

**A14 Upgrade Scheme - Written Representation 1 by Mark Williams and on behalf of the Buckden Marina Resident's Association (Registrations of Interest Numbers 10030711 and 10030713).**

1. The preferred route for the Highways Agency A14 Upgrade scheme (between the junction with the existing A1, by bridge across the River Great Ouse and East Coast Mainline and to the east across the B1043 road) passes in close proximity to the Buckden Marina complex and, in particular, of its 81 residential lodges. This written representation is made by Mark Williams as both the leaseholder of one such lodge and as the representative of the Buckden Marina Resident's Association and other individual lodge owners who have also registered their interest with regard to the complex. Buckden Marina is a beautiful and tranquil place; the nearby land is flat and low lying land which is alongside the River Great Ouse and nearby lakes with sloping uprisings in the land on either side of it. Relatively, the proposed A14 development would greatly change that landscape view, due to being built on higher surrounding land and using high, new bridge structures to span the River Great Ouse and East Coast Mainline railway.

2. The Highways England Development Consent Application is significantly deficient and erroneous. The principal issue is with inadequate noise measurement, modelling and mitigation measures carried out by Highways England. An independent professional noise report was commissioned and carried out on behalf of the Buckden Marina Resident's Association which addresses the noise issues and this is attached, including recommendations. Once the revision to the Highways England noise model and traffic forecasts (which were announced at the Preliminary Meeting and are due for submission on 15th June 2015) have been made available, further analysis and assessment will be undertaken and comments submitted.

3. As well as the noise issues addressed in the attached report, the impact of artificial lux light levels (static and moving) on the marina, and the architectural scheme design for the bridge which will dominate views from the complex, have not been considered or addressed. The area enjoys relatively little impact from moving light sources; the new road, due to the topography and lack of visual shielding, will impact on the complex. Moreover, the visual impact of the scheme (particularly in winter when trees would provide no visual shielding) means that, when viewed from ground level, the road would break the skyline along most of its length between Brampton Junction and the A1198 junction. Visually, this would be highly intrusive and, while there is no right to "a view", the scheme for the bridge design has absolutely no architectural merit.

Thus, not only would there be the scar across rural countryside of a 6-lane road with no visual mitigation, but also yet another ugly, concrete pier and span construction bridge - and this will be a highly visible 600m long structure that will break the skyline from most view points, given the height at which it has to be built to clear the railway. The Secretary of State for Transport's "beauty test" for roads would be failed spectacularly.

4. Therefore, it is requested that the Planning Inspectorate Examining Authority specifically examines in detail the effects of noise and coherence with other schemes (as set out in the attached report), light and visual intrusion of the scheme on the Buckden Marina complex and, should the proposed route be selected, require Highways England to address these issues with a view to identifying and including appropriate and sufficient measures so as to minimise the adverse effects from environmental noise and visual impacts, and of other nearby potential schemes, upon the complex ..

Yours sincerely,

Mark Williams

**A SCOPING REPORT ON AN  
ENVIRONMENTAL NOISE SURVEY AT THE  
BUCKDEN MARINA COMPLEX WITH  
REGARD TO THE PROPOSED A14  
UPGRADE BY HIGHWAYS ENGLAND**

**Dated 15<sup>th</sup> June 2015**

Approved for publication



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## **EXECUTIVE SUMMARY**

1. Craig Clayson was tasked by Mr. Mark Williams, the representative of the Buckden Marina Resident's Association, to conduct an initial scoping report on the Buckden Marina complex to assess the potential noise impacts of the A14 upgrade scheme proposed by Highways England (Mr Williams's Registrations of Interest Numbers are 10030711 and 10030713).
2. Environmental noise data was collected during the period from 13:30 hours on 12 February 2015 to 13:30 hours on 24 February 2015. Information was primarily gathered from two locations: outside No. 23, Watersmead at Grid Reference TL 2156 6741 and outside No. 38, Ouse Valley Way at Grid Reference TL 2152 6775 (the latter corresponding to the Highways England scheme unattended long-term measurement location L3). Measurements were conducted in free field conditions at both locations with suitable environmental conditions.
3. The measured results in the report clearly demonstrate that the Highways England Development Consent Application and scheme design are deficient in considering the potentially significant impacts of the scheme as proposed upon the Buckden Marina complex and the properties therein. Measured results shown in this report compared to the measured results of L3 have a significant deviation of 14.6 dBA; therefore, it is strongly recommended that further measurements are made at multiple locations around the complex. The noise mitigation design of the scheme area that affects the complex currently includes only a low noise road surface which will be inadequate. Further assessment and inclusion of other attenuation measures, such as landscaping and noise barriers, are required to mitigate the noise levels as far as is possible to minimise the adverse impact on what is clearly a relatively tranquil area. Other potential new infrastructure projects within the same area must also be considered and their effect included within the noise prediction model presented, to provide an accurate representation of the aggregated effects of future noise levels.
4. Therefore, it is concluded that the effects of noise upon this area of the scheme and the application should be specifically examined in detail by the Planning Inspectorate, with a view to identifying and requiring the inclusion of the most appropriate and sufficient measures to minimise adverse effects from environmental noise in accordance with relevant legislation, policy and guidance.
5. At the time of writing this report, the update to Highways England Transport noise model and traffic forecasts, for which revision is required following DoT policy changes would not be available until 15<sup>th</sup> June 2015. Consequently, a full assessment cannot be made and, therefore, further analysis and comment is reserved until after the results of the revised model and forecasts are published by Highways England at a later date.

# **ENVIRONMENTAL NOISE SURVEY AT THE BUCKDEN MARINA COMPLEX WITH REGARD TO THE PROPOSED A14 UPGRADE BY HIGHWAYS ENGLAND**

Author: Mr. Craig Clayson, Msc, MIOA

## **INTRODUCTION**

1. Craig Clayson was tasked by Mr. Mark Williams, the representative of the Buckden Marina Resident's Association (Registration of Interest Numbers 10030711 and 10030713) to conduct an initial scoping report on Buckden Marina to assess the noise impacts of the A14 upgrade proposed by Highways England.

## **BACKGROUND**

2. The preferred route for the proposed Highways England A14 Upgrade scheme (between the junction with the existing A1, over a new bridge across the River Great Ouse and the East Coast Mainline railway and to the east across the B1043 road) passes in close proximity to Buckden Marina complex and, in particular, of its 81 residential lodges. The distance to the proposed development ranges from 300-700m from the north and east faces of the marina complex. Buckden Marina and the lodges are situated on flat and low lying land alongside the River Great Ouse and nearby lakes. The complex, which is set in around 90 acres of beautiful rural countryside, bordering the River Great Ouse and overlooking its valley, is in a peaceful environment that is relatively unaffected by either traffic noise or visual impacts

3. A requirement was identified to assess external noise levels at two representative locations within the Buckden Marina complex, to measure and evaluate the current exposure of noise to the community. This requirement was identified after an initial scoping review of the A14 Cambridge to Huntingdon Improvement Scheme Environmental Statement 2014, where noise levels measured by Highways England and future predicted levels affecting the community were brought into question. This concern was primarily twofold; the noise levels measured by Highways England were not representative of the complex; and, there were gaps in information for the generation of the noise model. Therefore, an independent initial noise scoping report by an external expert source was sought by Mr. Mark Williams. At the time of writing this report, the Highways England Transport noise model and traffic forecasts were still being revised because of recent changes required by the

Department of Transport and would not be available until 15<sup>th</sup> June 2015 . Therefore, a full assessment and comparison of the baseline and proposed position cannot be completed by the required submission date of 15th June 2015 for Written Representations; further analysis and comment is reserved until after the results of the revised model and forecasts are published by Highways England at a later date.

### **RELEVANT LEGISLATION**

4. The Secretary of State's policy statement on health, safety and environmental protection requires that adverse noise effects on the environment are minimized. Environmental protection legislation, such as EC Directive 2002, states that all reasonable steps must be taken to minimise adverse effects from environmental noise and put in place arrangements that produce outcomes that are, so far as is reasonably possible, at least as good as, and preferably better than, those required by legislation to manage and minimise the environmental noise produced during construction and subsequent operation of national infrastructure projects.

5. PPG24 was replaced by NPPF on 27 March 2012. With regard to noise and planning, NPPF Section 123 contains the following statements :

- a. Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- b. Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
- c. Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
- d. Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

6. An assessment of the existing tranquillity level of the site has been based on the noise criteria published by Campaign to Protect Rural England (CPRE).

7. The World Health Organisation Recommendations in their 'Guidelines for Community Noise' (1999) publication which recommends internal noise levels of 30 dB L<sub>Aeq,8hours</sub> / 45 dB L<sub>Amax</sub> for bedrooms and 35 dB L<sub>Aeq,16hours</sub> for living rooms. With regard to the noise in external areas, the WHO Guidelines present thresholds of annoyance and states that 'to protect the majority of people being seriously affected by noise during the daytime, the outdoor sound level from steady, continuous noise

should not exceed 55 dB  $L_{Aeq}$ , 16 hours. In addition, BS 8233 2014 refers to 55 dB  $L_{Aeq,T}$  as an upper limit.

## **DATA COLLECTION**

8. A class 1 SIP 95 sound level meter was used, the data from which was downloaded and analysed in 01dB-Stell Trait software. The meter was calibrated on site, both before and after each measurement location. This was conducted via a B&K Type 4231 calibrator which produces a reference tone of 1 KHz at 94dB and is traceable to, and comparable with, a UKAS reference standard (Serial no's and full details are available upon request). All equipment timings were synchronized using a global positioning system (GPS) time code. This enabled an accurate  $L_{Aeq}$  and  $L_{Amax}$  time history to be produced for each SIP95 measurement position. Analysis was undertaken for the  $L_{Aeq}$  and  $L_{Amax}$  in each time period. The measurement positions were free from obstructions and taken at a height of 1.5m via a boom arm tripod to allow free field measurements to be made outside the referenced properties.

9. Measurements were taken in general accordance with BS 7445-1:2003 and were continuously averaged and logged at a time interval of 10 minutes. Weather conditions during the survey period were observed as being mainly dry, with occasional light showers on one day, with temperatures ranging from approx 5-17 degrees. Anemometer readings confirmed that wind speeds were within the envelope of 5m/s.

10. Existing ambient noise levels around the site are characterised by: occasional distant traffic noise from the rural B1043 road; some very distant traffic noise from the A1 may be occasionally heard depending upon specific conditions and where the wind has a northwesterly component; transient train noise for very brief periods (around 4-6 seconds in duration) at some areas of the complex; and, the background noise level, primarily from local wildlife and in particular of birdsong;

11. The results of the statistical measurements and frequency measurements conducted during the survey are summarised in the following table. All values are sound pressure levels in dB (re:  $2 \times 10^{-5}$  Pa).

## **RESULTS**

12. Environmental noise data was collected during the period from 13:30 hours on 12 February 2015 to 13:30 hours on 24 February 2015. Information was primarily

gathered from two locations: outside No. 23, Watersmead at Grid Reference TL 2156 6741 and outside No. 38, Ouse Valley Way at Grid Reference TL 2152 6775 (the latter corresponding to the Highways England scheme unattended long-term measurement location L3). Measurements were conducted in free field conditions at both locations with suitable environmental conditions. The data recorded is regarded a true representation of the environmental noise conditions currently present at these locations.

Daytime hours are deemed to be 7am - 11pm. Nighttime hours are deemed to be 11pm – 7am. The full source data is available upon request.



Table 1 - Measurement location 1 – 23 Watersmead, Buckden Marina.

|           |                     |      |      |
|-----------|---------------------|------|------|
| Weighting | A                   |      |      |
| Start     | 12/02/2015<br>13:30 |      |      |
| End       | 17/02/2015<br>05:55 |      |      |
|           | Leq                 |      |      |
|           | Specific            | Lmin | Lmax |
| Source    | dB                  | dB   | dB   |
| Daytime   | 52                  | 27.6 | 83.7 |
| nighttime | 44.4                | 26.8 | 71.4 |



Table 2 - Measurement location 2 – 38 Ouse Valley Way.

|           |                     |      |      |
|-----------|---------------------|------|------|
| Weighting | A                   |      |      |
| Start     | 12/02/2015<br>13:30 |      |      |
| End       | 24/02/2015<br>11:30 |      |      |
|           | Leq                 |      |      |
|           | Specific            | Lmin | Lmax |
| Source    | dB                  | dB   | dB   |
| Daytime   | 45.8                | 39.9 | 63.1 |
| Nighttime | 37.8                | 24.6 | 59.8 |

## **DISCUSSION**

13. EC Directive 2002, states that all reasonable steps must be taken to minimise the adverse effects from environmental noise and put in place arrangements that produce outcomes that are, so far as is reasonably practicable, as good as those

required by legislation to manage the environmental noise produced by national infrastructure projects. Arguably, the arrangements should go further and aim to minimise impact to current levels. Descriptors such as LOAL and SOAL, and significance of effect etc cannot be commented on until the re-submission of Highways England's revised noise model and traffic forecasts, currently due submitted on 15<sup>th</sup> June 2015.

14. It is common for different measurement periods of the same location to differ due to the snapshot taken in time, however, due to the significant difference of 14.6 dB  $L_{Aeq,night\ time}$  that is already apparent between the measured values presented in this scoping report and the L3 measured values presented in the submitted E.I.A Table 4.2, it is strongly recommended that Highways England undertakes a further, longer measurement period to accurately confirm the baseline noise levels, and to be able to predict the effect in accordance with NPPF 2012, to avoid significant adverse impacts from noise produced by the proposed scheme.

15. Based on the consent application and the L3 site measurement, the Buckden Marina complex is neither fully, nor adequately, covered. In particular, with the night noise level and the significant variations between the L3 measurement and the 2 sites measured within the complex under this report, it is also strongly recommended that further measurements are taken at both the L3 position, on the site on the east side of the complex, and a further site on the western side for future assessment.

16. The results show that the measurements taken from the site locations for this report are currently within the World Health Organisation recommendations in their 'Guidelines for Community Noise' (1999) publication for internal noise levels ( $L_{Aeq,8hours}$  and  $L_{Amax, night}$ ) for bedrooms and  $L_{Aeq,16hours}$  for living rooms when factoring in attenuation of the wood lodge construction types of the properties within the Marina, using a prediction of 12 dB Rw for an open window. After the next submission of noise predictions, which should include the whole of the Buckden Marina complex, a proper assessment of the effect of the proposed scheme on the residential properties in the complex can then be undertaken.

17. With regard to the noise in external areas, the WHO Guidelines presents thresholds of annoyance and states that 'to protect the majority of people being seriously affected by noise during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55 dB  $L_{Aeq,16\ hours}$ . BS 8233 2014 refers to 55 dB  $L_{Aeq,T}$  as an upper limit. The Buckden Marina complex is currently within these guidelines. However, a full assessment of the complex against the revised Highways Agency noise modelling submission due on 15<sup>th</sup> June 2015 is required to be able to assess the impact to the east of the site for such outdoor noise.

18. An assessment of the existing tranquillity level of the site noise map, published by the Campaign to Protect Rural England (CPRE) is appropriate. A definitive reply to is awaited from the CPRE because Buckden Marina is not identified specifically within a currently mapped tranquil area due to the relatively large scale of their mapping, yet parts of the complex meet the noise criteria set for designation as a tranquil area.

## **RECOMMENDATIONS**

19. Buckden Marina residents support the need to upgrade the A14. Given the potential impact on them though, the residents would, unsurprisingly, prefer it if the scheme were re-routed further away from the complex, or indeed were it to follow the original A14 route; notwithstanding the importance of the scheme, cost alone should not be the deciding factor for which option is selected. If the scheme is to take the currently proposed route, residents reasonably require that it be designed and executed so as to have minimal adverse impact on the existing tranquil situation. It is recommended that appropriate mitigation measures are fully analysed to ensure the best solution.

20. The scheme as designed and modelled when compared to the measured data in this report will clearly have a significant adverse impact on the Buckden Marina complex. In particular, this is because of the low night time noise levels presented in this report around different areas of the Marina. Currently, only a single measurement was taken by Highways England to the north of the site at L3. Due to the apparent significant differences in measured noise, it is strongly recommended that another proper assessment around the Buckden marina complex is carried out at L3, on the site measured in this report and on the western side. It is also recommended that the boundary of the new revised computer noise model is extended to cover the west and east sides of the Buckden Marina complex, so that a full analysis can be made by comparing measured data from around the complex to assess the significance of revised proposed scheme noise maps.

21. Information should be provided on what GIS system and what data was inputted to create the model; Section 14.2.65, A14 Cambridge to Huntingdon improvement scheme report, 2014 does not provide enough information to allow an accurate assessment. It is recommended that this information is put into the public domain to allow a critical analysis and assessment, together with information on what type of model validation process was used.

22. The modelled environmental features such as wind direction and the nature of the terrain play a large factor in noise levels, and this has not been sufficiently presented in the Highways England model and supporting data is absent. It is recommended that it is ascertained whether the terrain surrounding the site, hard water surface, flat land, foliage etc have been sufficiently allowed for in the Highways England noise model and, if not, include proper allowance and adjustments for them.

23. The loudest noise source affecting the Buckden Marina complex is of trains to the east of the site; this is a transient, brief, point noise source, whereas the effect of the proposed scheme would be one of a constant line source of noise. It is strongly recommended that this difference is allowed for in assessing the environmental impact, as there is no apparent evidence of it being recognised or addressed.

24. The different residential locations at the Buckden Marina complex should be identified as being, or not, within a protected area of tranquillity which has remained

relatively undisturbed by noise and may be prized for its recreational and amenity value. While the complex is not specifically located within the CPRE map, this is because of the large scaling of their mapping; once received, the awaited CPRE response will be submitted.

25. Evaluation of the Opening Year and design year, particularly with regard to the percentage of HGVs and the increases in vehicle speeds must be presented to interested parties and reviewed with regards to traffic noise increase.

27. It is strongly recommended that noise attenuation barriers and appropriate landscaping on the bridge crossing the River Great Ouse and East Cost Mainline Railway and its approaches are included in the design; this is to reduce both direct noise transmission and impacts, and to minimise visual change so as to reduce the effects of physio-acoustics by being out of direct line of sight from the residential properties on the northern, western and eastern boundaries of the site. Further assessment of this particular section will be conducted once the Highways England revised noise model and traffic assessment has been produced and a response will be submitted at a later date.

28. There are other major infrastructure schemes being planned that will affect the Buckden Marina complex, such as: the Network Rail plan to remove the level crossing at Offord Cluny and replace it with a new road and bridge over the mainline railway opposite the marina area<sup>1</sup>, with associated future significant increases in rail traffic<sup>2</sup>, and the strategic study into the A1 between Peterborough and the M25 which would revive an earlier scheme to upgrade the A1 and affect the area to the west of Buckden village and potentially the marina complex<sup>3</sup>. These new proposed changes must be evaluated and modelled together with the proposed A14 upgrade scheme to truly assess the potential changes and impacts to the area. Moreover, the proposed scheme makes no provision for connection with a later scheme to upgrade the A1, which could lead to further disruption from later construction and changes in traffic and noise levels in operation. It is strongly recommended that these schemes are included and modelled within the assessment.

29. In addition, the sequencing of schemes should be seriously considered to minimise the impact of construction works on existing traffic flows; for example, if the A14 scheme were to progress first, then the existing A428 would not be able to provide a suitable relief route, whereas it could if it was upgraded first to dual carriageway standard along its length from the M11 to the A1, with the intended graded and separated junction at the Black Cat roundabout.

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<sup>1</sup> [https://consultations.networkrail.co.uk/communications/190f9985/user\\_uploads/gills-and-offord-consultation-boards-option-2.pdf](https://consultations.networkrail.co.uk/communications/190f9985/user_uploads/gills-and-offord-consultation-boards-option-2.pdf) This will include an embankment which would reflect noise from the proposed A14 route towards the marina complex.

<sup>2</sup> As a result of the changes from removing rail signalling and increasing rail traffic volumes through introduction of the European Rail Traffic Management System on the East coast Mainline railway planned by 2020.

<sup>3</sup> <https://www.gov.uk/government/news/major-roads-investment-in-the-east-of-england>

30. Under Planning Act 2008: Guidance for the examination of applications for development consent, P14, section 50, suitable time and opportunity must be allowed for full assessments to be made. As a result of the revisions, yet to be released, of the changed Highways England noise model and assessments, a further full assessment will have to be made; consequently, further analysis and comment is reserved until after the results of the revised model forecasts are produced by Highways England at a later date.