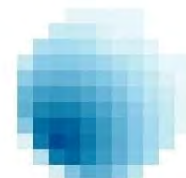


Môr Hafren Bio power: Review of Acoustic Comments Raised

P1844-L01-REV A-BDH



sol
acoustics

19 January 2021

Maureen Darrie
iCon Environmental Innovation Centre
Eastern Way
Daventry
NN11 0QB

Unit 11, Brunel Court, Gadbrook Park, CW9 7LP

Dear Maureen,

Môr Hafren Bio power: Review of Acoustic Comments Raised

This letter provides an acoustic review of the comments raised by the Planning Inspectorate, Cardiff Council (CC), and the local resident's Action Group: '*Residents Against the CF3 Incinerator*' regarding Sol's Environmental Noise and Vibration Impact Assessment report (ref: P1844-REP01-REV-C-BDH, dated 2 September 2020, Doc 38) for the proposed Môr Hafren Bio power Energy from Waste (EfW) facility to be located off Newlands Road, Wentlooge, Cardiff, CF3 2EU (the "Facility"). Sol's comments on the current suggested noise-related Planning Condition are also provided within this letter.

Comments and suggested noise-related Planning Condition, as referenced in this letter, are as presented within the '*Local Impact Report for Cardiff Council*' document (ref: '*DNS-3236340-000251-LIR Mor Hafren redacted*', dated 23 October 2020) as received by Sol via email during 14 December 2020.

The residents Action Group's comments as referenced in this letter are as presented within the '*Residents Against the Cf3 Incinerator A Response to the Mor Hafren Noise and Vibration Assessment*' document (ref: '*DNS-3236340-000189-INT - Jon Alderman - Noise and Vibration Assessment*', undated) as received by Sol via email during 14 December 2020.

1.0 Planning Inspectorate's Comments

1.1 Proposed Method of Piling

Comments raised:

'... 5.35 The Assessment concludes that during construction stage there's likely to be a negligible impact for noise and between minor and moderate impact (worst case) for vibration. There is an indication that the preferred piling method is likely to be percussive though there has been no justification as to why this is the case. If this is the only possible method due to existing site conditions, this will need to be reflected in any CEMP document. Given that high impulsive noise, albeit over a shorter period, is generally more disturbing and less acceptable – SRS would seek that an alternative method of piling is used, whereby a lower steady noise over time is produced. It is acknowledged that the 2m Acoustic Barrier is to be situated around the construction site perimeter as the main attenuation method for noise which will manage however if percussive piling is chosen SRS would seek specific attenuation used, as outlined in section 8.5.1 of BS5228, and this be reflected within a final agreed CEMP Document ...'

Sol response:

The Applicant has advised Sol that the method of piling shall be determined at the time of construction to allow flexibility to deal with ground conditions. The method of piling will be included within the Construction Environmental Management Plan (CEMP), the final version of which will be approved through discharge of the relevant Planning Condition.

1.2 Permitted Construction Times

Comments raised:

'... 5.36 Both the Assessment and CEMP document outlined that that developer intends to conduct construction activities between 0700 and 1800 hours Monday – Friday, 0700 – 1300 Saturday and no Sunday or Public Holidays. These times, specifically the commencement at 0700 hours, are contrary to those outlined by this team in the EIA Scoping direction, whereby a commencement of 0800 was is quoted. Having reviewed documents and given the close proximity of residential receptors I can see no justification for commencing at 0700 hours for the 33 months anticipated time-scale ...'

Sol response:

The Applicant has subsequently advised Sol that they will adhere to the proposed construction times for external works as set out in the EIA Scoping Direction.

1.3 *Proposed Noise Related Planning Condition*

Condition Wording Proposed:

'... 13. Noise Management Plan

Prior to beneficial use a noise assessment shall be submitted to and approved in writing by the Local Planning Authority that demonstrates that the cumulative noise from plant and vehicles achieves a rating noise level of 5dB below background (L_{A90}) at the nearest noise sensitive receptors outlined in the Environmental Noise Assessment P1844-REP01-REVC-BDH, when measured and corrected in accordance with BS4142:2014 +A1 2019 (or any British Standard amending or superseding that standard).

Reason: To safeguard the amenities of neighbouring occupiers, in accordance with Local Development Plan Policy EN13 (Air, Noise, Light Pollution and Land Contamination) ...'

Sol response:

BS4142:2014 +A1 2019: 'Methods for rating and assessing industrial and commercial sound' methodology is applicable only to dwellings or premises used for residential purposes. It is not appropriate to apply this Standard to non-residential receptors, such as the Pinewood Studios Wales commercial premises or ecological receptors. Sol would suggest that the wording of this Planning Condition be revised to clarify that it is applicable to *residential* receptors (i.e. dwellings) only, in line with BS4142:2014 +A1 2019.

Furthermore, the Rating Level limits as imposed by this Planning Condition are more stringent than those as presented in Sol's Environmental Noise Impact Assessment Report. Table 1 overleaf presents the predicted overall A-weighted, BS4142-defined Rating Level at the proposed and existing residential housing. All instances where the predicted Rating Level is expected to exceed the requirements of the current proposed Planning Condition are highlighted in **red bold**.

Noise Sensitive Receptor	Assessment Period	Predicted Specific Level, dB $L_{Aeq,T}$	Predicted Rating Level, dB $L_{Ar,T}$	Typical Background Sound Level, dB L_{A90}	Rating Level sub. Background \pm dB
Newlands Farm (south east of Development site)	Daytime (07:00hrs - 23:00hrs) T = 1 hour	41	44	46	-2
	Night Time (23:00hrs – 07:00hrs) T = 15 minutes	38	41	45	-4
Travellers Community site (south east of Development site)	Daytime (07:00hrs - 23:00hrs) T = 1 hour	35	38	45	-7
	Night Time (23:00hrs – 07:00hrs) T = 15 minutes	32	35	43	-8
Trowbridge Road (north west of Development site)	Daytime (07:00hrs - 23:00hrs) T = 1 hour	30	33	38	-5
	Night Time (23:00hrs – 07:00hrs) T = 15 minutes	28	31	33	-2
Green Meadows and Hendre Road (north of Development site)	Daytime (07:00hrs - 23:00hrs) T = 1 hour	31	34	40	-6
	Night Time (23:00hrs – 07:00hrs) T = 15 minutes	27	30	35	-5
Non-strategic housing site H1.1 (north of Development site)	Daytime (07:00hrs - 23:00hrs) T = 1 hour	34	37	40	-3
	Night Time (23:00hrs – 07:00hrs) T = 15 minutes	30	33	35	-2

Table 1: BS4142 summary assessment (as per Sol's report P1844-REP01-REV C-BDH)

Table 1 shows that the requirements of the suggested Planning Condition are not expected to be achieved at the following residential receptors:

- Existing residential housing at Newlands Farm (as during both daytime and night time periods)
- Existing residential estate off Trowbridge Road (as during the night time period only)
- Proposed non-strategic housing site H1.1 (as during both daytime and night time periods)

If this Planning Condition is enforced without further revision, it will be necessary to implement further noise mitigation measures above and beyond those as currently prescribed within Sol's Environmental Noise Impact Assessment report. In the first instance, Sol recommends that further discussions be held with CC to seek to revise the wording of the proposed Planning Condition such that it reflects the findings of the Sol's report. If this is not possible or unlikely to be accepted by CC, Sol suggests that a further review be conducted to confirm the extent of any required *additional* noise mitigation necessary to meet the requirements of the Planning Condition.

2.0 Residents Against the CF3 Incinerator Comments

2.1 Construction Phase and Operational Phase Traffic

Comments raised:

'... We note the applicant states at paragraph 7.5, page 47: Construction Phase and Operational Phase Induced Road Traffic Noise:

"It is also necessary to consider the potential intermittent transient noise level impact such as that generated by HGV collections and deliveries to the Development site on the site access road as well as on the local road network.

No traffic data for existing HGV movements on the surrounding road network has been provided to Sol to inform this acoustic assessment. However, the Development site is located on an existing industrial estate which is expected to generate significant HGV movements and therefore the potential noise impact of the anticipated additional HGV movements to/from site is not expected to have a significant impact on nearby noise sensitive receptors. Furthermore, the wording of the EIA Scoping Direction states that construction phase and operational phase HGV movements are to be restricted to occur during daytime hours only.

With regards to noise from HGV movements on the adjacent Pinewood Studios Development, it shall be noted that the Pinewood Studios has an existing service yard as located to the north of the Pinewood Studios Building. The access road to the service yard is located just to the east of the Pinewood Studios Building (much closer than Newlands Road or the Development site. Therefore, it is unlikely that the noise or vibration impact from any HGV deliveries to the Development site (both on Newlands Road or the site access road) would have a significant adverse impact on this receptor as compared to that as current expected from the Pinewood Studios access road".

The DNS EIA Scoping Direction to Mor Hafren at page 18, paragraph (iii) states:

"There are nearby commercial activities namely, Pinewood Studio Wales, who will be subject to any operational and construction noise. They have previously raised concerns to this service about vehicular movement in the estate impacting their operations".

It is unclear whether the noise level impact of the development HGV traffic has been considered or screened out because of the "expected" significant HGV movements on the industrial estate. We consider that the development's additional HGV traffic, arriving and departing every 10 minutes, is likely to increase the possibility of a constant stream of HGV traffic on the surrounding road network and access road to the development site, which should be given due consideration ...'

Sol response:

A qualitative assessment of the potential noise and vibration level impact from HGVs as during the construction and operational phases is presented in Section 7.5 of Sol's Environmental Noise Impact Assessment report.

The Application Site is located within an Industrial Estate which is expected to experience significant levels of existing HGV road traffic. Newlands Road in particular is a cul-de-sac which provides access to a number of existing commercial and industrial premises, including Renold Coupling, UPS Cardiff, TXM Plant, W G Davis (truck dealership) and Freightliner Limited. All existing HGV road traffic as generated by each of these commercial and industrial uses already pass the existing Pinewood Studio Wales commercial receptor.

Notwithstanding the above, it should be noted that the Pinewood Studios Wales has an existing service yard as located to the north of the Pinewood Studios building which is accessed via an existing access road located c.18m to the east of the building (i.e. much closer than Newlands Road). Therefore, it is unlikely that the noise or vibration impact from any HGV traffic associated with the Application Site on Newlands Road would have a significant adverse impact on this receptor as compared to that as current expected from the Pinewood Studios access road.

Figure 1 overleaf shows the location of Pinewood Studios Wales in relation to Newlands Road, the existing service yard access road and the other industrial uses as located on Newlands Road.

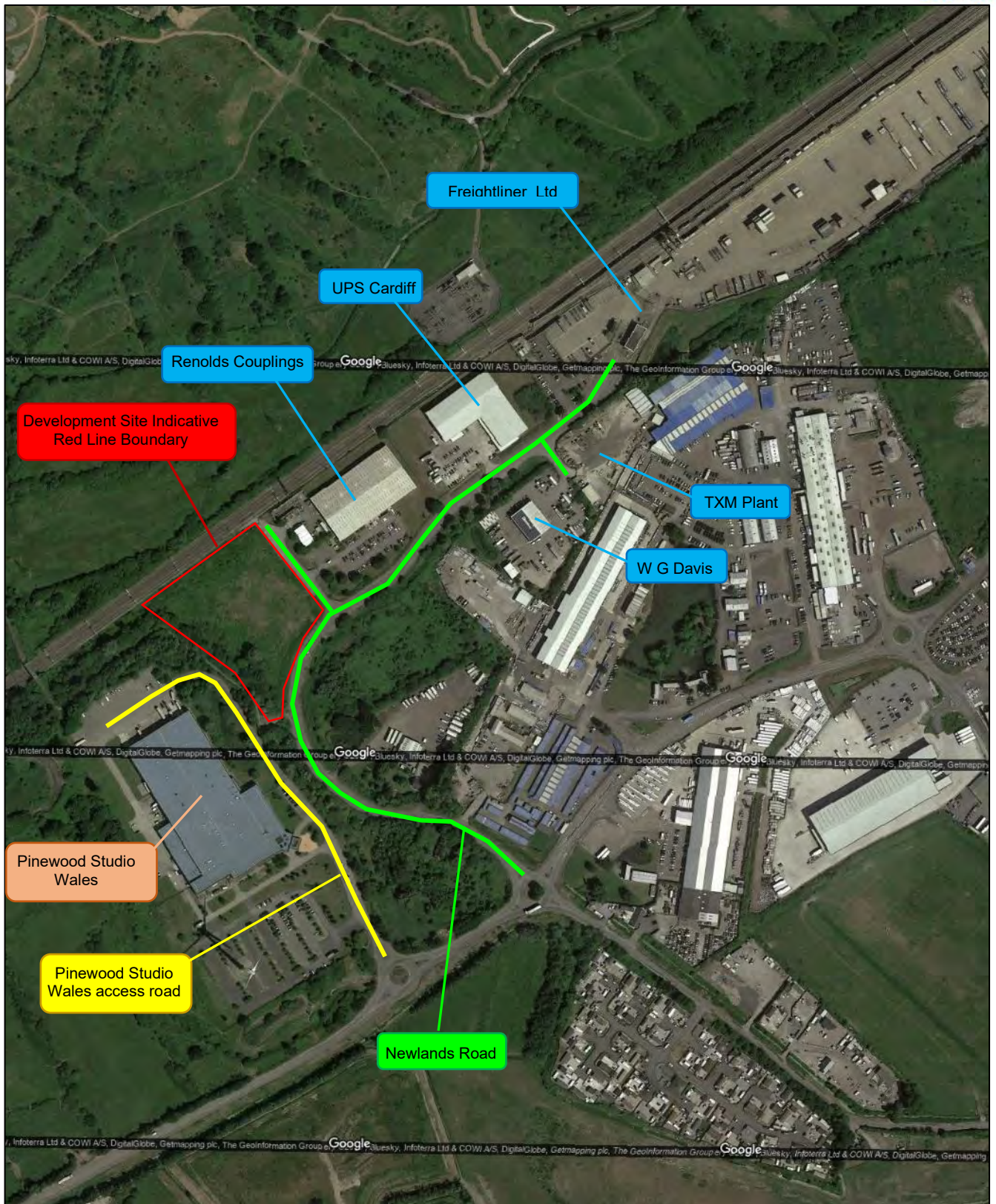


Figure 1: Development site and the surroundings (googlemaps.co.uk)

2.2 Commercial Receptors

Comments raised:

'... The single commercial receptor used in the modelling is located at Pinewood Studios Wales, who already have significant concerns about vehicular movement in the estate impacting their operations. They are approx. 200m from the development site. Other nearby commercial premises, at a similar distance, are not included in the modelling. The following graphics, Figure D1 (Operational phase, page 66) and Figure D3 (Construction phase, page 73) show the models predicted impact on nearby commercial premises ...'

Sol response:

Industrial premises are not normally deemed to be noise sensitive. The EIA Scoping Direction was issued by the PI on 25 October 2019 which set out requirements for the Environmental Statement. The EIA Scoping Direction confirmed that the Pinewood Studios Wales was to be considered as a noise sensitive receptor (this commercial receptor is likely to include noise sensitive areas such as recording studios etc). However, other commercial and industrial premises within the vicinity of the Application site were not required by Cardiff Council to be considered as part of the assessment, which was in line with Sol's expectations.

2.3 Proposed Method of Piling

Comments raised:

'... In respect of the Construction phase Noise Impact assessment the applicant states in the Summary, 5th paragraph, page 3:

"The choice of piling method is still to be determined but likely to be percussive piling. The expected construction phase vibration impact is typically up to minor (but moderate worse case) as during percussive piling. However, the Client has confirmed to Sol that they will fully engage with the (future) occupier of Pinewood Studios and the residents of the Newlands Farm residential dwelling regarding the means of mitigating any impact from construction activities, including piling. This will include a dialogue on the likely timeframe and duration of such activities".

We note at paragraph 8.1.2 states:

"The Developer has confirmed that percussive piling method shall be adopted". We further note later in paragraph 8.1.2 states: "Table 23 confirms that a minor impact is typically expected at the Pinewood Studios Wales receptor during vibratory piling, with up to a moderate impact expected as a reasonable worst case (5% probability of being exceeded)".

We assume this means there are 2 different methods of piling, i.e. percussive and vibratory. We request clarification, if this is the case, why the adopted method has not been modelled, i.e. percussive and not vibratory, and why there is no assessment of the impact on the commercial receptor from the noise generated during piling. The Construction Plan shows a 3-month period to complete the piling. This is likely to cause significant disruption to the normal business operation of the Studio ...'

Sol response:

Again, as previously noted, the Applicant has advised Sol that the method of piling shall be determined at the time of construction to allow flexibility to deal with ground conditions. The method of piling will be included within the Construction Environmental Management Plan (CEMP), the final version of which will be approved through discharge of the relevant Planning Condition.

2.4 Hours of Operation

Comments raised:

'... Other points we note in the Construction Phase Noise Impact assessment, paragraph 3.10.7, is the disparity in hours of operation for construction and operational phases. The DNS EIA Scoping Direction to Môr Hafren at page 19 states:

"As part of the Construction Phase Noise Impact Assessment attention is drawn to the provisions of Section 60 of the Control of Pollution Act 1974 in relation to the control of noise from demolition and construction activities. Further to this no audible noise is expected outside the site boundary adjacent to the curtilage of residential property by construction activities in respect of the implementation of this consent outside the hours of 0800-1800 hours Mondays to Fridays and 0800 - 1300 hours on Saturdays or at any time on Sunday or public holidays. Approval for any proposed piling operations should also be sought".

We note the applicant confirmed to their Noise and Vibration consultant that construction periods shall be limited to the following periods: 0700 - 1800 hours Mondays to Fridays (excluding bank holidays), 0700 - 1300 hours on Saturdays.

We request the applicant's clarification as to why this disparity has occurred and that the modelling is revised to comply with the DNS EIA Scoping Direction ...'

Sol response:

Again, as previously noted, the Applicant has subsequently advised Sol that they will adhere to the proposed construction times for external works as set out in the EIA Scoping Direction.

2.5 Uncertainty

Comments raised:

'... The applicant states at paragraph 7.7 that a number of measures were taken with a view to limit the level of uncertainty arising and concludes this paragraph as follows:

"Despite the above measures, there still remains a level of uncertainty with regards to the actual noise levels generated by the site as full details of all proposed plant and processes are not available at the planning stage. Similarly, there remains uncertainty with regards to the acoustic character of the Development, which again cannot be accurately determined until further details of the plant are available.

It is therefore vital that further acoustic assessment be undertaken by an appropriate Acoustic Consultancy as further details develop to ensure that any significant noise sources likely to cause a significant noise impact are duly considered and assessed".

We understand this to mean that not all sources of noise and vibration and their actual levels have been input to the Noise and Vibration assessment model and that their impact has not been duly considered and assessed.

We request that the proposed further acoustic assessment is undertaken before the determination of the application is considered ...'

Sol response:

The completed Operational Phase Environmental Noise Impact Assessment is based upon Operator confirmed noise level emissions as expected from key externally sited plant, and also within key processing areas (such as the Turbine Hall, Waste Bunker Hall etc.). Based on this specific information, the Operational Phase noise impact assessment has demonstrated that appropriate noise levels can be achieved at the surrounding noise sensitive receptors, providing that an appropriate Noise Management Plan is duly implemented.

However, and as previously stated, the confirmed list of noise sources as used to inform the current assessment is not expected to be fully exhaustive of all the noise sources as expected on the site, and the noise levels as provided for key plant may be subject to further change and further refinement as the scheme design progresses. Full details of all proposed plant and their expected noise level emissions are not available at the planning stage and are unlikely to be available until the detailed design stages, whereupon they shall be taken into detailed consideration at that time.

In such instances, it is normal for the Local Governing Authority / Regulator to impose, by means of a noise related Planning Condition, a maximum permissible BS4142-defined Rating Level limit to be achieved at the identified noise sensitive receptors as based upon the findings of the operational phase noise impact assessment.

Following planning consent and during the detailed design stages, the Developer would be expected to appoint a suitably qualified Acoustic Consultant to predict the noise impact as expected from all proposed plant and processed at each of the identified receptors. A detailed Noise Management Plan shall then be developed such that the noise egress from the Facility meets the requirements of the Planning Condition.

2.6 Eastern High School

Comments raised:

'... Conclusion

In our opinion the applicant's Noise and Vibration assessment lacks clarity and robustness in respect of the following:

- *The impact on all Commercial premises in close proximity has not been taken into consideration.*
- ***The impact on schools in close proximity, Eastern High in particular, has not been taken into consideration.***
- *The level of uncertainty is of significant concern. The full details of the plant and processes have not been considered and a further assessment is required when these details are available.*
- *It is unclear what HGV movement data has been included ...'*

We therefore request that the applicant addresses these concerns and presents a Noise and Vibration Assessment, which is truly representative and robust, and identifies all the impacts of the proposed operation and construction of the ERF, prior to determination of the application.

Sol response:

Sol's has responded to the majority of comments raised in the conclusion section of the residents' Action Group letter in the preceding sections. This section addresses the additional comments raised within the conclusion section relating to the anticipated noise and vibration impact as expected at Eastern High School.

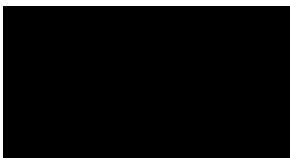
The potential noise and vibration impact as expected Eastern High School was not considered in Sol's Environmental Noise Impact Assessment report for the following reasons:

- This receptor was not identified as a key noise sensitive receptor by the PI/Cardiff Council in the EIA scoping direction
- This receptor is adjacent to the residential estate as located on Trowbridge Road which was considered as part of the assessment. The levels of noise and vibration as expected from the Facility at Eastern High School are likely to be similar to that as predicted at the Trowbridge Road residential receptor
- Schools are less sensitive to noise and vibration as compared to residential dwellings

Notwithstanding the above, it should be noted that Sol's Environmental Noise Impact Assessment report anticipates a *negligible* noise and vibration impact at the Trowbridge Road residential receptor as during both the construction and operational phases.

We trust that this is of assistance and we now await your instructions.

Yours sincerely
For and on behalf of Sol Acoustics Limited



Brian Horner MIOA
Associate Director