6th May 2015

Kevin Ashcroft
Senior Planning Officer
Permitting Service
Natural Resources Wales

By email

Dear Kevin,

***RE: PARC ADFER NOISE MODELLING***

We are responding on behalf of WTI Limited to your email request dated 17th April 2015 for further information in relation to the noise modelling submitted in support of the Environmental Permit Application for the Parc Adfer EfW Facility.

**Query 1**

*We still have further queries relating to this information provided. It is stated that "The estimated internal reverberant noise levels for each operational area of the site presented in Table 9-11 has been taken from information provided for a similar plant which was supplied by the equipment manufacturer for that plant. The information used reflects that used for the assessment undertaken for Fichtner Consulting Engineers by NVC Ltd and was the best data available at the time of undertaking the assessment."*

*Were the internal reverberant sound levels taken from measurements at another similar plant or calculated from manufacturer data? Please provide the details for either case. Furthermore, in considering how the reverberant sound levels were derived, please demonstrate how the power levels from each machine have been considered and how the size of the building has been considered.*

**Response**

The estimated sound power levels and internal reverberant noise levels for each operational area of the site, shown in Table 1 overleaf, has been taken from information provided by the manufacturer of a similar plant (Greatmoor EfW, Buckinhamshire, data supplied by HZI).

The information used reflects that used for the assessment undertaken for Fichtner Consulting Engineers by NVC Limited and was the best data available at the time of undertaking the assessment.

The internal reverberant noise levels were used to determine the noise emissions from the buildings as vertical area sources for the walls and area sources for the roofs with an attenuation value assigned to reflect the sound reduction provided by the building materials.

**Table 1**
**Energy Recovery Facility, Noise Levels, dB**

| Plant Area/Item | Derived Sound Levels, $L_{WA}$ or $L_i$ |
|---|---|
| Flue Gas Treatment | 100 |
| Air Cooled Condenser | 100 |
| Stack Outlet | 88 |
| ID Fan (enclosed) | 88 |
| Boiler Hall* | 87 |
| Turbine Hall* | 94 |
| Waste Bunker* | 87 |
| Tipping Hall* | 87 |
| Raw IBA Area* | 85 |
| IBA Processing Area* | 85 |

* internal reverberant noise level, Li

## Query 2

*Please also provide a layout plan for the building detailing the location and sound power characteristics relevant to all processes described, full constructional details of sound insulation treatments should also be provided.*

## Response

Figure 1 shows a layout of the building with the location and sound power characteristics of the relevant processes. Table 2 details the sound insulation treatments.

**Table 2**
**Sound Reduction Performances of Building Materials, dB**

| Material | Octave Band Spectrum | | | | | | | | | Source |
|---|---|---|---|---|---|---|---|---|---|---|
| | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Rw | |
| 0.7mm sheet steel with trapezoidal corrugations and 120mm mineral fibre infill | - | 15 | 20 | 28 | 37 | 43 | 40 | - | 32 | CadnaA VDI 2571 |
| 0.7mm sheet steel with trapezoidal 45mm corrugations | - | 14 | 16 | 20 | 25 | 29 | 23 | - | 25 | CadnaA VDI 2571 |
| Hormann SPU40 F42 sectional roller shutter | 4 | 6 | 13.5 | 19 | 22 | 23 | 23 | 21 | 21 | Samson Website |
| Insulated glass unit - IGU double glazed 4/16/4 | - | 21 | 17 | 25 | 35 | 37 | 31 | - | 29 | Pilkington Glass |
| Acoustic Louvre | 4 | 6 | 8 | 11 | 17 | 15 | 13 | 12 | 15 | NVC Library |

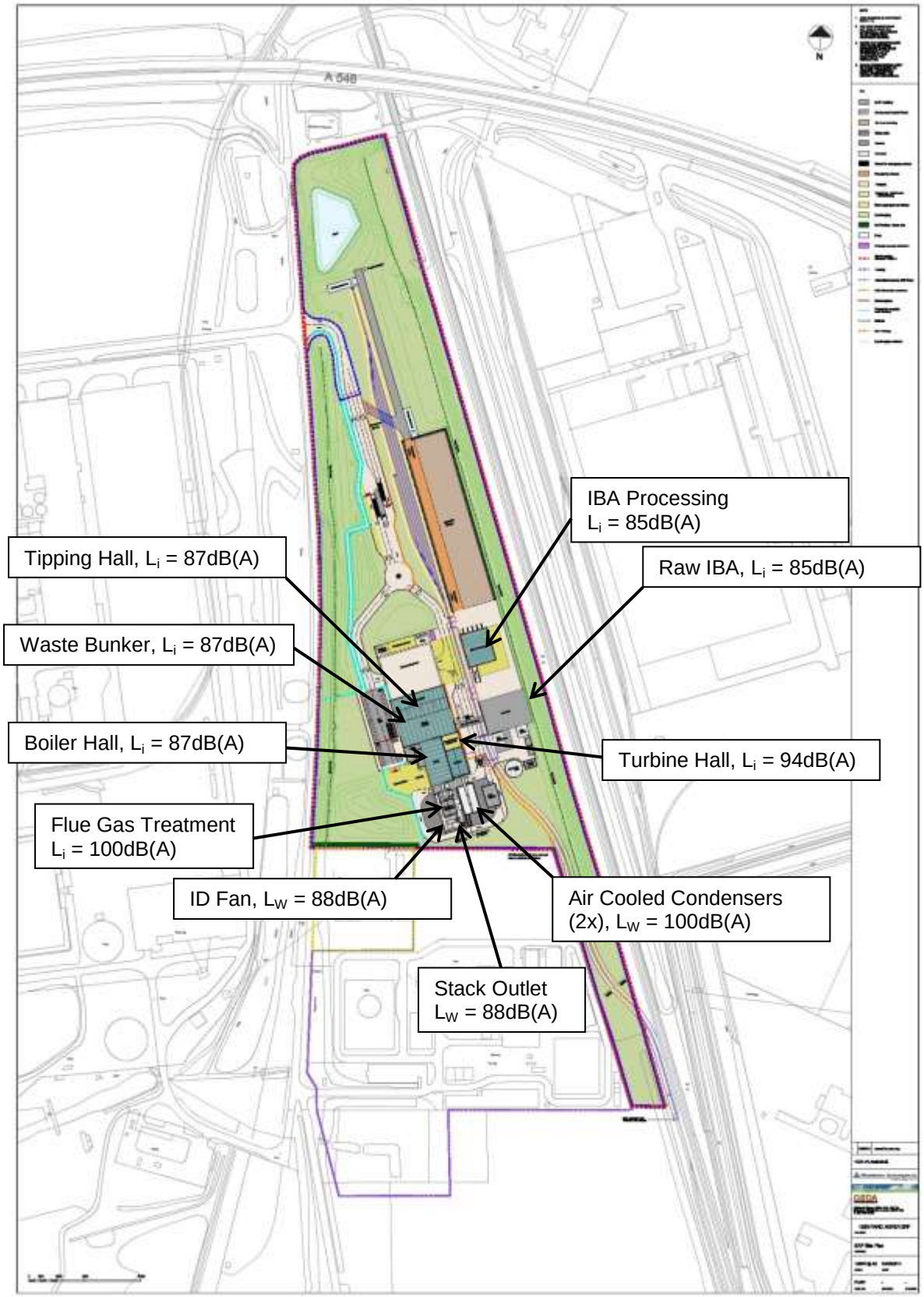



**Figure 1**
**Plant Layout & Internal Reverberant & Sound Power Noise Levels**

**Query 3**

*It would be useful for a plan to be provided showing the location of receptors in relation to noise. Please provide a plan showing the locations of receptors used for rating the potential noise nuisance in relation to the proposed facility.*

**Response**

A drawing showing the receptor locations in relation to the plant was included in the Noise Chapter of the Environmental Statement (Ref PA9/1). A copy of this drawing is included in Figure 2 overleaf.

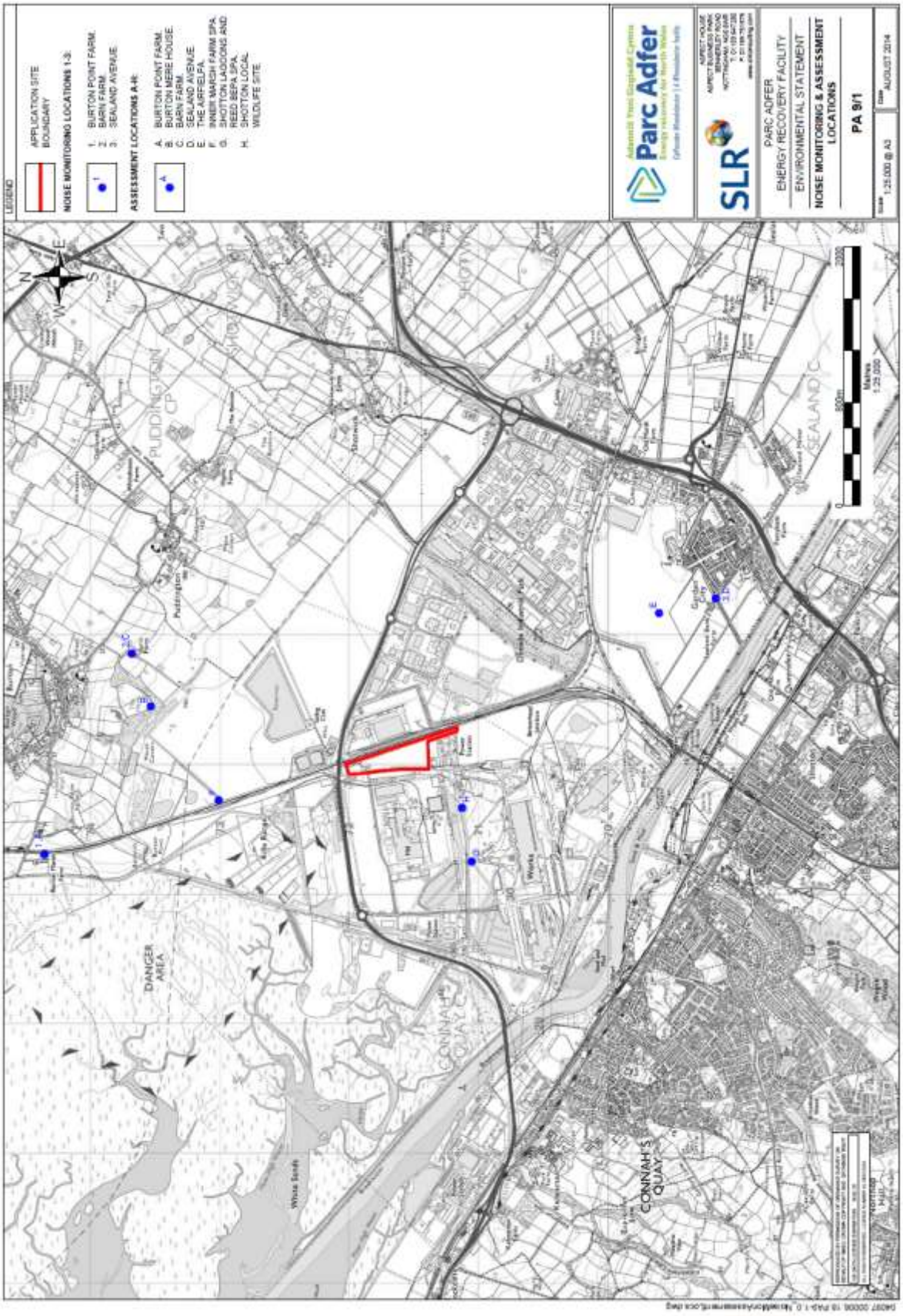
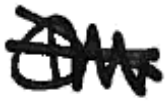



**Figure 2**
**Plant Layout & Receptor Locations**

If you require any further information please do not hesitate to contact me.

Yours sincerely
**SLR Consulting Limited**



**Darren Lafon-Anthony MSc MIOA FIQ**
Technical Director - Acoustics & Vibration