

**West  
Northamptonshire  
Development  
Corporation**

**Danetree Village**

ES Review: Stage 1

December 2007

Entec UK Limited



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**Report for**

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# West Northamptonshire Development Corporation

## Danetree Village

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December 2007

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## Document Revisions

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# 1. Introduction

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## 1.1 The brief

Entec was commissioned in November 2007 by West Northamptonshire Development Corporation (WNDC) to undertake an independent review of the environmental statement (ES) for a proposed mixed-use development known as Danetree Village, located to the north-east of Daventry. The ES accompanied planning applications for outline permission that had been submitted to WNDC and Daventry District Council (DDC). The ES was co-ordinated by Nathaniel Lichfield and Partners on behalf of Danetree Village Consortium.

The brief for the review requires Entec to determine whether there is a need for the applicant to:

- provide additional environmental information to inform the decision-making process; and
- implement any additional measures as part of the development in order to ensure that the significant effects of the development are mitigated.

## 1.2 Scope and methodology of the review

### 1.2.1 The approach to the review

There are three stages to the review process.

#### Stage 1: Review stage

The first stage was to complete a review of the ES, which comprised:

- an analysis of whether the ES assesses all of the effects considered likely to be significant<sup>1</sup>;
- a review of the introductory chapters in the ES and the non-technical summary (NTS) in accordance with the Institute of Environmental Management and Assessment's (IEMA's) ES review criteria (see section 1.2.2);
- a review of the topic chapters in the ES in accordance with the IEMA ES review criteria and additional criteria devised by Entec (see section 1.2.3); and
- a review of the consultation responses received from statutory and non-statutory consultees, discussion with them of any queries in relation to their comments,

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<sup>1</sup> A review of the Scoping Opinion that was adopted would normally be undertaken in order to determine whether it covers the full range of likely significant effects. A Scoping Opinion was not issued for the Danetree ES as the ES was submitted before consultation responses on the scope of the assessment had been returned. For this reason the review of the Danetree ES therefore does not include a review of the Scoping Opinion.

where appropriate and the identification of any implications from these responses for the ES.

As part of Stage 1, recommendations were made as to whether information gaps should be addressed through requests to the developer for clarification on specific matters, or whether a formal request for additional information should be made under Regulation 19 of the *Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999*. In determining what information should be subject to a Regulation 19 request, consideration was given to Circular 02/99<sup>2</sup>, which states that authorities should only use their powers under Regulation 19 when they consider that further information is necessary to complete an ES and thus enable them to give proper consideration to the likely environmental effects of the proposed development. The Circular also states that authorities should not use Regulation 19 simply to obtain clarification or non-substantial information.

Recommendations have been made as to which information should be requested under Regulation 19 and to which information should be requested informally through consultation with the applicants and their consultants.

### **Stage 2: Revision Stage**

The revision stage will comprise:

- discussion, with the developer's consultants regarding the findings of the Stage 1 review and the additional information required to inform the determination process, and any revisions required to the ES in order to ensure that all significant effects are adequately assessed; and
- a review of information subsequently provided by the developer's consultants and, if relevant, clarification with regards to this information.

### **Stage 3: Final Reporting**

The report will reflect the work undertaken in Stages 1 and 2 and include the following:

- an outline of the findings of the review;
- an outline of the information gaps and/or matters requiring clarification as identified through the review;
- the information received from the developer's consultants in relation to information gaps/matters requiring clarification and the subsequent review of any such information received;
- identification of any outstanding information gaps or matters requiring clarification that need to be addressed so that WNDC has all the relevant information regarding the likely significant effects of the development;
- recommendations for dealing with these information gaps or matters requiring clarification; and

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<sup>2</sup> DETR (1999). *Circular 02/99: Environmental Impact Assessment*. The Stationery Office, London.

- identification of the need for any additional measures that should be incorporated as part of the development in order to ensure that the significant effects of the development are mitigated.

### 1.2.2 The IEMA Review Criteria

The IEMA review methodology that was used in Stage 1 is based on the widely known Lee and Colley approach, and includes a series of standard review criteria against which the quality of an ES can be assessed (see Appendix A). The IEMA review criteria reflect not only the minimum requirements of the *Town and Country Planning (EIA) (England and Wales) Regulations (1999)* but also widely recognised good practice. These criteria are divided into three main categories:

- general criteria - these criteria relate to the description of development, site description, scoping and the consideration of alternatives;
- issue-specific criteria - these criteria relate to baseline conditions, the prediction of impact magnitude, impact significance, mitigation measures and follow-up; and
- presentation of results criteria - these criteria relate to the presentation of information, the objectivity of the assessment and the adequacy of the NTS.

Entec considered the quality of the Danetree ES against the criteria in each of these three categories. The results of the review in relation to the introductory chapters of the ES and the NTS are presented separately from the results of the review of the technical chapters, which are subject to additional review as described below.

The IEMA Review criteria are designed to be used to grade the quality of each section of the ES ranging from A (excellent, no tasks left incomplete) to F (very poor, most tasks left incomplete). However, in developing the approach to this review, the decision was taken to focus the review on any information gaps or matters requiring clarification that need to be addressed in order to ensure that WNDP has all the information required for the decision-making process. In taking this approach it was considered that providing grades for the different sections of the ES would serve no purpose.

### 1.2.3 Review of technical assessments

The criteria that were used in the Stage 1 review of the technical assessments contained in the ES are set out below. They are based on Entec's experience of undertaking reviews of other ESs combined with the technical review element from the IEMA review process (as described above).

#### **Baseline information**

The IEMA criteria relating to baseline information (see Appendix A) were considered in the technical review. The technical review also took into consideration whether the baseline information that has been collated is sufficient to enable an adequate assessment to be made of likely significant effects and whether the methodologies used to obtain baseline information, through both desk study and field survey, are appropriate.

#### **Assessment**

The technical review considered the IEMA review criteria in relation to the prediction of the magnitude and significance of effects (see Appendix A). The technical review also took into

account whether the potential effects of the development have been assessed using appropriate methodologies that are relevant to each specific technical issue and whether there is clear consideration as to whether effects are ‘significant’ or ‘not significant’.

### **Mitigation measures**

The technical review considered the IEMA review criteria in relation to mitigation measures and follow-up measures (i.e. measures such as management plans, which may be provided under planning conditions).

The technical review also considered whether there is adequate information in the ES to fully understand the likely significant effects of the proposed development (with mitigation in place), whether such mitigation measures form part of the development and whether there is information to explain how the measures will be implemented.

## **1.3 Purpose of this report**

This report has been produced for the purpose of meeting the requirement of Stage 1 of the review process and providing WNDC with information as to any information gaps or matters requiring clarification within the Danetree ES in order that additional information or clarification can be requested from the applicant. The findings from the report will inform Stage 2 of the review.

## **1.4 Structure of the report**

The remainder of this report (chapter 2) outlines the findings of the review of the Danetree ES. The first section in each chapter deals with the ES excluding the technical chapters. The subsequent sections set out the findings of the reviews of each of the technical assessments, outlining the findings of the review of the ES against the technical review criteria (see section 1.2.3).

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## 2. Stage 1 ES review: Danetree Village

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### 2.1 ES sections other than technical assessments

Two issues were identified in relation to those sections of the ES that do not deal with specific technical topics.

1. The scheme description (paragraph 6.14) states that “.. *if the proposed public transport and pedestrian/cycle link to the High March Industrial Estate .. does not, along with highway infrastructure in the area, result in a modal shift to public transport or additional highway capacity, respectively, then this route may need to be adjusted to accommodate normal highway movements to accommodate the later phases of the Danetree development*”. Further information should be provided to describe what the adjustments to this route are likely to comprise, should they be required, and whether these adjustments would alter the conclusions of the assessment and result in any likely significant effects that have currently not been identified.
2. Although information on phasing is included in paragraphs 7.23 to 7.28, the timescales for each phase or an indication of the overall duration of construction are not provided. In order to understand the possible cumulative effects from the construction of the development and adjacent proposed developments, an indication should be provided regarding timeframes for each of the phases of development identified.

It is recommended that the above information is obtained under a Regulation 19 request.

### 2.2 General comments

In some chapters of the ES (for example, cultural heritage, flooding and hydrology, landscape and visual, and air quality), reference is made to different categories of significance ranging from minor through moderate to major effects. However, it is unclear as to which category of effects should be considered to be significant and material to the determination of the planning application. To assist with the determination of the application, information should be provided as to which category of effect is considered to be significant. This issue has also been identified in the review of the technical chapters of the ES.

It is recommended that this information is requested informally with the applicant.

‘Waste’ and ‘Wastewater’ have been addressed in separate chapters in this ES. Neither are considered to be topics that require assessment under the EIA Regulations and therefore the chapters have not been reviewed.

### 2.3 Agriculture and soils

The review identified the following issues.

1. Tables B3.1 and B3.2 refers to a total application area of 253.6ha whilst the site description in paragraphs 1.1 and 4.1 states that the application site is 207.35ha. Therefore, clarification should be provided as to the size of the application area and as to how the study area (application area) was defined for the Agriculture and Soils chapter.
2. The methodology provided in paragraphs 1.3-1.5 focuses on the determination of baseline conditions rather than the assessment of effects. Furthermore, assessment criteria for determining the significance of effects are not provided. As a consequence, the significance of the predicted effects of development on best and most versatile land is not clearly stated (paragraph 7.1). The significance of effects on agricultural holdings is stated as being a “*minor impact*” and for soil resources and quality it is stated that there will be “*little impact*”. Therefore information should be provided as to whether the identified effects are considered significant.
3. The cumulative effects of the three developments (Dantree, Monksmoor and Churchfields) for agricultural land and farm business have been identified in the ES (including a cumulative loss of 100ha of BMV land). Paragraph 7.4 states “*When considered in combination with other current planning applications and proposals around Daventry this application will have no cumulative effects on agriculture and soils apart from adding to the net loss of productive agricultural land*”. Therefore information is required about whether the cumulative loss of Best and Most Versatile land is considered significant.

It is recommended that the information required to address point 3 is requested under Regulation 19. It is recommended that the areas for clarification under points 1 and 2 should be requested informally.

## 2.4 Archaeology and cultural heritage

The review identified the following issues.

1. Further clarification is required regarding the conclusion in paragraph 3.4 that “*in view of the assessment of importance of known remains within the application Site ....it is considered by both the County Archaeologist and the author of this assessment that, because of the inevitable plough-damage to sub-surface archaeological features, any as yet to be discovered remains within the application Site will be of more local interest*”. Although a desk-based baseline assessment of the proposed development has been undertaken using information including the Sites and Monuments Record and aerial photography, at the neighbouring Church Fields site, less than 100m away, a multi-phase occupation site was identified by geophysical survey (it should be noted that this was not identified during the aerial photographic analysis due to the ‘masking’ effect of medieval agriculture and the poor responsiveness of the clay soils), which was considered to be of regional significance. Therefore, it is recommended that a geophysical survey is requested in relation to the planning application at Danetree. It is possible that further assessment will be required following this, depending on the results of the survey work.
2. The method of assessing the significance of effects is clearly set out and appropriate, though it is not clear what level of effect (from Severe, Major, Moderate, Minor, Not

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Significant) is considered to be significant (see also point 1 under section 2.1 of this report).

3. With regard to the direct loss of archaeological features, it is stated in paragraph 5.5 that “*in the unlikely event of a nationally important sub-surface archaeological remains being discovered, the Development can be fine-tuned to accommodate in-situ preservation within an area of open space*”. It is unclear as to how the development would be altered in order to preserve any such areas of archaeological interest and further information should be provided to confirm whether this potential form of mitigation is feasible.
4. Information should be provided as to whether there will be any significant cumulative effects on the setting of cultural heritage features such the Borough Hill Scheduled Monument from all likely developments in the surrounding area (Monksmoor and Churchfields).
5. Further information is also required on the proposed implementation mechanism for the identified mitigation, in order to clarify that it will be successfully implemented should the scheme proceed.

It is recommended that the information required to address points 1 and 4 is requested under Regulation 19. It is recommended that the areas for clarification under the other points above should be requested informally.

## 2.5 Transport and movement

The review identified the following issues.

1. Table D4.7 summarises the percentage change in two-way daily link flows in 2021 as a result of the proposed development. It is understood that these figures have been derived by comparing the ‘2021 Base’ scenario with the ‘2021 Base plus Danetree Village’ scenario i.e. the Option A model run referred to in paragraph 1.14. However, at paragraph 4.14 the ES states that “*Not all of the above percentage increases are as a result of the development; this is due as much to other development traffic, as well as to reassignment effects as a result of total flows and provision of additional capacity.*” Clarification should be provided as to which developments are included in the Option A model run (i.e. is it purely Danetree Village or is traffic from other sites also included) and confirm that cumulative effects have been assessed.
2. Clarification should be provided as to whether those links that are identified in Table D4.7 as likely to experience an increase in traffic flow of 30% or more have been considered in the assessment.
3. Information should be provided as to whether there will be any significant cumulative effects from construction traffic associated with the Church Fields and Monksmoor developments as all three development will be constructed concurrently for up to a 15 year period.
4. Clarification should be provided to confirm what mitigation measures are proposed as a result of the ES, rather than those associated with the Transport Assessment. For example, paragraph 5.5 refers to further mitigation measures such as traffic calming and

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pedestrian crossings, although it is not clear if these measures are required to mitigate environmental effects identified in the ES. Paragraph 4.27 refers to the provision of mitigation measures at the A45 London Road - High March junction, although it is not clear if these measures are being put forward as part of the design of the proposed development or what form they may take.

It is recommended that the information required to address point 3 is requested under Regulation 19. It is recommended that the areas for clarification under the other points above should be requested informally.

## 2.6 Noise and vibration

The review identified the following issues.

1. Confirmation is required as to whether there will be any significant noise effects (on existing receptors) resulting from construction traffic, based on the indicative construction traffic flows outlined in the ES. In addition, as the construction of the Monksmoor, Church Fields and Danetree developments will overlap information should be provided on whether there will be any significant cumulative effects from construction traffic.
2. Paragraph 4.45 indicates that the cumulative traffic forecasts upon which the assessment of road traffic noise is based considered potential flows from Churchfields (3,300 dwellings plus 2ha of employment land) and Monksmoor (500 dwellings) However, information from the applications for Monksmoor and Danetree indicates that these developments in combination with Church Fields would total approximately 10,000 houses. The Transport Assessment and therefore the noise assessment will need to be revised to provide an updated assessment of cumulative road traffic noise effects. Any revisions should provide clarification as to whether there are likely to be any significant cumulative road traffic noise effects on Weedon, as traffic commuting to Northampton from the development sites will have to pass through this village.

It is recommended that the information required to address points 1 and 2 is requested under Regulation 19.

## 2.7 Hydrology and Flood Risk

The review identified the following issues.

### Water Quality

1. No specific watercourse crossings have been identified for either the construction or operation of the development. Information should be provided as to where structures, i.e. culverts, are likely to be required and about how they will be designed. An assessment of any in-stream works required and their effects, such as elevated suspended solid concentrations in the watercourse, and mitigation should be provided to identify whether there will be any significant water quality effects from the construction of watercourses crossings.

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### **Flood Risk/Hydrology**

2. Both the ES and FRA have identified no flood risk based on identifying that the site is in Flood Zone 1 and that “*after consultation the EA, have indicated that they are happy the Site is not at risk of flooding from the Dodford Brook or the other watercourses that intersect the Site*” (ES 4.4). However, the Environment Agency Flood Map shows Flood Zone 2 and 3 associated with Dodford Brook within the southern part of the site and, consultation responses from the Environment Agency have highlighted that the Flood Map only shows flooding associated with catchments larger than 3km<sup>2</sup>. The small streams in the site are likely to have catchments smaller than this and therefore information (including additional assessment if needed) should be provided to confirm whether these watercourses are a flood risk and therefore whether there will be potentially significant effects from flooding at the site which have not been identified.
3. Historical information on flooding in Dodford in 1998 is still relevant and should be provided.
4. PPS25 requires an assessment of the flood risk from the blockage of culverts. Section 4 of the ES identifies that the four culverts on Dodford Brook will pose a flood risk during construction and provides a reasonable qualitative estimate of the associated flood risk. However, some quantitative assessment should be provided to identify the extent of the risk, i.e. does water build up enough to flow outside the defined channel.
5. Paragraph 2.6 identifies several ponds located close to the channel of the River Nene and gives details of how they are drained. However, it is difficult to understand where exactly these are located without a map and this should be provided. There are also additional ponds located within the site near Burnt Walls, Newnham Grounds and adjacent to the site near Norton that have not been considered. Baseline conditions should be provided for all these water bodies.
6. The Greenfield run-off coefficients stated in section 1.11.2 of the FRA, do not match what is stated and presumably used in the calculations in Table F1. Some justification should be provided as to why the *ConnDOT Drainage Manual* (published for the Connecticut Department of Transport) was used to determine runoff coefficients rather than UK based SuDS or Sewers for Adoption publications. The calculations seem to be produced based only on areas that are to be developed, rather than the whole site and this issue should also be clarified.
7. Some mitigation is identified for the construction phase. However, there are a number of effects that are not assessed that require the identification of mitigation measures. Examples of effects which require mitigation measures include: shorter time to peak flows experienced from bare and compacted ground; damage to the network of field drains by heavy plant and works; the impacts of hydrocarbons from construction plant; the diversion of drainage paths off site; and the risk to the village of Dodford. Although some effects have been addressed in the mitigation measures section, mitigation measures should be included for all the identified effects. Also, some comment regarding the applicability of covering stockpiles versus planting would be useful, as covering them could increase the runoff, which would need to be addressed.
8. Further information is required in relation to the mitigation relating to the operational phase of the development including the following issues.

- The ES identifies that the level of roads will be raised to provide safe access during a large flood event. Further detail should be provided to identify the effects of this in creating an impounding barrier to water flow. Clarification should be provided on how the crossings, (e.g. culverts), will be designed and whether the 1 in 200 year plus climate change flood event will back up behind the road and pose a flood risk to any nearby buildings and possibly overtop the road.
  - Oil/petrol interceptors are to be provided in the car parks. However, hydrocarbons could still enter the aquatic environment from run-off from roads and private driveways, thus needing mitigation.
  - It has been identified that the balancing ponds and drainage system will require maintenance. Further information should be provided to identify who, over the lifetime of the development (100 years), will have responsibility for maintenance, an indicative schedule of maintenance and funding of maintenance.
9. Information should be provided to confirm that the ground floor levels of all buildings will be located at least 600mm above the 1 in 200 year plus climate change event flood level.

### Surface Water Drainage

10. Run-off on to the site from Borough Hill has been identified in the FRA, but this source of flood risk has been included in the ES in relation to surface water drainage. Some information should be provided on the quantity of run-on, associated risk and how this might influence surface drainage on site or how it might effect the design of the balancing/detention ponds in order to confirm that the proposed surface water drainage will mitigate any potentially significant effects.
11. An indication of flows paths on site currently and post-development should be included, particularly identifying how water will flow to the detention ponds and then how/where discharge at Greenfield run-off rates will connect with the existing drainage network.
12. The FRA identifies that the design of the attenuation ponds is based on a 200-year plus climate change event and includes an allowance of 10% for siltation and dilapidation. The Defra/Environment Agency publication *Preliminary Rainfall Runoff Management for Developments – R&D Technical Report W5-074/A/TR/1 Revision C* and the Environment Agency publication *Strategic Review of Development and Flood Risk: Nene Catchment Northampton and Upstream* requires calculation of storage based on a 6-hour 200-year event plus climate change (30% increase to peak rainfall intensity as the development has a 100 year lifetime). The design of the attenuation ponds does not identify the storm duration used to undertake the assessment. The Environment Agency requires that any detention ponds be designed so that within 24 hours of the top water level being attenuated in a 1 in 200-year plus climate change event, the facility will be capable of storing 80% of the additional run-off arising from a 1 in 10 year event. This information should be provided.

It is recommended that the information required to address points 1, 2, 7 and 10 is requested under Regulation 19. It is recommended that the areas for clarification under the other points above should be requested informally.

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### **Flood Risk Assessment**

The Flood Risk Assessment is an integral part of the Flood Risk and Hydrology Chapter of the ES. Given that the ES references this document, it is very important for the ES that the FRA is fit for purpose. The Environment Agency provided comments on the FRA on 9 July 2007 which recommended that the FRA should be updated. Therefore, should the FRA be updated the comments provided by the Agency as well as those below, should be incorporated into the updated assessment. It should be noted that, in some cases, information missing from the FRA has been provided in the ES chapter.

1. The Environment Agency Flood Map should be provided as part of the FRA as both Flood Zone 2 and 3 are identified within the development area.
2. There is limited information on groundwater within the FRA, although additional information is provided in the ES. The FRA should also provide this detail.
3. Section 1.8.6 of the FRA states that the green corridors identified on the Master Plan correspond with the location of the watercourses. There is no drawing with which to confirm this statement, but from review of the Master Plan (Appendix 3) it does not appear that the green corridors follow watercourses. Particularly east of Borough Hill, the largest ordinary watercourse follows the field boundary and tree line bending slightly south through the development area. But on the Master Plan, the green corridor bends north. Clarification should be provided with regards to this issue.
4. Some detail is provided within the ES Chapter on the risk to access routes during a flood event, although none is provided in the FRA. This information should be included as part of the FRA.
5. The proposed locations of detention ponds need to be above the 1 in 200 year plus climate change event level. The FRA needs to confirm that this is the case.

## **2.8 Ground conditions**

No areas for clarification or any requirements for additional information were identified in the review in relation to ground conditions. The only issue noted in the review was that the ES identifies potential design measures which will mitigate effects. Whilst these are considered reasonably likely and achievable, this should be the subject of an appropriate planning condition.

## **2.9 Air quality**

The review identified the following issues.

1. The current status of Air Quality Management Areas (AQMAs) should be confirmed with DDC. It is understood that there are potential issues identified by DDC at locations in close proximity to the M1, but it is expected that air quality at these locations is unlikely to be affected by the current development proposals.
2. It is recommended that contour data are provided rather than just a selection of receptors. This would allow for a better visualisation of the potential effects and would also counter any selection bias created by the selection of receptors. As stated in

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Section 1.36 of the chapter, receptor locations have been selected on the basis that they are representative of others in the surrounding area; therefore, the predicted impact that the proposed development will have at the receptors chosen may be considered representative of similar locations in the wider area. On this basis, there may be additional receptors that will be affected by the development, to a greater or lesser degree, but this is not clear because the results from modelling are not shown as contour plans. In some cases this may result in exceedences of the Air Quality Objectives (AQOs) that has not be identified as the assessment has focused on receptors that could be less severely affected than other potential receptors. The contouring of results should be undertaken to determine the extent of any likely exceedences of the AQOs and the number of properties that may be affected.

3. Section 3.1 identifies that air quality in the area is mainly influenced by emissions from road transport. Section 3.2 states that there are no industrial sources likely to significantly affect concentrations of NO<sub>2</sub> and PM<sub>10</sub> at the proposed development site. Clarification should be provided as to whether there are other local industrial sources located in close proximity to the site that emit other pollutants or odours that could be a constraint to development. It is noted that the noise section of the ES identifies Metokote (a paint spraying business) as being within 600m of the site with planning permission granted for new plant rooms closer to the site.
4. The baseline assessment includes five months of NO<sub>2</sub> diffusion tube monitoring. The monitoring serves the purpose of informing the baseline and enabling the verification of dispersion modelling results in the absence of local continuous monitoring of NO<sub>x</sub> and NO<sub>2</sub>. The derived annual mean results should, however, be interpreted with caution due to the inherent inaccuracies of this monitoring technique. The diffusion tubes have been bias-adjusted on the basis of a corresponding five month collocation study at a continuous monitoring station in Hook, Hampshire. The selection of this site is not appropriately clear and should be clarified. The bias correction is based on data from only one site that is not local to the development site. If the Hook data are not representative of site conditions, this may increase uncertainty in the calculation of the bias adjustment factor.
5. The bias corrected five month averages of NO<sub>2</sub> diffusion tube monitoring results are then corrected to an estimated annual mean concentration at each location for the year 2005. The selected approach broadly follows Defra guidance. The monitoring stations used should have been 'Background sites' (defined as urban locations distanced from sources and broadly representative of city-wide background concentrations) to reflect the nature of the development. However, the selected sites are Coventry (an 'Urban Centre' site, defined as non-kerbside sites located in an area representative of typical population exposure in town or city centre areas) and Market Harborough (a 'Rural' site, defined as open country locations distanced from population centres, roads and industrial areas), neither are defined as 'Background' sites. It should be noted that the site selection can significantly affect the factor used to estimate the annual mean NO<sub>2</sub> concentrations from short-term monitoring data. Therefore clarification should be provided as to why data from an Urban Centre and Rural site were used.
6. The five months of diffusion tube monitoring data that have been bias corrected and then adjusted to estimated annual means, are finally used to verify the results of the dispersion modelling assessment (i.e. apply a correction factor to the modelling results so that they match the monitoring results). The estimated annual mean concentrations

based on monitoring data, are therefore subject to considerable uncertainty which should also be borne in mind when evaluating the verified modelling results, particularly when modelled concentrations are close to the AQOs. This should be applied to the assessment.

7. A five month period of baseline dust monitoring has been undertaken using Dust Slides. It appears that the Dust Slides have been exposed for a period of approximately one month, and the soiling rate over this period has been divided by the number of days to give the equivalent of Soiling Units per Day. It is suggested that a trigger value of twice the baseline should be applied during the construction phase to avoid potential dust nuisance, although it is identified in Section 3.10 of the ES that further baseline monitoring using Frisbee Gauges (dust deposition gauges) should be undertaken. The published methodology for Dust Slide monitoring is based on weekly exposures, with a four-week rolling means used to evaluate potential nuisance. The longer the slides are left exposed, the greater the likelihood of the deposited dust being washed from the slide by rainfall - the values obtained in this baseline survey are an order of magnitude below what one would perhaps expect, and this is likely to be due to the duration that the slides have been exposed in the field. It is therefore considered that the results from the Dust Slides may be invalid. However, it is considered that a detailed assessment of dust effects is not required given the information available from the ES on the nature of the site and surrounding area and the proposed development, providing that appropriate mitigation measures are implemented during construction.
8. Information should be provided as to whether there will be any likely significant effects from construction traffic given the indicative numbers estimated in the ES. In addition, as the construction of the Monksmoor, Church Fields and Dantree developments may occur concurrently for up to a period of 15 years, information should be provided to confirm whether there will be any significant cumulative air quality effects from construction traffic flows, from all the proposed developments.
9. As stated above, model verification is based on diffusion tube monitoring which will increase the uncertainty of the modelled output when compared to verification based on local continuous monitoring. It is assumed that the method of verification follows a Defra recommended approach, but limited information is presented to evaluate the methodology. Further clarification regarding the method of verification should be provided.
10. At Receptor 20, the annual mean NO<sub>2</sub> baseline in 2021 is modelled as 29.66 µg/m<sup>3</sup>. With the Danetree development the concentration of NO<sub>2</sub> increases by 7.89 µg/m<sup>3</sup> to 37.55 µg/m<sup>3</sup>. When other committed developments are included in the assessment, the concentration of NO<sub>2</sub> increases by a further 2.11 µg/m<sup>3</sup> to 39.66 µg/m<sup>3</sup>. This is only fractionally below the 40 µg/m<sup>3</sup> AQO and may therefore lead to the declaration of an AQMA, affecting Receptor 20, and others at similar locations in the wider area that are not specifically identified in the ES. Given that traffic modelling may have underestimated the cumulative effects from the Church Fields, Danetree and Monksmoor developments (see point 2 of section 2.6 of this report), if exceedences were predicted, the magnitude of change (7.89 µg/m<sup>3</sup>) could result in significant effects. Therefore, the assessment will need to be revised to provide an updated assessment of cumulative road traffic air quality effects. Any revisions should provide clarification as to whether there are likely to be any significant cumulative road traffic air quality effects on Weedon, as traffic commuting to Northampton from the development sites will have to pass through

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this village. Furthermore, the provision of contour plans would indicate whether there were any other receptors close to receptor 20 where the predicted cumulative effect would be above the 40 mgm<sup>3</sup> AQO therefore resulting in significant effects.

11. It is considered not appropriate to verify the PM<sub>10</sub> modelling results on the basis of the relationship between modelled and monitored NO<sub>2</sub>. The performance of the model will be different for each pollutant based on the underlying emission factors and atmospheric chemistry. The model converts emissions of NO<sub>x</sub> to NO<sub>2</sub>; for PM<sub>10</sub> there is no chemical reaction involved. It is therefore considered that the PM<sub>10</sub> modelling results cannot be considered as reliable.

It is recommended that the information required to address points 8 and 10 is requested under Regulation 19. Point 7 is provided for information only. It is recommended that the areas for clarification under the other points above should be requested informally.

## 2.10 Landscape and visual impact

The review identified the following issues.

1. Clarification is needed on the criteria used to establish the thresholds above which effects are judged to be significant. This then needs to follow through in the reporting of individual and cumulative effects in order to confirm which effects are considered to be significant. The methodology also does not define, in measurable terms, the geographic extent of predicted effects, nor their duration.
2. Landscape Character Area 2 is assessed as having “*medium landscape quality*”, although this includes the Special Landscape Area (SLA) (para 3.27). However, the Application Site, which is outside of the SLA is assessed as having “*high landscape quality*”. Further clarification on the basis of this conclusion should be provided.
3. The assessment of landscape quality, value and sensitivity is unclear (paras 3.50 to 3.53). The ‘*key national transport route*’ status of the road, rail and canal network results in a ‘*high landscape value*’; however, motorway and rail links would normally be considered to represent ‘detractors’ in the landscape and clarification should be provided regarding these differences in evaluation.
4. A distinction has been made between direct views of the site and filtered or obscured views (paragraph 3.69). However, the criteria of ‘*direct*’ views to the site (paragraph 3.75) has been used to select the viewpoints for photomontage, referring then to photography taken in winter when lack of leaf cover offers more open views. It is unclear whether the approach has in fact been to adopt a ‘worst case’ approach to photomontage locations and this should be confirmed.
5. Viewpoint distance has not been indicated in the viewpoint descriptions (paras 3.48 to 3.123) and there is therefore no cross-reference to the Assessment of Impacts section. Clarification should be provided on how the geographical extent is defined and relate this back to the viewpoint distances.
6. The report refers to “Close Range” views (para 5.13) although these are not quantified. Clarification is needed on how these are quantified. Having referred specifically to

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close range views there should be some reference to other viewpoints and associated viewing distances.

7. It is noted that cumulative effects from the proposed developments in the surrounding area on landscape character have been considered in the assessment. Information should also be provided on the potentially significant cumulative effects on the visual receptors that have been identified (i.e. locations from where the most sensitive receptors will experience the highest magnitude of change). Information should also be provided as to whether there will be any cumulative effects from construction of the proposed developments in the surrounding area as construction of all three sites (including Church Fields and Danetree) may occur concurrently for up to a 15 year period.

It is recommended that the information required to address point 7 is requested under Regulation 19. It is recommended that the areas for clarification under the other points above should be requested informally.

## 2.11 Ecology and nature conservation

The review identified the following issues.

1. The ecological surveys forming the basis of the ES were undertaken in 2004-2005; the results from some of these may therefore be considered to be out of date. In particular, where surveys for protected species were negative but the habitat was felt to be suitable for those species (namely dormouse, great crested newt, reptiles other than grass snake, water vole and white-clawed crayfish). (This point is also made by the Bedfordshire, Cambridgeshire, Northamptonshire and Peterborough Wildlife Trust [BCNP] in its consultation response of 10 May 2007.). Information should be requested to confirm whether updated surveys are required and if so new survey data provided, where appropriate.
2. The consultation response from the Northamptonshire Bat Group (Table J3.1: Responses to Consultation Exercise) includes reports of Leisler's bat, whiskered/Brandt's bat, noctule and soprano pipistrelle in the area of the application site, but these are not included in the table of records in the desk study section (Table J3.1). Clarification should be provided as to whether this additional information is likely to alter the conclusions of the assessment and result in the identification of significant effects not previously identified.
3. It is reported in Table J3.1 that the County Plant Recorder supplied a range of recent and historical botanical records for the search area and surrounds. These data do not appear to be included in the ES. It should be clarified whether these records include any protected or nationally/locally rare species; if so, whether this additional information is likely to alter the conclusions of the assessment and result in the identification of significant effects not previously identified.
4. Further details of the dormouse survey (detailed survey dates, number of visits to the site, and numbers of hair tubes deployed) should be provided. However, on the basis of the information provided, the survey methodology appears to be less than optimal for the following reasons:

- nest search: natural dormouse nests are frequently not found even where dormice are present;
- nut search: this was carried out during May and June, whereas the optimum period for this type of survey is from mid-August to October/November; and
- hair tubes: the success rate of this type of survey is very low<sup>3</sup>.

The absence of positive results from these surveys does not necessarily indicate that dormice are not present at the site. Clarification should be provided as to whether there are any records of Dormice within the site or in the surrounding area. If there are such records, additional surveys may be required.

5. Since the ES was written, certain species and habitats have been added to or removed from the UK BAP Priority Lists, including a number of those present or potentially present on the application site. Additional information should be provided to reflect these changes, and any consequent changes to county priority lists.
6. As the ES acknowledges, further survey work is required with regard to certain species, in particular bats and badger, in order to inform the detailed design of the scheme. Survey work for bats and badgers should be repeated prior to construction as part of a planning condition (see point 1). In relation to mitigation for adverse effects of development on badgers, it should be noted that Natural England (formerly English Nature) guidance on best practice and licensing was revised during 2007 (see Interim Guidance Note<sup>4</sup>) and may be revised further in the near future. Up-to-date guidance should be followed when planning further survey work and mitigation measures.
7. Although the ES recommends a range of mitigation and enhancement measures, no recommendations for monitoring the success of these measures, feedback of monitoring data into the relevant management plans, or details of who is to be responsible for management are provided. (The BCNP consultation response of 10 May 2007 also makes this point.). Therefore, this additional information should be provided.

It is recommended that the information required to address point 1 is requested under Regulation 19. It is recommended that the areas for clarification under the other points above should be requested informally.

## 2.12 Socio-economic

The review identified the following issues.

1. It is recommended that information is provided on the social effects on local communities and the impact on the local quality of life (considering, for example, issues such as increases in anti social behaviour and general disturbance to the local community during the construction of all three developments). This should consider the

<sup>3</sup> Bright, P., Morris, P. and Mitchell-Jones, A.J. (2006). *The Dormouse Conservation Handbook*. English nature, Peterborough.

<sup>4</sup> <http://www.naturalengland.org.uk/conservation/wildlife-management-licensing/docs/Badgers%20and%20Development%20guidance%20%2017%20Sep%2007.pdf>

cumulative effects of other housing developments in Daventry (at Monksmoor and Church Field).

2. Information should also be provided to confirm whether, in conjunction with the Church Fields and Monksmoor, developments, the facilities provided as part of all three developments will result in an over-provision of local services.

It is recommended that the areas for clarification under the above points are requested informally.



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# Appendix A

## IEMA ES Review Criteria

3 Pages

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### Criteria relating to non-technical chapters in the ES

#### Description of the Development

**IEMA Review Criteria:** The ES should describe the purpose and objectives for the development. The proposal and its need should be placed in the context of local/ regional/ national plans/ objectives/ strategies. The anticipated time scales of construction, operation and (where appropriate) decommissioning of the proposal should be given. The likely methods of construction (techniques and equipment to be used) should be given where construction could give rise to significant impacts. In instances where the likely methods of construction are unknown the ES should indicate possible methods and adopt the worst-case scenario approach in prediction of related impacts. The description should include the physical characteristics of the proposal, including its location, the design and size of the development and the area of land take during construction and operation. The ES should describe the main characteristics of any production processes, for instance the nature and quantity of materials to be used. The description should be illustrated by the use of maps and/or diagrams. A brief outline of the experience of the operator and the operational process(es) that will be employed should be included within the ES. The ES should provide reasoned estimates for the quantities and type of traffic that will arise during construction and operation. Where materials are considered to be an important resource, the ES should describe and quantify the materials to be used. The quantities and types of residues and emissions generated at each of the above phases should also be estimated.

#### Site Description

**IEMA Review Criteria:** The area of proposed land take should be clearly described and indicated on an appropriate map or diagram. The land uses on the site and the surrounding area should be described and illustrated. The ES should describe any policies, plans or designations that are relevant to the site and its surroundings. The study area should be consistent with the area potentially affected by the development. The description should place the affected land in the context of its surroundings. The ES should also describe how the affected land would be expected to develop without the proposal and the future status of the land in the absence of the project (e.g. is the site allocated for development or how would the conservation status change over time).

#### Scoping

**IEMA Review Criteria:** The (ES) should describe the scoping process that has been undertaken to identify key impacts. The description should include details of consultation with appropriate statutory and non-statutory consultees, including the public. The ES should identify those parties consulted and provide a summary of their responses. Where issues raised by the consultees are not to be addressed in detail in the ES, a reasoned justification for their exclusion should be given. The scoping process should identify those aspects of the environment that are likely to be significantly affected by the development (including in particular, population, fauna, flora, geology and soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors). The ES should also evaluate any direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects, resulting from the existence of the development, the use of natural resources and the emission of pollutants, the creation of nuisances and the elimination of waste. The ES should clearly state what effects will, and what effects will not, be addressed and how this decision was reached, together with the spatial and temporal scope of the assessment. The ES should identify the regulations under which the EIA is required, and indicate whether it is also to be used to address other regulatory requirements (e.g. Appropriate Assessment under the requirements of the Habitats Directive, or as part of a Pollution Prevention and Control Application).

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## Consideration of Alternatives

**IEMA Review Criteria:** The ES should describe the main alternatives to the proposal that have been considered. For example, alternative sites, construction practices, plant and equipment, operating processes and site layouts should be considered (where appropriate). The advantages and disadvantages of each option should be clearly stated. The main reasons for the selection of the preferred option should be described in outline, taking into account the environmental effects. Other factors influencing the choice of alternative should be noted, e.g. feasibility, cost-effectiveness and reasonableness of each option. If a formal option appraisal has been carried out it should be described and the relevant decision factors noted.

## Presentation

**IEMA Review Criteria** The ES should be clear and logical in its layout and presentation and be capable of being understood by the non-specialist. The use of technical terms should be kept to a minimum, with a glossary provided. A full list of references should be provided. The inclusion of information not directly relevant to the nature of the proposal and its associated impacts should be avoided. Plans should be provided to assist in understanding the locations of impacts and should be labeled with all places mentioned in the text.

## Objectivity

**IEMA Review Criteria** The ES should be a balanced document, providing an unbiased account of the environmental effects with reasoned and justifiable arguments. The ES should give appropriate prominence to both positive and negative effects relative to their importance. The ES should summarise the issues raised by consultees. The ES should be explicit in recognising areas of limitations within the ES, any difficulties that have been encountered and assumptions on which the assessment is based. How these have affected the ES and what measures were taken to limit them should be detailed.

## Non-Technical Summary

**IEMA Review Criteria** The NTS should provide sufficient information for the non-specialist reader to understand the main environmental impacts of the proposal without reference to the main ES. The NTS should include a summary of the description of the development, the main alternatives considered, the aspects of the environment likely to be significantly affected by the development, the likely significant impacts and the mitigation measures to be implemented. The NTS should make appropriate reference to maps and diagrams. The NTS should be provided as a separate, stand alone document to facilitate a wider readership.

## Criteria relating to technical chapters in the ES

### Baseline Conditions

**IEMA Review Criteria:** The ES should describe the current condition of those aspects of the environment that are likely to be significantly affected by the development. Where existing data has been used to establish the baseline the source of the data should be identified in the ES. The ES should provide a clear description of the methods used to supplement existing information. Where possible, the data gathered should be expressed quantitatively. The baseline environment should be evaluated, for example in relation to its sensitivity and importance. This could be achieved by comparison to relevant threshold limits (WHO Limits, EU Quality Standards etc.) or by reference to appropriate environmental designations. Any limitations of baseline surveys should be recognised.

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## Prediction of Impact Magnitude

**IEMA Review Criteria:** The predictions for the magnitude of the likely significant effects of the development should be identified in the ES. The magnitude of the impact should be predicted as a deviation from the established baseline conditions, for each phase of the proposal. The information and data used to predict the magnitude of impact should be clearly described. Where there are any gaps or uncertainty, these should be identified. The methods used to establish magnitude should be clearly described and be appropriate and reasonable in relation to the importance of the impact. Where assumptions or unsupported data has been used in the predictions these should be highlighted and accompanied by an indication of the reliability/ confidence of those assumptions or data. The data given should be quantified and levels of confidence in the estimates given. The ES should identify quantitatively the impacts that remain following mitigation. The ES should evaluate any direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects, resulting from the existence of the development, the use of natural resources and the emission of pollutants, the creation of nuisances and the elimination of waste.

## Impact Significance

**IEMA Review Criteria:** The significance of all impacts should be assessed using the appropriate national and international quality standards limits (WHO Limits, EU Quality Standards etc). Where no such standards exist, the ES should describe the judgements (assumptions and value systems) that underpin the attribution of significance. The assessment of significance should consider the impact's deviation from the established baseline condition, the sensitivity of the environment and the extent to which the impact will be mitigated or is reversible. The range of factors which are likely to influence the assessment of significance should be clearly identified. The ES should also detail how these variables will affect the significance of the impacts over the life of the development. The ES should identify the significance of impacts that remain following mitigation.

## Mitigation

**IEMA Review Criteria:** The ES should describe the measures proposed to avoid, reduce, and if possible, remedy significant adverse impacts. The ES should provide an indication of the effectiveness of the stated measures. The ES should demonstrate a clear commitment to implementing the mitigation measures and indicate how and when these measures will be implemented. Where there is uncertainty over the effectiveness, or it is dependent on assumptions, justification should be provided for the acceptance of the assumptions.

## Follow-Up

**IEMA Review Criteria:** The ES should provide details of any management plans that are to be implemented to deliver mitigation measures and to monitor the environmental impact of the project. These should also provide details of the time scales of the management plans and their geographical extent. Where a management plan is to be integrated into an environmental management system, the ES should describe how this would be implemented. The ES should identify those responsible for the follow-up programme and describe how the results of such a programme will affect the proposal's operation.