NSW GOVERNMENT | Planning & Environment

Industry Assessments
Contact: Bianca Thornton
Phone: (02) 8217 2040
Email: bianca.thornton@planning.nsw.gov.au

Mr Michael Antoun
Director
Antouns Construction Pty Ltd
44 Pearson Street
SOUTH WENTWORTHVILLE NSW 2145

17/14492
SEAR 1182

Dear Mr Antoun

Resource Recovery Facility (Waste management facilities or works)
55 Martin Road, Badgerys Creek (Lot 4 DP 611519)
Secretary's Environmental Assessment Requirements (SEAR) 1182

Thank you for your request for the Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an Environmental Impact Statement (EIS) for the above development proposal. I have attached a copy of these requirements.

These SEARs have been issued on the basis that Council is satisfied the proposal is considered a permissible use within the RU1 Primary Production zone.

In support of your application, you indicated that your proposal is both designated and integrated development under Part 4 of the *Environmental Planning and Assessment Act 1979* and requires an approval under the *Protection of the Environment Operations Act 1997*.

In preparing the SEARs, the Department has consulted with the Environment Protection Authority, the Office of Environment and Heritage, the Department of Primary Industries and WaterNSW. The Department has also consulted with the Roads and Maritime Services as required by Schedule 3 of *State Environmental Planning Policy (Infrastructure) 2007*. A copy of their requirements for the EIS are attached. If other integrated approvals are identified before the Development Application (DA) is lodged, you must undertake direct consultation with the relevant agencies, and address their requirements in the EIS.

If your proposal contains any actions that could have a significant impact on matters of National Environmental Significance, then it will require an additional approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation. If you have any questions about the application of the EPBC Act to your proposal, you should contact the Commonwealth Department of the Environment and Energy on (02) 6274 1111.

Should you have any further enquiries, please contact Bianca Thornton, Planning Services, at the Department on the details above.

Yours sincerely

C. Ritchie 6/11/17

Chris Ritchie
Director
Industry Assessments
as delegate of the Secretary

Environmental Assessment Requirements

Section 78A (8) of the *Environmental Planning and Assessment Act 1979.*

Designated Development

SEAR Number	1182
Proposal	Construction and operation of a resource recovery facility with a maximum processing capacity of 95,000 tonnes per annum of waste.
Location	55 Martin Road, Badgerys Creek (Lot 4 DP 611519) in the Liverpool local government area.
Applicant	Antouns Construction Pty Ltd
Date of Issue	November 2017
General Requirements	The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.*
Key Issues	The EIS must include an assessment of all potential impacts of the proposed development on the existing environment (including cumulative impacts if necessary) and develop appropriate measures to avoid, minimise, mitigate and/or manage these potential impacts. As part of the EIS assessment, the following matters must also be addressed: • **strategic context** – including: – justification for the proposal; – a demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, development control plans (DCPs), or justification for any inconsistencies; and – a list of any approvals that must be obtained under any other Act or law before the development may lawfully be carried out. • **suitability of the site** – including: – a detailed justification that the site can accommodate the proposed processing capacity, having regard to the scope of the operations and its environmental impacts and relevant mitigation measures. • **waste management** – including: – details of the type, quantity and classification of waste to be received at the site; – details of the resource outputs and any additional processes for residual waste; – details of waste handling including, transport, identification, receipt, stockpiling and quality control; and – the measures that would be implemented to ensure that the proposed development is consistent with the aims, objectives and guidelines in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21.* • **hazards and risk** – including: – the Environmental Impact Statement must include a preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).

	• **fire and incident management** – including: – technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment and fire (including location of fire hydrants and water flow rates at the hydrant) management and containment measures; and – details of size and volume of stockpiles and their arrangement and separation to minimise fire spread and facilitate emergency vehicle access. • **air quality** – including: – a description of all potential sources of air and odour emissions; – an air quality impact assessment in accordance with relevant Environment Protection Authority guidelines; and – a description and appraisal of air quality impact mitigation and monitoring measures. • **noise and vibration** – including: – a description of all potential noise and vibration sources during construction and operation, including road traffic noise; – a noise and vibration assessment in accordance with the relevant Environment Protection Authority guidelines; and – a description and appraisal of noise and vibration mitigation and monitoring measures. • **traffic and transport** – including: – details of road transport routes and access to the site; – road traffic predictions for the development during construction and operation; and – an assessment of impacts to the safety and function of the road network and the details of any road upgrades required for the development. • **soil and water** – including: – an assessment of potential impacts to soil and water resources, topography, hydrology, drainage lines, watercourses and riparian lands on or nearby to the site; – a detailed site water balance, including identification of water requirements for the life of the project, measures that would be implemented to ensure an adequate and secure water supply is available for the proposal and a detailed description of the measures to minimise water use at the site; – details of any groundwater extraction and any works with the potential to intercept the groundwater table; – characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality criteria (including details of the contaminants of concern that may leach from the waste into the wastewater and proposed mitigation measures to manage any impacts to receiving waters); – details of stormwater/wastewater/leachate/firewater management systems including the capacity of onsite detention systems, and measures to treat, reuse or dispose of water; – a description of erosion and sediment controls; – an assessment of flooding impacts associated with the development including details of the flood liability of the site and changes to flooding behaviour; – consideration of salinity and acid sulfate soil impacts; and – characterisation of the nature and extent of any contamination on the site and a description of proposed management measures. • **biodiversity** – including a description of any potential vegetation clearing needed to undertake the proposal and any impacts to flora and fauna. • **visual** – including an impact assessment at private receptors and public vantage points. • **heritage** – including Aboriginal and non-Aboriginal cultural heritage.
Environmental	The EIS must assess the proposal against the relevant environmental planning

Planning Instruments and other policies	instruments, including but not limited to: • *State Environmental Planning Policy (Infrastructure) 2007*; • *State Environmental Planning Policy (Sydney Region Growth Centres) 2006*; • *State Environmental Planning Policy No 33–Hazardous and Offensive Development*; • *State Environmental Planning Policy No 44–Koala Habitat Protection*; • *State Environmental Planning Policy No 55–Remediation of Land*; • *Liverpool Local Environmental Plan 2008*; and • relevant development control plans and section 94 plans.
Guidelines	During the preparation of the EIS you should consult the Department's Register of Development Assessment Guidelines which is available on the Department's website at planning.nsw.gov.au under Development Proposals/Register of Development Assessment Guidelines. Whilst not exhaustive, this Register contains some of the guidelines, policies, and plans that must be taken into account in the environmental assessment of the proposed development.
Consultation	During the preparation of the EIS, you must consult the relevant local, State and Commonwealth government authorities, service providers and community groups, and address any issues they may raise in the EIS. In particular, you should consult with the: • Environment Protection Authority; • Department of Primary Industries; • Roads and Maritime Services; • Liverpool City Council; and • the surrounding landowners and occupiers that are likely to be impacted by the proposal. Details of the consultation carried out and issues raised must be included in the EIS.
Further consultation after 2 years	If you do not lodge an application under Section 78A (8) of the *Environmental Planning and Assessment Act 1979* within 2 years of the issue date of these SEARs, you must consult with the Secretary in relation to any further requirements for lodgement.

Department of Primary Industries
Water

Contact: Janne Grose
Phone: 02 8838 7505
Email: janne.grose@dpi.nsw.gov.au

Our ref: V17/176#79 & OUT17/43974
File No:
Your Ref:

31 October 2017

Bianca Thornton
Planning Officer
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001
Bianca.Thornton@planning.nsw.gov.au

Dear Ms Thornton

Resource Recovery Facility - 55 Martin Road, Badgerys Creek – Lot 4 DP611519 – Local Designated Development – SEAR 1182

Thank you for your email of 16 October 2017 requesting Secretary's Environmental Assessment Requirements (SEARs) for this local designated development proposal.

Crown Lands and Water Division (formerly DPI Water) has reviewed the supporting documentation accompanying the SEARs request and recommends the EIS be required to include the following. Further detail is also provided in Attachment A.

- To address the relevant issues included in Attachment A where relevant.
- Annual volumes of surface water and groundwater proposed to be taken by the activity (including through inflow and seepage) from each surface and groundwater source as defined by the relevant water sharing plan.
- Assessment of any volumetric water licensing requirements (including those for ongoing water take following completion of the project).
- The identification of an adequate and secure water supply for the life of the project. Confirmation that water can be sourced from an appropriately authorised and reliable supply. This is to include an assessment of the current market depth where water entitlement is required to be purchased.
- A detailed and consolidated site water balance.
- Assessment of impacts on surface and groundwater sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts.
- Proposed surface and groundwater monitoring activities and methodologies.
- Assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts.
- Consideration of relevant policies and guidelines.
- A statement of where each element of the SEARs is addressed in the EIS in the form of a table.
- Full technical details and data of all surface and groundwater modelling.

Groundwater

It is noted the resource recovery facility may require excavation works (page 12). The EIS needs to provide details on the maximum depth of the excavation and the depth to groundwater. If groundwater is likely to be intercepted or extracted by the proposal, depending on the volumes encountered and the duration of pumping, a licence may be required from Crown Lands and Water Division in relation to construction excavation / dewatering activities.

For further information please contact Janne Grose, Water Regulation Officer at Crown Land and Water Division (Parramatta Office) on **t:** (02) 8838 7505; **e:** janne.grose@dpi.nsw.gov.au.

Yours sincerely

Irene Zinger
Manager, Regulatory Operations - Metro
Water Regulation

Attachment A

Crown Lands and Water Division
General Assessment Requirements for Designated Development projects

The following detailed assessment requirements are provided to assist in adequately addressing the assessment requirements for this proposal.

For further information visit the Crown Lands and Water Division (formerly DPI Water) website, www.water.nsw.gov.au

Key Relevant Legislative Instruments

This section provides a basic summary to aid proponents in the development of an Environmental Impact Statement (EIS), and should not be considered a complete list or comprehensive summary of relevant legislative instruments that may apply to the regulation of water resources for a project.

The EIS should take into account the objects and regulatory requirements of the *Water Act 1912* (WA 1912) and *Water Management Act 2000* (*WM Act*), and associated regulations and instruments, as applicable.

Water Management Act 2000 (WM Act)
Key points:

- Volumetric licensing in areas covered by water sharing plans
- Works within 40m of waterfront land
- SSD & SSI projects are exempt from requiring water supply work approvals and controlled activity approvals as a result of the *Environmental Planning & Assessment Act 1979 (EP&A Act)*.
- No exemptions for volumetric licensing apply as a result of the *EP&A Act*.
- Harvestable rights dams
- Aquifer interference activity approval provisions have not yet commenced and are regulated by the *Water Act 1912*
- Flood management Work approvals have now commenced
- Maximum penalties of $ 2.2 million plus $ 264,000 for each day an offence continues apply under the *WM Act*

Water Act 1912 (WA 1912)
Key points:

- Monitoring bores
- Aquifer interference activities that are not regulated as a water supply work under the *WM Act*.
- No exemptions apply to licences or permits under the *WA 1912* as a result of the *EP&A Act*.
- Regulation of water bore driller licensing.

Water Management (General) Regulation 2011
Key points:

- Provides various exemptions for volumetric licensing and activity approvals
- Provides further detail on requirements for dealings and applications.

Access Licence Dealing Principles Order 2004

Harvestable Rights Orders

Water Sharing Plans these are considered regulations under the *WM Act*

It is important that the proponent understands and describes the ground and surface water sharing plans, water sources, and management zones that apply to the project. The relevant water sharing plans can be determined spatially at www.ourwater.nsw.gov.au. Multiple water sharing plans may apply and these must all be described.

The *Water Act 1912* applies to all water sources not yet covered by a commenced water sharing plan.

The EIS is required to:

- Demonstrate how the proposal is consistent with the relevant rules of the Water Sharing Plan including rules for access licences, distance restrictions for water supply works and rules for the management of local impacts in respect of surface water and groundwater sources, ecosystem protection (including groundwater dependent ecosystems), water quality and surface-groundwater connectivity.
- Provide a description of any site water use (amount of water to be taken from each water source) and management including all sediment dams, clear water diversion structures with detail on the location, design specifications and storage capacities for all the existing and proposed water management structures.
- Provide an analysis of the proposed water supply arrangements against the rules for access licences and other applicable requirements of any relevant WSP, including:
    - Sufficient market depth to acquire the necessary entitlements for each water source.
    - Ability to carry out a "dealing" to transfer the water to relevant location under the rules of the WSP.
    - Daily and long-term access rules.
    - Account management and carryover provisions.
- Provide a detailed and consolidated site water balance.
- Further detail on licensing requirements is provided below.

Relevant Policies and Guidelines

The EIS should take into account the following policies (as applicable):

- NSW Guidelines for Controlled Activities on Waterfront Land (NOW, 2012)
- NSW Aquifer Interference Policy (NOW, 2012)
- Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NOW, 2012)
- Australian Groundwater Modelling Guidelines (NWC, 2012)
- NSW State Rivers and Estuary Policy (1993)
- NSW Wetlands Policy (2010)
- NSW State Groundwater Policy Framework Document (1997)
- NSW State Groundwater Quality Protection Policy (1998)
- NSW State Groundwater Dependent Ecosystems Policy (2002)
- NSW Water Extraction Monitoring Policy (2007)

Crown Lands and Water Division policies can be accessed at the following links:
http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/default.aspx
http://www.water.nsw.gov.au/Water-licensing/Approvals/Controlled-activities/default.aspx

An assessment framework for the NSW Aquifer Interference Policy can be found online at: http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/Aquifer-interference.

Licensing Considerations

The EIS is required to provide:

- Identification of water requirements for the life of the project in terms of both volume and timing (including predictions of potential ongoing groundwater take following the cessation of operations at the site – such as evaporative loss from open voids or inflows).
- Details of the water supply source(s) for the proposal including any proposed surface water and groundwater extraction from each water source as defined in the relevant Water Sharing Plan/s and all water supply works to take water.
- Explanation of how the required water entitlements will be obtained (i.e. through a new or existing licence/s, trading on the water market, controlled allocations etc.).
- Information on the purpose, location, construction and expected annual extraction volumes including details on all existing and proposed water supply works which take surface water, (pumps, dams, diversions, etc).
- Details on all bores and excavations for the purpose of investigation, extraction, dewatering, testing and monitoring. All predicted groundwater take must be accounted for through adequate licensing.
- Details on existing dams/storages (including the date of construction, location, purpose, size and capacity) and any proposal to change the purpose of existing dams/storages
- Details on the location, purpose, size and capacity of any new proposed dams/storages.
- Applicability of any exemptions under the *Water Management (General) Regulation 2011* to the project.

Water allocation account management rules, total daily extraction limits and rules governing environmental protection and access licence dealings also need to be considered.

The Harvestable Right gives landholders the right to capture and use for any purpose 10 % of the average annual runoff from their property if in the Eastern and Central Divisions. The Harvestable Right has been defined in terms of an equivalent dam capacity called the Maximum Harvestable Right Dam Capacity (MHRDC). The MHRDC is determined by the area of the property (in hectares) and a site-specific run-off factor. The MHRDC includes the capacity of all existing dams on the property that do not have a current water licence. Storages capturing up to the harvestable right capacity are not required to be licensed but any capacity of the total of all storages/dams on the property greater than the MHRDC may require a licence.

For more information on Harvestable Right dams, including a calculator, visit: http://www.water.nsw.gov.au/Water-licensing/Basic-water-rights/Harvesting-runoff/Harvesting-runoff

Dam Safety

Where new or modified dams are proposed, or where new development will occur below an existing dam, the NSW Dams Safety Committee should be consulted in relation to any safety issues that may arise. Conditions of approval may be recommended to ensure safety in relation to any new or existing dams.

See www.damsafety.nsw.gov.au for further information.

Surface Water Assessment

The predictive assessment of the impact of the proposed project on surface water sources should include the following:

- Identification of all surface water features including watercourses, wetlands and floodplains transected by or adjacent to the proposed project.
- Identification of all surface water sources as described by the relevant water sharing plan.
- Detailed description of dependent ecosystems and existing surface water users within the area, including basic landholder rights to water and adjacent/downstream licensed water users.
- Description of all works and surface infrastructure that will intercept, store, convey, or otherwise interact with surface water resources.
- Assessment of predicted impacts on the following:
    - flow of surface water, sediment movement, channel stability, and hydraulic regime,
    - water quality,
    - flood regime,
    - dependent ecosystems,
    - existing surface water users, and
    - planned environmental water and water sharing arrangements prescribed in the relevant water sharing plans.

Groundwater Assessment

To ensure the sustainable and integrated management of groundwater sources, the EIS needs to include adequate details to assess the impact of the project on all groundwater sources.

Where it is considered unlikely that groundwater will be intercepted or impacted (for example by infiltration), a brief site assessment and justification for the minimal impacts may be sufficient, accompanied by suitable contingency measures in place in the event that groundwater is intercepted, and appropriate measures to ensure that groundwater is not contaminated.

Where groundwater is expected to be intercepted or impacted, the following requirements should be used to assist the groundwater assessment for the proposal.

- The known or predicted highest groundwater table at the site.
- Works likely to intercept, connect with or infiltrate the groundwater sources.
- Any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- Bore construction information is to be supplied to Crown Lands and Water Division by submitting a “Form A” template. Crown Lands and Water Division will supply “GW”

registration numbers (and licence/approval numbers if required) which must be used as consistent and unique bore identifiers for all future reporting.

- A description of the watertable and groundwater pressure configuration, flow directions and rates and physical and chemical characteristics of the groundwater source (including connectivity with other groundwater and surface water sources).
- Sufficient baseline monitoring for groundwater quantity and quality for all aquifers and GDEs to establish a baseline incorporating typical temporal and spatial variations.
- The predicted impacts of any final landform on the groundwater regime.
- The existing groundwater users within the area (including the environment), any potential impacts on these users and safeguard measures to mitigate impacts.
- An assessment of groundwater quality, its beneficial use classification and prediction of any impacts on groundwater quality.
- An assessment of the potential for groundwater contamination (considering both the impacts of the proposal on groundwater contamination and the impacts of contamination on the proposal).
- Measures proposed to protect groundwater quality, both in the short and long term.
- Measures for preventing groundwater pollution so that remediation is not required.
- Protective measures for any groundwater dependent ecosystems (GDEs).
- Proposed methods of the disposal of waste water and approval from the relevant authority.
- The results of any models or predictive tools used.

Where potential impact/s are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- Any proposed monitoring programs, including water levels and quality data.
- Reporting procedures for any monitoring program including mechanism for transfer of information.
- An assessment of any groundwater source/aquifer that may be sterilised from future use as a water supply as a consequence of the proposal.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.

Groundwater Dependent Ecosystems

The EIS must consider the potential impacts on any Groundwater Dependent Ecosystems (GDEs) at the site and in the vicinity of the site and:

- Identify any potential impacts on GDEs as a result of the proposal including:
  - the effect of the proposal on the recharge to groundwater systems;
  - the potential to adversely affect the water quality of the underlying groundwater system and adjoining groundwater systems in hydraulic connections; and
  - the effect on the function of GDEs (habitat, groundwater levels, connectivity).

- Provide safeguard measures for any GDEs.

Watercourses, Wetlands and Riparian Land

The EIS should address the potential impacts of the project on all watercourses likely to be affected by the project, existing riparian vegetation and the rehabilitation of riparian land. It is recommended the EIS provides details on all watercourses potentially affected by the proposal, including:

- Scaled plans showing the location of:
  - wetlands/swamps, watercourses and top of bank;
  - riparian corridor widths to be established along the creeks;
  - existing riparian vegetation surrounding the watercourses (identify any areas to be protected and any riparian vegetation proposed to be removed);
  - the site boundary, the footprint of the proposal in relation to the watercourses and riparian areas; and
  - proposed location of any asset protection zones.
- Photographs of the watercourses/wetlands and a map showing the point from which the photos were taken.
- A detailed description of all potential impacts on the watercourses/riparian land.
- A detailed description of all potential impacts on the wetlands, including potential impacts to the wetlands hydrologic regime; groundwater recharge; habitat and any species that depend on the wetlands.
- A description of the design features and measures to be incorporated to mitigate potential impacts.
- Geomorphic and hydrological assessment of water courses including details of stream order (Strahler System), river style and energy regimes both in channel and on adjacent floodplains.

Landform rehabilitation

Where significant modification to landform is proposed, the EIS must include:

- Justification of the proposed final landform with regard to its impact on local and regional surface and groundwater systems;
- A detailed description of how the site would be progressively rehabilitated and integrated into the surrounding landscape;
- Outline of proposed construction and restoration of topography and surface drainage features if affected by the project; and
- An outline of the measures to be put in place to ensure that sufficient resources are available to implement the proposed rehabilitation.

Consultation and general enquiries

General licensing enquiries can be made to Advisory Services: water.enquiries@dpi.nsw.gov.au, 1800 353 104.

Assessment of state significant development enquiries, or requests for review or consultation should be directed to the Water Regulation Co-ordination Unit, water.referrals@dpi.nsw.gov.au.

A consultation guideline and further information is available online at: www.water.nsw.gov.au/water-management/law-and-policy/planning-and-assessment

End of Attachment A

Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Attention: Bianca Thornton

Notice Number	1558072
Date	30-Oct-2017

RE: Proposed Resource Recovery Facility, 55 Martin Road, Badgerys Creek (Lot 4 DP 611519) - SEAR 1182

I refer to your request for the Environment Protection Authority's (EPA) requirements for the environmental assessment (EA) in regard to the above proposal received by EPA on 16th October 2017.

The EPA has considered the details of the proposal as provided by Benbow Environmental on behalf of Antoun's Construction Pty Ltd and has identified the information it requires to issue its general terms of approval in Attachment A. In summary, the EPA's key information requirements for the proposal include an adequate assessment of:

1. **Waste Management** – The environmental impact statement (EIS) must include a detailed assessment of the waste management processes to be undertaken at the premises. This includes but is not limited to:
    - details of the types and qualities of each type of waste to be received at the premises;
    - details of the maximum volume of waste to be stored on the premises at any one time;
    - a description of waste processing procedures;
    - details of how the proponent will meet the EPA's record keeping and reporting requirements, including weighing material in and out of the premises;
    - a detailed site plan identifying all waste storage and processing areas for each type of waste;
    - type and quantities of materials to be produced and their indented fate;
    - details of any materials that will be produced under a Resource Recovery Order, and the controls in place for meeting the conditions of that order;
    - a description of procedures for dealing with non-conforming waste.

    The EPA would expect that all unloading, loading, processing and storage of waste would be undertaken inside a building.

2. **Water Management** – details of stormwater management during both construction and operation must be included in the EIS. The EPA would expect that the building be constructed to exclude all stormwater and that internal surfaces be graded inwards to contain all waste and any leachate. The EPA would expect that any external area where waste vehicles wait for loading/unloading would drain to a stormwater quality treatment device that can sufficiently remove any contaminants, both solid and dissolved, from runoff prior to its discharge to the offsite stormwater system. In addition to this, the EPA

would expect that all vehicle repair or washing would take place in an area that excludes rainwater and is sufficiently bunded and sealed to contain all fluids within that area.

3. **Air Quality** – the EIS should identify all potential air emission from the premises. This includes but is not limited to coarse particulates, PM10, PM2.5 and odour. The proponent must demonstrate effective control of all identified air emissions from the premises.

4. **Noise** - the proponent must demonstrate effective controls to manage noise impacts at all receptors, particularly for operations outside standard day time operating hours (i.e. before 7am). In carrying out the assessment, the proponent should refer to the relevant guidelines as listed in Attachment B and any relevant industry codes of practice and best practice management guidelines.

5. **Occupier of the Premises** - the EPA can only issue an environment protection licence to a person who is the lawful occupier of a premises. The EPA requires confirmation of who the applicant is and that this person is the lawful occupier of the Premises. If the applicant is not the land owner, the applicant must provide evidence of their lawful occupation of the Premises such as a lease agreement with the land owner.

Please note that this response does not cover biodiversity or Aboriginal cultural heritage issues, which are the responsibility of the Office of Environment and Heritage.

The Proponent should be made aware that any commitments made in the EA may be formalised as approval conditions and may also be placed as formal licence conditions.

The Proponent should also be made aware that, consistent with provisions under Part 9.4 of the *Protection of the Environment Operations Act 1997* (“the Act”) the EPA may require the provision of a financial assurance and/or assurances. The amount and form of the assurance(s) would be determined by the EPA and required as a condition of an Environment Protection Licence ("EPL").

In addition, as a requirement of an EPL, the EPA will require the Proponent to prepare, test and implement a Pollution Incident Response Management Plan and/or Plans in accordance with Section 153A of the Act.

Yours sincerely

Celeste Forestal

Unit Head

Waste & Resource Recovery

(by Delegation)

ATTACHMENT A: EIS REQUIREMENTS FOR

Proposed Resource Recovery Facility, 55 Martin Road, Badgerys Creek (Lot 4 DP 611519) SEAR 1182

How to use these requirements

The EPA requirements have been structured in accordance with the DIPNR EIS Guidelines, as follows. It is suggested that the EIS follow the same structure:

A. Executive summary

B. The proposal

C. The location

D. Identification and prioritisation of issues

E. The environmental issues

F. List of approvals and licences

G. Compilation of mitigation measures

H. Justification for the proposal

A Executive summary

The executive summary should include a brief discussion of the extent to which the proposal achieves identified environmental outcomes.

B The proposal

1. Objectives of the proposal

- The objectives of the proposal should be clearly stated and refer to:
  a) the size and type of the operation, the nature of the processes and the products, by-products and wastes produced
  b) a life cycle approach to the production, use or disposal of products
  c) the anticipated level of performance in meeting required environmental standards and cleaner production principles
  d) the staging and timing of the proposal and any plans for future expansion
  e) the proposal's relationship to any other industry or facility.

2. Description of the proposal

General

- Outline the production process including:
  a) the environmental "mass balance" for the process – quantify in-flow and out-flow of materials, any points of discharge to the environment and their respective destinations (sewer, stormwater, atmosphere, recycling, landfill etc)
  b) any life-cycle strategies for the products.
- Outline cleaner production actions, including:
  a) measures to minimise waste (typically through addressing source reduction)
  b) proposals for use or recycling of by-products
  c) proposed disposal methods for solid and liquid waste
  d) air management systems including all potential sources of air emissions, proposals to re-use or treat emissions, emission levels relative to relevant standards in regulations, discharge points
  e) water management system including all potential sources of water pollution, proposals for re-use, treatment etc, emission levels of any wastewater discharged, discharge points, summary of options explored to avoid a discharge, reduce its frequency or reduce its impacts, and rationale for selection of option to discharge.
  f) soil contamination treatment and prevention systems.
- Outline construction works including:
  a) actions to address any existing soil contamination
  b) any earthworks or site clearing; re-use and disposal of cleared material (including use of spoil on-site)
  c) construction timetable and staging; hours of construction; proposed construction methods
  d) environment protection measures, including noise mitigation measures, dust control measures and erosion and sediment control measures.

- Include a site diagram showing the site layout and location of environmental controls.

Air

- Identify all sources or potential sources of air emissions from the development.
  Note: emissions can be classed as either:
    - *point (e.g. emissions from stack or vent) or*
    - *fugitive (from wind erosion, leakages or spillages, associated with loading or unloading, conveyors, storage facilities, plant and yard operation, vehicle movements (dust from road, exhausts, loss from load), land clearing and construction works).*
- Provide details of the project that are essential for predicting and assessing air impacts including:
  a) the quantities and physio-chemical parameters (e.g. concentration, moisture content, bulk density, particle sizes etc) of materials to be used, transported, produced or stored
  b) an outline of procedures for handling, transport, production and storage
  c) the management of solid, liquid and gaseous waste streams with potential to generate emissions to air.

Noise and vibration

- Identify all noise sources or potential sources from the development (including both construction and operation phases). Detail all potentially noisy activities including ancillary activities such as transport of goods and raw materials.
- Specify the times of operation for all phases of the development and for all noise producing activities.
- For projects with a significant potential traffic noise impact provide details of road alignment (include gradients, road surface, topography, bridges, culverts etc), and land use along the proposed road and measurement locations – diagrams should be to a scale sufficient to delineate individual residential blocks.

Water

- Provide details of the project that are essential for predicting and assessing impacts to waters including:
  a) the quantity and physio-chemical properties of all potential water pollutants and the risks they pose to the environment and human health, including the risks they pose to Water Quality Objectives in the ambient waters (as defined on http://www.environment.nsw.gov.au/ieo/index.htm, using technical criteria derived from *the Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, ANZECC 2000)
  b) the management of discharges with potential for water impacts
  c) drainage works and associated infrastructure; land-forming and excavations; working capacity of structures; and water resource requirements of the proposal.
- Outline site layout, demonstrating efforts to avoid proximity to water resources (especially for activities with significant potential impacts e.g. effluent ponds) and showing potential areas of modification of contours, drainage etc.

- Outline how total water cycle considerations are to be addressed showing total water balances for the development (with the objective of minimising demands and impacts on water resources). Include water requirements (quantity, quality and source(s)) and proposed storm and wastewater disposal, including type, volumes, proposed treatment and management methods and re-use options.

Waste and chemicals

Provide details of the quantity and type of both liquid waste and non-liquid waste generated, handled, processed or disposed of at the premises. Waste must be classified according to the EPA's *Waste Classification Guidelines 2014 (as amended from time to time)*

- Provide details of liquid waste and non-liquid waste management at the facility, including:
  a) the transportation, assessment and handling of waste arriving at or generated at the site
  b) any stockpiling of wastes or recovered materials at the site
  c) any waste processing related to the facility, including reuse, recycling, reprocessing (including composting) or treatment both on- and off-site
  d) the method for disposing of all wastes or recovered materials at the facility
  e) the emissions arising from the handling, storage, processing and reprocessing of waste at the facility
  f) the proposed controls for managing the environmental impacts of these activities.
- Provide details of spoil disposal with particular attention to:
  a) the quantity of spoil material likely to be generated
  b) proposed strategies for the handling, stockpiling, reuse/recycling and disposal of spoil
  c) the need to maximise reuse of spoil material in the construction industry
  d) identification of the history of spoil material and whether there is any likelihood of contaminated material, and if so, measures for the management of any contaminated material
  e) designation of transportation routes for transport of spoil.
- Provide details of procedures for the assessment, handling, storage, transport and disposal of all hazardous and dangerous materials used, stored, processed or disposed of at the site, in addition to the requirements for liquid and non-liquid wastes.
- Provide details of the type and quantity of any chemical substances to be used or stored and describe arrangements for their safe use and storage.
- Reference should be made to the guidelines: EPA's *Waste Classification Guidelines 2014 (as amended from time to time)*

ESD

- Demonstrate that the planning process and any subsequent development incorporates objectives and mechanisms for achieving ESD, including:
  a) an assessment of a range of options available for use of the resource, including the benefits of each option to future generations

  proper valuation and pricing of environmental resources

b) identification of who will bear the environmental costs of the proposal.

3. Rehabilitation

- Outline considerations of site maintenance, and proposed plans for the final condition of the site (ensuring its suitability for future uses).

4. Consideration of alternatives and justification for the proposal

- Consider the environmental consequences of adopting alternatives, including alternative:
  a) sites and site layouts
  b) access modes and routes
  c) materials handling and production processes
  d) waste and water management
  e) impact mitigation measures
  f) energy sources
- Selection of the preferred option should be justified in terms of:
  a) ability to satisfy the objectives of the proposal
  b) relative environmental and other costs of each alternative
  c) acceptability of environmental impacts and contribution to identified environmental objectives
  d) acceptability of any environmental risks or uncertainties
  e) reliability of proposed environmental impact mitigation measures
  f) efficient use (including maximising re-use) of land, raw materials, energy and other resources.

C The location

1. General

- Provide an overview of the affected environment to place the proposal in its local and regional environmental context including:
  a) meteorological data (e.g. rainfall, temperature and evaporation, wind speed and direction)
  b) topography (landform element, slope type, gradient and length)
  c) surrounding land uses (potential synergies and conflicts)
  d) geomorphology (rates of landform change and current erosion and deposition processes)
  e) soil types and properties (including erodibility; engineering and structural properties; dispersibility; permeability; presence of acid sulfate soils and potential acid sulfate soils)
  f) ecological information (water system habitat, vegetation, fauna)
  g) availability of services and the accessibility of the site for passenger and freight transport.

2. Air

- Describe the topography and surrounding land uses. Provide details of the exact locations of dwellings, schools and hospitals. Where appropriate provide a perspective view of the study area such as the terrain file used in dispersion models.
- Describe surrounding buildings that may effect plume dispersion.
- Provide and analyse site representative data on the following meteorological parameters:
  a) temperature and humidity
  b) rainfall, evaporation and cloud cover
  c) wind speed and direction
  d) atmospheric stability class
  e) mixing height (the height that emissions will be ultimately mixed in the atmosphere)
  f) katabatic air drainage
  g) air re-circulation.

3. Noise and vibration

- Identify any noise sensitive locations likely to be affected by activities at the site, such as residential properties, schools, churches, and hospitals. Typically the location of any noise sensitive locations in relation to the site should be included on a map of the locality.
- Identify the land use zoning of the site and the immediate vicinity and the potentially affected areas.

4. Water

- Describe the catchment including proximity of the development to any waterways and provide an assessment of their sensitivity/significance from a public health, ecological and/or economic perspective. The Water Quality and River Flow Objectives on the website: http://www.environment.nsw.gov.au/ieo/index.htm should be used to identify the agreed environmental values and human uses for any affected waterways. This will help with the description of the local and regional area.

5. Soil Contamination Issues

- Provide details of site history – if earthworks are proposed, this needs to be considered with regard to possible soil contamination, for example if the site was previously a landfill site or if irrigation of effluent has occurred.

D Identification and prioritisation of issues / scoping of impact assessment

- Provide an overview of the methodology used to identify and prioritise issues. The methodology should take into account:
  a) relevant NSW government guidelines
  b) industry guidelines
  c) EISs for similar projects
  d) relevant research and reference material
  e) relevant preliminary studies or reports for the proposal
  f) consultation with stakeholders.
- Provide a summary of the outcomes of the process including:
  a) all issues identified including local, regional and global impacts (e.g. increased/ decreased greenhouse emissions)
  b) key issues which will require a full analysis (including comprehensive baseline assessment)
  c) issues not needing full analysis though they may be addressed in the mitigation strategy
  d) justification for the level of analysis proposed (the capacity of the proposal to give rise to high concentrations of pollution compared with the ambient environment or environmental outcomes is an important factor in setting the level of assessment).

E The environmental issues

1. General

- The potential impacts identified in the scoping study need to be assessed to determine their significance, particularly in terms of achieving environmental outcomes, and minimising environmental pollution.
- Identify gaps in information and data relevant to significant impacts of the proposal and any actions proposed to fill those information gaps so as to enable development of appropriate management and mitigation measures. This is in accordance with ESD requirements.

Note: The level of detail should match the level of importance of the issue in decision making which is dependent on the environmental risk.

Describe baseline conditions

- Provide a description of existing environmental conditions for any potential impacts.

Assess impacts

- For any potential impacts relevant for the assessment of the proposal provide a detailed analysis of the impacts of the proposal on the environment including the cumulative impact of the proposal on the receiving environment especially where there are sensitive receivers.
- Describe the methodology used and assumptions made in undertaking this analysis (including any modelling or monitoring undertaken) and indicate the level of confidence in the predicted outcomes and the resilience of the environment to cope with the predicted impacts.
- The analysis should also make linkages between different areas of assessment where necessary to enable a full assessment of environmental impacts e.g. assessment of impacts on air quality will often need to draw on the analysis of traffic, health, social, soil and/or ecological systems impacts; etc.
- The assessment needs to consider impacts at all phases of the project cycle including: exploration (if relevant or significant), construction, routine operation, start-up operations, upset operations and decommissioning if relevant.
- The level of assessment should be commensurate with the risk to the environment.

Describe management and mitigation measures

- Describe any mitigation measures and management options proposed to prevent, control, abate or mitigate identified environmental impacts associated with the proposal and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
- Proponents are expected to implement a 'reasonable level of performance' to minimise environmental impacts. The proponent must indicate how the proposal meets reasonable levels of performance. For example, reference technology based criteria if available, or identify good practice for this type of activity or development. A 'reasonable level of performance' involves adopting and implementing technology and management practices to achieve certain pollutant emissions levels in economically

viable operations. Technology-based criteria evolve gradually over time as technologies and practices change.

- Use environmental impacts as key criteria in selecting between alternative sites, designs and technologies, and to avoid options having the highest environmental impacts.
- Outline any proposed approach (such as an Environmental Management Plan) that will demonstrate how commitments made in the EIS will be implemented. Areas that should be described include:

a) operational procedures to manage environmental impacts

b) monitoring procedures

c) training programs

d) community consultation

e) complaint mechanisms including site contacts

f) strategies to use monitoring information to improve performance

g) strategies to achieve acceptable environmental impacts and to respond in event of exceedences.

2. Air

Describe baseline conditions

- Provide a description of existing air quality and meteorology, using existing information and site representative ambient monitoring data. This description should include the following parameters:

a) coarse particulates;

b) PM10 and PM2.5;

c) odour; and

d) any other potential pollutants identified in the assessment process.

Assess impacts

- Identify all pollutants of concern and estimate emissions by quantity (and size for particles), source and discharge point.
- Estimate the resulting ground level concentrations of all pollutants. Where necessary (e.g. potentially significant impacts and complex terrain effects), use an appropriate dispersion model to estimate ambient pollutant concentrations. Discuss choice of model and parameters with the EPA.
- Describe the effects and significance of pollutant concentration on the environment, human health, amenity and regional ambient air quality standards or goals.
- Describe the contribution that the development will make to regional and global pollution, particularly in sensitive locations.
- For potentially odorous emissions provide the emission rates in terms of odour units (determined by techniques compatible with EPA procedures). Use sampling and analysis techniques for individual or complex odours and for point or diffuse sources, as appropriate.

  Note: With dust and odour, it may be possible to use data from existing similar activities to generate emission rates.

- Reference should be made to *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (DEC, 2016)*; Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* (DEC, 2007)*; Assessment and Management of Odour from Stationary Sources in NSW* (DEC, 2006)*; Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW (DEC, 2006).*

Describe management and mitigation measures

- Outline specifications of pollution control equipment (including manufacturer's performance guarantees where available) and management protocols for both point and fugitive emissions. Where possible, this should include cleaner production processes.

3. Noise and vibration

Describe baseline conditions

- Determine the existing background (LA90) and ambient (LAeq) noise levels in accordance with the *NSW Industrial Noise Policy*.
- Determine the existing road traffic noise levels in accordance with the *NSW Environmental Criteria for Road Traffic Noise*, where road traffic noise impacts may occur.
- The noise impact assessment report should provide details of all monitoring of existing ambient noise levels including:
  a) details of equipment used for the measurements
  b) a brief description of where the equipment was positioned
  c) a statement justifying the choice of monitoring site, including the procedure used to choose the site, having regards to the definition of 'noise sensitive locations(s)' and 'most affected locations(s)' described in Section 3.1.2 of the *NSW Industrial Noise Policy*
  d) details of the exact location of the monitoring site and a description of land uses in surrounding areas
  e) a description of the dominant and background noise sources at the site
  f) day, evening and night assessment background levels for each day of the monitoring period
  g) the final Rating Background Level (RBL) value
  h) graphs of the measured noise levels for each day should be provided
  i) a record of periods of affected data (due to adverse weather and extraneous noise), methods used to exclude invalid data and a statement indicating the need for any re-monitoring under Step 1 in Section B1.3 of the *NSW Industrial Noise Policy*
  j) determination of LAeq noise levels from existing industry.

Assess impacts

- Determine the project specific noise levels for the site. For each identified potentially affected receiver, this should include:

a) determination of the intrusive criterion for each identified potentially affected receiver

b) selection and justification of the appropriate amenity category for each identified potentially affected receiver

c) determination of the amenity criterion for each receiver

d) determination of the appropriate sleep disturbance limit.

- Maximum noise levels during night-time period (10pm-7am) should be assessed to analyse possible affects on sleep. Where LA1(1min) noise levels from the site are less than 15 dB above the background LA90 noise level, sleep disturbance impacts are unlikely. Where this is not the case, further analysis is required. Additional guidance is provided in Appendix B of the *NSW Environmental Criteria for Road Traffic Noise*.
- Determine expected noise level and noise character (e.g. tonality, impulsiveness, vibration, etc) likely to be generated from noise sources during:

  a) site establishment

  b) construction

  c) operational phases

  d) transport including traffic noise generated by the proposal

  e) other services.

  Note: The noise impact assessment report should include noise source data for each source in 1/1 or 1/3 octave band frequencies including methods for references used to determine noise source levels. Noise source levels and characteristics can be sourced from direct measurement of similar activities or from literature (if full references are provided).

- Determine the noise levels likely to be received at the most sensitive locations (these may vary for different activities at each phase of the development). Potential impacts should be determined for any identified significant adverse meteorological conditions. Predicted noise levels under calm conditions may also aid in quantifying the extent of impact where this is not the most adverse condition.
- The noise impact assessment report should include:

  a) a plan showing the assumed location of each noise source for each prediction scenario

  b) a list of the number and type of noise sources used in each prediction scenario to simulate all potential significant operating conditions on the site

  c) any assumptions made in the predictions in terms of source heights, directivity effects, shielding from topography, buildings or barriers, etc

  d) methods used to predict noise impacts including identification of any noise models used. Where modelling approaches other than the use of the ENM or SoundPlan computer models are adopted, the approach should be appropriately justified and validated

  e) an assessment of appropriate weather conditions for the noise predictions including reference to any weather data used to justify the assumed conditions

  f) the predicted noise impacts from each noise source as well as the combined noise level for each prediction scenario under any identified significant adverse weather conditions as well as calm conditions where appropriate

  g) for developments where a significant level of noise impact is likely to occur, noise contours for the key prediction scenarios should be derived

h) an assessment of the need to include modification factors as detailed in Section 4 of the *NSW Industrial Noise Policy*.

- Discuss the findings from the predictive modelling and, where relevant noise criteria have not been met, recommend additional mitigation measures.
- The noise impact assessment report should include details of any mitigation proposed including the attenuation that will be achieved and the revised noise impact predictions following mitigation.
- Where relevant noise/vibration criteria cannot be met after application of all feasible and cost effective mitigation measures the residual level of noise impact needs to be quantified by identifying:
  a) locations where the noise level exceeds the criteria and extent of exceedence
  b) numbers of people (or areas) affected
  c) times when criteria will be exceeded
  d) likely impact on activities (speech, sleep, relaxation, listening, etc)
  e) change on ambient conditions
  f) the result of any community consultation or negotiated agreement.
- For the assessment of existing and future traffic noise, details of data for the road should be included such as assumed traffic volume; percentage heavy vehicles by time of day; and details of the calculation process. These details should be consistent with any traffic study carried out in the EIS.
- Where blasting is intended an assessment in accordance with the *Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration* (ANZECC, 1990) should be undertaken. The following details of the blast design should be included in the noise assessment:
  a) bench height, burden spacing, spacing burden ratio
  b) blast hole diameter, inclination and spacing
  c) type of explosive, maximum instantaneous charge, initiation, blast block size, blast frequency.

Describe management and mitigation measures

- Determine the most appropriate noise mitigation measures and expected noise reduction including both noise controls and management of impacts for both construction and operational noise. This will include selecting quiet equipment and construction methods, noise barriers or acoustic screens, location of stockpiles, temporary offices, compounds and vehicle routes, scheduling of activities, etc.
- For traffic noise impacts, provide a description of the ameliorative measures considered (if required), reasons for inclusion or exclusion, and procedures for calculation of noise levels including ameliorative measures. Also include, where necessary, a discussion of any potential problems associated with the proposed ameliorative measures, such as overshadowing effects from barriers. Appropriate ameliorative measures may include:
  a) use of alternative transportation modes, alternative routes, or other methods of avoiding the new road usage
  b) control of traffic (eg: limiting times of access or speed limitations)
  c) resurfacing of the road using a quiet surface
  d) use of (additional) noise barriers or bunds

e) treatment of the façade to reduce internal noise levels buildings where the night-time criteria is a major concern

f) more stringent limits for noise emission from vehicles (i.e. using specially designed 'quite' trucks and/or trucks to use air bag suspension

g) driver education

h) appropriate truck routes

i) limit usage of exhaust breaks

j) use of premium muffles on trucks

k) reducing speed limits for trucks

l) ongoing community liaison and monitoring of complaints

m) phasing in the increased road use.

4. Water

Describe baseline conditions

- Describe existing surface and groundwater quality – an assessment needs to be undertaken for any water resource likely to be affected by the proposal and for all conditions (e.g. a wet weather sampling program is needed if runoff events may cause impacts).

  Note: Methods of sampling and analysis need to conform with an accepted standard (e.g. Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC 2004) *or be approved and analyses undertaken by accredited laboratories).*

- Provide site drainage details and surface runoff yield.
- State the ambient Water Quality and River Flow Objectives for the receiving waters. These refer to the community's agreed environmental values and human uses endorsed by the Government as goals for the ambient waters. These environmental values are published on the website: http://www.environment.nsw.gov.au/ieo/index.htm. The EIS should state the environmental values listed for the catchment and waterway type relevant to your proposal. NB: A consolidated and approved list of environmental values are not available for groundwater resources. Where groundwater may be affected the EIS should identify appropriate groundwater environmental values and justify the choice.

State the indicators and associated trigger values or criteria for the identified environmental values. This information should be sourced from the ANZECC 2000 *Guidelines for Fresh and Marine Water Quality* (http://www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html) (Note that, as at 2004, the NSW Water Quality Objectives booklets and website contain technical criteria derived from the 1992 version of the ANZECC Guidelines. The Water Quality Objectives remain as Government Policy, reflecting the community's environmental values and long-term goals, but the technical criteria are replaced by the more recent ANZECC 2000 Guidelines). NB: While specific guidelines for groundwater are not available, the ANCECC 2000 Guidelines endorse the application of the trigger values and decision trees as a tool to assess risk to environmental values in groundwater.

- State any locally specific objectives, criteria or targets, which have been endorsed by the government e.g. the Healthy Rivers Commission Inquiries or the NSW Salinity Strategy (DLWC, 2000) (http://www.environment.nsw.gov.au/salinity/government/nswstrategy.htm).

- Where site specific studies are proposed to revise the trigger values supporting the ambient Water Quality and River Flow Objectives, and the results are to be used for regulatory purposes (e.g. to assess whether a licensed discharge impacts on water quality objectives), then prior agreement from the EPA on the approach and study design must be obtained.
- Describe the state of the receiving waters and relate this to the relevant Water Quality and River Flow Objectives (i.e. are Water Quality and River Flow Objectives being achieved?). Proponents are generally only expected to source available data and information. However, proponents of large or high risk developments may be required to collect some ambient water quality / river flow / groundwater data to enable a suitable level of impact assessment. Issues to include in the description of the receiving waters could include:
  a) lake or estuary flushing characteristics
  b) specific human uses (e.g. exact location of drinking water offtake)
  c) sensitive ecosystems or species conservation values
  d) a description of the condition of the local catchment e.g. erosion levels, soils, vegetation cover, etc
  e) an outline of baseline groundwater information, including, but not restricted to, depth to watertable, flow direction and gradient, groundwater quality, reliance on groundwater by surrounding users and by the environment
  f) historic river flow data where available for the catchment.

Assess impacts

- No proposal should breach clause 120 of the *Protection of the Environment Operations Act* 1997 (i.e. pollution of waters is prohibited unless undertaken in accordance with relevant regulations).
- Identify and estimate the quantity of all pollutants that may be introduced into the water cycle by source and discharge point including residual discharges after mitigation measures are implemented.
- Include a rationale, along with relevant calculations, supporting the prediction of the discharges.
- Describe the effects and significance of any pollutant loads on the receiving environment. This should include impacts of residual discharges through modelling, monitoring or both, depending on the scale of the proposal. Determine changes to hydrology (including drainage patterns, surface runoff yield, flow regimes, wetland hydrologic regimes and groundwater).
- Describe water quality impacts resulting from changes to hydrologic flow regimes (such as nutrient enrichment or turbidity resulting from changes in frequency and magnitude of stream flow).
- Identify any potential impacts on quality or quantity of groundwater describing their source.
- Identify potential impacts associated with geomorphological activities with potential to increase surface water and sediment runoff or to reduce surface runoff and sediment transport. Also consider possible impacts such as bed lowering, bank lowering, instream siltation, floodplain erosion and floodplain siltation.
- Identify impacts associated with the disturbance of acid sulfate soils and potential acid sulfate soils.
- Containment of spills and leaks shall be in accordance with EPA's guidelines section 'Bunding and Spill Management' at http://www.epa.nsw.gov.au/mao/bundingspill.htm and the most recent versions of the Australian Standards referred to in the Guidelines. Containment should be designed for no-discharge.
- The significance of the impacts listed above should be predicted. When doing this it is important to predict the ambient water quality and river flow outcomes associated with the proposal and to

demonstrate whether these are acceptable in terms of achieving protection of the Water Quality and River Flow Objectives. In particular the following questions should be answered:

a) will the proposal protect Water Quality and River Flow Objectives where they are currently achieved in the ambient waters; and

b) will the proposal contribute towards the achievement of Water Quality and River Flow Objectives over time, where they are not currently achieved in the ambient waters.

- Consult with the EPA as soon as possible if a mixing zone is proposed (a mixing zone could exist where effluent is discharged into a receiving water body, where the quality of the water being discharged does not immediately meet water quality objectives. The mixing zone could result in dilution, assimilation and decay of the effluent to allow water quality objectives to be met further downstream, at the edge of the mixing zone). The EPA will advise the proponent under what conditions a mixing zone will and will not be acceptable, as well as the information and modelling requirements for assessment.

  Note: The assessment of water quality impacts needs to be undertaken in a total catchment management context to provide a wide perspective on development impacts, in particular cumulative impacts.

- Where a licensed discharge is proposed, provide the rationale as to why it cannot be avoided through application of a reasonable level of performance, using available technology, management practice and industry guidelines.
- Where a licensed discharge is proposed, provide the rationale as to why it represents the best environmental outcome and what measures can be taken to reduce its environmental impact.
- Reference should be made to the following guidelines: *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004), *Guidelines for Fresh and Marine Water Quality* ANZECC 2000).

Describe management and mitigation measures

- Outline stormwater management to control pollutants at the source and contain them within the site. Also describe measures for maintaining and monitoring any stormwater controls.
- Outline erosion and sediment control measures directed at minimising disturbance of land, minimising water flow through the site and filtering, trapping or detaining sediment. Also include measures to maintain and monitor controls as well as rehabilitation strategies.
- Describe waste water treatment measures that are appropriate to the type and volume of waste water and are based on a hierarchy of avoiding generation of waste water; capturing all contaminated water (including stormwater) on the site; reusing/recycling waste water; and treating any unavoidable discharge from the site to meet specified water quality requirements.
- Outline pollution control measures relating to storage of materials, possibility of accidental spills (e.g. preparation of contingency plans), appropriate disposal methods, and generation of leachate.
- Describe hydrological impact mitigation measures including:

  a) site selection (avoiding sites prone to flooding and waterlogging, actively eroding or affected by deposition)

  b) minimising runoff

  c) minimising reductions or modifications to flow regimes

  d) avoiding modifications to groundwater.

- Describe groundwater impact mitigation measures including:

a) site selection
b) retention of native vegetation and revegetation
c) artificial recharge
d) providing surface storages with impervious linings
e) monitoring program.

- Describe geomorphological impact mitigation measures including:
  a) site selection
  b) erosion and sediment controls
  c) minimising instream works
  d) treating existing accelerated erosion and deposition
  e) monitoring program.
- Any proposed monitoring should be undertaken in accordance with the *Approved Methods for the Sampling and Analysis of Water Pollutants in NSW* (DEC 2004).

5. Soils and contamination

Describe baseline conditions

- Provide any details (in addition to those provided in the location description - Section C) that are needed to describe the existing situation in terms of soil types and properties and soil contamination.

Assess impacts

- Identify any likely impacts resulting from the construction or operation of the proposal, including the likelihood of:
  a) disturbing any existing contaminated soil
  b) contamination of soil by operation of the activity
  c) subsidence or instability
  d) soil erosion
  e) disturbing acid sulfate or potential acid sulfate soils.
- Reference should be made to the following guidelines: *Contaminated Sites – Guidelines for Consultants Reporting on Contaminated Sites* (OEH, 2011)*; Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997* (EPA, 2015).

Describe management and mitigation measures

- Describe and assess the effectiveness or adequacy of any soil management and mitigation measures during construction and operation of the proposal including:
  a) erosion and sediment control measures

b) proposals for site remediation – see *Managing Land Contamination, Planning Guidelines SEPP 55 – Remediation of Land* (Department of Urban Affairs and Planning and Environment Protection Authority, 1998)

c) proposals for the management of these soils – see *Acid Sulfate Soil Manual* (Acid Sulfate Soil Advisory Committee 1998) and *Acid Sulfate Soils Assessment Guidelines* (Acid Sulfate Soil Advisory Committee 1998).

6. Waste and chemicals

Describe baseline conditions

- Describe any existing waste or chemicals operations related to the proposal.

Assess impacts

- Assess the adequacy of proposed measures to minimise natural resource consumption and minimise impacts from the handling, transporting, storage, processing and reprocessing of waste and/or chemicals.
- Reference should be made to: the EPA's *Waste Classification Guidelines 2014* (as in force from time to time).

Describe management and mitigation measures

- Outline measures to minimise the consumption of natural resources.
- Outline measures to avoid the generation of waste and promote the re-use and recycling and reprocessing of any waste.
- Outline measures to support any approved regional or industry waste plans.

7. Cumulative impacts

- Identify the extent that the receiving environment is already stressed by existing development and background levels of emissions to which this proposal will contribute.
- Assess the impact of the proposal against the long term air, noise and water quality objectives for the area or region.
- Identify infrastructure requirements flowing from the proposal (e.g. water and sewerage services, transport infrastructure upgrades).
- Assess likely impacts from such additional infrastructure and measures reasonably available to the proponent to contain such requirements or mitigate their impacts (e.g. travel demand management strategies).

F. List of approvals and licences

- Identify all approvals and licences required under environment protection legislation including details of all scheduled activities, types of ancillary activities and types of discharges (to air, land, water).

G. Compilation of mitigation measures

- Outline how the proposal and its environmental protection measures would be implemented and managed in an integrated manner so as to demonstrate that the proposal is capable of complying with statutory obligations under EPA licences or approvals (e.g. outline of an environmental management plan).
- The mitigation strategy should include the environmental management and cleaner production principles which would be followed when planning, designing, establishing and operating the proposal. It should include two sections, one setting out the program for managing the proposal and the other outlining the monitoring program with a feedback loop to the management program.

H. Justification for the Proposal

- Reasons should be included which justify undertaking the proposal in the manner proposed, having regard to the potential environmental impacts.

ATTACHMENT B: GUIDANCE MATERIAL

Title	Web address
Relevant Legislation	
Contaminated Land Management Act 1997	http://www.legislation.nsw.gov.au/#/view/act/1997/140
Environmentally Hazardous Chemicals Act 1985	http://www.legislation.nsw.gov.au/#/view/act/1985/14
Environmental Planning and Assessment Act 1979	http://www.legislation.nsw.gov.au/#/view/act/1979/203
Protection of the Environment Operations Act 1997	http://www.legislation.nsw.gov.au/#/view/act/1997/156
Water Management Act 2000	https://www.legislation.nsw.gov.au/#/view/act/2000/92
Licensing	
Guide to Licensing	www.epa.nsw.gov.au/licensing/licenceguide.htm
Air Issues	
Air Quality	
Approved methods for modelling and assessment of air pollutants in NSW (2016)	http://www.epa.nsw.gov.au/air/appmethods.htm
POEO (Clean Air) Regulation 2010	http://www.legislation.nsw.gov.au/#/view/regulation/2010/428
Noise and Vibration	
Interim Construction Noise Guideline (DECC, 2009)	http://www.epa.nsw.gov.au/noise/constructnoise.htm
Assessing Vibration: a technical guideline (DEC, 2006)	http://www.epa.nsw.gov.au/noise/vibrationguide.htm
Industrial Noise Policy Application Notes	http://www.epa.nsw.gov.au/noise/applicnotesindustnoise.htm
Environmental Criteria for Road Traffic Noise (EPA, 1999)	http://www.epa.nsw.gov.au/resources/noise/roadnoise.pdf
Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects (DECC, 2007)	http://www.epa.nsw.gov.au/noise/railinfranoise.htm
Environmental assessment requirements for rail traffic-generating developments	http://www.epa.nsw.gov.au/noise/railnoise.htm
Human Health Risk Assessment	

Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards (enHealth, 2012)	http://www.eh.org.au/documents/item/916
Waste, Chemicals and Hazardous Materials and Radiation	
Waste	
Environmental Guidelines: Solid Waste Landfills (EPA, 2016)	http://www.epa.nsw.gov.au/waste/landfill-sites.htm
Draft Environmental Guidelines - Industrial Waste Landfilling (April 1998)	http://www.epa.nsw.gov.au/resources/waste/envguidlns/industrialfill.pdf
EPA's Waste Classification Guidelines 2014	http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm
Resource recovery orders and exemptions	http://www.epa.nsw.gov.au/wasteregulation/orders-exemptions.htm
European Union's Waste Incineration Directive 2000	http://ec.europa.eu/environment/archives/air/stationary/wid/legislation.htm
EPA's Energy from Waste Policy Statement	http://www.epa.nsw.gov.au/wastestrategy/energy-from-waste.htm
NSW Waste Avoidance and Resource Recovery Strategy 2014-2021	http://www.epa.nsw.gov.au/wastestrategy/warr.htm
Chemicals subject to Chemical Control Orders	
Chemical Control Orders (regulated through the EHC Act)	http://www.epa.nsw.gov.au/pesticides/CCOs.htm
National Protocol - Approval/Licensing of Trials of Technologies for the Treatment/Disposal of Schedule X Wastes - July 1994	Available in libraries
National Protocol for Approval/Licensing of Commercial Scale Facilities for the Treatment/Disposal of Schedule X Wastes - July 1994	Available in libraries
Water and Soils	
Acid sulphate soils	
Coastal acid sulfate soils guidance material	http://www.environment.nsw.gov.au/acidsulfatesoil/ and http://www.epa.nsw.gov.au/mao/acidsulfatesoils.htm
Acid Sulfate Soils Planning Maps	http://www.environment.nsw.gov.au/acidsulfatesoil/riskmaps.htm
Contaminated Sites Assessment and Remediation	
Managing land contamination: Planning Guidelines – SEPP 55 Remediation of Land	http://www.epa.nsw.gov.au/clm/planning.htm

Guidelines for Consultants Reporting on Contaminated Sites (EPA, 2000)	http://www.epa.nsw.gov.au/resources/clm/20110650consultantsglines.pdf
Guidelines for the NSW Site Auditor Scheme - 2nd edition (DEC, 2006)	http://www.epa.nsw.gov.au/resources/clm/auditorglines06121.pdf
Sampling Design Guidelines (EPA, 1995)	http://www.epa.nsw.gov.au/resources/clm/95059sampgdlne.pdf
National Environment Protection (Assessment of Site Contamination) Measure 1999 (or update)	http://www.scew.gov.au/nepms/assessment-site-contamination
Soils – general	
Managing land and soil	http://www.environment.nsw.gov.au/soils/landandsoil.htm
Managing urban stormwater for the protection of soils	http://www.environment.nsw.gov.au/stormwater/publications.htm
Landslide risk management guidelines	http://australiangeomechanics.org/admin/wp-content/uploads/2010/11/LRM2000-Concepts.pdf
Site Investigations for Urban Salinity (DLWC, 2002)	http://www.environment.nsw.gov.au/resources/salinity/booklet3siteinvestigationsforurbansalinity.pdf
Local Government Salinity Initiative Booklets	http://www.environment.nsw.gov.au/salinity/solutions/urban.htm
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	http://www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	Contact the EPA on 131555
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

NSW GOVERNMENT | Department of Primary Industries

OUT17/42376

19 October 2017

Bianca Thornton
Planning Officer
Industry Assessments
GPO Box 39 Sydney NSW

Dear Bianca

Request for Input: Resource Recovery Facility, 55 Martin Road, Badgerys Creek (Lot 4 DP 611519) – SEAR 1182

Thank you for the opportunity to provide Secretary Environmental Assessment Requirements (SEAR) for the above proposal as per your email dated 17 October 2017.

The NSW Department of Primary Industries (NSW DPI) Agriculture is committed to the protection and growth of agricultural industries, and the land and resources upon which these industries depend. Important issues are the potential impact on limited agricultural resources and the ability to rehabilitate the land to enable continued agricultural investment.

NSW DPI Agriculture provides SEARs (Attachment 1) and some guidelines that might assist consent authorities, community and proponents in addressing the recommended SEARs (Attachment 2).

Should you require clarification on the information contained in this response, please contact Lilian Parker on (02) 69381906.

Yours sincerely

Lilian Parker
A/Manager
Agricultural Land Use Planning

Issue and desired outcome	Detail / Requirement
Contingency and Environmental Management Plan developed	• Contingency plans should be developed to enable the operation to deal with emergency situations. Commitment to the preparation of an Emergency Management plan that outlines procedures and responsibilities for responding to bushfire threats and possible mass mortality events which might result from extreme climatic conditions, routine or emergency animal disease outbreaks.

Attachment 2: Guidelines for assessment

Title	Location
Land Use Conflict Risk Assessment Guide	www.dpi.nsw.gov.au/content/agriculture/resources/lup/development-assessment/lucra
Agricultural Issues for Extractive industry Development	http://www.dpi.nsw.gov.au/content/agriculture/resources/lup/development-assessment/extractive-industries
Agricultural Issues for Landfill Developments	http://www.dpi.nsw.gov.au/content/agriculture/resources/lup/development-assessment/landfill-developments
Infrastructure Proposals on Rural Land	http://www.dpi.nsw.gov.au/content/agriculture/resources/lup/development-assessment/infrastructure-proposals

Bianca Thornton

From: Kristine Ward <Kristine.Ward@waternsw.com.au>
Sent: Wednesday, 18 October 2017 11:35 AM
To: Bianca Thornton
Subject: RE: Request for Input: Resource Recovery Facility, 55 Martin Road, Badgerys Creek (Lot 4 DP 611519) – SEAR 1182

Good Morning Bianca,

The proposal is not located within the Sydney Drinking Water Catchment, or within close proximity to any WaterNSW land, assets or infrastructure. WaterNSW therefore does not have any particular requirements for the EIS unless the proposal is seeking to undertake works that may require a Water Supply Work Approval.

WaterNSW appreciates the Department's consultation and requests continued consultation for matters that have the potential to impact WaterNSW's land and assets.

Regards,

Kristine Ward
Catchment Protection Adviser

Level 14
169 Macquarie Street
Parramatta NSW 2150
(PO Box 398, Parramatta NSW 2124)
T: 02 9865 2449 **M:** 0448 505 598
kristine.ward@waternsw.com.au
www.waternsw.com.au

Bianca Thornton

From: Marnie Stewart
Sent: Monday, 23 October 2017 2:45 PM
To: Bianca Thornton
Subject: Request for Input: Resource Recovery Facility, 55 Martin Road, Badgerys Creek (Lot 4 DP 611519) – SEAR 1182

Dear Bianca

After reviewing the relevant documents, OEH's Greater Sydney Planning Team has concluded that the matter does not contain biodiversity, natural hazards or Aboriginal cultural heritage issues that require a formal OEH response. We have no further need to be involved in the assessment of this project.

Please note that the Heritage Division in the Office of Environment and Heritage may wish to provide separate comments.

Regards,

Marnie Stewart
Senior Project Officer – Planning, Greater Sydney Branch
Regional Operations Division
Office of Environment and Heritage
T: 02 9995 6868
W: www.environment.nsw.gov.au
Please note my work days are Tues- Fri

Bianca Thornton

From: Mohammed Rahman <mohammed.rahman@crownland.nsw.gov.au>
Sent: Monday, 30 October 2017 2:06 PM
To: Lands Ministerials; Elizabeth Currey; Bianca Thornton; Paul Layt; Jeremy Corke; Mohammed Rahman
Subject: Fwd: FW: FW: HPE CM: Request for Input: Resource Recovery Facility, 55 Martin Road, Badgerys Creek (Lot 4 DP 611519) - SEAR 1182
Attachments: Form A - SEAR 1182.pdf

Hi - Elizabeth,
A land status investigation on Recovery Facility, 55 Martin Road, Badgerys Creek (Lot 4 DP 611519) - SEAR 1182 shows that there is no Crown lands involved to this project.
Therefore, Department of Industry - Crown Lands & water Division has no comments.
Thank you.
Regards,

Mohammed H Rahman | Natural Resources Officer Sydney
Regional Services
Department of Industry, Crown Lands and Water Division
PO Box 2185 DANGAR NSW 2309
T: 02 9842 8331 | F: 02 8836 5365 | E: mohammed.rahman@crownland.nsw.gov.au
W: www.crownland.nsw.gov.au

Bianca Thornton

From: Carla Ganassin <carla.ganassin@dpi.nsw.gov.au>
Sent: Wednesday, 18 October 2017 4:01 PM
To: Bianca Thornton
Subject: Fwd: FW: HPE CM: Request for Input: Resource Recovery Facility, 55 Martin Road, Badgerys Creek (Lot 4 DP 611519) - SEAR 1182
Attachments: Form A - SEAR 1182.pdf

Hi Bianca,

Please be advised the DPI Fisheries has nil comment on this matter, as the proposal does not trigger any requirements for assessment under the *Fisheires Management Act*.

Regards,
Carla Ganassin | Fisheries Manager | Aquatic Ecosystems Unit
NSW Department of Primary Industries | Fisheries NSW
Block E, Level 3, 84 Crown Street, Wollongong NSW 2500
SEND MAIL TO: Locked Bag 1 | Nelson Bay NSW 2315
T: 02 4222 8342 | F: 02 4225 9056 | E: carla.ganassin@dpi.nsw.gov.au
W: www.dpi.nsw.gov.au

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