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To: Peter Attwood, Acoustic Associates Sussex Ltd

cc: Veronique Bensadou, Grundon Waste Management Ltd

From: Susan Hirst, Senior Acoustic Consultant, RPS
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Date: 29th April 2014

GRUNDON FORD SITE: REPONSES TO FURTHER COMMENTS RAISED BY ACOUSTIC ASSOCIATES SUSSEX LTD

- 1 RPS was contacted by Peter Attwood from Acoustic Associates Sussex Ltd regarding the responses to comments sent out in the 'Environmental Statement: Response to Regulation 22 Request and Additional Information for the Proposed Waste Treatment Facility (Application No. WSCC/096/13/F)' in February 2014.
- 2 In particular, the following requests were made:
 - 1) that the HGV source term used for the assessment in the Environmental Statement (ES) be checked to confirm whether it had been appropriately modelled; and
 - 2) that predictions of noise levels from construction vehicles on Rollaston Park be calculated and a comparison made to existing noise levels experienced from road traffic in this location.
- 3 In response to these requests, RPS provides further information below.
 - 1) **Review of HGV Source Term**
- 4 From further examination, it was determined that the HGV source term previously used was not appropriate for the following reasons:
 - * the L_{Amax} level of the source at 10 m was modelled instead of the Sound Power Level L_{Wp} ; and
 - * the haul road calculation is based upon a vehicle travelling at a specific speed, the speed of the vehicle in relation to the source term used was not known, but is more appropriate to model a

vehicle travelling at a known speed. The HGVs that will be using the site access road which will likely be travelling at a speed of 30 km/h.

- 5 Consequentially, it was decided that assessments that included slow moving HGVs, i.e. those relating to the construction phase and the operational phase, should be re-modelled using a more appropriate source term.

Source Term

- 6 Predicted noise levels from slow moving HGVs on site have been re-modelled using a source term for an HGV that was measured by RPS. The sound power level of this source is provided in Table 1 below. The sound power level from this vehicle is considered to be more representative of what would actually be experienced on site. The total sound power for this HGV is 104 dB L_{wv} as opposed to the previously used 83 dB L_{AFmax} (which was advised to be reconsidered by Peter Attwood of Acoustic Associates).

Table 1: Source Sound Power Level Used in Model Update for Site

	Overall (dBA)	Octave SWL (dBA)							
		63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Slow-moving HGV (Drive-by Maximum Noise Level)	104	87	87	96	98	98	97	90	81

- 7 As it has also now been proposed to install a 2 m noise barrier on the eastern access road to mitigate the noise levels at properties close to this road, this has now also been included within both the noise models for construction and operation of the site. The location and extent of the noise barrier is provided in Figure 1.

Construction HGV Assessment

- 8 The levels of noise from slow moving HGVs on the site access routes have been modelled using the new source term described above, travelling at a speed of 30 km/h. These data supersede those provided in Table 3 of the Response note referred to above. The results of the noise predictions are provided in Table 2 below.

Table 2: Predicted Noise Levels and Noise Change Arising from Construction Traffic

Receiver	Floor	Predicted External Noise Level $L_{Aeq,1hr}$ dB	Existing Ambient External Noise Level $L_{Aeq,1hr}$ dB	Combined External Noise Level $L_{Aeq,1hr}$ dB	Noise Change L_{Aeq} dB
1 Boundary Cottages	G	21	46	46	0
1 Wilson Court	G	26	54	54	0
8 Rodney Crescent	G	31	46	46	0
26 Beagle Drive	G	31	54	54	0
29 Rodney Crescent	G	39	46	47	1
44 Nelson Row	G	20	46	46	0
Atherington House	G	29	46	46	0
Conifers	G	31	46	46	0
Ford Prison	G	19	46	46	0

- 9 The predicted noise levels and noise change from construction HGVs using the access road indicate that there will be a noise increase of up to 1 dB during any one hour of the daytime period at the most affected NSR on Rodney Crescent. A change of this magnitude for a temporary noise effect, as relating to the duration of the construction phase, is considered to be of negligible significance.

Operation HGV Assessment

- 10 Within the ES, the assessment of internal noise levels in residential properties with respect to BS 8233 included noise from HGVs on the site access routes. This assessment has therefore been updated using the new source term, travelling at a speed of 30 km/h. The results of the noise model and resultant internal and external noise levels are provided in Table 3 below and in the noise contour plot provided in Figure 1 which also shows the location of the noise barrier.

Table 3: BS 8233 Assessment Daytime (with 2 m barrier on eastern access road)

Receiver	Floor	Existing External Ambient Noise Level - L_{Aeq} dB	Predicted External Noise Level from HGVs - L_{Aeq} dB	Combined Total External Noise Level L_{Aeq} dB	Noise Change dB	Noise Attenuation (partially open window) L_{Aeq} dB	Existing Internal Noise Level L_{Aeq} dB	Combined Total Internal Noise Level with HGVs L_{Aeq} dB
1 Boundary Cottages	G	46	28	46	0	-13	33	33
1 Wilson Court	G	54	30	54	0	-13	41	41
8 Rodney Crescent	G	46	35	46	0	-13	33	33
26 Beagle Drive	G	54	34	54	0	-13	41	41
29 Rodney Crescent	G	46	42	47	1	-13	33	34
44 Nelson Row	G	46	28	46	0	-13	33	33
Atherington House	G	46	35	46	0	-13	33	33
Conifers	G	46	36	46	0	-13	33	33
Ford Prison	G	46	28	46	0	-13	33	33

- 11 In the ES, the assessment considered a threshold of adverse impact where internal noise levels in neighbouring residential properties are 40 dB L_{Aeq} , which corresponded to the reasonable design range of British Standard (BS) 8233:1999 'Sound insulation and noise reduction for buildings - Code of practice'. This standard has since been revised. The new version, BS 8233:2014 'Guidance on sound insulation and noise reduction in buildings', provides a guideline internal noise level in dwellings during the daytime of 35 dB $L_{Aeq,10\%sur}$ with the following note: 'Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable conditions still achieved.' This note generally relates to new residential development; however it is not unreasonable to apply it to other development that may influence existing residential properties.
- 12 The results of the assessment indicate that, for all NSRs during the daytime period, the internal noise levels from the operation of the proposed waste treatment facility and other existing noise sources in residential buildings including residential properties on Ford Lane, Rodney Crescent, Nelson Row, and Ford Prison will range between 33 dB L_{Aeq} and 34 dB L_{Aeq} . At these locations, the noise levels

are within the guideline level of BS 8233. Existing internal noise levels are 33 dB L_{Aeq} which results in a noise increase of up to 1 dB L_{Aeq} with the proposal.

- 13 The internal noise levels at properties on the estate to the west of the site at Wilson Court and Beagle Drive will be 41 dB L_{Aeq} . The existing noise levels at these locations are 41 dB L_{Aeq} . These noise levels are in excess of the guideline internal noise level in BS 8233. However, as there is no change in the noise levels at these locations, noise levels will not be increased further by the proposals.
- 14 On the basis that there will be a maximum noise change of less than 3 dB, that predicted noise levels are within the guideline internal noise levels in the new version of BS 8233 at properties except those on Rollaston Park (Wilson Court and Beagle Drive) where no noise change is expected to occur, the noise impact of the proposed development for daytime operations is therefore negligible.

1) Predicted Noise Levels from Construction Vehicles on Rollaston Park

- 15 A noise change assessment for construction vehicles on Rollaston Park is provided for the peak hours using the baseline traffic data and construction traffic data provided by Callidus. The results of these predictions are provided in Table 4 below:

Table 4: Noise Change Assessment at Properties on Rollaston Park

Time Period	Predicted Road Traffic Noise Level Without Development L_{Aeq} dB	Predicted Road Traffic Noise Level With Construction Traffic L_{Aeq} dB	Noise Change dB
08:00 – 09:00	59	60	1
17:00 – 18:00	56	58	2

- 16 The assessment above indicates that the worst case peak hour noise change is 2 dB(A). A change of this magnitude for a temporary noise effect is of negligible significance.

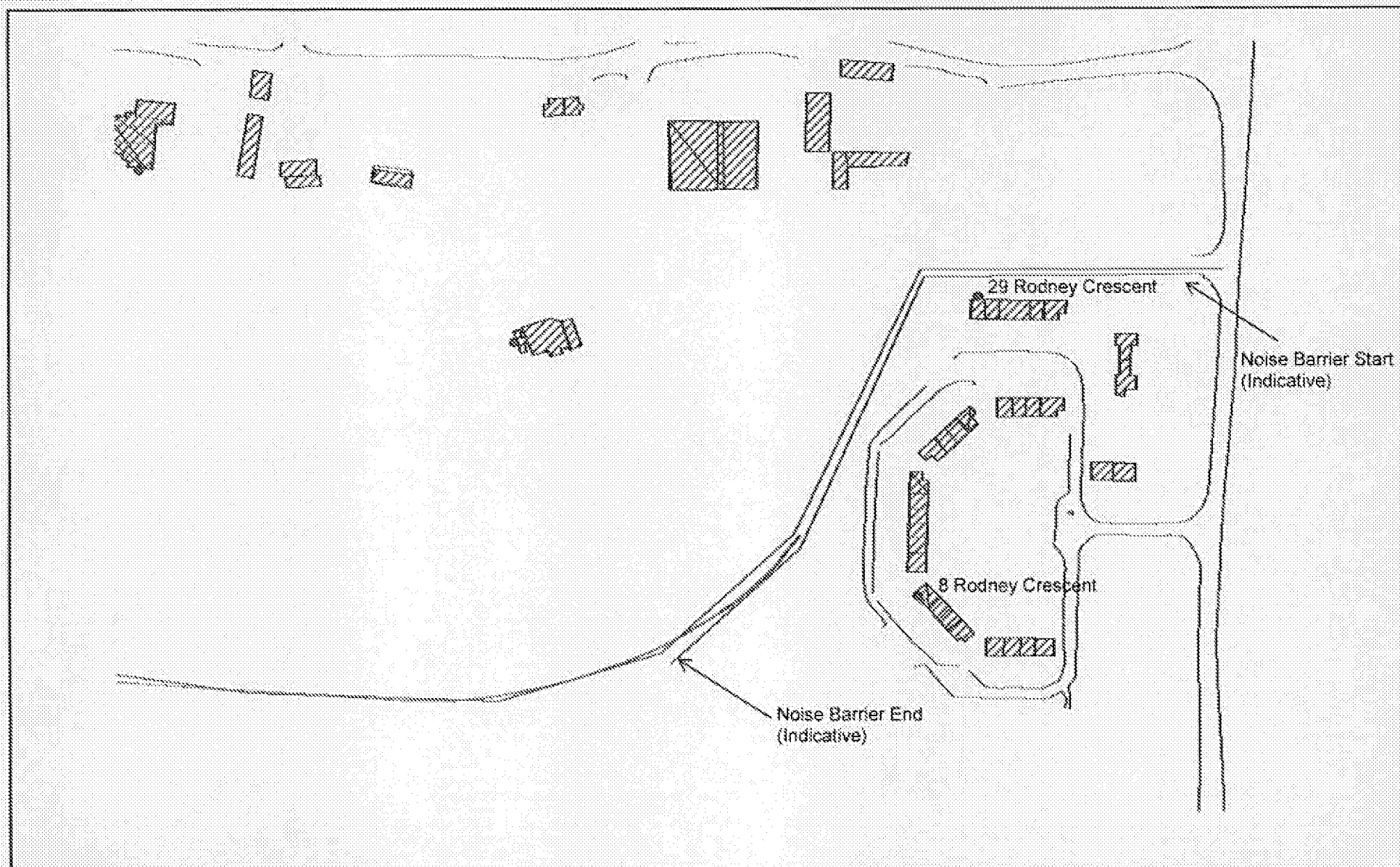


Figure 1: Plan Indicating Extent of Proposed Noise Barrier



