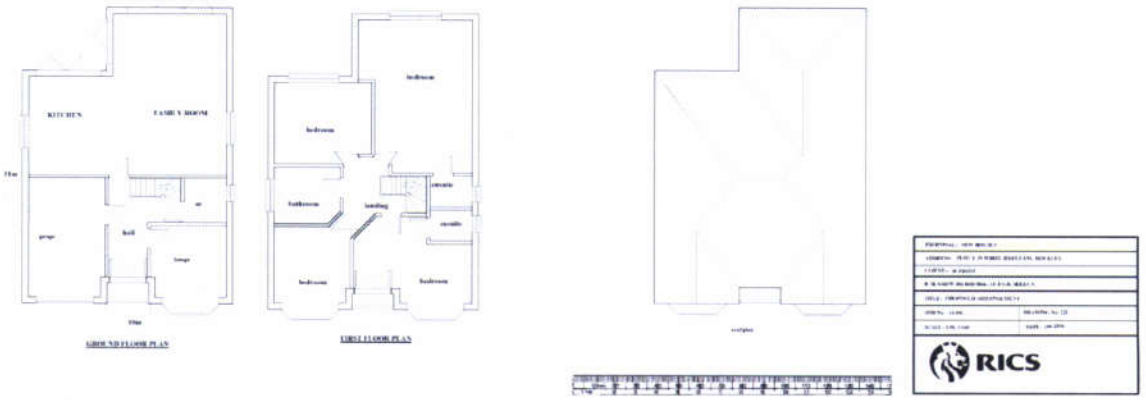
Appendix c suds

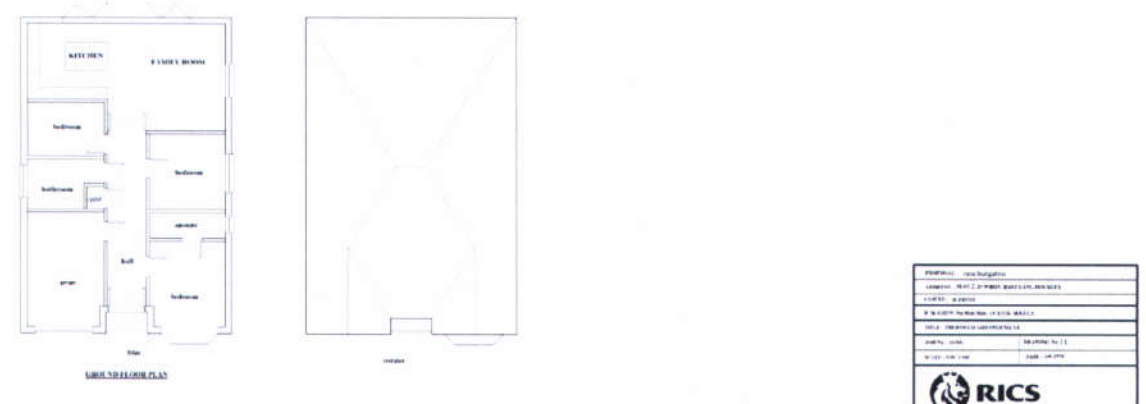


Appendix d plans


GROUND FLOOR PLAN
RICS


PROPOSAL:- 3 dwellings
ADDRESS:- 29 WHITE HART LANE, HOCKLEY
CLIENT:- D. FROST
D. M. GREW Dip.Bldg.Mgt., I.C.I.O.B., M.R.I.C.S.
TITLE:- PROPOSED ARRANGEMENT
JOB No - 16/001
DRAWING No 3b
SCALE - 1/500
DATE - jan 2016
RICS
WHITE HART LANE
Haskon House
new hedge planting
2no silver birch
field maple
ex wall to remain
3no silver birch
block plan 1/500


KITCHEN
FAMILY ROOM
bedroom
bedroom
bathroom
landing
bedroom
bedroom
RICS


KITCHEN
FAMILY ROOM
bedroom
bedroom
bathroom
RICS

Street wise

Map data

SITE LOCATION PLAN
AREA 2 HA
SCALE: 1:1250 on A4
CENTRE COORDINATES: 584551 , 192387

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