Subject	**Addendum to the response from AQC**	**Project Name**	M11 Junction 7A
Attention	Grainne O'Kieffe	**Project No.**	B3553F07
From	Suki Coe		
Date	25th May 2017		
Copies to	<Name>		

- AQC Comment
  - The concern that has not been addressed in the Jacobs Response is the potentially significant increase in annual mean NOx concentrations within the Epping Forest SSSI (herby referred to as "the SSSI") alongside the M11 and how this relates to the critical level.

<u>Jacobs' Response</u>

Results of the assessment of annual mean NO_x at Epping Forest SSSI are presented in Table C1, and results of the assessment of N-deposition at Epping Forest SSSI are presented in Table C2.

The figures for the Epping Forest SSSI are contained within table C1 NOx. It should be noted that the DMRB HA207/07 guidance states that the limit value only applies to locations greater than 5km from a motorway. The Epping Forest SSSI directly abuts the M11.The closest location to the M11 within the Epping Forest SSSI registers a modelled change of 3.2 µg/m3. The 'Do Minimum' for this location is 153.1 µg/m3. This represents a change of greater than 0.4 µg/m3 (the DMRB threshold level) and therefore represents a medium change. The exceedances were only observed within 120m of the M11, the predicted NOx concentrations fell within the air quality limit (30 µg/m3) beyond 120m from M11). It should be noted that the site is exceeding the 30 µg/m3 critical level for internationally designated conservation sites and SSSIs (Natural England).

The NOx calculation triggered a calculation for N deposition (under IAN174/13). At this location there is a 'Do Minimum' of 29.5 kg N ha-1 yr-1 and a 'Do Something' of 29.6 kg N ha-1 yr-1. (The current C2 in the ES doesn't show these values but shows total NO_2 instead – acknowledged in the prior response to AQC). This represents a change of 0.1 kg N ha-1 yr-1. The DMRB guidance states that a change of below 1% of the lower threshold of the critical load (10 kg N ha -1 yr-1) for the site represents not a significant change. The critical load for broadleaved deciduous woodland at this location (taken from APIS website) is 10-20 kg N ha-1 yr-1. A change of 0.1 kg N ha-1 yr-1. represents 0.336% of the DM and is therefore deemed not significant.

In addition to the information presented above, the broadleaved, mixed and yew woodland habitat located within Unit 201 of Epping Forest SSSI was last assessed as in a 'Favourable Condition' in 2014, despite high Annual Mean NOx concentrations being recorded. The 2014 assessment noted that while air quality and nutrient nitrogen deposition was a significant issue at this Unit; a favourable condition could be maintained with continued woodland management.

The estimated annual mean NOx concentrations in 2021, with the Proposed Scheme in place within 200m of the M11, are at similar or slightly lower levels than those recorded in 2014. As

such, a 'Favourable Condition' of the broadleaved, mixed and yew woodland habitat is expected to continue to be maintained as long as the current woodland management regime is maintained. Consequently, the residual effect of the Proposed Scheme on air quality at the Epping Forest SSSI is anticipated to be 'Not Significant'.

Figure 1 shows the location of Epping Forest SSSI in relation to the M11 NOx exceedance area.

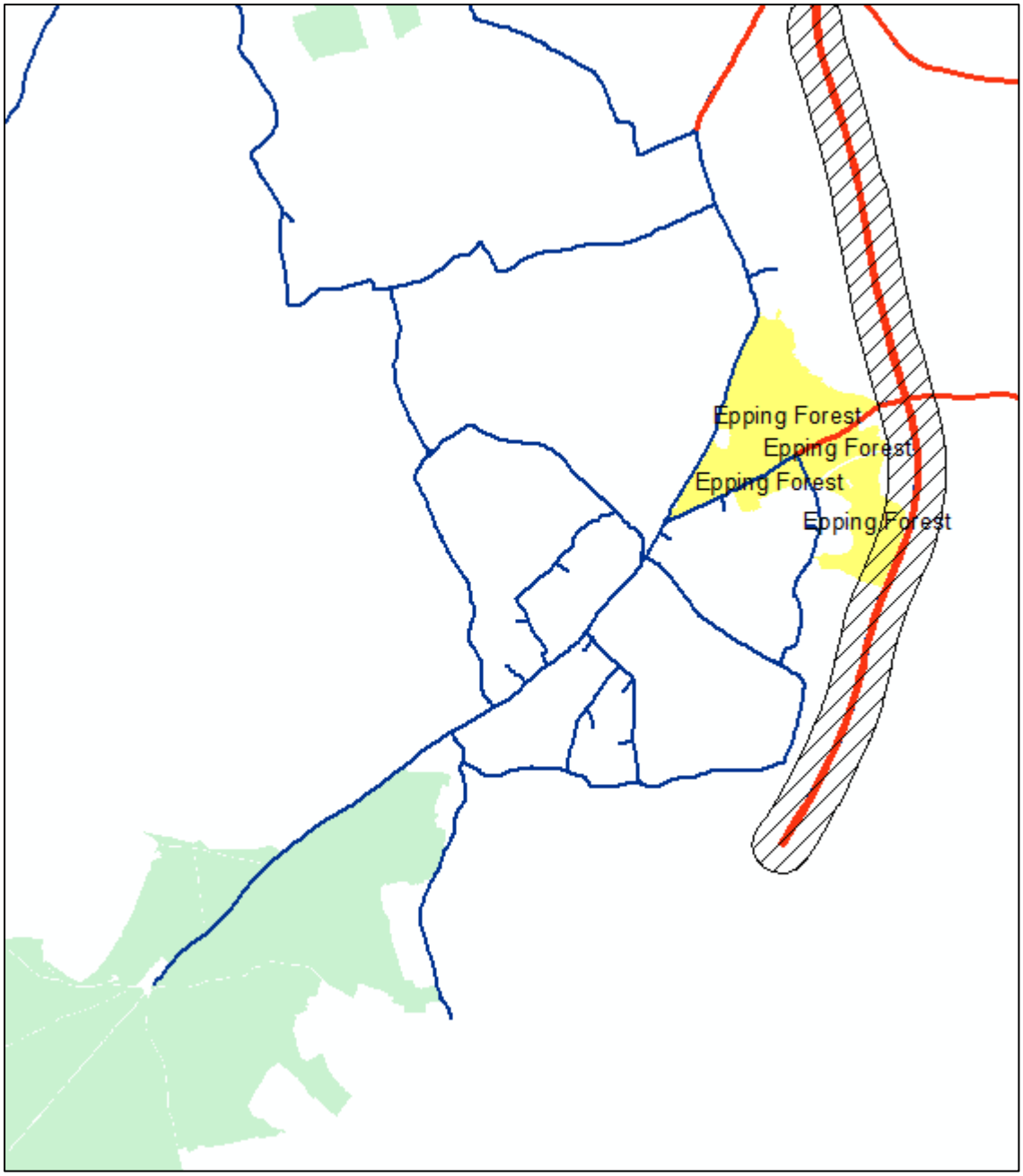

Figure 1 NOx levels affecting Epping Forest SSSI

Epping Forest SSSI

Epping Forest SAC

Traffic network

Affected network

NOx >30ug/m3 and change >0.3 ug/m^3 (130m from M11)