NSW EPA

ENVIRONMENT PROTECTION AUTHORITY

Your reference: MP10_0028
Our reference: DOC12/13671
Contact: Deanne Thomas
(02) 9995 5725

Ms Christine Chapman
Senior Environmental Planner
Major Development Assessment
GPO Box 39
SYDNEY NSW 2001

EMAIL & STANDARD POST

Dear Ms Chapman

Proposed Remondis Integrated Recycling Park, Grand Avenue, Camellia
General Terms of Approval

I refer to the proposed Remondis Integrated Recycling Park at Camellia (MP10_0028) that was placed on public exhibition on 23 February 2012 and located at 1 Grand Avenue Camellia ("the project"). The Department of Planning and Infrastructure ("DP&I") requested the EPA make a submission in relation to this proposal. The Proponents for the project are Remondis Pty Ltd and Billbergia Pty Ltd (the "Proponents").

The EPA has reviewed the Environmental Assessment ("EA") dated February 2012 prepared by National Environmental Consulting Services and based on the information set out in the EA, provides recommended Conditions of Approval for your consideration as Attachment A. License conditions at provided at Attachment B.

The EPA advises that should Project Approval be granted, the appropriate Proponent will need to apply for an environment protection licence application pursuant to Schedule 1 of the *Protection of the Environment Operations Act 1997* ("POEO Act"). A separate application would need to be made to the EPA for this licence. In relation to this application, the Proponent may need to consider the scheduled activities of "Resource Recovery", "Waste Processing – non-thermal treatment", "Composting" and/or "Waste Storage".

The Proponent should be made aware that, consistent with provisions under Part 9.4 of the POEO Act, any environment protection licence issued by the EPA in relation to a waste facility will require the provision of a financial assurance. The amount and form of the assurance would be determined by the EPA and required as a condition of the licence.

Finally, if consent is granted and the EPA issues an environment protection licence, the EPA will require the Proponent to prepare, test and implement a Pollution Incident Response Management Plan in accordance with Section 153A of the POEO Act.

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If you have any questions in relation to this matter, please contact Deanne Thomas on (02) 9995 57325

Yours sincerely

4/4/12

JULIE CURREY
Unit Head Waste Operations
Environment Protection Authority

Encl. Attachment A - Comments and Recommended Conditions of Approval
Attachment B – Proposed EPA licence conditions

Attachment A
EPA – Comments and Recommended Conditions of Approval
Proposed Remondis Integrated Recycling Park

THE PROPOSAL

Remondis Pty Ltd and Billbergia Pty Ltd are jointly seeking approval for the construction and operation of an integrated recycling park at 1 Grand Ave, Camellia. Remondis Pty Ltd will construct and operate the facility. Billbergia Pty Ltd is the landowner and will construct necessary services for the facility.

The facility comprises two operations: a Commercial and Industrial Resource Recovery facility ("CIRRF") with the capacity to process up to 100,000 tpa of C&I waste; and a Source Separated Organics Materials facility ("SSORRF") with the capacity to process up to 50,000 tpa of food and garden waste.

The facility would recover recyclable C & I materials with organic materials composted in a tunnel composting system and will operate 24 hours per day, seven days per week.

COMMENTS AND RECOMMENDED CONDITIONS OF APPROVAL

A. AIR QUALITY AND ODOUR

Comments

The main building complex includes the waste delivery and pre treatment facilities for the CIRRF and SSORRF plants, all equipment, compost tunnels and associated hallway and product storage and handling areas. The building complex is fully enclosed and equipped with an integrated air management system.

Key features of the air management system include:

- Retaining odorous air inside the buildings by maintaining negative pressure and the use of high speed roller doors during waste delivery;
- Collection hoods to extract odorous air from material unloading, processing and storage areas to the tunnel composting system;
- Recycling of odorous air back into the tunnel as far as possible to minimise total air volumes to the biofilter unit;
- A fully enclosed biofilter facility with two biofilters to treat all odorous emissions prior to stack discharge to air

The EPA undertook an adequacy assessment of the draft Environmental Assessment (EA) for the proposal in August 2011 and requested clearer presentation of odour isopleths to identify all sensitive receptors and evidence of biofilter performance capabilities.

The EPA has reviewed the revised Air Quality Impact Assessment (AQIA) and considers that it is adequate. Modelling has been performed using emissions data based on an existing biofilter at a similar waste facility and TAPM generated and BoM meteorological data. Predicted impacts have been compared against the most stringent 2 OU criterion for urban areas, with a maximum predicted off site odour concentration of less than 0.6 OU.

The AQIA identifies a number of sensitive receptors in very close proximity to the proposed facility. These include a single residence approximately 100 m to the west with the nearest residential area approximately 285 m to the south west on James Ruse Drive. On the southern edge of the site there are recently established commercial premises occupied by a child care centre, international college, offices, a café and a supermarket.

A performance guarantee of an average odour concentration of 125 OU has been provided for the proposed facility in addition to test results for the biofilter at another waste facility indicating a performance range of 32- 203 OU.

The EPA notes that the maximum predicted off site odour concentration is less than 0.6 OU, indicating that odours from the facility are not likely to be detected beyond the boundary of the premises provided the facility has been appropriately designed and properly operated. However this is achieved through an enclosed biofilter with stack discharge and negative pressure within buildings. If these systems fail there is a high risk of adverse odour impacts at receptors, especially given the close proximity of sensitive receptors such as the childcare facility directly adjacent to the site.

Given that modelling on the biofilter design has not been conducted using worse case odour emissions but on the manufacturer's performance guarantee of an *average* biofilter emission concentration, and that the AQIA *"Modelling of the initial biofilter design and estimated maximum emission rate predicted exceedences of DECCW criteria at nearby sensitive receptors"* the EPA considers that the risk of unacceptable odour impacts is high if air control equipment is not appropriately designed and maintained for the proposal.

Accordingly, the EPA considers it imperative that the proponent be required to engage an independent odour specialist to oversee final design of the facility and develop and implement a formal Air Quality and Odour Management Plan.

Dust

An estimate of particulates emissions during construction activities has been undertaken using US EPA AP 42 emission factors which indicates that the amount of dust generated is predicted to be minor and short lived provided operations are well managed and consistent with the EA. Proposed mitigation measures to control dust during construction include:

- Watering of exposed materials and heavily trafficked areas
- Covering of stockpiles of clean fill during platform construction
- Limiting of vehicle speeds.

Recommended Conditions of Approval

Should approval for the facility be granted, the EPA strongly recommends that the proponent be required to appointment of an independent odour expert to verify biofilter design and performance as well as all other odour management measures prior to and post commissioning to ensure there are no unacceptable impacts at sensitive receptors. This also includes the development of a biofilter monitoring and maintenance plan.

Accordingly, the EPA strongly recommends the following as conditions of approval:

Biofilter Pre Commissioning Study

Prior to commencement of operations, a report must be submitted to the Director General that includes the final design parameters and actual stack parameters for the biofilter.

Prior to commencement of operations, the proponent must appoint an independent recognised odour control specialist to review and approve the odour control system and odour management plan in conjunction with the EPA. The proponent must provide the Director General with a written report that includes a review and approval of the odour control system, and the odour management plan that has been undertaken and given by a recognised odour control specialist

Biofilter Post Commissioning Study

Within 6 weeks of commencement of operations and again after 6 months of operation, the proponent must appoint a recognised odour control specialist to report on, and undertake a program of odour control system testing, to quantify the odour abatement efficiency of the odour control system and the odour emission rate of the discharge to atmosphere. The proponent must provide the Director General with the odour control specialist's report, and any outcomes, within 1 week of the proponent's receipt of the report. The report must include, but is not limited to:

- The results of post commissioning source emissions sampling and analysis undertaken in accordance with the requirements of the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*

- Proposed odour management performance parameters that are consistent with the manufacturers' performance guarantee provided for the biofilters
- If required, the results of any additional modelling conducted in accordance with the requirements of the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* to validate the proposed performance parameters.
- If applicable, any additional management works and/or management practices to ensure that odour emissions are minimised as far as is practicable.

Odour control system

- The design of the odour control system must be undertaken by a recognised independent odour control specialist with reference to best practice emission control techniques.
- The odour control system must be capable of treating the extracted air from all odour sources in the waste handling and composting processes. Odour control system emissions must be emitted through a dedicated emission stack.
- The odour control system must be operated and maintained in accordance with the manufacturer's specifications, the facility odour management plan, and as required to maintain the emission control efficiency of the system. Maintenance records and monitoring data must be held by the proponent for inspection upon request.

Air Quality and Odour Management Plan

- Prior to commencement of operations, an Air Quality and Odour Management Plan for the facility must be developed and implemented in consultation with a recognised independent odour control specialist and the EPA.
- The Air Quality and Odour Management Plan must contain, as a minimum, the following elements:
    - Odour management strategy consisting of:
        - Objectives and targets
        - Odour risk assessment
        - Biofilter monitoring and maintenance plan;
    - Air quality monitoring plan;
    - Communications strategy; and
    - System and performance review for continuous improvement.
- The biofilter monitoring and maintenance plan must
    - include a method for monitoring biofilter performance that identifies biofilter performance indicators that can be monitored via the process control room computer systems;
    - detail all proposed actions to ensure that the biofilter is maintained for operation in a proper and efficient manner including, but not limited to, frequency of replacement/replenishment of filter bed material
    - identifies mitigation actions to be taken in the event of breakdown of the biofilter system.
- The following air pollution mitigation measures must be implemented at the facility and included, or referred to, in the Air Quality and Odour Management Plan:
    - No outdoor handling of materials

- Traffic management to avoid queuing of incoming and outgoing trucks outside of the shed for prolonged periods
- Spill management procedures
- An odour complaints management system
- No stockpiling of materials for more than a day under normal operating conditions
- An air management system that includes, but is not limited to:
    - Ventilation hoods over emission sources
    - Recycling of odorous air through the tunnel compositing system to minimise air volume to the biofilter
    - Stockpile management to prevent anaerobic zones
    - Ensuring the building is under negative pressure at all times; and
    - Installation of additional air curtains above each fast speed roller door entrance to ensure odorous air is retained within the building during truck delivery and/or in the case of roller door failure.

The EPA further recommends that the following management options also be included as conditions of approval:

- A meteorological station must be installed on-site for continuous monitoring of meteorological conditions to enable the correlation of odour related complaints with potential sources and activities occurring on-site.
- All operations on the premises, including (but not limited to) processing, sorting and separating waste, are to be carried out inside the buildings on the premises in a sealed, negatively ventilated environment. Waste must not be handled, stored or processed outside buildings.
- Under normal operating conditions, wastes must not be stockpiled for more than a day.
- Traffic management for the site must ensure that queuing of incoming and outgoing trucks outside of the shed for prolonged periods is avoided.
- The proponent develop and maintain adequate spill management procedures; and
- The proponent must manage operations at the site in a manner that prevent and/or minimises generation of dust at the premises.

B. NOISE

Recommended Conditions of Approval

L6.1 Noise generated at the premises must not exceed the noise limits presented in Table 6.1 below. The location(s) referred to in the table below are indicated in the relevant Table 17 Receiver locations for Operational Noise Impact Assessment provided by SLR Global Environmental Solutions in the Environmental Assessment – Proposed Remondis Integrated Recycling Park Grand Avenue, Camellia, NSW – Noise Impact Assessment (Report No. 10-8651-R1) dated 18 May 2011.

Table 6.1 Noise Limits – All noise limits are in dB(A)

Location	LAeq,15 minute Daytime	LAeq,15 minute Evening	LAeq,15 minute Night	LAMax (Night)
RR1 – 33 James Ruse Drive	49 dB(A)	49 dB(A)	48 dB(A)	58 dB(A)
RR2 – 43 Oak Street	38 dB(A)	38 dB(A)	38 dB(A)	47 dB(A)
RR3 – 135 Arthur Street	35 dB(A)	35 dB(A)	35 dB(A)	45 dB(A)
CR1 – 171 Victoria Road – University of Western Sydney	Internal - Classroom - 35 dB(A) Noisiest 1-hour period when in use	Internal - Classroom - 35 dB(A) Noisiest 1-hour period when in use	Internal - Classroom - 35 dB(A) Noisiest 1-hour period when in use	N/A
All other affected residential receivers	35 dB(A)	35 dB(A)	35 dB(A)	45 dB(A)

L6.2 For the purpose of condition L6.1;

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.
- Evening is defined as the period 6pm to 10pm.
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and Public Holidays.

L6.3 The noise limits set out in condition L6.1 apply under all meteorological conditions except for any one of the following:

a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
c) Stability category G temperature inversion conditions.
d)

L6.4 For the purposes of condition L6.4:

a) The meteorological data to be used for determining meteorological conditions is the data recorded by the meteorological weather station to be established at this site for the purposes of this Environment Protection Licence.
b) Stability category temperature inversion conditions are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.

L6.5 For the purposes of determining the noise generated at the premises a Class 1 or 2 noise monitoring equipment as defined by AS IEC61672.1-2004 and AS IEC61672.2-2004, or other noise monitoring equipment accepted by the EPA in writing, must be used.

L6.6 To determine compliance:

a) with the $L_{eq(15\ minute)}$ noise limits in condition L6.1, the noise monitoring equipment must be located:

- within 30 metres of a dwelling façade where any dwelling on the property is situated more than 30 metres from the property boundary that is closest to the premises;
- approximately on the boundary where any dwelling is situated 30 metres or less from the property boundary that is closest to the premises;
- within approximately 50 metres of the boundary of a National Park or a Nature Reserve.

b) with the L_{AMax} noise limits in condition L6.1, the noise monitoring equipment must be located within 1 metre of a dwelling façade.

c) the noise monitoring equipment must be located in a position that is:

- at the most affected point at a location where there is no dwelling at the location; or
- at the most affected point within an area at a location prescribed by conditions L6.6(a) or L6.6(b).

L6.7 A breach will still occur where noise generated from the premises in excess of the appropriate limit specified in the condition L6.1 is detected:

- in an area at a location other than an area prescribed by condition L6.6; and/or
- at a point other than the most affected point at a location.

L6.8 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

L6.9 Construction activity is to be carried out as recommended in the EPA Interim Construction Noise Guideline dated July 2009. Notably construction activity shall occur 7:00am to 6:00pm Monday to Friday, 8:00am to 1:00pm Saturdays with no construction permitted on Sundays and Public Holidays.

M7 Requirement to Monitor Noise

M7.1 To determine compliance with Condition L6.1, attended noise monitoring must be undertaken in accordance with Conditions L6.5 and L6.6 and:

a) at each one of the locations listed in Condition L6.1;
b) occur bi-annually beginning 1 January each year;
c) occur during each day, evening and night period as defined in the NSW Industrial Noise Policy for a minimum of:

- 1.5 hours during the day;
- 30 minutes during the evening; and
- 1 hour during the night.

d) occur for three consecutive days.

M8 Requirement to monitor weather

M8.1 The meteorological weather station must be maintained so as to be capable of continuously monitoring the parameters specified in condition M8.2.

Traffic Noise Management System

Prior to commencement of construction the Proponent must develop a Traffic Noise Management Strategy ("TNMS") addressing both construction and operational noise impacts, to improve operation transport and ensure that feasible and reasonable noise management strategies for vehicle movements associated with the facility are identified and applied. The TNMS must include but not be limited to the following:

- driver training to ensure that noisy practices such as the use of compression engine brakes are not unnecessarily used near sensitive receivers;
- best noise practice in the selection and maintenance of vehicle fleets;
- movement scheduling where practicable to reduce impacts during sensitive times of the day, or evening (trucking shall be contained to day and evening operations only);
- communication and management strategies for non licensee/proponent owned and operated vehicles to ensure the provision of the TNMS are implemented;
- a system of audited management practices that identifies non conformances, initiates and monitors corrective and preventative action (including disciplinary action for breaches of noise minimisation procedures) and assesses the implementation and improvement of the TNMS;
- specific procedures to minimise impacts at identified sensitive areas; and
- clauses in conditions of employment, or in contracts, of drivers that require adherence to the noise minimisation procedures and facilitate effective implementation of the disciplinary actions for breaches of the procedures.

C. CONTAMINATED SITES

Recommended Conditions of Approval

- In accordance with the conditions of the Public Positive Covenant; the Proponent must obtain approval from the Contaminated Sites Section of the EPA to undertake the minor excavation works to install new services.
- The Proponent must provide *Progressive Erosion and Sedimentation Control Plans* for each stage of the project. Prior to any works commencing, a Stage 1 Erosion and Sedimentation Control Plan will need to be provided to the EPA for consideration.
- Environmental inspections and daily surveillance inspections must be documented and kept on record within a register.
- The groundwater is impacted with petroleum hydrocarbon (TPH), polycyclic aromatic hydrocarbons (PAH) and heavy metals. Groundwater monitoring will need to be carried out prior to the commencement of the trenching/ excavation works to assess the current groundwater levels and contamination.
- Prior to any works commencing a detailed air monitoring program will need to be provided to EPA for consideration.

If approval is granted, to address community concerns in relation to the trenching works, the EPA suggests that DP&I given consideration to requiring trenching for services to be undertaken within a negative air tent with emissions controls.

D. GENERAL

Conditions of Approval

1. The Proponent shall not receive more than:
    - 100,000 tonnes of commercial and industrial waste per year on site; and
    - 50,000 tonnes of food waste/garden waste per year on site.

Construction conditions

2. The Proponent shall comply with the construction hours in the table below:

Day	Hours
Monday- Friday	7am – 6pm
Saturday	8am – 1pm
Sundays and Public Holidays	Nil

3. The Proponent shall prepare and implement a Construction Environmental Management Plan ("CEMP") for the project. The CEMP should include at a minimum (but not be limited to):

    - Construction hours;
    - Relevant sections of the above mentioned "Traffic Noise Management Strategy";
    - Detailed Air Quality and Odour Management Plan;
    - Noise and Vibration Construction Noise Management Plan;
    - Waste Management Plan;
    - Hazards and Risks Plan;
    - Erosion and Sedimentation Control Plans (progressive plans to provided to the EPA as the works progress and/or as required by the EPA); and
    - The final "Construction Commitments" as set out in Table 8.1 of the EA.

4. During construction, the Proponent shall not re-use any material that has been excavated from the site. All excavated material must be classified in accordance with the EPA's Waste Classification Guidelines (as in force from time to time) and disposed of to a facility that can lawfully receive that waste.

5. During construction, any material brought on-site for filling must meet the requirements of the relevant Resource Recovery Exemption to apply that material to land. The Proponent must retain records of all material brought on-site for filling purposes and provide those records to the EPA when requested.

Operational conditions

6. The Proponent shall not operate equipment (apart from the biofilter fans and tunnel fans) outside of the following hours:

Day	Hours
Monday – Sunday	6am – 10pm

7. The Proponent shall prepare and implement an Operations Environmental Management Plan ("OEMP") for the project. The OEMP should include at a minimum (but not be limited to):

    - Operating hours for machinery;
    - Relevant sections of the above mentioned "Traffic Noise Management Strategy";
    - Detailed Air Quality and Odour Management Plan;
    - Noise and Vibration Management Plan;
    - Waste Management Plan;
    - Hazards and Risks Plan;

- Erosion and Sedimentation Control Plans (progressive plans to provided to the EPA as the works progress and/or as required by the EPA); and
- The final "Operational Commitments" as set out in Table 8.2 of the EA.

The OEMP should include details of regular monitoring and maintenance of biofilters, tunnel fans, tunnel aeration trenches and ductwork, all other extraction fans, discharge stack, leachate holding tanks, rapid-shut roller doors and any other equipment that, if not working optimally, may contribute to the generation of odour at the site.

8. All buildings that receive, hold or process waste material must operate under negative pressure at all times.

9. All access points to buildings that receive, hold or process waste material must remain closed as much as practicable to maximise negative air pressure in those buildings. This includes rapid-shut roller doors.

10. All tanks holding leachate or other potentially odorous liquid must be fully enclosed.

11. The Proponent shall implement suitable procedures to:

- Ensure that the site does not accept wastes that are prohibited;
- Screen incoming waste loads; and
- Ensure that staff receive adequate training to recognise and handle hazardous or other unapproved waste.

Outputs

12. All outputs from the CIRRF facility and the SSORRF facility must be biologically stabilised before those outputs can leave the site to reduce potential for generation of offensive odour during loading and transport. Biologically stabilised means:

A process whereby the waste undergoes a process of managed biological transformation for a period of not less than a total of 6 weeks of composting and curing, or until an equivalent level of biological stability can be demonstrated.

The equivalent level of biological stability can be demonstrated when outputs are tested and meet the requirements for General Solid Waste (non-putrescible) as set out in the EPA's Waste Classification Guidelines (as in force from time to time). The Proponent must retain records demonstrating that all outputs are biologically stabilised prior to leaving the site and provide those records to the EPA upon request.

13. All vehicles carrying outputs from the site must be sealed or otherwise their load must be fully covered prior to leaving the negative pressure controlled buildings to reduce odour emissions from the vehicles.

14. For all outputs that leave the site, the Proponent shall ensure that those outputs are recycled, disposed or applied to land in accordance with the relevant provisions of the *Protection of the Environment Operations Act 1997*, its associated Regulations and relevant Australian Standards.

Rehabilitation

15. Upon the cessation of operations at the site, the Proponent shall decommission the project and rehabilitate the site to the satisfaction of the Director-General.

The Proponent shall prepare and implement a Rehabilitation and Closure Plan for the project to the satisfaction of the Director-General. This plan must:

- Be prepared by a suitably qualified and experienced expert, in consultation with the EPA and Council;

- Submitted to the Director-General for approval six months prior to the last load of waste being received at the site;
- Define the objectives and criteria for rehabilitation and closure;
- Describe the measures to be implemented to achieve the specified objectives and criteria for rehabilitation and closure;
- Describe how the performance of these measures will be monitored over time; and
- Investigate options for future use of the site.

Attachment B
EPA – Licence conditions
Proposed Remondis Integrated Recycling Park

AIR

2 Discharges to air and water and applications to land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purpose of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Air

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Description of Location
1	Air emission monitoring Discharge to air	Air emission monitoring Discharge to air	Exhaust stack serving the biofilter for the Commercial and Industrial Resource Recovery Facility Location: to be confirmed
1	Air emission monitoring Discharge to air	Air emission monitoring Discharge to air	Exhaust stack serving the biofilter for the Source Separated Organics Resource Recovery facility Location: to be confirmed

3 Limit Conditions

L1 Potentially offensive odour

- Odour
  No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

  Note: Section 129 of the *Protection of the Environment Operations Act 1997*, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

4 Operating Conditions

O1 Dust

O1.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O1.2 Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind blown or traffic generated dust

O2 Operations to be contained within the buildings

O2.1 All operations on the premises, including (but not limited to) processing, sorting and separating waste, are to be carried out inside the buildings on the premises in a sealed, negatively ventilated environment.

O2.2 All waste received onto the premises for processing is to be stored within the buildings on the premises for a period not greater than 24 hours except in the case of unplanned shutdown.

NOISE

L6.1 Noise generated at the premises must not exceed the noise limits presented in Table 6.1 below. The location(s) referred to in the table below are indicated in the relevant Table 17 Receiver locations for Operational Noise Impact Assessment provided by SLR Global Environmental Solutions in the Environmental Assessment – Proposed Remondis Integrated Recycling Park Grand Avenue, Camellia, NSW – Noise Impact Assessment (Report No. 10-8651-R1) dated 18 May 2011.

Table 6.1 Noise Limits – All noise limits are in dB(A)

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RR3 – 135 Arthur Street	35 dB(A)	35 dB(A)	35 dB(A)	45 dB(A)
CR1 – 171 Victoria Road – University of Western Sydney	Internal - Classroom - 35 dB(A) Noisiest 1-hour period when in use	Internal - Classroom - 35 dB(A) Noisiest 1-hour period when in use	Internal - Classroom - 35 dB(A) Noisiest 1-hour period when in use	N/A
All other affected residential receivers	35 dB(A)	35 dB(A)	35 dB(A)	45 dB(A)

L6.2 For the purpose of condition L6.1;

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.
- Evening is defined as the period 6pm to 10pm.
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and Public Holidays.

L6.3 The noise limits set out in condition L6.1 apply under all meteorological conditions except for any one of the following:

a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
c) Stability category G temperature inversion conditions.

L6.4 For the purposes of condition L6.4:

a) The meteorological data to be used for determining meteorological conditions is the data recorded by the meteorological weather station to be established at this site for the purposes of this Environment Protection Licence.
b) Stability category temperature inversion conditions are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.

L6.5 For the purposes of determining the noise generated at the premises a Class 1 or 2 noise monitoring equipment as defined by AS IEC61672.1-2004 and AS IEC61672.2-2004, or other noise monitoring equipment accepted by the EPA in writing, must be used.

L6.6 To determine compliance:

a) with the $L_{eq(15\ minute)}$ noise limits in condition L6.1, the noise monitoring equipment must be located:

- within 30 metres of a dwelling façade where any dwelling on the property is situated more than 30 metres from the property boundary that is closest to the premises;
- approximately on the boundary where any dwelling is situated 30 metres or less from the property boundary that is closest to the premises;
- within approximately 50 metres of the boundary of a National Park or a Nature Reserve.

b) with the L_{AMax} noise limits in condition L6.1, the noise monitoring equipment must be located within 1 metre of a dwelling façade.

c) the noise monitoring equipment must be located in a position that is:

- at the most affected point at a location where there is no dwelling at the location; or
- at the most affected point within an area at a location prescribed by conditions L6.6(a) or L6.6(b).

L6.7 A breach of this Environment Protection Licence will still occur where noise generated from the premises in excess of the appropriate limit specified in the condition L6.1 is detected:

- in an area at a location other than an area prescribed by condition L6.6; and/or
- at a point other than the most affected point at a location.

L6.8 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

L6.9 Construction activity is to be carried out as recommended in the EPA Interim Construction Noise Guideline dated July 2009. Notably construction activity shall occur 7:00am to 6:00pm Monday to Friday, 8:00am to 1:00pm Saturdays with no construction permitted on Sundays and Public Holidays.

M7 Requirement to Monitor Noise

M7.1 To determine compliance with Condition L6.1, attended noise monitoring must be undertaken in accordance with Conditions L6.5 and L6.6 and:

a) at each one of the locations listed in Condition L6.1;
b) occur bi-annually beginning 1 January each year;

c) occur during each day, evening and night period as defined in the NSW Industrial Noise Policy for a minimum of:

- 1.5 hours during the day;
- 30 minutes during the evening; and
- 1 hour during the night.

d) occur for three consecutive days.

M8 Requirement to monitor weather

M8.1 The meteorological weather station must be maintained so as to be capable of continuously monitoring the parameters specified in condition M8.2.

M8.2 For each monitoring point specified in the table below the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Point 21

Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method
Air temperature	°C	Continuous	1 hour	AM-4
Wind direction	°	Continuous	15 minute	AM-2 & AM-4
Wind speed	m/s	Continuous	15 minute	AM-2 & AM-4
Sigma theta	°	Continuous	15 minute	AM-2 & AM-4
Rainfall	Mm	Continuous	15 minute	AM-4
Relative humidity	%	Continuous	1 hour	AM-4

R4 Noise Monitoring Report

A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the bi-annual monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant which:

a) assesses compliance with noise limits presented in Condition L6.1; and
b) outlines any management actions taken within the monitoring period to address any exceedences of the limits contained in Condition L6.1.