

Phase 1: Habitat Regulations Assessment (HRA) Screening Report

Wyldingtree, 66 The Plain, Epping, CM16 6TW

#### **Manor Properties (Bishops Stortford) Ltd**

Status	Issue	Name	Date
Draft	1	Chris Formaggia BSc (Joint Hons) CBiol CEnv MCIEEM MRBS VR – Head of	02/07/2021
		Ecology	
Reviewed following	1.1	Chris Formaggia BSc (Joint Hons) CBiol CEnv MCIEEM MRBS VR – Head of	11/07/2021
client team input		Ecology	
Final	1.2	Chris Formaggia BSc (Joint Hons) CBiol CEnv MCIEEM MRBS VR – Head of	19/07/2021
		Ecology	
Updated	1.3		
Phase 2 AA added	1.4		
Updated for new	1.5		
layout			

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Arbtech Consulting Ltd <a href="https://arbtech.co.uk">https://arbtech.co.uk</a>

#### Introduction

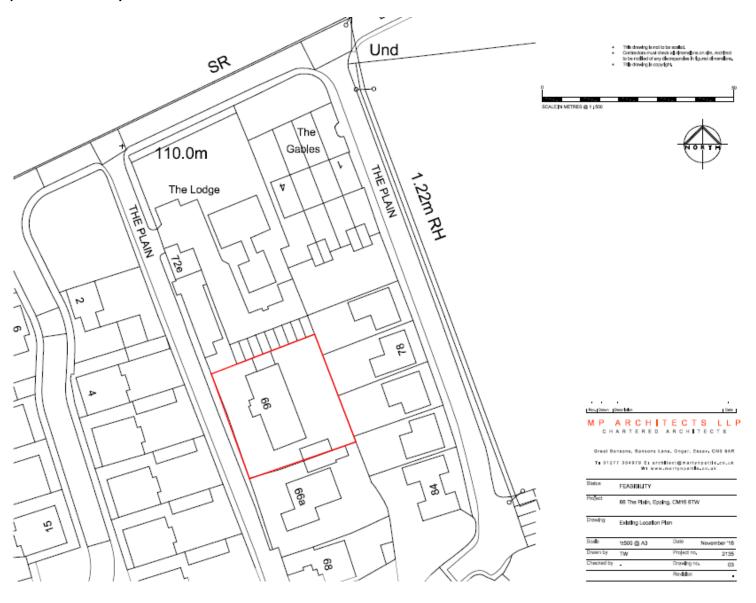
#### **Background**

Arbtech Consulting Ltd was commissioned by Manor Properties (Bishops Stortford) Ltd to undertake a phase 1 Habitats Regulations Assessment (HRA) for the development of:

Demolition of existing bungalow and construction of 2xpairs of semi-detached houses with associated parking and gardens [Epping Forest District Council Planning Reference EPF/1111/19].

The HRA process is often closely-linked to the planning process and will often tend to run broadly in parallel with it.

#### The proposal site boundary is:



#### The site proposal plan:



- This drawing is not to be scaled.
  Contractors must check all dimensions on site, Architect to be notified of any discrepancies in figured dimensions.
  This drawing is copyright.

Schedule Four bedroom houses Areas Ground Floor: 62.5m2 First Floor; 62,5m2 Second Floor: 40m2 Total: 165m2 (1776ft2) Garden Areas Plot 1 = 87m2 Plot 2 = 87m2 Plot 3 = 87m2 Plot 4 = 95m2

MP ARCHITECTS LLP

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FOR PLANNING 66 The Plain, Epping, CM16 6TW

Drawling Proposed Site Plan

Scale	1:200 @ A3	Date	April 2019
Drawn by	TW	Project no.	2135
Checked by	-	Drawing no.	11
		Revision	В

HRA is required under the EU Habitats Directive (92/43/EEC)<sup>1</sup> for any proposed plan or project which may have a significant effect on one or more European sites. The purpose of HRA is to determine whether or not there are any likely significant effects (LSEs) on the integrity of any European site and, where LSE are identified, to provide mitigation measures to avoid, reduce or off-set the effects. HRA only legally applies to European sites. However, the Government policy is to afford that the same level of protection is given to proposed or listed Ramsar sites.

All European and Ramsar sites overlap to some degree with nationally designated Sites of Special Scientific Interest (SSSIs). The HRA process does not apply to the broader conservation interests of the SSSI designations. However, the latter are addressed separately in the supporting ecological assessments produced in relation the proposals.

#### **European Sites**

European sites include Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), also collectively referred to as Natura 2000 sites. The European Union Habitats Directive on the conservation of natural habitats and of wild fauna and flora (Council Directive 92/43/EEC) and the Birds Directive on the conservation of wild birds (Council Directive 79/409/EEC) place obligations on the UK to take certain actions for nature conservation. The Habitats Directive aims to maintain biodiversity and details measures to maintain or restore natural habitats and species at favourable conservation status. The Birds Directive protects all wild birds and their habitats and details special measures for migratory species and those that are considered to be vulnerable and/or rare.

The Conservation of Habitats and Species Regulations 2012, commonly known as 'The Habitats Regulations', transpose the Habitats Directive into national law and sets out the provisions for the protection and management of species and habitats of European importance, including European sites.

#### Scope

The structure of this report is as follows:

- Introduction and summary of background information
- Methodology and details of consultation
- Details of the screening process. Identifies the European sites which could be affected by the Proposed Development and describes their qualifying features and site conservation objectives.
- Details of the Proposed Development

<sup>&</sup>lt;sup>1</sup> European Commission, 1992. Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora. European Commission, Brussels.

- Evaluation of the Potential Effects of the Proposed Development on European Sites.
- Consideration of Need to Progress to Phase II Appropriate Assessment

#### Methodology

This HRA has been completed following the guidelines and recommendations contained in the following documents:

- Department for Communities and Local Government Guidance for Regional Spatial Strategies and Local Development Documents (DCLG, 2006)
- English Nature Habitats Regulations Guidance Notes 1-6 (English Nature, 1997)
- European Communities (2002) Assessment of plans and projects significantly affecting Natura 2000 sites
- European Communities (2000) Managing Natura 2000 Sites11

HRA can be divided into the following stages:

- HRA Stage 1: Screening for likely significant effects identifying whether a project is likely to have a significant effect on a European site.
- HRA Stage 2: Appropriate Assessment (AA) collection of information, and determination of the effect the Proposed Development is likely to have on the integrity and designated features of the European sites 'screened in' during Stage 1.
- HRA Stage 3: Mitigation and alternative solutions where adverse effects are identified in Stage 2, the project should either be altered or alternative solutions and mitigation specified to fully cancel out the adverse effects.

#### **Consultation and Evidence Gathering**

Data has been collected from Magic and JNCC.

There has been no consultation at this stage.

#### Screening

#### Introduction

This section of the report identifies the European sites which could be affected by the Proposed Development and describes their qualifying features and site conservation objectives.

#### **European Sites Considered**

The following European Sites lie within 10km of the Proposed Development:

#### Ramsar and SPA Sites (England)

Name

LEE VALLEY

Reference

UK11034

Hectares

451.3

#### **Special Areas of Conservation (England) - points**

Name

**EPPING FOREST** 

Reference

UK0012720

**Hectares** 

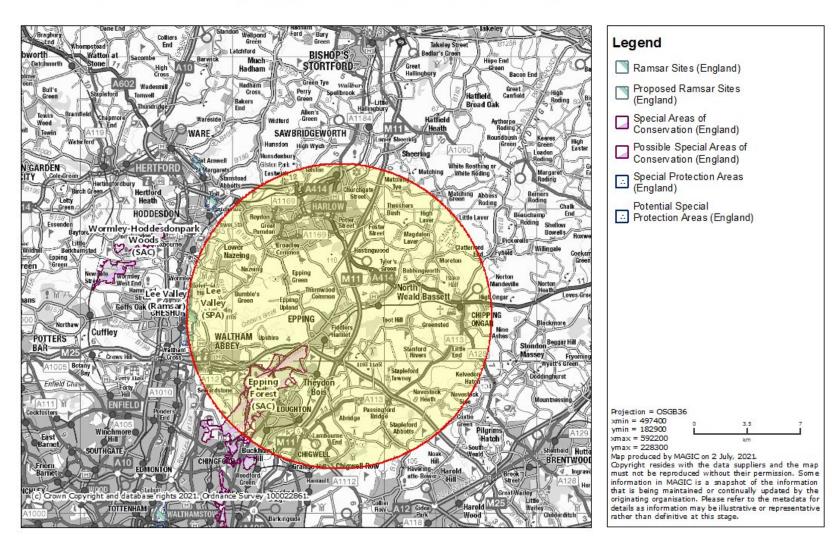
1628.87

Hyperlink

http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?eucode=UK0012720



### Wyldingtree Designations (10km)



#### **Proximity to Natura 2000 Sites**

Site Name	Distance to closest boundary/m
Epping Forest SAC	2.9km
Lee Valley SPA and Ramsar Site	9.3km

The Phase 1 HRA evaluates the impacts upon the Epping Forest SAC the closest point of which is 2.9km (SW) of the site and the Lee Valley SPA which is 9.3km (W) of the site.

#### **Potential Impacts to be considered**

The following potential impacts are given consideration:

- Air Pollution
- Water Pollution
- Light Pollution
- Visual Disturbance
- Noise Disturbance
- Loss of associated habitat
- Recreational Disturbance (especially dog walking)
- Synergistic Impacts

Any impact requires a pathway to exist (direct or indirect) between the proposal and European Site(s), alone or in-combination

#### **Site Descriptions**

Designation:

#### **Epping Forest SAC**

## **Epping Forest**

## **Designated Special Area of Conservation (SAC)**

Country	England
Unitary Authority	Essex, Outer London
Centroid*	TQ399959
Latitude	51.64416667
Longitude	0.0225
SAC EU Code	UK0012720
Status	Designated Special Area of Conservation (SAC)
Area (ha)	1630.74

<sup>\*</sup> This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.



Location of Epping Forest SAC

## General site character

- Inland water bodies (Standing water, Running water) (6%)
- Bogs, Marshes, Water fringed vegetation, Fens (0.2%)
- Heath, Scrub, Maquis and Garrigue, Phygrana (3.8%)
- Dry grassland, Steppes (20%)
- Broad-leaved deciduous woodland (70%)

**Note** When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

• 9120 <u>Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer</u> (Quercion robori-petraeae or Ilici-Fagenion)

Epping Forest represents **Atlantic acidophilous beech forests** in the north-eastern part of the habitat's UK range. Although the epiphytes at this site have declined, largely as a result of air pollution, it remains important for a range of rare species, including the moss *Zygodon forsteri*. The long history of pollarding, and resultant large number of veteran trees, ensures that the site is also rich in fungi and dead-wood invertebrates.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

- 4010 Northern Atlantic wet heaths with Erica tetralix
- 4030 European dry heaths

Annex II species that are a primary reason for selection of this site

1083 <u>Stag beetle</u> Lucanus cervus
 Epping Forest is a large woodland area in which records of stag beetle Lucanus cervus are widespread and frequent; the site straddles the Essex and east London population centres. Epping Forest is a very important site for fauna associated with decaying timber, and supports many Red Data Book and Nationally Scarce invertebrate species.

# Annex II species present as a qualifying feature, but not a primary reason for site selection

#### Not Applicable

#### Lee Valley Ramsar Site

Lee Valley. 09/10/00. England. 448 ha. 51°35'N 000°03'E. SSSI, SPA. A series of embanked water supply reservoirs, sewage treatment lagoons, and former gravel pits extending along about 24km of the valley from near Ware southward to Finsbury Park in London. These water bodies support internationally important numbers of wintering Gadwall and Shoveler (Criterion 6) and nationally important numbers of several other bird species. The site also contains a range of wetland and valley bottom habitats, both humanmade and semi-natural, which support a diverse array of wetland fauna and flora. Four SSSIs are included within the site. Virtually all parts of the site are subject to management plans in which nature conservation is a high or sole priority. Potential threats from eutrophic condition of the water, over-abstraction of surface water for public supply in periods of drought, and urban development pressures are felt to be addressed by several directives and regulations. Non-consumptive recreational activities are important and mostly well regulated. Ramsar site no. 1037. Most recent RIS information: 2000.

#### Lee Valley SPA

EC Directive 79/409 on the Conservation of Wild Birds: Special Protection Area (SPA) Name: Lee Valley Unitary Authority/County: Essex, Hertfordshire, London Borough of Haringey and London Borough of Waltham Forest. Consultation proposal: Amwell Quarry Site of Special Scientific Interest (SSSI), Rye Meads SSSI, Turnford & Cheshunt Pits SSSI and Walthamstow Reservoirs SSSI have been recommended as a Special Protection Area because of the site's European ornithological interest. The Lee Valley SPA comprises a series of embanked water supply reservoirs, sewage treatment lagoons and former gravel pits that display a range of man-made and semi-natural wetland and valley bottom habitats. Boundary of SPA: The SPA boundary is coincident with the above SSSI boundaries. See SPA map for further detail. Size of SPA: The SPA covers an area of 447.87 ha. European ornithological interest of SPA: The SPA is of European importance because: a) the site qualifies under article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain population of a species listed on Annex I, in any season: Annex I species 5 year peak mean 1992/93 - 1996/97 % GB population Bittern Botaurus stellaris 6 individuals - wintering 6% b) the site qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed on Annex I), in any season: Migratory species 5 year peak mean 1993/94 -1997/98 % of population Shoveler Anas clypeata 406 individuals - wintering 1.0% NW/Central Europe Gadwall Anas strepera 456 individuals - wintering 1.5% NW Europe Bird figures from: Wetland Bird Survey (WeBS) database. Non-qualifying species of interest In addition, the site supports nationally important numbers of Cormorant Phalacrocorax carbo, Great Crested Grebe Podiceps cristatus, Tufted Duck Aythya fuligula, Pochard Aythya ferina and Grey Heron Ardea cinerea. Status of SPA Lee Valley was classi

#### **Details of Proposals**

• Demolition of existing bungalow and construction of 2xpairs of semi-detached houses with associated parking and gardens [Epping Forest District Council Planning Reference EPF/1111/19].

#### **Evaluation of the Potential Effects of Development on European Sites.**

The following tables assess the existence of risk pathways to the European sites for the potential impacts. Pathways would have to confer a risk that would be experienced at a population level to be deemed significant.

Pathway	Comment
Aerial emission of construction	Construction area is 2.9km NE of the Natura 2000 site complex at the nearest
dusts	boundary. Most pm30 dust fallout within 50m. It is assessed that the Natura 2000 site is not threatened by PM emissions from the proposal because of distance
Operational increase in greenhouse gases from new	attenuation.
buildings	The combined output of the new residence without energy mitigation measures is expected to generate between 90 and 184 tonnes of CO <sub>2</sub> per annum. However,
Increased traffic flow leading to elevations in deposition along	Building Regulations now require that (by 2019) all new buildings should emit net zero carbon. It is assessed that neither Natura 2000 site is not threatened by NOx
the special site boundaries.	and COx emissions because of distance attenuation, regulatory control and predominant wind direction.
	Vehicle emissions can result in between 20 and 65% of total deposition on special sites in the UK. The proposal results in an increase of 3 new residential units leading to an increase (based on averages) of 3.6 cars. The proposals are not expected to significantly increase traffic flow along the road networks close to the special sites alone but in combination with other projects the risk of significant new deposition of pollutants on the site cannot be eliminated at this stage. The site is already in
	Aerial emission of construction dusts  Operational increase in greenhouse gases from new buildings  Increased traffic flow leading to elevations in deposition along

		A Transport Assessment (TA) will be required to investigate the synergistic contribution of car journeys resulting from the proposal.
Water Pollution	Hydraulic connectivity	The construction area is 2.9 km NE of nearest designation boundary. The proposed development is on: Superficial deposits: Stanmore Gravel Formation – sand and
	Surface water connectivity	gravel. Superficial deposits formed up to 3 million years ago in the Quaternary Period.
	Uncontrolled release of construction waters	Bedrock geology: Claygate Member – clay, silt and sand. Sedimentary bedrock formed approximately 48 to 56 million years ago in the Palaeogene Period. The SAC site is on: Superficial Deposits: None Recorded Bedrock geology: Claygate Member – clay, silt and sand. Sedimentary bedrock formed approximately 48 to 56 million years ago in the Palaeogene Period. The possibility of groundwater connectivity between the construction site and designated sites cannot be dismissed because of geology change. A groundwater evaluation will be required to support an Appropriate Assessment to demonstrate the presence or absence of hydraulic connectivity between the construction areas and special site as a transmission route for contamination.
		Mapping suggests that there may be drainage connectivity between the proposal site and the Natura Complex. This results in a risk pathway for surface water contamination of the Special Sites being possible. A surface water evaluation will be required to support an Appropriate assessment decision and in particular that the scheme will not increase phosphate pollution of the special site.
Light Pollution	Construction lighting regimes	The conservation features of the SAC are not considered vulnerable to light pollution. It is assessed that there no risk pathway for light pollution because of
	Operational lighting regimes	existing building screening.
Visual Disturbance	Construction movements	The construction area is 2.9km NE of the nearest designated site boundaries. <b>There</b> is not a risk pathway for visual disturbance to the SAC because of existing building
	Operational movements	screening. The conservation features are not especially vulnerable to visual disturbance.
Noise Disturbance	Construction generated noise	The construction area is 2.9km NE of the nearest designated site boundaries. <b>There</b> is not a risk pathway for noise disturbance particularly to the SAC because of

	Operational generated noise	existing building screening and logarithmic distance attenuation. The conservation
	5: 6 11 12:	features are not especially vulnerable to noise disturbance.
Loss of Associated Habitat	Direct loss of associated habitat	The site has no associated habitat that contributes to the conservation features of
		Epping Forest SAC.
Recreational Disturbance	The development could increase	The site is within the Zone of Influence (ZoI) as identified in the Interim Mitigation
	recreational pressure on the	Strategy for Epping Forest Special Area of Conservation <sup>2</sup> of 6.18km.
	designated sites as a result of	The closest distance of the site by direct line is 2.9km.
	informal recreation by site	The proposal, in-combination with other projects, is assessed as being likely to
	occupants.	generate an increase in recreational demand on the special site complex.
	Specifically identified impacts	
	include:	
	<ul> <li>Eutrophication from dog</li> </ul>	
	fouling;	
	<ul> <li>Trampling/wear, leading to</li> </ul>	
	soil compaction, vegetation	
	wear, erosion and damage to	
	veteran tree roots;	
	<ul> <li>Increased fire risk (and</li> </ul>	
	potentially difficulties in access	
	for emergency vehicles if gates	
	etc. are blocked);	
	<ul> <li>Difficulties in establishing the</li> </ul>	
	best grazing management due	
	to interactions between visitors	
	and livestock;	
	<ul> <li>Direct damage to veteran</li> </ul>	
	trees, for example from climbing	
	on them;	
	<ul> <li>Harvesting, for example fungi,</li> </ul>	
	deadwood;	
	<ul> <li>Disturbance to invertebrates</li> </ul>	
	and other wildlife;	

<sup>&</sup>lt;sup>2</sup> https://eppingforest.moderngov.co.uk/mgConvert2PDF.aspx?ID=87389

Spread of disease;	
<ul> <li>Spread of alien plants;</li> </ul>	
Staff time taken away from	
necessary management due to	
the need to deal with	
vandalism, breaches of byelaws	
etc.; and	
Direct damage and vandalism	
of infrastructure.	

Potential Impact	Pathway	Comment
Air Pollution	Aerial emission of construction	Construction area is 9.3km E of the Natura 2000 site complex at the nearest
	dusts	boundary. Most pm30 dust fallout within 50m. It is assessed that the Natura 2000 site is not threatened by PM emissions from the proposal because of distance
	Operational increase in greenhouse gases from new	attenuation.
	buildings	The combined output of the new residence without energy mitigation measures is expected to generate between 90 and 184 tonnes of CO <sub>2</sub> per annum. However,
	Increased traffic flow leading to	Building Regulations now require that (by 2019) all new buildings should emit net
	elevations in deposition along	zero carbon. It is assessed that neither Natura 2000 site is not threatened by NOx
	the special site boundaries.	and COx emissions because of distance attenuation, regulatory control and predominant wind direction.
		Vehicle emissions can result in between 20 and 65% of total deposition on special sites in the UK. The proposal results in an increase of 3 new residential units leading to an increase (based on averages) of 3.6 cars. However, access to main routeways from the site are present outside of the ZoI on the site, The proposals are not expected to significantly increase traffic flow along the road networks close to the special sites alone and in combination with other projects so the risk of significant new deposition of pollutants on the site can be eliminated at this stage.

Water Pollution	Hydraulic connectivity	The construction area is 9.3 km E of nearest designation boundary. The proposed
vvater i oliation	Try drading confidentity	development is on: Superficial deposits: Stanmore Gravel Formation – sand and
	Surface water connectivity	gravel. Superficial deposits formed up to 3 million years ago in the Quaternary
	Carrage mass. Commissions,	Period.
	Uncontrolled release of	Bedrock geology: Claygate Member – clay, silt and sand. Sedimentary bedrock
	construction waters	formed approximately 48 to 56 million years ago in the Palaeogene Period.
		The SAC site is on: Superficial Deposits: Alluvium – clay, silt, sand and gravel.
		Superficial deposits.
		Bedrock geology: London Clay Formation – clay, silt and sand. Sedimentary bedrock
		formed approximately 48 to 56 million years ago in the Palaeogene Period.
		The possibility of groundwater connectivity between the construction site and
		designated sites can be dismissed because of geology change. A groundwater
		evaluation will not be required to support an Appropriate Assessment to
		demonstrate the presence or absence of hydraulic connectivity between the
		construction areas and special site as a transmission route for contamination.
		Mapping suggests that there is no drainage connectivity between the proposal site and the Natura Complex. This results in there being no risk pathway for surface water contamination of the Special Sites. A surface water evaluation will not be required to support an Appropriate assessment decision.
Light Pollution	Construction lighting regimes	The conservation features of the SPA/Ramsar are not considered speciall vulnerable
		to light pollution. It is assessed that there no risk pathway for light pollution
	Operational lighting regimes	because of existing building screening.
Visual Disturbance	Construction movements	The construction area is 9.3km E of the nearest designated site boundaries. <b>There is</b>
		not a risk pathway for visual disturbance to the SPA/Ramsar because of existing
	Operational movements	building screening. The conservation features are not especially vulnerable to
		visual disturbance.
Noise Disturbance	Construction generated noise	The construction area is 9.3km E of the nearest designated site boundaries. <b>There is</b>
		not a risk pathway for noise disturbance particularly to the SAC because of existing
	Operational generated noise	building screening and logarithmic distance attenuation. The conservation
		features are not especially vulnerable to noise disturbance other than impulsive
		noise events in close proximity.

Loss of Associated Habitat	Direct loss of associated habitat	The site has no associated habitat that contributes to the conservation features of Lee Valley.
Recreational Disturbance	The development could increase recreational pressure on the designated sites as a result of informal recreation by site occupants.  Specifically identified impacts include:  • Eutrophication from dog fouling;  • Trampling/wear, leading to soil compaction, vegetation wear, erosion and damage to veteran tree roots;  • Increased fire risk (and potentially difficulties in access for emergency vehicles if gates etc. are blocked);  • Difficulties in establishing the best grazing management due to interactions between visitors and livestock;  • Direct damage to veteran trees, for example from climbing on them;  • Harvesting, for example fungi, deadwood;  • Disturbance to invertebrates and other wildlife;	
	<ul> <li>Spread of disease;</li> <li>Spread of alien plants;</li> <li>Staff time taken away from necessary management due to the need to deal with</li> </ul>	

vandalism, breaches of byelaws	
etc.; and	
Direct damage and vandalism	
of infrastructure.	

#### Consideration of Need to Progress to Phase II – Appropriate Assessment

At Phase 1 HRA assessment it is considered that risk to the Epping Forest SAC cannot be dismissed because three pathways for harm do appear to exist.

At Phase 1 HRA it is considered that risks to Natura 2000 sites cannot be discounted. Risks from recreational disturbance, pollution via hydraulic connectivity and transport-generated air pollution cannot be quantified at this stage. In these cases, the precautionary principle will apply.

The Precautionary Principle is one of the key elements for policy decisions concerning environmental protection and management. It is applied in the circumstances where there are reasonable grounds for concern that an activity is, or could, cause harm but where there is uncertainty about the probability of the risk and the degree of harm. The principle is applied to Habitats Regulations Assessments.

The Precautionary Principle has been endorsed internationally on many occasions. At the Earth Summit meeting at Rio in 1992, World leaders agreed Agenda 21, which advocated the widespread application of the Precautionary Principle in the following terms:

"In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

Based on the existing information it will be necessary to provide further information to the Planning Authority to support an "Appropriate Assessment" decision – "A Report to Support Appropriate Assessment".

The report would consider risks complex arising from:

- Loss of ancillary habitat
- Potential Recreation disturbance of the sites caused by increased net demand

The report must consider the risks arising from effects deriding from the proposals alone, and in conjunction with other known proposals in the area. The area the cumulative effect of the overall impact must be considered.

The key stages of the Phase 2 HRA Appropriate Assessment (AA) will be:

- Complete additional scoping work including the collation of further information on sites as necessary to evaluate impact to take account of conservation objectives
- Agree scope and method of AA with Natural England (NE). The LPA will most likely be the body that shall conduct the Appropriate Assessment and it will require the applicants to provide the supporting information to undertake the assessment.
- Consider how proposals ("the plan") 'in combination' with other plans and programmes will interact when implemented (this constitutes the "Appropriate Assessment")
- Consider how effect on integrity of site could be avoided by changes to plan and the consideration of alternatives
- Develop mitigation measures (including timescale and mechanisms), if necessary
- Report outcomes of AA including mitigation measures, consult with Competent Bodies and wider [public] stakeholders as necessary

If it is the determined that the project will not significantly affect European site it can proceed without further reference to Habitats Regulations.

If there is residual doubt remaining after phase 2, the plan moves to Phase 3 and it will be necessary to:

- · Consider alternative solutions, delete from plan or modify
- Consider if priority species/ habitats affected through further detailed evaluation
- Identify 'imperative reasons of overriding public interest' (IROPI) economic, social, environmental, human health, public safety
- Notify Government
- Develop and secure compensatory measures

The HRA process is often linked to the planning process and will often tend to run broadly in parallel with it.