## Minerals and Waste Local Plan Publication Stage Representation Form

**Page 1: Suffolk Minerals and Waste Local Plan Publication Stage Representation**

### Q1. Please state if you are responding:

<table>
<thead>
<tr>
<th>As an agent</th>
</tr>
</thead>
</table>

### Q2. Personal Details:

*No Response*

### Q3. Agent's Details:

<table>
<thead>
<tr>
<th>Title</th>
<th>Mr</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td>Shaun</td>
</tr>
<tr>
<td>Last Name</td>
<td>Denny (received via post)</td>
</tr>
<tr>
<td>Job Title (where relevant - if this is not relevant, please write N/A)</td>
<td>Development Planner</td>
</tr>
<tr>
<td>Organisation (where relevant - if this is not relevant, please write N/A)</td>
<td>Cemex UK Operations Limited</td>
</tr>
<tr>
<td>Address Line 1</td>
<td>WOLVERHAMPTON ROAD</td>
</tr>
<tr>
<td>Address Line 2</td>
<td>OLDBURY</td>
</tr>
<tr>
<td>Address Line 3 (if this is not required, please write N/A)</td>
<td>WARLEY</td>
</tr>
<tr>
<td>Address Line 4 (if this is not required, please write N/A)</td>
<td>WEST MIDLANDS</td>
</tr>
<tr>
<td>Post Code</td>
<td>B69 4RJ</td>
</tr>
<tr>
<td>Telephone Number (if you do not wish to provide this information, please write N/A)</td>
<td></td>
</tr>
<tr>
<td>Email address (where relevant - if this is not relevant, please write N/A)</td>
<td></td>
</tr>
<tr>
<td>Name and address of the person or organisation you are acting as an agent for</td>
<td>Cemex UK Operations Limited</td>
</tr>
</tbody>
</table>

### Q4. To which part of the Local Plan does this representation relate?

| Paragraph | - |
| Policy | MP1 |
| Policies Map | Wangford |
Q5. Do you consider the Local Plan is

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Legally compliant</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(2) Sound</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(3) Complies with the Duty to co-operate</td>
<td></td>
<td>X</td>
</tr>
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</table>

Q6. Please give details of why you consider the Local Plan is not legally compliant or is unsound or fails to comply with the duty to co-operate. Please be as precise as possible. If you wish to support the legal compliance or soundness of the Local Plan or its compliance with the duty to co-operate, please also use this box to set out your comments.

Not applicable

Q7. Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound, having regard to the Matter you have identified at 5 above where this relates to soundness. (NB Please note that any non-compliance with the duty to co-operate is incapable of modification at examination). You will need to say why this modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible.

Not applicable

Q8. SCC Response

No Response

Q9. If your representation is seeking a modification, do you consider it necessary to participate at the oral part of the examination?

Yes, I wish to participate at the oral examination

Q10. If you wish to participate at the oral part of the examination, please outline why you consider this to be necessary:

To be able to provide support and explanation to the submitted evidence base as required.

Q11. Your details:

Name  S Denny
Date   19th July 2018
This form has two parts –

Part A – Personal Details

Part B – Your representation(s). Please fill in a separate sheet for each representation you wish to make.

**Part A**

<table>
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<tr>
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<td></td>
</tr>
</tbody>
</table>

**Title**

| MR |

**First name**

| SHAUN |

**Last Name**

| DENNY |

**Job Title (where relevant)**

| DEVELOPMENT PLANNER |

**Organisation (where relevant)**

| CEMEX UK OPERATIONS LIMITED |

**Address Line 1**

| WOLVERHAMPTON ROAD |

**Address Line 2**

| OLDBURY |

**Address Line 3**

| WARLEY |

**Address Line 4**

| WEST MIDLANDS |

**Post Code**

| B69 4RJ |

**Telephone Number & Email Address (where relevant)**

|      |      |
Part B – Please use a separate sheet for each representation

Name or Organisation:

3. To which part of the Local Plan does this representation relate?

Paragraph Policy Policies Map

4. Do you consider the Local Plan is:

4. (1) Legally Compliant

Yes [x] No

4. (2) Sound

Yes [x] No

4. (3) Complies with Duty to co-operate

Yes [x] No

Please tick as appropriate

5. Please give details of why you consider the Local Plan in not legally compliant or is unsound or fails to comply with the duty to co-operate. Please be as precise as possible.

If you wish to support the legal compliance or soundness of the Local Plan or its compliance with the duty to co-operate, please use this box to set out your comments.

NOT APPLICABLE
6. Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound, having regard to the matter you have identified at 5 above where this relates to soundness. (NB Please note that any non-compliance with the duty to co-operate is incapable of modification at examination). You will need to say why this modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised working of any policy or text. Please be as precise as possible.

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7. If your representation is seeking modification, do you consider it necessary to participate at the oral part of the examination?

- No, I do not wish to participate at the oral examination
- Yes, I wish to participate at the oral examination
8. If you wish to participate as the oral part of the examination, please outline why you consider this to be necessary:

TO BE ABLE TO PROVIDE SUPPORT AND EXPLANATION TO THE SUBMITTED EVIDENCE BASE AS REQUIRED

Please note that the Inspector will determine the most appropriate procedure to adopt to hear those who have indicated that they wish to participate at the oral part of the examination.

9. Signature: ___________________________ Date: 19th JULY 2018

Please return to: Graham Gunby, Development Manager, Suffolk County Council, 8 Russell Road, Ipswich, Suffolk, IP1 2BX. All correspondence must be received by Monday 23rd July 2018 at 17:00, or the views expressed will not be able to be taken into account.

Notes to Accompany Representation Form

1. Introduction

1.1. The plan is published in order for representations to be made prior to submission. The representations will be considered alongside the published plan when submitted, which will be examined by a Planning Inspector. The Planning and Compulsory Purchase Act 2004 (as amended) (PCPA) states that the purpose of the examination is to consider whether the plan complies with the legal requirement, the duty to co-operate and is sound.

2. Legal Compliance and Duty to Co-operate

2.1. The Inspector will first check that the plan meets legal requirements under s20(5)(a) and the duty to co-operate under s20(5)(c) of the PCPA before moving on to test for soundness.

2.2. You should consider the following before making a representation on legal compliance:
• The plan in question should be included in the current Local Development Scheme (LDS) and the key stages should have been followed. The LDS is effectively a programme of work prepared by the LPA, setting out the Local Development Documents (LDDs) it proposes to produce. It will set out the key stages in production of any plans which the LPA proposes to bring forward for independent examination. If the plan is not in current LDS it should not have been published for representations. The LDS should be on the PLA’s website and available at its main offices.

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• The Plan should comply with the Town and Country Planning (Local Planning) (England) Regulations 2012 (the regulations). On publication, the LPA must publish the documents prescribed in the Regulations, and make them available at its principle offices and on its website. The LPA must also notify the various persons and organisations set out in the Regulations and any persons who have requested to be notified.

• The LPA is required to provide a Sustainability Appraisal Report when it publishes a plan. This should identify the process by which the Sustainability Appraisal has been carried out, and the baseline information used to inform the process and the outcomes of that process. Sustainability Appraisal is a tool for appraising policies to ensure they reflect social, environmental, and economical factors.

• In London, the plan should be in general conformity with the London Plan (the Spatial Development Strategy).

2.3. You should consider the following before making a representation on compliance with the duty to co-operate.

• The duty to co-operate came into force on 15 November 20011 and any plan submitted for examination on or after this date will be examined for compliance. LPAs will be expected to provide evidence of how they have complied with any requirements arising from the duty.

• The PCPA establishes that non-compliance with the duty to co-operation cannot be rectified after the submission of the plan. Therefore, the Inspector has no power to recommend modifications in the regard. Where duty has not been complied with, the Inspector has no choice but to recommended non-adoption of the plan.

3. Soundness

3.1. Soundness is explained in paragraph 182 of the National Planning Policy Framework (NPPF). The Inspector has to be satisfied that the plan is positively prepared, justified, effective and consistent with national policy:
• **Positively prepared:** This means that the plan should be prepared based on strategy which seeks to meet objectively assessed development and infrastructure requirements, including unmet requirements from neighbouring authorities where it is reasonable to do so and consistent with achieving sustainable development.

• **Justified:** The plan should be the most appropriate strategy when considered against reasonable alternatives, based on proportionate evidence.

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• **Consistent with national policy:** The plan should enable the delivery of sustainable development in accordance with the policies in the NPPF.

3.2. If you think the content of the plan is not sound because it does not include a policy where it should do, you should go through the following steps before making representations:

• Is the issue with which you are concerned already covered specifically by national planning policy (or the London Plan)? If so it does not need to be included?

• Is what you are concerned with covered by any other policies in the plan on which you are seeking to make representations or in any other plan?

• If the policy is not covered elsewhere, in what way is the plan unsound without the policy?

• If the plan is unsound without the policy, what should the policy say?

4. General Advice

4.1. If you wish to make a representation seeking a modification to a plan or part of a plan you should make clear in what way the plan or part of the plan is inadequate having regard to legal compliance, the duty to cooperate and the four requirements of soundness set out above. You should try to support your representation by evidence showing why the plan should be modified. It will be helpful if you also say precisely how you think the plan should be modified. Representations should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further submissions based on the original representation made at publication. After this stage, further submissions will only be at the request of the Inspector, based on the matters and issues he/she identifies for examination.

4.2. Where there are groups who share a common view on how they wish to see a plan modified, it would be very helpful for that group to send a single representation which represents the view, rather than for a large number of individuals to send in separate representations which repeat the same points. In such cases the group should indicate how many people it is representing and how the representation has been authorised.
Suffolk Minerals & Waste Local Plan
Publication Stage Representation Form

This form has two parts –

Part A – Personal Details

Part B – Your representation(s). Please fill in a separate sheet for each representation you wish to make.

## Part A

1. Personal Details*  
2. Agent’s Details

*If an agent is appointed, please complete only the Title, Name and Organisation boxes below but complete the full contact details of the Agent in 2.

<table>
<thead>
<tr>
<th>Title</th>
<th>MR</th>
</tr>
</thead>
<tbody>
<tr>
<td>First name</td>
<td>SHAUN</td>
</tr>
<tr>
<td>Last Name</td>
<td>DENNY</td>
</tr>
<tr>
<td>Job Title (where relevant)</td>
<td>DEVELOPMENT PLANNER</td>
</tr>
<tr>
<td>Organisation (where relevant)</td>
<td>CEMEX UK OPERATIONS LIMITED</td>
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<td>B69 4RJ</td>
</tr>
</tbody>
</table>

Telephone Number & Email Address (where relevant)
**Part B – Please use a separate sheet for each representation**

Name or Organisation:

3. To which part of the Local Plan does this representation relate?

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Policy</th>
<th>Policies Map</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MS7</td>
<td></td>
</tr>
</tbody>
</table>

4. Do you consider the Local Plan is:

4. (1) Legally Compliant

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

4. (2) Sound

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

4. (3) Complies with Duty to co-operate

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
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**Title**

---

**MR**

**First name**

---

**SHAUN**

**Last Name**

---

**DENNY**

**Job Title** (where relevant)

---

**DEVELOPMENT PLANNER**

**Organisation** (where relevant)

---

**CEMEX UK OPERATIONS LIMITED**

**Address Line 1**

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**WOLVERHAMPTON ROAD**

**Address Line 2**

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**OLDBURY**

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**WARLEY**

**Address Line 4**

---

**WEST MIDLANDS**

**Post Code**

---

**B69 4RJ**

**Telephone Number & Email Address** (where relevant)

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### Part B – Please use a separate sheet for each representation

Name or Organisation:

3. **To which part of the Local Plan does this representation relate?**

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<td></td>
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4. **Do you consider the Local Plan is:**

4. (1) **Legally Compliant**

Yes [X] No [ ]

4. (2) **Sound**

Yes [X] No [ ]

4. (3) **Complies with Duty to co-operate**

Yes [X] No [ ]

Please tick as appropriate

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3.1. Soundness is explained in paragraph 182 of the National Planning Policy Framework (NPPF). The Inspector has to be satisfied that the plan is positively prepared, justified, effective and consistent with national policy:
• **Positively prepared:** This means that the plan should be prepared based on strategy which seeks to meet objectively assessed development and infrastructure requirements, including unmet requirements from neighbouring authorities where it is reasonable to do so and consistent with achieving sustainable development.

• **Justified:** The plan should be the most appropriate strategy when considered against reasonable alternatives, based on proportionate evidence.

• **Effective:** The plan should be deliverable over its period and based on effective joint working on cross-boundary strategic priorities.

• **Consistent with national policy:** The plan should enable the delivery of sustainable development in accordance with the policies in the NPPF.

3.2. If you think the content of the plan is not sound because it does not include a policy where it should do, you should go through the following steps before making representations:

• Is the issue with which you are concerned already covered specifically by national planning policy (or the London Plan)? If so it does not need to be included?

• Is what you are concerned with covered by any other policies in the plan on which you are seeking to make representations or in any other plan?

• If the policy is not covered elsewhere, in what way is the plan unsound without the policy?

• If the plan is unsound without the policy, what should the policy say?

4. **General Advice**

4.1. If you wish to make a representation seeking a modification to a plan or part of a plan you should make clear in what way the plan or part of the plan is inadequate having regard to legal compliance, the duty to cooperate and the four requirements of soundness set out above. You should try to support your representation by evidence showing why the plan should be modified. It will be helpful if you also say precisely how you think the plan should be modified. Representations should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further submissions based on the original representation made at publication. After this stage, further submissions will only be at the request of the Inspector, based on the matters and issues he/she identifies for examination.

4.2. Where there are groups who share a common view on how they wish to see a plan modified, it would be very helpful for that group to send a single representation which represents the view, rather than for a large number of individuals to send in separate representations which repeat the same points. In such cases the group should indicate how many people it is representing and how the representation has been authorised.
RESULTS OF AN ENVIRONMENTAL DNA (eDNA) SURVEY FOR GREAT CRESTED NEWTS *Triturus cristatus* OF LAND AT LIME KILN FARM, WANGFORD QUARRY, HILL ROAD, WANGFORD, SUFFOLK NR34 8AR

July 2018
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Final proof: Henry Andrews.

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RESULTS OF AN ENVIRONMENTAL DNA (eDNA) SURVEY FOR GREAT CRESTED NEWTS *Triturus cristatus* AT LIME KILN FARM, WANGFORD QUARRY, HILL ROAD, WANGFORD, SUFFOLK NR34 8AR

1. NON-TECHNICAL SUMMARY

1.1.1 CEMEX UK Operations Ltd are seeking planning permission for an easterly extension to Wangford Quarry, Hill Road, Wangford, Suffolk NR34 8AR into Land at Lime Kiln Farm (hereafter referred to as ‘The Site’).

1.1.2 A Preliminary Ecological Appraisal of The Site performed by AEcol in April 2018 (AEcol 2018) identified that there is potentially suitable breeding and terrestrial habitat for great crested newts *Triturus cristatus* within the Zone of Influence defined for the species.

1.1.3 Great crested newts and their habitat are legally protected under the *Wildlife & Countryside Act 1981 (as amended)* and the *Conservation of Habitats and Species Regulations 2017*.

1.1.4 Following the application of the great crested newt Habitat Suitability Index (Oldham *et al.* 2000), further amphibian survey was not recommended. However, in the event CEMEX UK Operations Ltd chose to take a precautionary approach (in keeping with their own biodiversity safeguarding protocol) and commissioned further assessment.

1.1.5 The survey method comprised environmental DNA (eDNA) sampling on one visit on 11th June 2018.

1.1.6 The eDNA survey proved negative and there are therefore no grounds to suggest the species might be present within the Zone of Influence of Lime Kiln Farm.

Section 1 – End
2. INTRODUCTION

2.1 Background

2.1.1 CEMEX UK Operations Ltd are seeking planning permission for an easterly extension to Wangford Quarry, Hill Road, Wangford, Suffolk NR34 8AR into Land at Lime Kiln Farm (hereafter referred to as ‘The Site’).

2.1.2 The Site is 24.10 ha in surface area and situated around Ordnance Survey (O.S.) TM 47522 77559, c. 1.5 km to the south-east of Wangford, Suffolk, on the north side of the River Wang and River Blyth. Figure 1 shows the location and extent of The Site in relation to the wider landscape.

2.1.3 A Preliminary Ecological Appraisal of The Site performed by AEcol in April 2018 (AEcol 2018) identified that there is potentially suitable breeding and terrestrial habitat for great crested newts Triturus cristatus within the Zone of Influence defined for the species.

2.1.4 Following the application of the great crested newt Habitat Suitability Index (Oldham et al. 2000), further amphibian survey was not recommended. However, in the event CEMEX UK Operations Ltd chose to take a precautionary approach (in keeping with their own biodiversity safeguarding
protocol) and commissioned further assessment.

2.2 **Legal and conservation status**

**Legislation**

2.2.1 Great crested newts are listed under Schedule 5 of the *Wildlife & Countryside Act 1981* (& as amended) and receive legal protection under Part 1, Section 9, sub-section (4) (b & c) which states:

*Subject to the provisions of this Part, a person is guilty of an offence if intentionally or recklessly:*

- *(b) he disturbs any such animal while it is occupying a structure or place which it uses for shelter or protection;*

  or

- *(c) he obstructs access to any structure or place which any such animal uses for shelter or protection.*

2.2.2 Great crested newts are also listed under Schedule 2 of the *Conservation of Habitats and Species Regulations 2017*, making it a European Protected Species. Part 3, regulation 41, paragraph (1) of the *Conservation of Habitats and Species Regulations 2017* states that:

* A person who: *

- *(a) deliberately captures, injures or kills any wild animal of a European protected species;*

  *(b) deliberately disturbs wild animals of any such species;*

  *(c) deliberately takes or destroys the eggs of such an animal;*

  or

  *(d) damages or destroys a breeding site or resting place of such an animal;*

  is guilty of an offence.*
Conservation status

2.2.3 Great crested newts are classified as ‘Least Concern’ by the International Union for Conservation of Nature (IUCN) but are nevertheless listed as a Species of Principal Importance under Section 41 of the NERC Act 2006.

2.3 Trigger for survey

Natural England Standing Advice and supplementary guidance

2.3.1 Natural England Standing Advice suggests that a survey for great crested newts may be required where potentially suitable breeding ponds (even if they hold water only seasonally) and/or terrestrial habitat exists within a site or within a 500 m radius, provided that the potential breeding pond and terrestrial habitat “…are not separated by significant barriers to dispersal such as a major trunk road or motorway” (Natural England undated).

2.3.2 However, Natural England’s Method Statement template to support great crested newt licence applications (Natural England 2015) gives further consideration to the geographical limits of survey, with Section C3.3 Habitat description: waterbodies of the Method Statement allowing ponds more than 250 m from a development site to be ‘scoped-out’ entirely from consideration. Furthermore, Application tools (4): Survey data - what kind, how much, how old? states:

“In keeping with a proportionate and risk-based approach, surveys need reasonable boundaries. The Great crested newt mitigation guidelines explain that surveys of ponds up to around 500 m from the development might need to be surveyed. The decision on whether to survey depends primarily on how likely it is that the development would affect newts using those ponds. For developments resulting in permanent or temporary habitat loss at distances over 250 m from the nearest pond, carefully consider whether a survey is appropriate. Surveys of land at this distance from ponds are normally appropriate when all of the following conditions are met: (a) maps, aerial photos, walk-over surveys or other data indicate that the pond(s) has potential to support a large great crested newt population, (b) the footprint contains particularly favourable habitat, especially if it constitutes the majority available locally, (c) the development would have a substantial negative effect on that habitat, and (d) there is an absence of dispersal barriers.

That is not to say that all development proposals over 250 m from a pond will not require surveys. There are cases where large numbers of newts have been
found at 250-500 m from ponds, and so impacts are potentially significant, but such cases are rare and can often be predicted by the presence of especially favourable habitat. Developments beyond 500 m from the nearest pond would very rarely merit newt surveys.”

2.4 Initial habitat appraisal

2.4.1 A review, performed as part of the Preliminary Ecological Appraisal, identified 19 waterbodies within the Zone of Influence of The Site. Figure 2 on the following page shows the location and extent of the waterbodies situated within 500 m of the application boundary.

![Figure 2. The location and extent of the 19 waterbodies within a 500 m radius of The Site.](image)

Contains Ordnance Survey data © Crown copyright and database right 2018

2.4.2 Even considering the waterbodies within the wider 500 m radius, of the overall 19 waterbodies, five (Waterbodies 12-16) could reasonably be discounted from further survey as the lie beyond the A1095 which is a busy road that can be predicted to act as a significant barrier. In addition, four (Waterbodies 11, 17-19) were inaccessible as they are on private land for which access permission has not been granted, another waterbody was found to no longer exist; Waterbody 5 which was surveyed in 2016 but did not hold great crested newts.
2.4.3 Of the remaining nine waterbodies, five (Waterbodies 6-10) comprise components of an operational silt-lagoon complex within the existing consented Wangford Quarry. All are therefore turbid with suspended fines, pumped through a system of culverts and in continuous circulation through processing plant machinery. Illustrative images are provided at Figure 17 on the following page. In summary, these five waterbodies are considered wholly unsuitable for successful exploitation by breeding amphibians.

2.4.4 The remaining four waterbodies (Waterbodies 1-4) were assessed as to their suitability to hold breeding great crested newts by the application of the Habitat Suitability Index (HSI) (Oldham et al. 2000). The HSI method grades waterbodies by a simple scoring index based upon physical characteristics, vegetation and associated fauna. These scores are then measured against a predefined scale defined by ARG UK (2010): -

- **0.00 – 0.49:** Poor likelihood of great crested newts being present;
- **0.50 – 0.59:** Below average likelihood of great crested newts being present;
- **0.60 – 0.69:** Average likelihood of great crested newts being present;
- **0.70 – 0.79:** Good likelihood of great crested newts being present; and
- **0.80 – 1.00:** Excellent likelihood of great crested newts being present.

2.4.5 The results of the HSI are presented in detail at Table 1.

**Table 1. HSI scores for Waterbodies 1, 2, 3 & 4.**

<table>
<thead>
<tr>
<th>WATERBODY</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSI</td>
<td>Location</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Pond area (M²)</td>
<td>0.25</td>
<td>0.1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Pond permanence</td>
<td>0.9</td>
<td>0.1</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>Water quality</td>
<td>0.33</td>
<td>0.33</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td>Shade</td>
<td>0.2</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>Fowl presence</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Fish presence</td>
<td>0.67</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ponds within 1 Km</td>
<td>0.67</td>
<td>0.8</td>
<td>0.55</td>
</tr>
<tr>
<td></td>
<td>Terrestrial habitat</td>
<td>1</td>
<td>0.67</td>
<td>0.67</td>
</tr>
<tr>
<td></td>
<td>Macrophyte cover</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>HSI TOTAL</td>
<td>0.54</td>
<td>0.47</td>
<td>0.60</td>
<td>0.39</td>
</tr>
<tr>
<td>HSI SCORE</td>
<td>BA</td>
<td>P</td>
<td>A</td>
<td>P</td>
</tr>
</tbody>
</table>

Key: A=Average; BA = Below average; and P = Poor.

2.4.6 In summary: -

- Waterbody 1 has a Below Average likelihood of holding great crested newts;
• Waterbody 2 has a Poor likelihood of holding great crested newts;
• Waterbody 3 has an Average likelihood of holding great crested newts. This waterbody was surveyed by Torc Ecology in 2016 but did not hold great crested newts (Torc Ecology 2017); and
• Waterbody 4 has a Poor likelihood of holding great crested newts. This waterbody is immediately adjacent to Waterbody 3.

2.5 Great crested newt survey scope

2.5.1 Following application of the HSI, further amphibian survey was not recommended. However, in the event the client chose to take a precautionary approach (in keeping with their own biodiversity safeguarding protocol) and, as no historic survey had been undertaken, commissioned further assessment of Waterbodies 1 and 2 by the application of eDNA sampling methods.

2.6 Instruction

2.6.1 AEcol were commissioned by CEMEX UK Operations Ltd to undertake a great crested newt survey of two waterbodies, comprising Waterbodies 1 and 2. The survey was subcontracted to Abrehart Ecology Ltd under the control of AEcol and performed under a method statement provided by AEcol.

Section 2 – End
3. PRE-EXISTING SPECIES INFORMATION

3.1 Desk-study

Data-search

3.1.1 The SBIS data-search returned no records of legally protected, S41 Species and/or LBAP Priority Species of amphibian occurring within the 500 m search radius of The Site.

Historic surveys

3.1.2 No formal accounts of historic amphibian surveys within The Site are held by SBIS. However, a great crested newt aquatic and environmental DNA (eDNA) sampling survey of Wangford Quarry’s Southern Extension was performed by Torc Ecology Ltd in 2016. The Southern Extension Site is located c. 300 m to the southwest of the Lime Kiln Farm site across a metalled country road and arable land but connected via a mature hedgerow. The survey comprised a Habitat Suitability Index (HSI) assessment of waterbodies adjacent to the Southern Extension site followed by a combination of bottle-trapping survey and eDNA sampling of two ditches and a pond which were concluded to be suitable to hold great crested newts. The survey proved negative for the presence of great crested newts (Torc Ecology 2017).

Section 3 – End
4. **2018 SURVEY**

4.1 **Objectives of the survey**

4.1.1 In accordance with current accepted best-practice for establishing great crested newt presence or absence, as defined by Natural England (English Nature 2001), the objectives of the survey comprised an assessment of the status (presence/absence) of great crested newts in the target waterbodies.

4.2 **Environmental DNA (eDNA)**

4.2.1 Environmental DNA (eDNA) is nuclear or mitochondrial DNA that is released from an organism into the environment (Biggs et al. 2014). In aquatic environments, eDNA is diluted and distributed in the water where it persists for 7-21 days (Biggs et al. 2014). Research has shown that the DNA of a range of aquatic organisms can be detected in water samples at very low concentrations (Biggs et al. 2014).

4.2.2 A study using eDNA performed by Biggs et al. (2014) of 140 ponds known to hold great crested newts, successfully detected the species in 139 ponds equating to a 99.3% success rate.

4.2.3 When using eDNA, there is however a risk of both false positives and false negatives, mainly as a result of errors in the field or during laboratory analysis (Biggs et al. 2014, Darling & Mahon 2011). False positives can be caused by cross-contamination between sites on equipment, surveyors’ boots, or even due to animals (such as herons) transferring DNA between sites, as DNA can persist on surfaces even after drying, and in the soil for many years (Biggs et al. 2014). In the lab, false positives can be as a result of contamination of sampling kits or during DNA amplification (Biggs et al. 2014). False negatives can be as a result of low numbers of newts or not sampling the whole pond perimeter, but in the lab can be due to very low concentrations of eDNA in the sample (Biggs et al. 2014).

4.2.4 Despite no false positive results in the Biggs et al. (2014) study, there were a small number of false negatives which were attributed to inadequate survey coverage (i.e. samples were either too small, or not sufficiently evenly distributed around the pond margin). The study concluded that a robust assessment is only possible if the full extent of the pond margin is sampled; therefore reasonable effort should be made to collect 20 samples from 80-90% of the pond margins (Biggs et al. 2014). Great crested newts may not use the whole pond perimeter but are more usually aggregated in hotspots where there
are suitable un-vegetated shelves on which the males can display.

4.2.5 There were weak correlations between the strength of the eDNA result, the Habitat Suitability Index score and the absence of fish (Biggs et al. 2014). The study also looked at the effectiveness of traditional survey methods in comparison with eDNA. Bottle-trapping and torching were found to be similar in effectiveness with egg-searching considerably less effective; 76%, 75% and 44% respectively (Biggs et al. 2014).

4.2.6 Although the results of eDNA survey cannot yet give an approximate count of the number of newts present, the results of the Biggs et al. (2014) study suggest that the strength of the eDNA result may provide a rough indication of great crested newt abundance. Ponds that returned scores of 9/12 to 12/12 generally held ‘medium-sized’ populations and lower scores were often associated with ‘small’ populations (Biggs et al. 2014). This equates to maximum counts between 11 and 100 individuals for a ‘Medium’ population and maximum counts of up to 10 individuals for a ‘Small’ population under the criteria set out by HGBI (1998) and English Nature (2001). However, as yet it is not possible to interpret the result to the level required by Natural England. As a result, where the eDNA survey returns a positive result, it may be necessary to perform a great crested newt survey using either torching or bottle-trapping in order to get a physical count.

4.3 eDNA survey method

4.3.1 eDNA analysis is performed using a kit ordered from an accredited supplier. One kit per pond is used, but where ponds are more than 1 ha in size, a kit per hectare should be used (Biggs et al. 2014). Once kits have been received, they should be stored at room temperature and used within two weeks of receipt (Biggs et al. 2014). The kit contains one sterile Whirl-Pak bag, two pairs of sterile gloves, one sterile 30 ml sampling ladle, a sample box containing six 50 ml sample tubes (two thirds full with preserving liquid) and one sterile 10 ml pipette (ADAS undated).

4.3.2 eDNA sampling should be undertaken by a suitably trained and experienced great crested newt surveyor, although a Natural England survey licence is currently not required (Biggs et al. 2014). Sampling should be performed on a single visit during the great crested newt breeding season; mid-April through June (Biggs et al. 2014). Samples can be collected at any time of day and weather conditions, including light rain, but it is advised to avoid heavy rain as this can increase cross-contamination (Biggs et al. 2014). Evidence has also shown that the eDNA decays slightly quicker in full sun than shade, becoming
undetectable in 8-11 days (Pilliod et al. 2014).

4.3.3 20 water samples (each 30 ml) are collected from around the edge of the pond using the sampling ladle and progressively added into the Whirl-Pak bag (ADAS undated). In order to avoid the risk of contamination, samples are collected whilst the surveyor stands on the pond bank in evenly-spaced locations, in both open water and vegetated areas (ADAS undated). However, if all areas of a pond cannot be accessed, samples should be as even as possible without entering the water (ADAS undated). Samples are not be taken from water which is less than 5-10 cm deep as it may be more difficult to avoid stirring sediment (Biggs et al. 2014). This is important as DNA sinks, and historic DNA might be present leading to a false positive result (ADAS undated). In addition, sediment within the water sample can inhibit the lab analysis, leading to an inconclusive result (ADAS undated).

4.3.4 Once all samples have been collected, the Whirl-Pak bag is shaken for ten seconds in order to mix the DNA within the entire sample (ADAS undated). Using the pipette, 15 ml of the sample is taken from the Whirl-Pak bag and transferred into each of the six tubes containing the preserving liquid, before the tubes are shaken for ten seconds (ADAS undated). Once samples are taken, kits are returned for lab analysis (ADAS undated).

4.4 Survey dates, personnel and weather conditions

4.4.1 The survey was performed by Miranda Proctor of Abrehart Ecology Ltd on a dry and sunny day with 10% cloud-cover and a light breeze, following a week of calm and overall dry conditions.

4.4.2 Miranda Proctor holds a BSc (Hons) in Ecology & Wildlife Conservation and was given training in eDNA survey methods by Suffolk Amphibian & Reptile Group on 17th April 2018.

Section 4 – End
5. **SURVEY RESULTS**

5.1 **Constraints**

5.1.1 No constraints were encountered.

5.2 **eDNA sampling**

5.2.1 The sampling proved negative with no great crested newt eDNA identified in the waterbody. The results of the analysis are provided at Appendix A.

**Section 5 – End**
6. INTERPRETATION/EVALUATION OF RESULTS

6.1.1 The eDNA survey was performed in accordance with the survey protocol set out by ADAS (undated) and Biggs et al. (2014). Great crested newt eDNA was not identified in the one waterbody sampled. It is therefore concluded that there are no grounds to suggest a population of the species occurs within the Zone of Influence of Lime Kiln Farm.

Section 6 – End
7. CONCLUSIONS

7.1.1 The eDNA survey was performed in accordance with the survey protocol set out by ADAS (undated) and Biggs et al. (2014) and did not identify great crested newt eDNA in the one waterbodies sampled. Historic surveys in the wider locale have been diligently performed to good practice and also proved negative. There is no data to support any suggestion that great crested newts occur within the Zone of Influence of The Site. It is therefore considered improbable that a breeding population of great crested newts occurs within the Zone of Influence of Lime Kiln Farm, and it is concluded that there are no grounds to suggest that the development proposed might have a reasonable likelihood of resulting in a legislative conflict.

7.1.2 Natural England working practice assigns two-year validity to Protected Species survey data in respect of great crested newts. Following this repeat survey may be required to ensure conclusions are robust.

Section 7 – End
8. REFERENCES

ADAS undated. eDNA Survey Protocol. ADAS UK Limited, Wolverhampton
ARG UK 2010. ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom
HGBI 1998. Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs). Herpetofauna Groups of Britain and Ireland, c/o Froglife, Halesworth

Section 8 – End
APPENDIX A. eDNA ANALYSIS RESULTS.

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS

Date sample received at Laboratory: 14/06/2018
Date Reported: 19/06/2018
Matters Affecting Results: None

<table>
<thead>
<tr>
<th>Results</th>
<th>Lab Sample No.</th>
<th>Site Name</th>
<th>O/S Reference</th>
<th>SIC</th>
<th>DC</th>
<th>IC</th>
<th>Result</th>
<th>Positive Replicates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1697</td>
<td>Lime Kiln Farm</td>
<td>TM 47/053 78080</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>Negative</td>
<td>0</td>
</tr>
</tbody>
</table>

SUMMARY

When Great Crested Newts (GCN); Triturus cristatus inhabit a pond, they deposit traces of their DNA in the water as evidence of their presence. By sampling the water, we can analyse these small environmental DNA (eDNA) traces to confirm GCN habitation, or establish GCN absence.

The water samples detailed below were submitted for eDNA analysis to the protocol stated in DEFRA WC1067 (Latest Amendments). Details on the sample submission form were used as the unique sample identity.

RESULTS INTERPRETATION

Forensic Scientists and Consultant Engineers
SureScreen Sciences Division Ltd, Morley Retreat, Church Lane, Morley, Derbyshire, DE7 6DE
UK Tel: +44 (0)1332 292003 Email: sciences@suresscreen.com
Company Registration No. 08509940
Lab Sample No.- When a lab is made it is given a unique sample number. When the pond samples have been taken and the kit has been received back to the laboratory, this sample number is tracked throughout the laboratory.

Site Name- Information on the pond.

GSS Reference - Location auto-ordinates of pond.

SC- Sample Integrity Check. Refers to quality of packaging, absence of tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to results errors. Inspection upon receipt of sample at the laboratory. To check if the Sample is of adequate integrity when received. Pass or Fail.

DC- Degradation Check. Analysis of the spiked DNA marker to see if there has been degradation of the kit since made it to the laboratory to sampling to analysis. Pass or Fail.

IC- Inhibition Check. PCR inhibitors can cause false results. Inhibitors are analysed to check the quality of the result. Every effort is made to clean the sample pre-analysis however some inhibitors cannot be extracted. An unacceptable inhibition check will cause an indeterminate sample and must be resampled again.

Results: NEGATIVE means that GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as no evidence of GCN presence. POSITIVE means that GCN eDNA was found at or above the threshold level and the presence of GCN at this location at the time of sampling or in the recent past is confirmed. Positive or Negative.

Positive Replicates- To generate the results all of the tubes from each pond are combined to produce one eDNA extract. Then twelve separate analyses are undertaken. If one or more of these analyses are positive the pond is declared positive for the presence of GCN. It may be assumed that small fractions of positive analyses suggest low level presence but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive.

METHODOLOGY

The laboratory testing adheres to strict guidelines laid down in WC1067 Analytical and Methodological Development for Improved Surveillance of The Great Crested Newt, Version 1.1

The analysis is conducted in two phases. The sample first goes through an extraction process where all six tubes are pooled together to acquire as much eDNA as possible. The pooled sample is then tested via real time PCR (also called q-PCR). This process amplifies select part of DNA allowing it to be detected and measured in ‘real time’ as the analytical process develops. qPCR combines PCR amplification and detection into a single step. This eliminates the need to detect products using gel electrophoresis. With qPCR, fluorescent dyes specific to the target sequence are used to label PCR products during thermal cycling. The accumulation of fluorescent signals during the exponential phase of the reaction is measured for each and objective data analysis. The point at which amplification begins (the Cq value) is an indicator of the quality of the sample. True positive controls, negatives and blanks as well as spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared so they act as additional quality control measures.

The primers used in this process are specific to a part of mitochondrial DNA only found in GCN ensuring no DNA from other species present in the water is amplified. The unique sequence appropriate for GCN analysis is quoted in DEFRA WC 1067 and means there should be no detection of closely related species. We have tested our system exhaustively to ensure this is the case in our laboratory. We can offer eDNA analysis for most other species including other newts.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. Kits are manufactured by SureScreen Sciences to strict quality procedures in a separate building and with separate staff, adopting best practice from WC1867 and WC1067 Appendix 5. Kits contain a ‘spiked’ DNA marker used as a quality control tracer (SureScreen patent pending) to ensure any DNA contained in the sampled water has not deteriorated in transit. Stages of the DNA analysis are also conducted in
different buildings at our premises for added
SureScreen Sciences Ltd also participate in Natural England's proficiency testing scheme and we also carry out inter-laboratory checks on accuracy of results as part of our quality procedures.

Reported by: Sam Humphrey

Approved by: Derry Hickman

End Of Report

Appendix A – End
Re: Potential bat Roost Feature (PRF) inspections on trees on Land at Lime Kiln Farm as an extension to Wangford Quarry, Suffolk NR34 8AR.

Dear Shaun,

This letter presents the results of the initial inspection of trees for their potential to hold roosting bats on Land at Lime Kiln Farm, Wangford Quarry and makes recommendations for additional survey effort.

Background

Mapping of Potential bat Roost Features (PRF) of four trees (T25, 26, 27 and 37) on Land at Lime Kiln Farm, Wangford Quarry, Hill Road, Wangford, Suffolk NR34 8AR (hereafter referred to as ‘The Site’), was conducted on the 3rd & 4th April 2018 by Henry Andrews CECOL MSc MCIEEM of AEcol. Mapping identified one; a pedunculate oak *Quercus robur* (Tree 37) holding four PRF, comprising:

- A tear-out on a limb in the crown (PRF 1);
- A crevice behind lifting bark (PRF 2);
- An ivy plate on the eastern side of the trunk (PRF 3); and
- A wound on the western side of the trunk (PRF 4).

Figure 1 on the following page shows the location of Tree 37 within The Site.

In order that the status of each PRF as a bat roost could be assessed, close-inspection ‘climb-and-inspect’ surveillance was recommended, commencing with an initial inspection in May 2018 which aimed to determine whether-or-not the PRF were indeed suitable.
Instruction

In accordance with an instruction issued by your office, Abrehart Ecology Ltd were commissioned to perform an initial close-inspection survey of Tree 37 on behalf of AEcol. This letter presents the findings of the survey and sets out recommendations for further action as appropriate.

Survey

The survey was performed by James Booty BSc (Hons) GradCIEEM (Natural England Bat Survey licence No. 2015-11511-CLS-CLS) and Duncan Sweeting LCG (Natural England Bat Survey licence No. 2015-16145-CLS-CLS) of Abrehart Ecology Ltd on 24th May 2018.

Tree 37 was ascended and each PRF was inspected using an LED ‘Lenser’ torch and a RIDGID CA300 fibre-optic endoscope equipped with a 6, 9 or 17 mm lens as appropriate, to search for bats or any evidence to suggest their historic presence.
At the same time, in order to provide a reasoned assessment in respect of the potential for roosting bats to exploit the four PRF and to determine in which period of the bat year they are predicted to be present, the physical characteristics of the PRF and the internal environment were recorded. The characteristics of the features were processed through a structure-based predictive framework (Bat Tree Habitat Key 2018 *(in press)* 2018), and the environment compared with evidence held on the Bat Tree Habitat Key Database (see www.battreehabitatkey.com). The framework draws on a large body of evidence (BTHK database 2018; see www.battreehabitatkey.com) relating to the situation in which the UK’s bat species have been recorded in and takes into account habitat, topography, situation, tree species, tree size and PRF form.

**Results**

The results of the initial close inspection survey indicate that the PRF identified during mapping are suitable for use by roosting bats although no bats or evidence of their presence was recorded. Analysis indicates that there is a “reasonable likelihood” of the four PRF being exploited by twelve species of bat in every month of the year. A summary of the results of the close inspection survey and analysis of the four PRF on tree 37 is presented at Table 1. The full results of the close inspection survey are presented at Tables 2 and 3 on the following pages.

Table 1. Summary results of close-inspection survey and analysis of PRF on Tree 37.

<table>
<thead>
<tr>
<th>PRF</th>
<th>ASSOCIATED BAT SPECIES</th>
<th>EVIDENCE RECORDED 24/05/18</th>
<th>PREDICTED MONTH OF USE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jan</td>
</tr>
<tr>
<td>1</td>
<td>1, 3, 5, 6, 7, 8, 9, 10, 11</td>
<td>Dry, smooth, dirty, dusty debris internal substrate</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>1, 2, 3, 4, 6, 7, 8, 9, 10, 11</td>
<td>Dry, rough, dirty, dusty internal substrate</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>1, 9</td>
<td>Dry, smooth, dirty, dusty debris internal substrate</td>
<td>--</td>
</tr>
<tr>
<td>4</td>
<td>1, 3, 4, 5, 6, 7, 9, 10, 11, 12</td>
<td>Dry, smooth, rough, blackened, dirty, dusty debris internal substrate</td>
<td>✓</td>
</tr>
</tbody>
</table>
Key to bat species: 1 – *Barbastella barbastellus*; 2 – *Myotis brandtii*; 3 – *M. daubentonii*; 4 – *M. Mystacinus*; 5 – *M. nattereri*; 6 – *Nyctalus leisleri*; 7 – *N. noctula*; 8 – *Pipistrellus nathusii*; 9 – *Pipistrellus pipistrellus*; 10 – *P. pygmaeus*; 11 – *Plecotus auritus*; 12 – *Rhinolophus hipposideros*

Table 2. The results of the 2018 PRF surveillance inspections of PRF 1 and PRF 2.

<table>
<thead>
<tr>
<th>TREE REF No.</th>
<th>37</th>
<th>37</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRF REF No.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>GRID REFERENCE</td>
<td>TM 47247 77479</td>
<td>TM 47247 77479</td>
</tr>
<tr>
<td>TREE SPECIES</td>
<td><em>Quercus robur</em></td>
<td><em>Quercus robur</em></td>
</tr>
<tr>
<td>HABITAT</td>
<td>Broad leaved tree on mixed hedgerow</td>
<td>Broad leaved tree on mixed hedgerow</td>
</tr>
<tr>
<td>TREE ALIVE/DEAD</td>
<td>Alive</td>
<td>Alive</td>
</tr>
<tr>
<td>TREE HEIGHT</td>
<td>17.3 m</td>
<td>17.3 m</td>
</tr>
<tr>
<td>DBH (Diameter at Breast Height)</td>
<td>140 cm</td>
<td>140 cm</td>
</tr>
<tr>
<td>PRF STEM/LIMB</td>
<td>Limb</td>
<td>Stem</td>
</tr>
<tr>
<td>PRF FORM</td>
<td>Tear-out</td>
<td>Lifting bark</td>
</tr>
<tr>
<td>PRF HEIGHT</td>
<td>503 cm</td>
<td>473 cm</td>
</tr>
<tr>
<td>DIRECTION</td>
<td>South East</td>
<td>North North-East</td>
</tr>
<tr>
<td>DCH (Diameter at Cavity Height)</td>
<td>3.5 cm</td>
<td>3.5 cm</td>
</tr>
<tr>
<td>ENTRANCE HEIGHT</td>
<td>10 cm</td>
<td>15 cm</td>
</tr>
<tr>
<td>ENTRANCE WIDTH</td>
<td>2.5 cm</td>
<td>3.5 cm</td>
</tr>
<tr>
<td>INTERNAL HEIGHT</td>
<td>7.5 cm</td>
<td>19 cm</td>
</tr>
<tr>
<td>INTERNAL WIDTH</td>
<td>&lt;2.5 cm</td>
<td>4.5 cm</td>
</tr>
<tr>
<td>INTERNAL DEPTH</td>
<td>10 cm</td>
<td>7 cm</td>
</tr>
<tr>
<td>APEX SHAPE</td>
<td>Peak/wedge</td>
<td>Spire</td>
</tr>
<tr>
<td>24/05/2018 – INSPECTION 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substrate: Smooth, dirty, dusty, debris</td>
<td>Substrate: Rough, dirty, dusty</td>
<td></td>
</tr>
<tr>
<td>Humidity: Dry</td>
<td>Humidity: Dry</td>
<td></td>
</tr>
<tr>
<td>Competitors: Invertebrates</td>
<td>Competitors: Nil</td>
<td></td>
</tr>
<tr>
<td>Smell: Not unpleasant</td>
<td>Smell: Not unpleasant</td>
<td></td>
</tr>
<tr>
<td>BAT ROOST POTENTIAL</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>EVIDENCE OF BATS</td>
<td>Nil after Visit 1</td>
<td>Nil after Visit 1</td>
</tr>
</tbody>
</table>
Table 3. The results of the 2018 PRF surveillance inspections of PRF 3 and PRF 4.

<table>
<thead>
<tr>
<th>TREE REF No.</th>
<th>37</th>
<th>37</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRF REF No.</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>GRID REFERENCE</td>
<td>TM 47247 77479</td>
<td>TM 47247 77479</td>
</tr>
<tr>
<td>TREE SPECIES</td>
<td>Quercus robur</td>
<td>Quercus robur</td>
</tr>
<tr>
<td>HABITAT</td>
<td>Broad leaved tree on mixed hedgerow</td>
<td>Broad leaved tree on mixed hedgerow</td>
</tr>
<tr>
<td>TREE ALIVE/DEAD</td>
<td>Alive</td>
<td>Alive</td>
</tr>
<tr>
<td>TREE HEIGHT</td>
<td>17.3 m</td>
<td>17.3 m</td>
</tr>
<tr>
<td>DBH (Diameter at Breast Height)</td>
<td>140 cm</td>
<td>140 cm</td>
</tr>
<tr>
<td>PRF STEM/LIMB</td>
<td>Stem</td>
<td>Stem</td>
</tr>
<tr>
<td>PRF FORM</td>
<td>Ivy</td>
<td>Wound</td>
</tr>
<tr>
<td>PRF HEIGHT</td>
<td>225 cm</td>
<td>Ground level</td>
</tr>
<tr>
<td>DIRECTION</td>
<td>North North-East</td>
<td>North North-East</td>
</tr>
<tr>
<td>DCH (Diameter at Cavity Height)</td>
<td>7.5 cm</td>
<td>6 mm</td>
</tr>
<tr>
<td>ENTRANCE HEIGHT</td>
<td>15.5 cm</td>
<td>180 cm</td>
</tr>
<tr>
<td>ENTRANCE WIDTH</td>
<td>10 cm</td>
<td>&lt;60 cm</td>
</tr>
<tr>
<td>INTERNAL HEIGHT</td>
<td>20 cm</td>
<td>220 cm</td>
</tr>
<tr>
<td>INTERNAL WIDTH</td>
<td>12.5 cm</td>
<td>42 cm</td>
</tr>
<tr>
<td>INTERNAL DEPTH</td>
<td>20 cm</td>
<td>18 cm</td>
</tr>
<tr>
<td>APEX SHAPE</td>
<td>Peak/wedge and flat</td>
<td>Peak/wedge and flat</td>
</tr>
</tbody>
</table>

24/05/2018 – INSPECTION 1

**SUBSTRATE:** Smooth, rough, dirty, dusty, debris  
**Humidity:** Dry  
**Competitors:** Nil  
**Smell:** Not unpleasant

**SUBSTRATE:** Smooth, rough, blackened, dirty, dusty, debris  
**Humidity:** Dry  
**Competitors:** Invertebrates and mammals (woodmice and brown rat)  
**Smell:** Not unpleasant

<table>
<thead>
<tr>
<th>BAT ROOST POTENTIAL</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVIDENCE OF BATS</td>
<td>Nil after Visit 1</td>
<td>Nil after Visit 1</td>
</tr>
</tbody>
</table>

Recommendations

As there is a “reasonable likelihood” of bat roosts being present in all months of the year, additional close-inspection ‘climb-and-inspect’ surveys should be performed to target each season of the bat year, as follows:

1. A second visit to target the mating season in September/October;
2. A third visit to target the winter flux season in November/December;
3. A fourth visit to target the winter period in January/February; and
4. A fifth visit to target the spring flux period in March/April.
If you have any questions regarding the content of this letter please don’t hesitate to contact me at my office.

Yours sincerely

Louis Pearson BSc MSc MCIEEM

Ecologist

References

CEMEX UK Operations Ltd, on behalf of CEMEX UK Materials Ltd. (the Company), wishes to offer its support for the inclusion of polices MP1 and 2, and MS7 into the Submission Draft of the Suffolk Minerals and Waste Local Plan, i.e., the identification of Wangford, Site M7 as a specific site for the extraction of gravel. It considers that Paragraph 14 of the National Planning Policy Framework (NPPF) is highly relevant with regard to inclusion of these policies. It advises:

At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking.

For plan-making this means that:

- local planning authorities should positively seek opportunities to meet the development needs of their area;
- Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change, unless:
  - any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or
  - specific policies in this Framework indicate development should be restricted.

The Company considers that the Minerals Planning Authority has, via Policies MP1 and 2, both identified the development needs of the County with regard to the steady and adequate supply of aggregates (paragraph 145 of the NPPF) within Suffolk and have planned to meet those needs through the identification of ten specific sites suitable in principle for the winning and working of sand and gravel. As a result, in the Company’s view, the Draft Plan is sound in this regard.

Having objectively assessed the need for the supply of sand and gravel for the Plan period via Policy MP1, it is also noted via paragraph 5.33 that the extent of the supply identified would result in a “safety margin of provision of 31%. In the context of Paragraph 14 of the NPPF and in particular “…sufficient flexibility to adapt to rapid change…”, this approach is also considered sound.

The Company has commissioned a series of assessments in support of a proposed planning application relating to Site M7 Wangford (known as Lime Kiln Farm). These assessments cover topics such as noise, traffic and transport, ecology, soils, hydrogeology, hydrology (flood risk), air and climate, the heritage environment and landscape and visual impact and are attached to this submission. The findings of these assessments have not identified any findings that indict the developing Site M7 for the extraction of gravel would lead to any adverse impact of such significance that the benefits would be demonstrably outweighed. It is paragraph 144 of NPPF itself that identifies the “…great weight [of] the benefits of the mineral extraction, including to the economy…”.
The extraction of gravel from Site M7 would be no exception to the guidance provided by paragraph 144 of the NPPF, with the potential to deliver significant non-economic and economic benefits. The non-economic benefits identified are improved informal public access, expanded biodiversity and ecological connectivity, improved agricultural land quality and the potential to reduce access pressure on the nearby sensitive ecological designations. These are illustrated by drawing nos. Figure R1 – 3 which illustrate restoration proposals both for Site M7 itself and the wider Wangford Quarry. With regard to economic benefits it is estimated by the Mineral Products Association (in its 2015 edition of The Mineral Products Industry at a Glance) that each worker within the industry as a whole generates £81 000 Gross Value Added (GVA) as an average, which is 1.6 times the national average, making the industry a highly productive one. The proposed development would allow the retention of up to four existing posts directly and a larger number of indirect employees such as drivers, maintenance and sales staff. Many of these individuals live locally, thereby making ongoing contributions to the local economy. Should planning permission be granted the Company would consider upgrade the existing processing plant, at a cost of approximately £1.5 million. A proportion of the value of this work would be directed locally in sectors such as construction, engineering and transport. The site also makes a significant taxation contribution via income tax, business rates, aggregates tax, fuel duty, road fund licence and regulatory fees. Were the quarry to close this income stream would be lost. Potential increases to the costs of the downstream construction industry may also be incurred should the quarry close. Closure of Wangford Quarry is the most likely outcome in the event that Site M7 is not retained in the Plan as a Specific Site as no other potential reserves of gravel have been identified by the Draft Plan that could be suitable to be worked as extensions.

Paragraph 116 of NPPF is a specific policy relating to major development within Areas of Outstanding Natural Beauty (AONB). Site M7 lies wholly within the Suffolk Coast and Heaths AONB and its development for gravel extraction would represent a major development. Paragraph 116 states that:

**Planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest. Consideration of such applications should include an assessment of:**

- the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
- the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way; and
- any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

Considering each element of the policy in turn:

The need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy
The existing quarry, at current rate of sales, has access to approximately eighteen months of sand and gravel reserves with planning permission for the winning and working of mineral. The Company wishes to retain a production facility that can produce a range of coarse aggregate products and to that end it has undertaken a sieve mapping exercise to identify suitable locations. The criteria employed in this exercise were as follows:

- A ‘stand alone’ replacement production facility would need to have access to a minimum of 2 million tonnes of sand and gravel to justify the capital investment required to start up such a site. For an extension to the existing Wangford site this criterion can be applied less strictly as much of the initial capital investment has already been made in the existing plant, so less investment is required to develop an extension and a smaller mineral deposit could be suitable;
- The identified site needs to lie within one hour’s travel time (by HGV) of the major markets in the region, which in this case is Ipswich and Norwich. Access to these markets is required in order to generate sufficient sales for the quarry to be a financially viable operation, and;
- The mineral resource needs to be of the right specification, in this case possessing a high coarse aggregate content. Sand and gravel occurs readily in East Anglia, but most reserves have a high sand content with a consequential low coarse aggregate content (see Suffolk Minerals Plan – Geological Review for a Wangford Replacement Site (note that the Henham Estate site has not been progressed due to field testing demonstrating the site contains insufficient coarse aggregate to be viable) and the Geological Summary for Wangford Lime Kiln Farm). Coarse aggregate is a critical component in the manufacture of concrete and concrete products as it is this which gives concrete its strength. None of the Company’s existing portfolio of quarries within East Anglia possess a reserve with a high coarse aggregate content apart from Wangford Quarry.

Applying the above led to a series of drawings, which are included within the Geological Review. Drawing no. 1705-S139-SUF-D-002 illustrates the extent of the one hour travel time to both Ipswich and Norwich, and the extent to which they overlap. This resulted in two areas being identified as suitable to provide a replacement for Wangford Quarry (one centred on Diss (Area 2), the other on Wangford Quarry itself (Area 1)). This information was then overlain by geological data obtained from the British Geological Survey (BGS), see drawing no. 1705-S139-SUF-D-003.

The superficial geology within Area 2 is dominated by non-mineral Glacial Till. Coarse deposits, comprising mainly Fluvio-glacial River Terrace and alluvial deposits related to the River Stour, form the main areas of geology targeted by potential sand and gravel extraction. A review of the potential economic sand and gravel areas found that the deposits in this area have been either been subject to built development, are too small to provide a sufficient resource to warrant the investment required to start a new quarry, or are fragmented by built development, rendering the resource too small. Furthermore, a number of boreholes drilled within the area of search have been reviewed. These found that the deposits are dominated by fine-grained materials and did not contain the coarse aggregate content required as a replacement for Wangford Quarry.
The superficial geology within Area 1 is shown to be underlain by glacial deposits. These are dominated by 'Till' (usually comprising silt, clay and boulders) and 'Sand and Gravel'. There is also a significant outcrop of Crag within the area (deposited around 2.6m years ago in marine conditions and deemed to be unsuitable for economic aggregate extraction due to poor grading characteristics and, in particular, to the significant amount of shell fragments within the deposit). The sand and gravel deposits have been shown at Wangford and other operational and former quarries in the local area (such as Henham and Reydon Quarries) to contain sufficient coarse aggregate to be economically viable.

Given the above analysis, Area 1, the bulk of which lies within the AONB, centred on the existing Wangford Quarry, offers the only economically viable source of coarse aggregate within Suffolk in the view of the Company.

The Company identified four potential deposits within Area 1 as potentially viable, one as a stand alone replacement (Henham Estate) which lies partially outside the AONB and three potential extensions to the existing quarry operation (Hill Farm, Southern Extension and Lime Kiln Farm), situated wholly within the AONB. Hill Farm and the Southern Extension were rejected by the County Council on the basis of impact on the AONB and proximity to nature conservation interests. Henham Estate was also rejected by the County Council on the grounds of the estimated cost of highways improvement works it considers would be required and impact on the AONB. Subsequent exploratory drilling of this site did not identify sufficient coarse aggregate within the deposit and the Company has not pursued this. On this basis Lime Kiln Farm is the only deposit that accords with the sieve criteria outlined above.

Wangford Quarry produces between 80 to 100 000 tonnes of aggregate products per year, almost exclusively coarse material, with any sand being removed at the quarry face and used in the site’s restoration. This material is sold both externally and internally and is used by the Company’s concrete plants in Saxmundham and Great Yarmouth, and two plants in Ipswich. It is also used by a competitor plant in Ketteringham. Were the Wangford resource not available:

- There is insufficient coarse content at the Company’s Flixton Park Quarry for the demand for this material to be satisfied. The closest source of coarse material under the Company’s control is Bradwell Quarry, Essex, some sixty miles distant;
- The Company is not aware that any of its competitor quarries within the County are able to increase output of coarse material to compensate for the loss of production at Wangford;
- The Company notes and accepts paragraphs 10.10 and 10.11 of the 2017 Suffolk Local Aggregates Assessment, i.e., that the Council does not seek to increase reliance on marine dredged aggregate to substitute for land won material. Due to customer preference and chemical content it is not always possible to directly substitute marine aggregate for land won material for all applications;
- The Company is of the view that due to production and rail network capacity there is little scope for additional tonnages of crushed rock to be imported into the County, primarily from the East Midlands, and;
- The Company notes and accepts paragraph 10.24 of the 2017 Suffolk Local Aggregates Assessment, i.e., there is no case for reducing the volume of land won aggregates by assuming an increase in production of...
secondary and recycled aggregates. In the Company’s experience most
of what can be recycled or reused is so, and there’s little capacity for
additional material becoming available.

Given the above it is concluded that there is little scope to substitute Wangford
sourced material from elsewhere. This will have the effect of:

- Increasing the cost of development within the County as coarse aggregate
  becomes more scarce, increasing prices both due to that scarcity and
  because alternative sources of supply lie further away from the point of
  consumption;
- Increased ‘aggregate miles’ travelled, i.e., the distance aggregate has to
  travel from point of production to point of consumption, with additional
  HGVs using the County’s roads with attendant increase in emissions (see
  below);
- Increasing costs and potentially threatening the financial viability (and
  therefore jobs) of the Company’s network of concrete plants in the
  County;
- Loss of a significant contribution to the local economy through the
  payment of Business Rates and employment of local people and
  contractors (see discussion in relation to paragraph 144 of NPPF above);
- Loss of jobs at the quarry itself (four direct employees and up to an
  additional twelve equivalent including drivers and local contactors). Whilst
  not a large number of posts these jobs are skilled manual, an employment
  classification where alternative employment opportunities are increasingly
  limited;
- Loss of the opportunity to increase the biodiversity of the site through the
  restoration of the site post quarrying; the land will be remain intensively
  farmed if it is not quarried, and;
- Loss of the opportunity to revise the approved restoration scheme to allow
  for additional public access.

Should the site be developed for sand and gravel extraction is it predicted that the
impacts will be the reverse of the above:

- Minimising development costs and ‘aggregate miles’ by being able to
  source coarse aggregate locally;
- Maintaining competitiveness with regard to development;
- Maintaining jobs both at the quarry, with its suppliers and allied concrete
  plants;
- Maintaining the financial contribution the quarry makes to the local
  economy, and;
- Providing the opportunity to introduce increased biodiversity to the site
  through its restoration, and potentially to also improve agricultural quality.

Given the age of the current processing plant and the extent of the mineral resource
the Company would be likely to replace the fixed plant within Wangford Quarry itself,
which would represent a capital investment of at least £1.5 million. This substantial
investment, a significant proportion of which could be made into the local economy,
would be lost if the Lime Kiln Farm resource could not be worked.
The cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way.

The above assesses the scope for supplying coarse aggregate into the development market from:

- Other existing land won sources in Suffolk;
- An alternative source of land won coarse aggregate within the County;
- Crushed rock from the East Midlands (as the closest source of this type of material to the County);
- Marine dredged aggregate, and;
- Recycled or secondary aggregate

And reached the following conclusions:

- The Company’s other quarry within the County (Flixton Quarry) does not contain sufficient coarse material to be able to compensate for the loss of Wangford Quarry. It is not aware that any other quarry in the County has the capacity to do this;
- A sieve map search for alternative sources of coarse aggregate within the County has been conducted, see the attached Geological Review. This concluded that the only viable deposit was in the Wangford Quarry area. Of the four sites promoted by the Council only Site M7 has been considered acceptable as a Specific Site. Furthermore, two proposed extensions to Henham Quarry, operated by a competitor, have also been rejected by the Council on the grounds of impact on the AONB;
- There appears to be little excess production or rail network capacity to significantly increase the quantity of crushed rock imports into the County. Seeking to meet the demand of coarse aggregate using crushed rock imports would inevitably increase the ‘aggregate miles’ product would have to travel to reach its point of consumption, both by rail and road, increasing traffic, CO₂ emissions and congestion given the distance between Wangford Quarry’s market and sources of crushed rock. Using data gathered across the whole Company as an average 1.93 kilogrammes of CO₂ is emitted per tonne of aggregate delivered to customers (in 2017). This rises to 4.7 kilogrammes using delivery by rail;
- Both the Council and the Company are agreed that marine aggregates production is not likely to be increased to compensate for a reduction in the availability of coarse aggregate. In addition, using data collected by the British Marine Aggregate Producers Association (BMAPA), of which the Company is a member, it is estimated that in 2015 each tonne of aggregate landed resulted in the emission of 7.46 kilogrammes of CO₂. This does not include further CO₂ emitted as a result of the use of HGVs to deliver product from the point of landing to the customer, and;
- Both the Council and the Company share the view that most sources of recycled or secondary aggregate are fully utilised and an increase in volume sufficient to substitute for primary land won material in any significant way is not likely.

It is difficult to provide specific costs as the price of aggregate product are driven by a wide range of variables. It is logical to assume that in a market economy that as any resource becomes more scarce its value increases, and as the remaining sources of that material are located further from the point of consumption that the
current source, that this will also lead to cost increases. Non financial costs are also likely to be incurred, including increased traffic congestion and traffic emissions, decrease in economic competitiveness due to increased development costs and loss of investment in the quarry.

Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated

The development proposed presents an opportunity to review the restoration of the current quarry. The result of this review is illustrated by drawing no. Figure R3. Compared to the current approved restoration scheme that proposed provides for significantly enhanced levels of permissive public access, some of which can be made available during the early years of the Lime Kiln Farm development. The overall scheme also introduces informal car parking for the first time, with the specific aim of drawing away casual visitors from the SAC/SPA, reducing visitor pressure within these sensitive areas. Recreational opportunities would therefore be enhanced as a result of the proposed development.

With regard to the landscape, the Company has commissioned an independent Landscape and Visual Assessment of the proposed development. This assessment is included as within this submission and concludes that potential adverse effects on the ‘scenic beauty’ and ‘natural beauty’ within the AONB are likely to be very limited and the potential for long-term enhancement, through implementation of a suitable restoration scheme is good, such that compliance with national and local policies would be readily achievable. No other significant effects on other landscape-related environmental designated areas or aspects are considered likely.

As part of the ES produced to accompany this application the Company has commissioned an independent Preliminary Ecological Appraisal and associated documents. These are included as part of this submission. In essence it was concluded that:

- Loss of hedgerows should be compensated for within the proposed restoration scheme. This recommendation has been accepted and incorporated into the proposed restoration illustrated by drawing no. Figure R1;
- Invertebrate habitat can be enhanced through the proposed restoration by increasing the presence of woodland and hedgerow. This recommendation has been accepted and incorporated into the proposed restoration illustrated by drawing no. Figure R1;
- It has been recommended that the Company implements an Ecological Management Plan (EMP) for the life of the development to ensure that legislative responsibilities are complied with regards reptiles, specifically slow worms and grass snakes. This recommendation has been accepted. It has been further recommended that the restoration both increase the extent of hedgerows and include a pond centrally within the site. These recommendations have been accepted and incorporated into the proposed restoration illustrated by drawing no. Figure R1;
- It has been recommended that the Company implements an Ecological Management Plan (EMP) for the life of the development to ensure that legislative responsibilities are complied with regards birds. It has been further recommended that barn owl nest boxes be provided within hedgerows. These recommendations are accepted and reflected within
drawing no. Figure R1 (the precise location of proposed nest boxes will be agreed privately with the Minerals Planning Authority to minimise any risk of tampering);

- The site has been identified as one that has the potential to be colonised by badgers although none are present on site currently. To guard against the risk of a potential legislative conflict it has been recommended that an EMP be implemented that will minimise this risk for the life of the development. This recommendation has been accepted. It is also recommended that the woodland that forms the southern boundary of Phases 3 and 4 be retained and that the hedgerows to be removed are replaced. These recommendations have been accepted and in the case of the woodland this is proposed to be augmented by the final restoration proposals (see drawing no. Figure R1);

- Four mature trees are required to be felled as part of the proposed development. The location of these trees is illustrated by drawing no. 18_C015_WANG_004. It has been identified that tree T37 may host a number of bat species and as a result the Company has commissioned a climb and inspect survey for the presence of bats. The first of these surveys has been undertaken and no bats have been identified (a note of this survey is included within this submission). Specific mitigation measures will be developed dependant on the findings of this survey work. More generally it has been recommended that the southern woodland be retained, that removed hedgerows be replaced and that a field pond be created. All of these recommendations have been incorporated into the proposed restoration scheme illustrated by drawing number Figure R1.

An agricultural land classification assessment and has been undertaken and is included within this submission. It has concluded that the bulk of the site is either Grade 3b (due to droughtiness), with only a small proportion of Grade 3a (best and most versatile) land (which is not likely to be disturbed as part of any proposed development as there is insufficient coarse aggregate in this area). One of the aims of the restoration scheme, however, is to improve the agricultural quality of the land by redistributing the overburden removed as part of the mineral extraction process and spread it more uniformly, improving the moisture retaining capability of the replaced soils. It has been assessed that the restoration scheme, whilst resulting in a reduction in the hectarage of agricultural land will also lead to an increase in the extent of Grade 3a land within the application site post restoration.

Given the above analysis the Company has concluded that the proposed development would not result in any environmental, landscape or recreational detriment that could not be moderated to a scale that would be appropriate within an AONB during implementation, and that the permanent restored site would enhance and prove to be an asset within the AONB.

Given the above the Company believes that the tests established by paragraph 116 of the NPPF have been acceded with. Specifically:

- There is an ongoing need for coarse aggregate in the County, that Lime Kiln Farm is the only site within the County from which this need can be satisfied, that there are tangible economic benefits from such a development and equally tangible economic disbenefits from not doing so;
➢ That there is very limited scope for fulfilling this need either outside the AONB or in a different way. Whilst it is difficult to arrive at a precise monetary value, given that the alternatives are all located at a significantly greater distance from the bulk of demand and that multiple handing of products would be required it is reasonable to assume that the costs of supplying demand from these alternatives will be greater than those incurred by developing Lime Kiln Farm. In terms of CO₂ emitted per tonne of product delivered, sourcing coarse aggregate from the application site results in significantly less CO₂ being emitted than from the alternatives, making it a more sustainable source, and;

➢ Developing the site as proposed would not result in any environmental, landscape or recreational detriment that could not be moderated to a scale that would be appropriate within an AONB. Post restoration it is likely that the site will augment the AONB.

It is the Company’s opinion, therefore, that Polices M1, M2 and M7 reflect guidance provided by paragraphs 14, 116 and 144 of NPPF and that the Plan is sound.