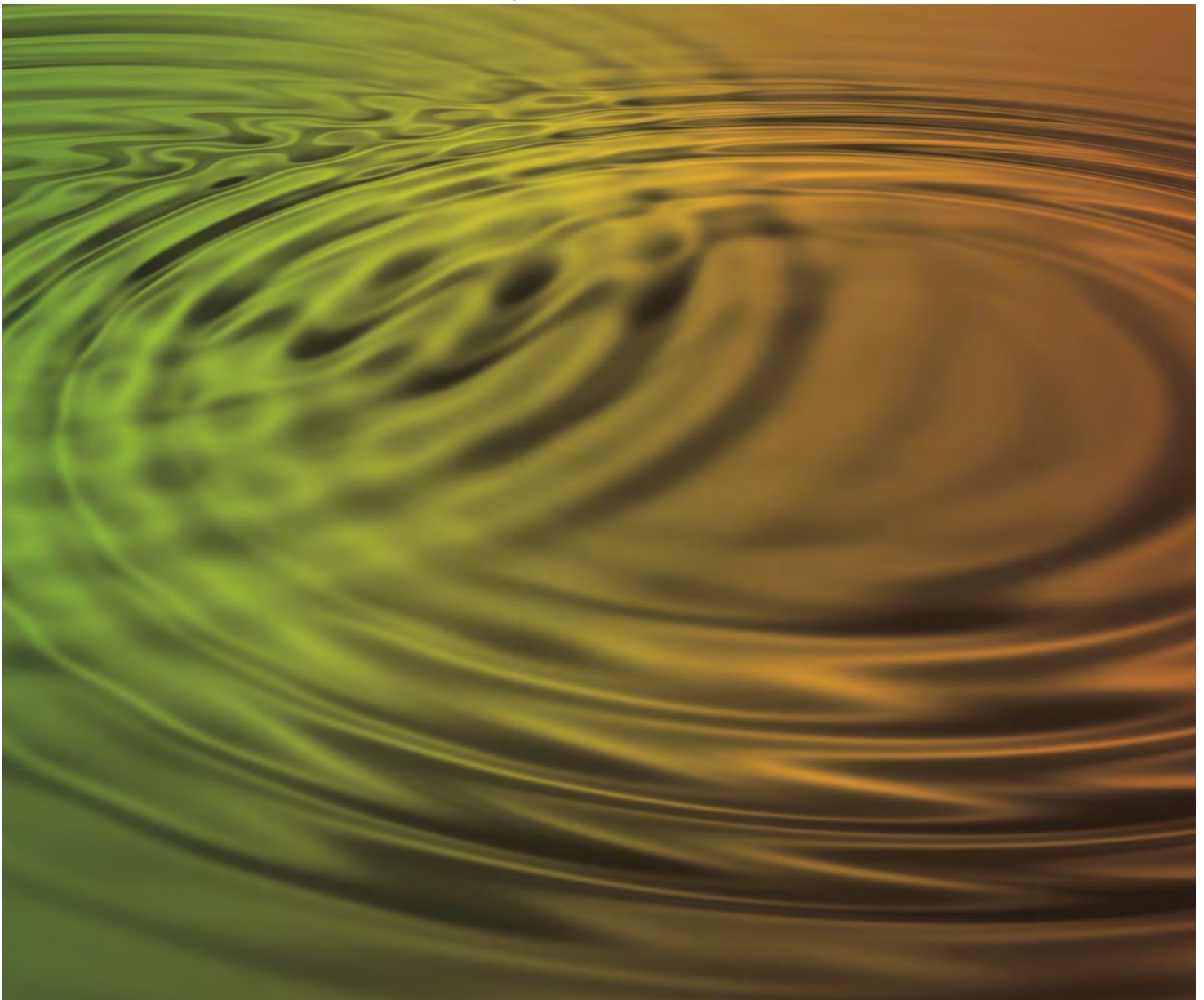


Modification to the Advanced Waste Treatment Facility, Kemps Creek Resource Recovery Precinct

Modification Assessment Report



Modification to the Advanced Waste Treatment Facility, Kemps Creek Resource Recovery Precinct

Modification Assessment Report

Client: SITA Australia Pty Ltd

ABN: 70 002 902 650

Prepared by

AECOM Australia Pty Ltd

Level 21, 420 George Street, Sydney NSW 2000, PO Box Q410, QVB Post Office NSW 1230, Australia
T +61 2 8934 0000 F +61 2 8934 0001 www.aecom.com

ABN 20 093 846 925

04-Dec-2013

Job No.: 60250100

AECOM in Australia and New Zealand is certified to the latest version of ISO9001, ISO14001, AS/NZS4801 and OHSAS18001.

© AECOM Australia Pty Ltd (AECOM). All rights reserved.

AECOM has prepared this document for the sole use of the Client and for a specific purpose, each as expressly stated in the document. No other party should rely on this document without the prior written consent of AECOM. AECOM undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this document. This document has been prepared based on the Client's description of its requirements and AECOM's experience, having regard to assumptions that AECOM can reasonably be expected to make in accordance with sound professional principles. AECOM may also have relied upon information provided by the Client and other third parties to prepare this document, some of which may not have been verified. Subject to the above conditions, this document may be transmitted, reproduced or disseminated only in its entirety.

Quality Information

Document Modification to the Advanced Waste Treatment Facility, Kemps Creek Resource Recovery Precinct
60250100

Ref p:\60250100_kemps_creek_ex\6. draft docs\6.1 reports\modification\mod report_031213\60250100_kemps creek sawt facility modification_2.0.docx

Date 04-Dec-2013

Prepared by Dinuka McKenzie

Reviewed by Scott Jeffries

Revision History


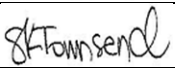
| Revision | Revision Date | Details | Authorised | |
|----------|-----------------|---------------|-----------------------------------|---|
| | | | Name/Position | Signature |
| 1.0 | 24-October-2013 | Working Draft | Sarah Townsend Project Manager |  |
| 2.0 | 4-December-2013 | Final | Sarah Townsend Project Manager |  |
| | | | | |
| | | | | |

Table of Contents

| | |
|---|-----|
| Executive Summary | iii |
| 1.0 Introduction | 1 |
| 2.0 Background and Existing Site | 3 |
| 2.1 Site and Surrounds | 3 |
| 2.2 Existing SAWT Facility | 3 |
| 2.3 Expansion of the SAWT Facility | 4 |
| 3.0 Proposed Modification | 11 |
| 3.1 Need and Context for Modification | 11 |
| 3.2 Description of the Proposed Modification | 12 |
| 3.2.1 Construction | 18 |
| 3.2.2 Operation | 18 |
| 4.0 Statutory Planning | 21 |
| 4.1 Environmental Planning & Assessment Act 1979 | 21 |
| 4.1.1 Transitional Part 3A Project | 21 |
| 4.1.2 Section 75W Modification | 21 |
| 4.1.3 Other NSW Approvals | 22 |
| 4.1.4 Environmental Planning Instruments | 22 |
| 4.2 Commonwealth Approvals | 22 |
| 4.2.1 Environment Protection and Biodiversity Conservation Act 1999 | 22 |
| 5.0 Environmental Impacts | 25 |
| 5.1 Key Issues | 25 |
| 5.1.1 Odour | 25 |
| 5.1.2 Dust | 26 |
| 5.1.3 Leachate Management | 27 |
| 5.1.4 Noise | 29 |
| 5.2 Other Issues | 33 |
| 6.0 Summary of Mitigation and Management Measures | 35 |
| 7.0 Conclusion | 39 |
| References | 41 |

Project Terms

| Term/acronym | Explanation |
|---|--|
| Biocell Building | A partially enclosed structure comprising separate concrete bunkers in which compost derived from MSW would be aerated to accelerate the maturation process. |
| Compost Storage Pad | Pad on the southern side of the site for storage of compost material derived from MSW and SSO.. |
| Department of the Environment | Commonwealth Department of the Environment, the agency responsible for administering the EPBC Act. |
| DP&I | NSW Department of Planning and Infrastructure. |
| EA | The 2007 Environmental Assessment, accompanying the original Part 3A application for the SAWT Facility at Kemps Creek. |
| EIS | The 2013 Environmental Impact Statement accompanying the SSD application for the Expansion of the SAWT Facility. |
| EPA | The NSW Environment Protection Authority. |
| EPL | An Environmental Protection Licence under the POEO Act. |
| EPBC Act | Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> . |
| EP&A Act | <i>Environment Planning and Assessment Act 1979</i> . |
| EP&A Regulation | <i>Environment Planning and Assessment Regulation 2000</i> . |
| Expansion Proposal/ Proposed Expansion | SSD application for the Expansion of the SAWT Facility (SSD Application No. SSD-5275). |
| Landfill (the) | Elizabeth Drive Landfill. |
| LGA | Local Government t Area. |
| MSW | Municipal Solid Waste. |
| OEH | NSW Office of Environment and Heritage. |
| Part 3A Approval | The existing Part 3A approval covering the SAWT Facility (MP 06-0185). |
| POEO Act | <i>Protection of the Environment Operations Act 1997</i> . |
| Proponent (the) | SITA Australia Pty Ltd. |
| Resource Recovery Precinct | SITA's Kemps Creek Resource Recovery Precinct made up of the Elizabeth Drive Landfill and the SAWT Facility. |
| SAWT facility | SITA Advanced Waste Treatment facility at Kemps Creek. |
| SEPP | State Environmental Planning Policy. |
| Site (the) | The land the subject of the SAWT Facility and the subject of this modification application. |
| SSD | State Significant Development. |
| SSO | Source Separated Organics. |

Executive Summary

SITA Australia Pty Ltd is seeking approval to modify the existing SITA Advanced Waste Treatment facility (SAWT facility) at its Kemps Creek Resource Recovery Precinct (Resource Recovery Precinct) in western Sydney. The existing SAWT facility is subject to an approval under the former Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (MP 06-0185) and this report supports an application to modify that approval under Section 75W of the EP&A Act.

Proposed Modification

The proposed modification would involve changes to the existing SAWT facility in relation to the maturation stage of transforming Municipal Solid Waste (MSW) and Source Separated Solids (SSO) into compost material. The changes proposed involve:

- amendments to the current location of MSW and SSO maturation, with MSW proposed to be relocated to the southern maturation pad where SSO is currently matured and SSO proposed to be relocated to the eastern pad where MSW is currently matured;
- upgrade of the southern and eastern maturation pad surfaces involving regrading and stabilising of the surfaces with concrete;
- introducing the use of impermeable covers during inclement weather to reduce weather vulnerability of the maturation pads; and
- process changes to the MSW compost maturation phase involving the introduction of a new Biocell Building to accelerate MSW compost maturation through aeration.

The modification is proposed to improve process control and batch management of compost on site. The proposed modification would be confined to existing disturbed and operational areas of the SAWT facility, to the two maturation pads already under operation at the site.

Environmental Impacts

The key environmental impacts associated with the proposed modification relate to: odour control, dust management, leachate management and noise.

Odour

Separate to this modification application, SITA has sought approval under the State Significant Development (SSD) provisions of Part 4 of the EP&A Act to expand the existing SAWT facility (Expansion Proposal). This application (SSD Application No. SSD-5275) is currently under consideration by the Department of Planning and Infrastructure (DP&I). The expansion of the facility is being proposed in part to upgrade the facility to control odour issues attributable to the facility, primarily by internalising the compost maturation process which currently occurs in an external exposed context.

The modifications which are proposed to improve process control and batch management on site, would have beneficial consequences with respect to reducing the existing potential for odour generation on site in the interim period, before the Expansion Proposal is developed. Taking no action in the interim period whilst the Expansion Proposal proceeds through the development assessment process, undergoes construction and subsequently commences operation, is considered unacceptable. Interim solutions are considered to be required to ameliorate ongoing odour generation from the facility to improve air quality at surrounding receivers. The proposed modification would result in improvements to on-site odour management as a result of:

- improved pad drainage preventing pooling of any odour generating leachate on the pads;
- improved protection against weather vulnerability at the maturation pads; and
- the acceleration of the MSW maturation process, resulting in a quicker turnover of material to compost application markets and as a consequence, less material being present on-site at any given time.

The odour management measures proposed as part of the current modification application represent active steps to improve air quality at surrounding receivers.

Dust

Potential dust generation from the proposed modification would be confined to the construction stage during soil disturbance activities and is considered to be manageable with the implementation of standard construction

management measures including appropriate erosion and sediment control, the covering of loads and watering of surfaces. Given the relatively small scale of soil disturbance activities and short duration of construction, it is considered that subject to appropriate management the proposed modification would not result in significant adverse generation of dust during construction.

Leachate Management

The volumes of leachate runoff predicted to result from the proposed modifications at the maturation pads (as a result of the paving of surfaces, the covering of compost windrows with impermeable covers during adverse weather conditions and the introduction of a new hard roofed Biocell Building), were calculated. The runoff assessment indicated an increase in runoff volumes compared to existing conditions of approximately 20 percent from the southern maturation pad (currently used for SSO and proposed to be used for MSW) and 16 percent from the eastern pad (currently used for SSO and proposed to be used for MSW). Notwithstanding the predicted increases in leachate runoff volumes, the proposed modifications are expected to result in improvements to the water quality of that leachate as a result of cleaner runoff being generated from the maturation pads, due to the upgraded and paved surface area and use of impermeable covers over the windrows during rainfall events. It is expected that the improvement in leachate quality would enable the re-use of this liquid on-site during active composting or other processes in the facility such as to not result in any material changes to the existing volume of off-site tankers transporting excess leachate off-site.

Noise

The proposed modification would involve the introduction of aeration fans as part of a new Biocell Building at the upgraded MSW pad. The fans will be sourced from suppliers to ensure compliance with existing noise limits for the SAWT facility and installed with silencers to minimise the generation of noise during operation. Operational noise performance monitoring would be undertaken at the commencement of operations to confirm the operational noise performance of the SAWT facility site with the inclusion of the new Biocell Building.

Given the relatively small scale and duration of construction works involved and distance to receivers (more than 800 metres) it is anticipated that construction noise associated with the modification is unlikely to be especially intrusive or distinguishable beyond existing noise generated by operational activities at the SAWT facility and the Elizabeth Drive landfill. Standard construction noise measures would be implemented to ensure that construction noise is managed so as to not result in significant intrusion to surrounding receivers with consideration to cumulative impacts from concurrent operations at the SAWT facility.

Traffic generation during the construction and operation phases of the modification is considered to be low to negligible and unlikely to materially change existing road traffic noise at nearest sensitive receivers.

Other Issues

The environmental assessment undertaken as part of this report indicates that the proposed modification would not raise significant impacts in relation to other issues including traffic, groundwater, flooding, hazard and risk, visual, flora and fauna and heritage.

Conclusions and Justification

The proposed modification has been assessed in accordance with the requirements of the EP&A Act. The environmental impacts of the proposed modification have been assessed and found to be acceptable subject to the implementation of proposed mitigation measures and unlikely to result in significant adverse impacts to the environment or surrounding sensitive receivers. The proposed modification is expected to result in improvements to air quality at surrounding receivers by improving on-site odour control and management. The proposal would be confined to the existing SAWT facility site, to already disturbed and operational areas and would not involve disturbance to new land or sensitive vegetation. The proposed modification is considered to be justified, site suitable and in the public interest and appropriate for approval under section 75W of the EP&A Act.

1.0 Introduction

SITA Australia Pty Ltd (SITA) (the Proponent) is seeking approval to modify the existing SITA Advanced Waste Treatment facility (SAWT facility) at its Kemps Creek Resource Recovery Precinct (Resource Recovery Precinct) in western Sydney. The existing SAWT facility is subject to an approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (MP 06-0185) and this report supports an application to modify the Part 3A approval under section 75W of the EP&A Act.

The proposed modification would involve changes to the existing SAWT facility in relation to the maturation stage of transforming Municipal Solid Waste (MSW) and Source Separated Solids (SSO) into compost material. The changes proposed involve:

- amendments to the current location of MSW and SSO maturation, with MSW proposed to be relocated to the southern maturation pad where SSO is currently matured and SSO proposed to be relocated to the eastern pad where MSW is currently matured;
- upgrade of the southern and eastern maturation pad surfaces involving regrading and stabilising of the surfaces with concrete;
- introducing of the use of impermeable covers during inclement weather to reduce weather vulnerability of the maturation pads; and
- process changes to the maturation phase of MSW involving the introduction of a new Biocell Building to accelerate MSW compost maturation through aeration.

2.0 Background and Existing Site

2.1 Site and Surrounds

The SITA Resource Recovery Precinct is located in the Penrith Local Government Area (LGA), approximately 41 kilometres west of the Sydney Central Business District. The localities of Kemps Creek and Badgerys Creek are located approximately two kilometres east and two kilometres south west of the Resource Recovery Precinct, respectively. Access to the Resource Recovery Precinct is via Elizabeth Drive which is an east-west connector road providing access from the Westlink M7 Motorway from the east and from The Northern Road from the west. Badgerys Creek flows in a northerly direction directly adjacent to the western boundary of the Resource Recovery Precinct.

SITA's Resource Recovery Precinct is currently characterised by two principal development components: the Elizabeth Drive Landfill (the Landfill) and the existing SAWT facility (refer to Figure 2-1). The SAWT facility covers an area of approximately eight hectares and is located in the north western corner of the Resource Recovery Precinct. The existing SAWT facility processes waste materials using a combination of mechanical separation, manual sorting, and biological composting technologies in order to produce saleable quality compost.

Land use surrounding the Resource Recovery Precinct is predominantly rural residential in nature. Other land uses in the vicinity include Sydney University-owned agricultural research facilities, several commercial businesses (including market gardens, poultry farms, a brick making facility and the Australian Native Landscapes composting facility), and the Twin Creeks Golf and Country Club and an associated newly developing residential estate to the north (Twin Creeks Residential Estate). Rural residential properties are scattered across the area including along Elizabeth Drive and Mamre Road.

The closest sensitive receivers to the SAWT facility include: two residential receivers located approximately 0.8 to 1.1 kilometres to the east of the facility along the eastern boundary of the Landfill (referred to as 1669A Elizabeth Drive and the Caretakers cottage to 1669A); a collection of residences approximately one kilometre west of the facility on McGarvie Smith Farm owned by the University of Sydney; residences over one kilometre south of the facility (the closest being 1745 Elizabeth Drive); and the Twin Creeks residential development located approximately one kilometre north of the site (refer to Figure 2-1).

2.2 Existing SAWT Facility

In April 2008, approval was granted under (the then) Part 3A of the EP&A Act for the construction and operation of a SAWT facility (MP 06-0185) at the Kemps Creek Resource Recovery Precinct. The facility was subsequently constructed and is currently operating at full capacity treating up to 134,400 tonnes per annum of waste.

Since original approval was granted, the Part 3A approval for the SAWT facility has been modified once on 20 September 2010, to amend the operating hours applicable to the site (refer to Section 3.2.2 for further details).

The SAWT facility employs a combination of mechanical separation, manual sorting, and biological composting technologies to process the received waste. The waste management process at the existing SAWT facility generally comprises the following steps:

- receive waste in an enclosed building;
- mechanically separate the putrescible and non-putrescible fractions of the waste;
- recover recyclables from the waste using manual sorting and other techniques;
- compost the putrescible fraction of the waste;
- mature the compost;
- refine the compost to remove contaminants (such as glass and plastics) and produce a range of compost and mulch products; and
- dispose of non-putrescible residual material at the Landfill within the Resource Recovery Precinct.

The process broadly involves the MSW and SSO materials being processed as separate streams through an internal pre-treatment line within a Resource Recovery Building at the site, prior to being transferred to enclosed composting tunnels. The MSW and SSO materials are then shifted to external maturation pads for final maturation, after which the resulting compost undergoes final refining using fixed and mobile equipment. The final

MSW and SSO derived compost materials are then stockpiled on separate storage pads prior to market distribution.

The processing of MSW and SSO waste material results in the production of approximately 40,000 to 45,000 tonnes per annum of saleable quality compost. The compost is used predominantly by the mining sector for land rehabilitation, but is also suitable for forestry and broadacre agricultural applications.

The existing SAWT facility is shown in Figure 2-2 and consists of:

- a dedicated access road from the main entrance to the Resource Recovery Precinct, which provides access to Elizabeth Drive;
- a Receiving Hall for receipt of waste, a Resource Recovery Building for the removal of recyclables and contaminants, and a Tunnel Composting System for composting waste materials;
- Biofilters and a Biofilter Plant room, housed in an adjacent structure;
- an administration annexe to the main building;
- a graded external paved areas for vehicle marshalling and for maturation pads;
- maturation pads for the maturing of compost removed from the Tunnel Composting System;
- a Compost Storage Pad for finished compost (this pad is located on the Landfill site and operates under the Landfill Environment Protection Licence (EPL));
- ponds for leachate, leachate overflow and stormwater management; and
- ancillary infrastructure such as fire water storage tanks and electrical substations.

The existing SAWT facility is the site that is the subject of the proposed modification and this modification report.

2.3 Expansion of the SAWT Facility

In 2013, SITA submitted a State Significant Development (SSD) application (SSD Application No. SSD-5275) and accompanying Environmental Impact Statement (EIS) under Division 4.1 of Part 4 of the EP&A Act to the Department of Planning and Infrastructure (DP&I), to obtain approval for the expansion of the existing SAWT facility at Kemps Creek (Expansion Proposal).

The Proposed Expansion would be limited to the SAWT facility only and not involve any changes to the existing Landfill operations at the Resource Recovery Precinct. The Proposed Expansion of the SAWT facility would increase the capacity of the facility to 220,000 tonnes per annum of input waste and involve the following key changes:

- changes to the current layout of operations and enhancements to the management of waste material (including a fully enclosed composting process) and process water, including:
 - upgrade of the Resource Recovery Building pre-treatment processes;
 - a new enclosed Composting Hall for MSW composting;
 - a new Refining Building for MSW composting, plus associated storage bunkers, and refurbishment of the existing refining plant to suit SSO composting;
 - reconfiguration of the existing biofilters at the Tunnel Composting System by enclosure and adding stacks for increased dispersion;
 - installation of new enclosed biofilters at the MSW Composting Hall with stacks for dispersion;
 - extension of the existing SSO Compost Pad for storage of fully matured SSO and MSW compost material;
 - associated infrastructure upgrades including upgrades to access roads, car parking, stormwater ponds, leachate tanks and leachate ponds; and
- an increase in operating hours for indoor operations from 7 am to 11 pm Monday through Saturday to 24 hours per day, seven days a week.

The EIS for the Proposed Expansion of the SAWT facility titled *Expansion of the Advanced Waste Treatment Facility, Kemps Creek Resource Recovery Precinct* (AECOM, 2013) was placed on public exhibition by DP&I for 34 days from 1 May 2013 to 3 June 2013. A total of fourteen submissions were received in response to the exhibition of the EIS comprising six from government agencies, one from Liverpool City Council, one from Penrith City Council, and the remainder from the community and stakeholders.

A Submissions Report responding to the issues raised in each of these submissions is currently under preparation and upon completion would be submitted to DP&I to facilitate final determination of the Expansion Proposal by the Minister for Planning and Infrastructure or delegate. Following determination, it is expected that the expansion of the new facility would take approximately two years to construct.

It is anticipated that the modification application the subject of this report would be determined, prior to the finalisation of the SSD application for the Expansion Proposal, to enable changes to the existing facility (and associated air quality benefits) to be implemented and realised on-site as soon as possible.



I:\Groups\ENV\GIS\602 Projects\602560100 Kempes Creek\FIGURES\Modification\602560100 F2-1 Location of Existing SAWT Facility and Landfill 24 10 2013 TO Rev A



\\Groups\ENVI\GIS\902 Projects\60250100 Kemps Creek\FIGURES\Modification\60250100 F2-4 Existing SAWT Facility 24_10_2013 TO Rev.A



3.0 Proposed Modification

3.1 Need and Context for Modification

It is recognised that existing processes employed for waste processing at the SAWT facility have the potential to generate odours from a number of sources including:

- the external compost maturation areas;
- leachate ponds; and
- semi-enclosed biofilters with no stacks.

In addition, the Landfill component of the Resource Recovery Precinct provides sources of odour generation at the tipping faces for general and restricted waste, the latter consisting of contaminated soil products. As the remaining sections of the landfill are capped and fitted with a methane capture system, these areas do not comprise a major existing source of odour.

A number of odour complaints associated with the Resource Recovery Precinct have been received by SITA over the past few years. Complaints have been primarily received from residential properties located to the south east of the facility site off Elizabeth Drive. The source of the odour was generally not directly linked back to a specific activity at the Resource Recovery Precinct. However, the maturing compost stockpiles were discussed as a possible source.

In August 2012, the NSW Environment Protection Authority (EPA) engaged The Odour Unit Pty Ltd to conduct a baseline regional odour assessment covering the Eastern Creek, Erskine Park and Kemps Creek precincts of western Sydney. The request for this assessment was in response to community odour complaints and concerns in recent times regarding the level of odours originating from the activities undertaken at ten waste management and composting facilities within these precincts, including the Resource Recovery Precinct.

- SITA has been actively investigating opportunities to improve on-site processes to minimise odour generation from the SAWT facility. The expansion of the SAWT facility (SSD Application No. SSD-5275) was proposed in part to upgrade the facility to control odour issues attributable to the facility, primarily by internalising and enclosing the compost maturation process which currently occurs in an external exposed context.

Air quality modelling undertaken as part of the EIS for the Expansion Proposal indicated that the proposed changes as part of the expanded facility would result in significant improvements to odour generation from the SAWT facility including reducing contributions to overall cumulative odour generation from the Resource Recovery Precinct.

As discussed in Section 2.3, the SSD application for the Expansion Proposal is currently under consideration by DP&I. Until such time that the expansion is approved and built (including during the construction phase), there is a need for ongoing odour management to minimise odour impacts from existing SAWT facility operations on surrounding sensitive receivers.

To address odour control in the interim period, SITA has proposed a number of amendments to existing arrangements at the SAWT facility in relation to the existing external MSW and SSO maturation pads. The changes are aimed at improving pad drainage, reducing the weather vulnerability of the maturation pads, and accelerating MSW compost maturation through the introduction of the Biocell Building for aeration; all of which are expected to result in improvements to the potential for odour generation from the maturation pads.

The activities proposed as part of the modification are relatively small scale and can be easily and quickly implemented on site to achieve positive air quality outcomes straight away. This makes it sensible to progress these changes through an upfront modification to the existing facility, rather than waiting for the larger and more permanent works as part of the overall facility Expansion Proposal (SSD Application No. SSD-5275) to be assessed, approved and implemented. The proposed interim arrangements would improve process control and provide a direct improvement to the odour profile of the SAWT facility.

3.2 Description of the Proposed Modification

SITA is seeking approval to modify the existing Part 3A approval (MP 06-0185) for the SAWT facility at Kemps Creek to implement a range of amendments to existing arrangements for MSW and SSO maturation into compost at the facility aimed at improving process control and odour control at the site in the interim period, until the eventual expansion of the SAWT facility (the subject of SSD Application No. SSD-5275).

The proposed modification involves changes to existing arrangements employed at the SAWT facility site in relation to the maturation phase for MSW and SSO derived compost. Changes are proposed to improve process control and compost batch management and improve overall site odour management. The changes proposed to the facility site include: regrading and stabilisation of the maturation pads, use of impermeable covers to reduce weather vulnerability of the maturation pads and introduction of a new Biocell Building to accelerate MSW maturation.

In general terms, the proposed modification is expected to result in improved odour management due to:

- improved pad drainage preventing pooling of any leachate on the pads;
- improved protection against weather vulnerability at the maturation pads; and
- the acceleration of the MSW maturation process, resulting in quicker turnover of potentially odour generating material and less compost being present on-site at any given time .

The proposed modifications to the existing SAWT facility are detailed in Table 3-1 and Table 3-2 and shown in Figure 3-1.

Table 3-1 Proposed Modifications to Maturation Phase for SSO

| Existing Facility Process For SSO | Proposed Amendments | Benefits |
|--|--|---|
| <p>Upon delivery to the SAWT facility, SSO materials are currently processed in composting tunnels prior to being placed in maturation pads (in windrows) for maturation. During this phase, the windrows are turned periodically to aid in the maturation process.</p> <p>Upon maturation, the material undergoes a refining process with residuals placed in landfill and once tested, the final compost are ready for off-site re-sale.</p> <p>The location of the existing SSO maturation pad to the south of the existing Resource Recovery</p> | <p>Improvements to the surface of the maturation pads – The eastern maturation pad where MSW material is currently placed would be regraded, stabilised and paved with concrete and used for the maturation and storage of SSO compost material. The southern maturation pad currently used for SSO maturation would be concrete paved and converted into the new MSW maturation pad – as discussed in Table 3-2 below.</p> <p>The regrading of the new eastern SSO maturation pad would be staged to allow the SAWT facility to continue to operate during the rectification works. The location of the regraded and stabilised eastern maturation pad for SSO is shown in Figure 3-1. The modified pad would be approximately 7,700 m² in size and smaller than the existing maturation pad at this location (9,500 m²). The upgraded, concrete paved pad would be graded to ensure drainage of leachate runoff into existing leachate collection ponds on-site as shown in Figure 3-1.</p> | <ul style="list-style-type: none"> - Regrading, stabilisation and paving of the maturation pad with concrete would improve drainage and prevent ponding of leachate and potential odour generation from these pools. - The stabilisation and paving of the maturation pad surfaces (along with the covering of windrows as discussed below) would lead to improvements in leachate runoff quality from the pad. |

| Existing Facility Process For SSO | Proposed Amendments | Benefits |
|--|--|---|
| <p>Building and the location of the final Compost Storage Pad (ready for off-site re-sale) is shown in Figure 2-2.</p> | <p>Improvements to the processes for dealing with inclement weather - Windrows would be covered with impermeable plastic covers, as required (for example during periods of temperature inversion in the evenings and heavy rain events).</p> | <ul style="list-style-type: none"> - Covering the windrows with impervious plastic sheets would limit the release of odour under weather conditions conducive to elevated odour generation, and limit the generation of leachate during rainfall events, reducing the potential for odour generation. - Covering the windrows would allow continued operation and greater process control during wet weather. This would ensure greater operational efficiency and faster turnover of material (by preventing the material from getting wet during rainfall and adding to the maturation period) . This would result in reduced overall volumes of composted material being present at the maturation pads at any given time (hence the reduced surface area proposed for the modified SSO maturation pad) and reduced overall potential for odour generation. - Covering the windrows (along with the stabilisation and paving of the maturation pad surfaces – as discussed above) would lead to improvements in leachate runoff quality from operational areas. |

Table 3-2 Proposed Modifications to Maturation Phase for MSW

| Existing Facility Process For MSW | Proposed Amendments | Benefits |
|---|--|--|
| <p>Upon delivery to the SAWT facility, MSW materials undergo a number of initial waste sorting processes inside the Resource Recovery Building including sieving (or tromelling) into different fractions, sorting via magnet and air sorters), with residuals from this process sent to landfill. The organic fraction is then processed in composting tunnels. The resulting compost is placed on maturation pads (in windrows) for maturation. During this phase, the windrows are turned periodically to aid in the maturation process.</p> <p>Upon maturation, the material undergoes a refining process</p> | <p>Improvements to the surface of the maturation pads – The southern maturation pad where SSO material is currently placed would be regraded, stabilised and paved with concrete and used for the maturation and storage of MSW compost material. The eastern maturation pad currently used for MSW maturation would be upgraded, concrete paved and converted into the new SSO maturation pad – as discussed in Table 3-1 above.</p> <p>The regrading of the new southern MSW maturation pad would be staged to allow the SAWT facility to continue to operate during the rectification works. The location of the regraded and stabilised southern maturation pad for MSW is shown in Figure 3-1. The modified pad would be approximately 4,250 m² in size and smaller than the existing maturation pad at this location (6,000 m²). The upgraded, concrete paved pad would be graded to ensure drainage of leachate runoff into existing leachate collection ponds on-site as shown in Figure 3-1.</p> | <ul style="list-style-type: none"> - Regrading, stabilisation and paving of the maturation pad with concrete would improve drainage and prevent ponding of leachate and potential odour generation from these pools. - The stabilisation and paving of the maturation pad surfaces (along with the covering of windrows, as discussed below) would lead to improvements in leachate runoff quality from the pad. |

| Existing Facility Process For MSW | Proposed Amendments | Benefits |
|---|--|---|
| <p>with residuals placed in landfill and once tested the final compost is ready for off-site re-sale.</p> <p>The location of the existing eastern MSW maturation pad and the final Compost Storage Pad (ready for off-site re-sale) is shown in Figure 2-2.</p> | <p>Improvements to the processes for dealing with inclement weather - Windrows would be covered with impermeable plastic covers, as required (for example during periods of temperature inversion in the evenings and heavy rain events).</p> | <ul style="list-style-type: none"> - Covering the windrows with impervious plastic sheets would limit the release of odour under weather conditions conducive to elevated odour generation and limit the generation of leachate during rainfall events, reducing the potential for odour generation. - Covering the windrows would allow continued operation and greater process control during wet weather. This ensures greater operational efficiency and faster turnover of material (by preventing the material from getting wet during rainfall and adding to the maturation period). This would result in reduced overall volumes of composted material being present at the maturation pads at any given time (hence the reduced surface area proposed for the modified MSW maturation pad) and reduced overall potential for odour generation. - Covering the windrows (along with the stabilisation and paving of the maturation pad surfaces, as discussed above) would lead to improvements in leachate runoff quality from operational areas. |

| Existing Facility Process For MSW | Proposed Amendments | Benefits |
|-----------------------------------|--|---|
| | <p>Introduction of a new process to speed up maturation and reduce confinement times at the maturation pad – Following an approximate two week maturation period on the upgraded southern maturation pad, the MSW material would be placed as static piles inside a forced aeration bunker system for another two weeks to complete the maturation process. The new aeration bunker or “Biocell Building” would be installed directly adjacent to the upgraded southern maturation pad (refer to Figure 3-1).</p> <p>The Biocell Building would be a partially enclosed structure comprising up to five separate concrete bunkers. Air forced through the bunkers by fans (one per bunker) would accelerate the final stage of maturation and allow achievement of the required moisture content for optimal refining. The aeration process would keep the material under aerobic conditions and would reduce the moisture content of the compost to 35 percent (currently around 50 percent).</p> <p>The Biocell Building would be able to process approximately 2,000 tonnes of material over two weeks. The building would be partially enclosed (roof, three walls and floor), but open on one side for access and placement of the compost. The building would have the following indicative dimensions: 50 metres long, 30 metres wide and seven metres high.</p> | <ul style="list-style-type: none"> - Introduction of the new Biocell Building would significantly accelerate the MSW maturation process increasing the operational efficiency and turnover of material on the site. This would lead to reduced overall volumes of composting material being present at the southern maturation pad at any given time (hence the reduced surface area proposed for the modified MSW maturation pad). - The partially enclosed nature of the Biocell Building would reduce weather vulnerability of the maturing compost (in comparison to external maturation on the pad) and reduce the potential for odorous leachate generation during inclement weather. The partial enclosure of the building would also provide some shielding to the dispersal of odours generated during the aeration process (in comparison to the existing situation of external maturation). - The Biocell Building would result in the production of final compost material with less odour generating potential. This is due to the material being process controlled under aerobic conditions which prevents the formation of sulfur based compounds that can cause undesirable odour impacts. The aeration process would also reduce the moisture content of the material thereby reducing the odorous leachate generating potential of the final product. - The reduced moisture content achieved by the Biocell Building aeration process would improve operational efficiencies by providing optimal moisture content for the post-maturation refinement process, thereby increasing product turnover efficiencies and reducing the risk of a backlog of material on-site. |

With exception of changes at the SSO and MSW maturation stage, no changes are proposed to other stages of waste treatment at the existing SAWT facility.

3.2.1 Construction

Regrading of the SSO and MSW maturation pads would occur progressively over an approximately 6 week period and would be staged to allow existing operations at the SAWT facility to continue. Construction of the new Biocell Building is expected to take 16 to 20 weeks depending on weather.

Construction is proposed to occur between 6 am and 5 pm on weekdays and 8 am and 4 pm on Saturdays, within existing SAWT facility operating hours. Saturday works are only proposed where required (for example in the case of construction delays).

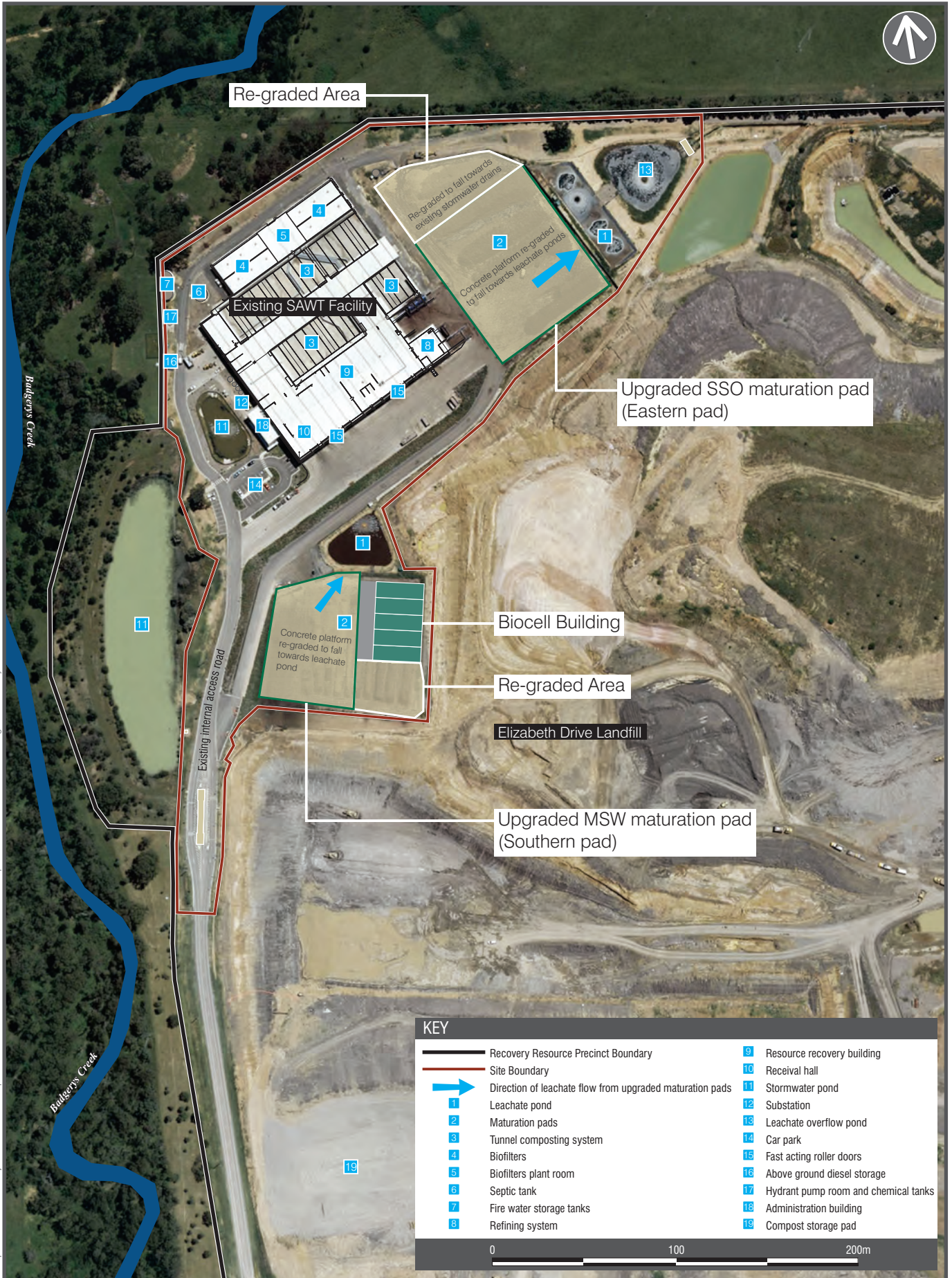
Construction plant and equipment during the construction period are anticipated to comprise: one loader, one excavator and one crane (for the installation of the pre-fabricated Biocell Building walls).

3.2.2 Operation

Upon completion of construction the amended site facilities would commence operations as per the hours of operation approved under the existing conditions of approval (MP 06-0185 – as modified) and the existing EPL (EPL No. 12889) covering the SAWT facility. These comprise

- waste receipt and product dispatch: 6 am to 6pm during weekdays, 8 am to 5 pm Saturdays and 8 am to 4 pm Sundays;
- outdoor operations: 6 am to 10 pm during weekdays, 8 am to 5 pm on Saturdays, 8 am to 4 pm on Sundays and 7 am to 4 pm on public holidays; and
- internal operations: 7 am to 11 pm Monday to Saturdays.

(Note: fans associated with the biofilters and tunnels operate on a 24-hour basis).



I:\Groups\ENV\GIS\602 Projects\60250100 Kempers Creek\FIGURES\Modification\60250100 FB-1 Proposed Modifications to the Existing SAWT Facility 02.12.2013 TO Rev C

4.0 Statutory Planning

4.1 Environmental Planning & Assessment Act 1979

4.1.1 Transitional Part 3A Project

In April 2008 Ministerial approval was granted under (the then) Part 3A of the EP&A Act for the construction and operation of a SAWT facility at the Kemps Creek Resource Recovery Precinct (MP 06-0185). The facility was subsequently constructed and is currently operating at full approved capacity. The approval has been modified once under Section 75W of the EP&A Act on 20 September 2010, to amend the operating hours applicable to the site (refer Section 3.2.2 for further details).

Part 3A of the EP&A Act was repealed on 1 October 2011 and replaced with new provisions specifying which projects now require Ministerial approval and under what part of the EP&A Act these projects would be assessed (Division 4.1 of Part 4 of the EP&A Act covering 'State Significant Development' and Part 5.1 of the EP&A Act covering 'State Significant Infrastructure'). However subject to transitional provisions specified in Schedule 6A of the EP&A Act, Part 3A of the EP&A Act as in force immediately before its repeal on 1 October 2011, continues to apply to transitional Part 3A projects.

In accordance with the Schedule 6A of the EP&A Act, the SAWT facility at Kemps Creek (MP 06-0185) is considered to be a transitional Part 3A project as:

- It was granted approval under Part 3A prior to its repeal; and
- it was physically commenced prior to the specified lapse dates for Part 3A approvals (five years from the repeal date of Part 3A or as otherwise specified in the approval).

Consequently, Part 3A as in force immediately before its repeal on 1 October 2011, continues to apply to the SAWT facility at Kemps Creek (MP 06-0185) and the project can be modified under Section 75 W of Part 3A of the EP&A Act despite its repeal.

4.1.2 Section 75W Modification

A modification is required to a Part 3A approval under Section 75 W of the EP&A Act where proposed changes are considered to be inconsistent with the approved project.

Condition 2 of Schedule 1 of the Part 3A approval for the SAWT facility at Kemps Creek (MP 06-0185) requires the project to be carried out generally in accordance with the Environmental Assessment (EA) prepared for the project, the Statement of Commitments and the conditions of approval for the project.

The original 2007 EA for the project envisaged outdoor maturation of SSO and MSW material on maturation pads. The proposed amendments to the approved maturation process (including the introduction of a new Biocell Building to accelerate MSW maturation) were not envisaged in the original EA and are therefore considered to be inconsistent with the process originally identified for the SAWT facility and as approved. Consequently, a modification is being sought to the existing approved SAWT project (MP 06-0185) to carry out the proposed changes. A modification is being sought to Condition 2 of Schedule 1 of the Part 3A approval, to include reference to the current proposed process of maturation (i.e. this document) in the approval conditions.

In addition, the existing Part 3A approval for the SAWT facility identifies work hours in which construction activities can be undertaken: 7 am to 6 pm Monday to Friday and 7 am to 4 pm Saturdays. The construction work hours for the modification are proposed to commence at 6am on week days. Consequently, a modification is also being sought to condition 12 of Schedule 2 to amend the applicable construction hours for the SAWT facility.

The existing SAWT facility was granted approval under Part 3A of the EP&A Act in 2008 when the proposal was subject to and permissible with development consent under the provisions of *Penrith Local Environmental Plan No. 201- Rural Lands*. Since this time, the *Penrith Local Environmental Plan 2010* (Penrith LEP 2010) has come into force and the existing facility is now subject to zonings under this Penrith LEP. These comprise RU 2 – Rural Landscape for the majority of the SAWT facility site and E2 – Environmental Conservation covering a buffer area around Badgerys Creek along the western boundary of the SAWT facility site. Under these zonings the existing SAWT facility would be an innominate prohibited use. It is noted that the proposed modification would not increase the land area of the approved SAWT facility within these zonings and would be confined wholly to the existing developed areas of the approved SAWT facility site.

Notwithstanding the above, section 109B of the EP&A Act provides that *nothing in an environmental planning instrument prohibits... the carrying out of development in accordance with a consent that has been granted and is*

in force” and “does not prevent the lapsing, revocation or modification, in accordance with this Act, of a consent”. Consequently, it is considered that the existing approval (MP 06-0185) can be modified, as section 109B of the EP&A Act applies to prevent a prohibition in an environmental planning instrument from preventing the modification of an approval already granted under the EP& Act.

4.1.3 Other NSW Approvals

No other NSW approvals are considered to be required to implement the proposed modification.

However, the existing SAWT facility is subject to an EPL (EPL No. 12889) granted under the *Protection of the Environment Operations Act 1997* (POEO Act) and it is expected that the proposed modification would necessitate an amendment to the conditions of the EPL,

4.1.4 Environmental Planning Instruments

According to section 75R(3) of the EP&A Act (as in force prior to its repeal), environmental planning instruments other than State Environmental Planning Policies (SEPPs) do not apply to or in respect of an approved Part 3A project. Relevant SEPPs that apply to the existing SAWT facility site and therefore to the proposed modifications are discussed below.

State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP)

Schedule 3 of the policy requires traffic generating development including any relating to landfills, recycling facilities and waste transfer stations of any size or capacity, to be referred to the Roads and Maritime Services (RMS). The facility as modified would remain a traffic generating development and it is expected that DP&I would refer the current modification application to the RMS, as relevant.

State Environmental Planning Policy No. 33 – Offensive and Hazardous Development (SEPP 33)

SEPP 33 defines potentially ‘hazardous’ and ‘potentially ‘offensive;’ development and outlines the planning and assessment requirements for such proposal including the requirement to undertake a preliminary hazardous assessment. The hazards and risks associated with the proposed modifications including the applicability of the requirements of SEPP 33 have been considered in section 5.2 which indicate that the proposed modifications would not change the existing level of risk or hazards associated with the SAWT facility.

State Environmental Planning Policy No. 55 - Remediation of Land (SEPP 55)

SEPP 55 requires a consent authority, when assessing and determining a development application, to consider whether the land the subject of the development is contaminated and if so, whether the land requires remediation before the intended land use can proceed.

The site of the existing SAWT facility was, amongst other reasons, originally selected as it had not been previously landfilled. Ongoing monitoring conducted as part of EPL requirements for the Landfill (EPL No. 4068) indicates no contaminated leachate infiltration into groundwater from either the existing SAWT facility or the landfill. As such, the risk of contamination at the existing facility site is considered to be low and remediation is not considered to be necessary prior to the proposed modifications, which would be confined within the existing SAWT facility footprint and to existing disturbed and currently operational areas of the facility. Furthermore, the proposed modification does not propose a change of land use and would involve minor upgrades to facilities and amendments to existing arrangements for compost maturation.

4.2 Commonwealth Approvals

4.2.1 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) prescribes matters which require assessment and approval by the Commonwealth. The approval of the Commonwealth Minister for the Environment is required for:

- an action which has would have or is likely to have a significant impact on “matters of National Environmental Significance” (NES matters), comprising:
 - world heritage properties;
 - national heritage places;
 - wetlands of international importance (listed under the Ramsar Convention);
 - listed threatened species and ecological communities;

- migratory species protected under international agreements;
 - Commonwealth marine areas;
 - the Great Barrier Reef Marine Park;
 - nuclear actions (including uranium mines); and
 - a water resource, in relation to coal seam gas development and large coal mining development;
- where actions proposed are on, or would affect Commonwealth land and the environment;
 - where Commonwealth agencies are proposing to take an action.

The original SAWT facility was considered unlikely to impact on any NES matters including Commonwealth listed species previously recorded in the vicinity and Commonwealth land and referral was not made to the Commonwealth. Given that the proposed modification would be confined to already disturbed, cleared and operational areas of the existing SAW facility, the modification is considered unlikely to impact on any matters of NES including any Commonwealth listed species and their habitat. Consequently, the proposed modification is not considered to trigger any matters that would require referral to the Commonwealth.

5.0 Environmental Impacts

This section summarises and assesses changes to environmental impacts associated with the approved SAWT facility anticipated to result from the proposed modifications. Key issues associated with the proposed modification are addressed in Section 5.1 and other issues are addressed in Section 5.2.

5.1 Key Issues

5.1.1 Odour

Assessment

As discussed in Section 3.1, SITA has been actively investigating opportunities for amending on-site processes to minimise odour generation from the SAWT facility.

The SAWT facility Expansion Proposal (SSD Application No. SSD-5275) is being proposed in part to improve odour management at the facility, primarily by internalising and enclosing the compost maturation process which currently occurs in an external exposed context.

Air quality modelling undertaken as part of the EIS for the Expansion Proposal indicates that the measures proposed would result in significant reductions in odour generation from the SAWT facility, with maximum (99th percentile) odour concentrations from the expanded facility (on its own) predicted to achieve an odour criterion of four odour units at surrounding receivers. Although some exceedances of criteria are still predicted at nearest sensitive receivers (between 4 and 5 odour units at 1669A Elizabeth Drive and its caretaker's cottage) when cumulative contributions from the Landfill is also taken into account, these predictions reflect contributions from the Landfill rather than the facility.

The modifications proposed in this report and described in Section 3.2 are proposed to address odour control in the interim period, before the expansion of the facility is developed. Taking no action in the interim period whilst the Expansion Proposal proceeds through the development assessment process, undergoes construction and commissioning and commences operation, is considered unreasonable and interim solutions are considered to be required to ameliorate as far as possible ongoing odour generation from the facility to improve air quality at surrounding receivers. The activities proposed as part of the modification are relatively small scale and can be easily and quickly implemented on site to achieve positive air quality outcomes straight away. This makes it sensible to progress these changes through an upfront modification to the existing facility, rather than waiting for the larger and more permanent works as part of the overall facility Expansion Proposal (SSD Application No. SSD-5275) to be assessed, approved and implemented. The amendments to existing SSO and MSW maturation processes on-site as described in Section 3.2 are expected to reduce the potential for odour generation from this stage of waste treatment at the SAWT facility, as identified below:

- regrading, stabilisation and repaving of the SSO and MSW maturation pads would improve drainage and prevent the ponding of leachate and potential odour generation from these pools;
- covering the SSO and MSW windrows with impervious plastic sheets would limit the release of odour under sensitive weather conditions (such as rain fall events and temperature inversions at night) and limit the potential for generating odorous leachate during rainfall events;
- covering the windrows would allow continued operation during wet weather, thereby ensuring greater operational efficiency and faster processing of material. This would lead to reduced overall volumes of composting material being present at the maturation pads at any given time (hence the reduced surface area proposed for the modified maturation pads) and reduced overall potential for odour generation;
- introduction of the new Biocell Building would significantly accelerate the MSW maturation process increasing the operational efficiency and turnover of material on site.
- introduction of the new Biocell Building would aid in reducing weather vulnerability of the MSW maturation process by reducing the time period within the external maturation pads to only two weeks prior to transfer into the aerated bunkers for another two weeks. This would reduce the potential for odorous leachate generation by reducing the exposure time of maturing MSW to the elements. The largely enclosed nature of the Biocell Building means that there is also reduced potential for odorous leachate generation as a result of rainfall during the aeration process itself;

- the partially enclosed nature of the Biocell Building would itself provide some shielding to the dispersal of odours generated during the aeration process (in comparison to the existing situation of external maturation);
- the introduction of the Biocell Building would result in the production of final compost material with less odour generating potential. This is due to the material being processed under controlled aerobic conditions which prevents the formation of sulfur based compounds that can cause undesirable odour impacts. The aeration process would also reduce the moisture content of the material thereby reducing the odorous leachate generating potential of the final product; and
- the reduced moisture content achieved by the Biocell Building aeration process would improve operational efficiencies by providing optimal moisture content for the post-maturation refinement process. This provides for better process control, by increasing product turnover efficiencies and reducing the risk of a backlog of material on-site.

It is considered that the modification measures represent active steps to improve air quality at surrounding receivers in the interim period, prior to the implementation of permanent changes to facility operations as part of the Proposed Expansion of the SAWT facility. The measures are consistent with the principles of undertaking reasonable and feasible measures to minimise and mitigate impacts.

Mitigation

Mitigation measures in relation to operational odour control would comprise:

- implementation of the proposed modifications to the existing SAWT facility as proposed in Section 3.2;
- daily monitoring of the Bureau of Meteorology Website to determine if inclement weather (rainfall) is predicted in the next 24 hours to ensure readiness to cover windrows with impervious covers; and
- covering the windrows with impervious covers at night time during winter to mitigate against odour generation under temperature inversion conditions.

5.1.2 Dust

Assessment

There is the potential for fugitive dust emissions to be generated during the construction period, during soil disturbance activities. It is considered that dust emissions during the construction phase can be managed through the implementation of standard construction mitigation measures such as appropriate erosion and sediment control, covering loads and watering surfaces. Given the relatively small scale of soil disturbance activities (confined to the two existing maturation pad areas) and short duration of construction, it is considered that subject to appropriate management the proposed modification would not result in significant adverse generation of dust during construction.

Mitigation

The following practices and procedures would be adopted to ensure that dust levels are adequately controlled:

- progressive earthworks where possible to minimise areas of exposed soil;
- dust suppression along work areas using a water cart, where required;
- minimising traffic movements on exposed areas;
- dampening of temporary stockpiles;
- removing mud from vehicles before leaving the Resource Recovery Precinct, where necessary;
- conducting regular maintenance of machinery and vehicles; and
- providing awareness training in the importance of minimising dust generation at its source.

5.1.3 Leachate Management

Assessment

The proposed modifications to the SAWT facility that are of relevance to leachate generation volumes are:

- the proposed covering of SSO and MSW compost on maturation pads with an impermeable lining during inclement weather. This would increase runoff volumes due to lower infiltration, but would improve the quality of runoff due to less contact with compost; and
- the proposed introduction of a Biocell Building in the MSW maturation phase. This would reduce the time required for outdoor maturation of MSW compost, and subsequently reduce the area of MSW compost exposed to rainfall. This would decrease runoff volumes.

Applicable Rainfall/ Runoff Coefficient

The percentage of rainfall converted to leachate (runoff) during a given rainfall event is determined by the rainfall/runoff coefficient. This coefficient is different for different surfaces.

For existing concrete paved and roof areas on-site, a runoff coefficient of 0.90 is applicable. At existing packed earth maturation pads a slightly reduced runoff coefficient of 0.85 has been assumed for the aisle spaces between windrows.

At the existing SSO and MSW windrows themselves, a runoff coefficient between 0.50 and 0.70 was found applicable (Kalaba, *et al.*, 2007). Levesque (2003) reports a runoff coefficient of 0.68 for saturated compost based on laboratory experiments. This value has been adopted for the current assessment. A 2004 Canadian study found that there was a significant delay between rainfall and runoff as the compost retained the rainfall and released it slowly over a period of one to two days (Wilson, 2004).

The runoff coefficient is expected to be significantly higher under the proposed use of impervious windrow covers. Coker (2008) adopted a value of 0.98 in his example calculations where windrows were assumed to be covered with fabric blankets.

As under the proposed modification, the MSW and SSO maturation pads would be paved and also windrows would be covered with impermeable plastic covers as required, the runoff coefficient for the aisle spaces is expected to slightly increase from about 0.85 (existing) to 0.90 (paved) and the runoff coefficient for the windrows themselves would increase from 0.68 (uncovered windrows) to 0.98 (covered) when the impervious covers are in use. The coefficient applicable to hard surface roof areas (0.98) has been applied to the proposed Biocell Building, whilst the coefficient assumed for packed earth areas (0.85) has been applied to the proposed re-graded areas which would direct leachate from the maturation pads to the leachate collection ponds.

Runoff Impacts

Based on the rainfall/runoff coefficients discussed above, changes to runoff volumes at any given time from the proposed changes to site processes at the MSW and SSO maturation pads have been calculated. Table 5-1 below shows the overall impact of the proposed changes to the facility layout in terms of runoff (leachate) volumes. An increase in runoff volumes of approximately 20 percent from the southern maturation pad (MSW) and 16 percent from the eastern pad (SSO) would be expected under the proposed modified arrangements. In addition, as the runoff from the composting pads would no longer be detained by the composting material itself during periods of rain fall (due to the presence of the impermeable covers) and released slowly over time, an increase in peak flows especially during shorter storm events can be expected.

Table 5-1 Rainfall Leachate Runoff Volume Estimates for the Existing and Proposed Layouts

| Phase | Area | Sub-Area | Surface type | Surface Area ¹ (m ²) | Runoff coefficient | Runoff volume ³ (L/mm) | Total Runoff (L/mm) | Total Runoff (L/mm) |
|----------|--------------------------------------|--------------|-------------------|---|--------------------|-----------------------------------|---------------------|---------------------|
| Existing | Eastern pad (9,500 m ²) | Windrows | Saturated compost | 4,750 | 0.68 | 3,230 | 7,268 | 11,858 |
| | | Aisle spaces | Packed earth | 4,750 | 0.85 | 4,038 | | |
| | Southern pad (6,000 m ²) | Windrows | Saturated compost | 3,000 | 0.68 | 2,040 | 4,590 | |
| | | Aisle spaces | Packed earth | 3,000 | 0.85 | 2,550 | | |

| Phase | Area | Sub-Area | Surface type | Surface Area ¹ (m ²) | Runoff coefficient | Runoff volume ³ (L/mm) | Total Runoff (L/mm) | Total Runoff (L/mm) |
|----------|--------------------------------------|--------------|---------------------|---|--------------------|-----------------------------------|---------------------|---------------------|
| Proposed | Eastern pad (7,700 m ²) | Windrows | Impermeable plastic | 3,850 | 0.98 | 3,773 | 8,768 | 14,114 |
| | | Aisle spaces | Concrete paved | 3,850 | 0.90 | 3,465 | | |
| | Regraded (1%) area | | Packed earth | 1,800 ² | 0.85 | 1,530 | | |
| | Southern pad (4,250 m ²) | Windrows | Impermeable plastic | 2,125 | 0.98 | 2,083 | 5,346 | |
| | | Aisle spaces | Concrete paved | 2,125 | 0.90 | 1,913 | | |
| | Biocell Building (30m x 50m) | | Metal clad roof | 1,500 | 0.90 | 1,350 | | |

¹ Assuming 50 percent of each composting pad surface area is occupied by the windrows themselves and the remaining 50 percent is aisle spaces.

² Estimated

³ Runoff volume per unit (1 mm) rainfall

Notwithstanding the predicted increases in leachate runoff, the proposed modifications are expected to result in improvements to the water quality of that leachate. Water quality benefits of the proposed interim arrangements can be summarised as follows:

- due to cleaner runoff from both the aisle spaces (concrete paved) and windrows (covered with impermeable plastic), there would be less odour produced in the leachate ponds. Cleaner rainfall runoff also makes it possible to reuse the leachate from these ponds during active composting or other processes in the facility. Any increase in the reuse of water from the leachate ponds would count towards offsetting the expected increase in runoff volumes and peak runoff (including offsetting the need for any additional tankering);
- as the compost pad areas would be paved, there would less risk of contaminating the subsoil and groundwater due to percolation of leachate. Such risks would be further reduced when windrows are covered with impermeable plastic covers.

In summary, the proposed modification is expected to result in increased volumes of runoff from the maturation pads, however result in improved water quality of that runoff. It is expected the improvement in leachate quality would enable the re-use of this liquid on-site during active composting or other processes in the facility such as to not require any material changes to the existing volume of off-site tankers transporting excess leachate off-site. It is therefore considered that despite the change in leachate runoff volumes, tankering requirements would remain consistent with existing approved volumes.

Mitigation

Leachate generated at the maturation pads would be subject to existing management processes, which involves leachate from maturation pads being directed to existing ponds and the off-site tankering of excess leachate from the ponds as required. Following the completion of the modification, leachate would drain from the upgraded maturation pads, which would be graded to drain into existing leachate ponds on-site as shown in Figure 3-1. No change to this existing leachate management process is proposed, however where possible leachate would be re-used during active composting or other processes in the facility to minimise the requirement for off-site tankering of excess leachate.

5.1.4 Noise

Operational Noise

Assessment

The conditions of approval (MP 06-0185) and licence conditions (EPL No. 12889) applying to the SAWT facility include operational noise limits that must be achieved at nearest sensitive receivers. These limits are identified in Table 5-2.

Table 5-2 Operational Noise Limits Applying to the Existing SAWT Facility

| Location | Day | Evening | Night | | Morning Shoulder |
|---|--------------------------------|--------------------------------|--------------------------------|------------------|--------------------------------|
| | (7am to 6pm) | (6pm to 10pm) | (10 pm to 7am) | | (6 am to 7 am) |
| | dB(A) $L_{Aeq(15)}$ minute) | dB(A) $L_{Aeq(15)}$ minute) | dB(A) $L_{Aeq(15)}$ minute) | dB(A) L_{Amax} | dB(A) $L_{Aeq(15)}$ minute) |
| 1669A Elizabeth Drive | 38 | 38 | 35 | N/A | 38 |
| Caretaker's Residence, 1669A Elizabeth Drive | 42 | 42 | 38 | 53 | 42 |
| McGarvie Smith Farm | 42 | 39 | 35 | N/A | 39 |
| 1745 Elizabeth Drive | 41 | 40 | 37 | 47 | 40 |

The proposed modification would involve the introduction of up to five aeration fans as part of the new Biocell Building. The fans would be sourced from suppliers to ensure compliance with the SAWT facility's operational noise limits and installed with silencers to minimise the generation of noise during operation. Operational noise performance monitoring would be undertaken at the commencement of operations to confirm the operational noise performance of the SAWT facility site with the inclusion of the new Biocell Building to ensure that the modified facility site is operating in compliance with site's operational noise criteria at all nearest sensitive receivers. Should any exceedances be identified, SITA would identify and implement all reasonable and feasible measures to manage noise generated at the facility such that the operational noise criteria specified in the approval are achieved.

Construction Noise

Assessment

Activities during the construction of the modification have the potential to generate construction noise.

The Part 3A approval (MP 06-0185 – as modified) for the SAWT facility identifies hours of work applying to construction activities associated with the SAWT facility: 7am to 6pm Mondays to Fridays and 7am to 4pm Saturdays. As part of the proposed modification these construction hours are proposed to be amended to enable construction to also occur between the hours of 6am and 7am on weekdays. Works are proposed during this period to increase construction efficiency and ultimately reduce overall construction timing. It is noted that the hours of work proposed at this time would remain consistent with the approved operational work hours for the facility which allows product delivery, dispatch and outdoor to occur during the hours of 6am to 7am. Apart from this amendment the proposed construction hours for the modification (between 6 am and 5 pm on weekdays and 8 am and 4 pm on Saturdays) would remain consistent with the current approved construction hours for the SAWT facility. It is noted that construction would only occur for the modification on Saturdays if required (e.g. in the case of construction delays).

Of the construction hours proposed for the modification, the hours between 6 am to 7 am on weekdays and 1 pm to 4 pm on Saturdays are classified as 'outside recommended standard hours' under the EPA's *Interim Construction Noise Guidelines* (2009) (ICNG). The remainder of the proposed construction hours would be classified as standard construction hours under the ICNG. The ICNG proposes more stringent noise management

levels for works proposed outside of standard construction hours, that being: background plus 5 dB(A) for non-standard hours compared to background plus 10 dB(A) for standard construction hours. The ICNG also presents a level at which receivers are deemed to be “highly noise affected”, that being 75 dB(A) at which point serious consideration should be given to amending construction activities (including the application of all reasonable and feasible measures and consultation with affected receivers) to minimise noise impacts to below this level.

The ICNG noise management levels that would apply to sensitive receivers nearest to the SAWT facility (i.e. receivers as identified in the MP 06-0185 approval conditions) during the construction phase of the proposed modification are shown in Table 5-3 below, with reference to the proposed construction work hours for the modification works.

Table 5-3 ICNG Construction Noise Management Levels applying to the Proposed Modification (Sourced from Wilkinson Murray, 2013)

| Location | During Recommended Standard Construction Hours (dB(A) $L_{Aeq}(15 \text{ minute})$ (7am to 5pm Weekdays and 8am to 1pm on Saturdays)) | Outside of Standard Construction Hours (dB(A) $L_{Aeq}(15 \text{ minute})$) | | Highly Noise Affected Level (dB(A) $L_{Aeq}(15 \text{ minute})$) |
|---|---|---|-------------------------------------|--|
| | | Daytime (1pm to 4pm Saturdays) | Night time (6am to 7am Weekdays) | |
| 1669A Elizabeth Drive | 47 | 42 | 38 | 75 |
| Caretaker's Residence, 1669A Elizabeth Drive | 47 | 42 | 38 | 75 |
| McGarvie Smith Farm | 47 | 42 | 38 | 75 |
| 1745 Elizabeth Drive | 52 | 47 | 38 | 75 |

The EIS prepared for the Proposed Expansion of the SAWT facility included a noise assessment prepared by Wilkinson Murray (2013). This assessment included modelling of noise generated by the existing SAWT facility during the construction period of the Proposed Expansion proposal. This scenario was considered to provide a conservative assessment of potential noise impacts during the construction phase as it considered cumulative contributions from both the existing SAWT facility operations and the proposed construction activities for the Expansion Proposal. The construction noise scenario modelled in the assessment was the bulk earth works phase as it was considered to represent the largest number of plant operating simultaneously and therefore representing the worst case construction scenario for the Proposed Expansion works. This scenario involved noise generated from two 30 tonne excavators, four trucks (truck and dog or 30 tonne dump truck), a water cart, a 10 tonne roller and a D6 dozer.

The construction phase of the current proposed modification is anticipated to require the use of a loader, excavator and crane during worst case construction activities (for the installation of the pre-fabricated Biocell Building walls), much fewer equipment than the worst case scenario covering the construction phase modelled by the Wilkinson Murray assessment for the Expansion Proposal. The Wilkinson Murray assessment is therefore considered to provide an appropriately conservative worst-case construction scenario against which potential construction noise impacts from the current proposed modification can be qualitatively assessed.

It is noted that the Wilkinson Murray report compared predicted noise levels from this noise scenario, back to the operational noise limits applying to the existing SAWT facility, in acknowledgement of the long construction period (up to 2 years) proposed for the Expansion Proposal in which construction would occur concurrently with existing operations. However, given the relatively short construction period anticipated for the current modification proposal (up to 20 weeks), it is considered appropriate to consider the ICNG noise management levels for the

modification rather than operational noise criteria applying to the existing facility, as the modification would not be a long-term activity.

The Wilkinson Murray assessment predicted the following noise levels (refer to Table 5-4) at the four receptors referred to in the MP 06-0185 approval conditions, from the concurrent operation of the SAWT facility and construction activities associated with the Expansion Proposal.

Table 5-4 Noise Levels Predicted by Wilkinson Murray

| Location | Scenario (Operational noise from existing SAWT facility during the construction phase for the Expansion Proposal – calm weather conditions) | Predicted Noise Levels for the Day Time Period (7am to 6pm) ¹ (dB(A) L _{Aeq} (15 minute)) | Predicted Noise Levels for the Shoulder Period (6am to 7am) ² (dB(A) L _{Aeq} (15 minute)) |
|--|--|---|---|
| 1669A Elizabeth Drive | Calm weather conditions | 38 | 32 |
| Caretaker's Residence, 1669A Elizabeth Drive | Calm weather conditions | 40 | 35 |
| McGarvie Smith Farm | Calm weather conditions | 41 | 41 |
| 1745 Elizabeth Drive | Calm weather conditions | 39 | 36 |

¹ Applicable to the following construction hours for the proposed modification: standard construction hours of 7am to 5pm Weekdays and 8am to 1pm on Saturdays and non-standard construction hours of 1pm to 4pm Saturdays.

² Applicable to the following construction hours for the proposed modification: non-standard hours of 6am to 7am.

Comparison of predicted noise levels to ICNG noise management levels indicate:

- no exceedance of ICNG noise management levels for standard construction hours (7 am to 5 pm weekdays) or non-standard day time construction hours (1 pm to 4 pm Saturdays) at any of the receivers; and
- an exceedance of three decibels at a single receiver (McGarvie Smith Farm) of the ICNG noise management levels for non-standard construction hours during the shoulder period (6 am to 7 am weekdays).

Based on the construction noise assessment undertaken for the Proposed Expansion of the SAWT facility, it is considered that construction activities associated with the proposed modification have a low potential to exceed relevant ICNG noise management goals during standard or non-standard construction hours, even when operational noise from the SAWT facility is taken into account. This is based on the fact that construction activities associated with the modification would be limited to much fewer equipment than modelled under the Wilkinson Murray worst-case construction assessment for the Expansion Proposal, meaning that noise generated during the construction of the modification works is likely to be much less than the worst case predicted under the Wilkinson Murray assessment. It is considered unlikely that the exceedances predicted at McGarvin Smith during non-standard construction hours would reflect noise impacts from the proposed modification which is of a much smaller scale than the construction activities associated with the Expansion Proposal (which was modelled), and therefore would not preclude works being undertaken during the proposed non-standard hours. It is noted that no exceedances are proposed at receivers for the majority of the time period during which the proposed modification would be constructed (7 am to 5 pm weekdays and 8 am to 4 pm Saturdays).

Based on the above, construction noise associated with the proposed modification is considered unlikely to result in significant adverse noise impacts to surrounding sensitive receivers during the construction phase. Standard construction noise measures would be implemented to ensure that construction noise is managed so as to not result in significant intrusion to surrounding receivers with consideration to cumulative impacts from concurrent

anticipated that construction noise associated with the modification is unlikely to be especially intrusive or distinguishable beyond existing noise generated by operational activities at the SAWT facility and Elizabeth Drive Landfill.

Mitigation

The following practices and procedures would be adopted to ensure that construction noise generated by the modification is adequately controlled and minimised:

- development and implementation of a Construction Noise Management Plan to ensure measures to proactively manage construction noise are identified and implemented. These shall include but not necessarily be limited to:
 - undertake works on Saturdays only where necessary and unavoidable;
 - carefully planning works to minimise undertaking noisy activities during the sensitive 6am to 7am early morning period, wherever possible;
 - select appropriate plant for each task, to minimise the noise impact;
 - fit non-tonal reversing alarms on all construction equipment where possible;
 - orient noisy equipment away from residential sensitive receivers;
 - use existing buildings as noise shielding wherever possible;
 - implement a complaints handling procedure for handling and responding to construction noise complaints;
 - review construction activities and operational activities which are expected to occur concurrently and identify opportunities for minimising cumulative impacts (including the timing of plant and vehicle movements), where possible; and
 - notify surrounding receivers where high noise generating activities are proposed.

Traffic Noise

As discussed in Section 5.1.3, it is expected that increases to leachate runoff as a result of the modification would not warrant any material changes to the existing volume of tankers transporting excess leachate off-site. Consequently, it is expected that there would be no material change to existing operational traffic volumes or associated road traffic noise levels.

It is anticipated that there would be a minor increase in traffic volumes to and from the SAWT facility during the construction phase to transport plant and equipment and construction personnel to and from the site. It is estimated that at worst case this would comprise approximately 6 heavy vehicle movements, with more movements seen during concrete pours (up to 20 movements per day) and 24 light vehicle movements.

The Wilkinson Murray noise assessment for the SAWT facility expansion included consideration of potential construction traffic noise impacts during the construction phase of the expanded facility. The assessment indicated that during peak construction, construction works associated with the facility expansion would add up to 60 additional heavy vehicle movements and 260 additional light vehicle movements per day onto Elizabeth Drive, in addition to existing traffic movements from the SAWT facility and Landfill operations. The noise assessment predicted that this additional traffic has the potential to increase road traffic noise levels at closest residents on Elizabeth Drive by one decibel above existing road traffic noise levels. This increase was considered to comply with the EPA *NSW Road Noise Policy 2011* (RNP), which requires that traffic generating development not increase existing road traffic noise levels by more than 2 dB(A).

Given that construction traffic generated by the proposed modification is predicted to be significantly lower than that modelled by the Wilkinson Murray assessment for the SAWT facility expansion, it is considered that road traffic noise associated with the construction of the proposed modification would similarly comply with traffic noise goals under the RNP.

5.2 Other Issues

Other potential issues associated with the proposed modification are considered in Table 5-5 below.

Table 5-5 Other Environmental Impacts Associated with the Proposed Modification

| Issue | Assessment |
|-------------|---|
| Traffic | <p>As discussed in section 5.1.3, no material change to existing operational arrangements for leachate tankering is expected to result from the proposed modification.</p> <p>It is anticipated that there would be a minor increase in traffic volumes to and from the SAWT facility during the construction phase to transport plant and equipment and construction personnel to and from the site. It is estimated that at worst case this would comprise approximately 20 heavy vehicle movements and 24 light vehicle movements. It is considered that this volume of additional traffic would be able to be comfortably accommodated by the existing access arrangements to the site and by the surrounding local road network, including Elizabeth Drive, the Westlink M7 and the Northern Road, which all comprise arterial roads or higher. Appropriate construction traffic measures would be put in place during the construction phase as part of a Construction Traffic Control Plan to prevent impacts to the local road network and to minimise conflicts with existing operational vehicle movements on-site. These include:</p> <ul style="list-style-type: none"> - ensuring all loads leaving the site are covered; - ensuring that any mud or material tracked or spilled on local public roads are cleaned up; and - ensuring appropriate traffic protocol for internal traffic movements to avoid conflicts with operational traffic movements on-site including designated turning and parking areas. |
| Groundwater | <p>Groundwater monitoring undertaken as part of the EPL for the Elizabeth Drive Landfill indicates no significant changes to local groundwater quality indicating minimal intrusion of contaminants or pollution from the existing SAWT facility or Landfill into the local groundwater environment. This is due to existing surface clays which form a capping layer and restricts rainfall infiltration into the subsurface.</p> <p>The proposed modification is not anticipated to result in any changes to the existing situation. The proposed re-surfacing and paving of the SSO and MSW maturation pads and reduction to their overall size has the potential to result in minor benefits to groundwater by further reducing the potential for subsurface/ groundwater infiltration from these sources.</p> |
| Flooding | <p>The final levels of the existing SAWT facility site were designed and set above the 1 in 100 year AEP flood level for the area of 42 metres AHD. The proposed modifications to the existing SAWT facility would not result in any changes to the existing flood design (i.e. continue to be located above the 1 in 100 year AEP flood level) and consequently are not expected to result in any changes to existing flooding risk or impacts.</p> |

| Issue | Assessment |
|-----------------|---|
| Hazard and Risk | <p>A hazard and risk assessment was undertaken for the SAWT facility project as part of the original 2007 EA . This included risk screening of the proposal in accordance with DP&I guidelines to determine if the project was classified as a potentially hazardous or potentially offensive development in accordance with SEPP 33. The assessment identified that due to the minor quantities of waste received on-site that were likely to be classified as hazardous (e.g. residual household cleaning products) and due to the small quantities of fuels (such as diesel) stored on-site, the project would not meet the criteria for hazardous development under SEPP 33. In addition the assessment identified that a project to which an EPL can be issued, would not be classified as potentially offensive, under SEPP 33.</p> <p>The proposed modifications to the existing SAWT facility would not change the quantities or nature of waste material received on-site or amend existing volumes of fuel stored on-site. As such, the proposed modification would not change the hazard or risk levels associated with the existing facility. In addition the current modification assessment demonstrates that the proposed modification would not significantly increase any environmental impacts associated with the existing SAWT facility such to prevent the facility from being licensed under an EPL. In particular, the proposal would result in significant improvements to odour control. Consequently, it is considered that the facility as modified would not be classified as a potentially hazardous or offensive development under SEPP 33. In summary, it is considered that the proposed modification would not change the existing level of risk or hazards associated with the SAWT facility.</p> |
| Visual | <p>The Biocell Building proposed as part of the modification has the potential to be visible to surrounding receiver locations due to its height of seven metres. However due to the distance of receivers from the SAWT facility (at least 800 metres) it is expected that this building element would not be especially noticeable or visually intrusive in the context of existing buildings at the SAWT facility site and the intervening visual prominence of the Landfill (for receivers to the east and south) and intervening vegetation along the riparian corridor of Badgerys Creek (for receivers to the west) which would provide some level of visual shielding. As such the proposed modification is not expected to significantly increase visual impacts associated with the existing SAWT facility.</p> |
| Flora and Fauna | <p>Searches of the OEH's Atlas of NSW Wildlife database and the Commonwealth Department of Environment's Protected Matters Search Tool undertaken in October 2012 covering a five kilometre radius of the site identified listings for several previously recorded species of conservation significance and endangered ecological communities within the search area. Of these, two listed endangered ecological communities have been previously identified in site surveys (as part of the original 2007 EA for the SAWT facility) within the Badgerys Creek riparian area to the west of the existing SAWT facility.</p> <p>The proposed modifications to the existing SAWT facility would be wholly confined to already disturbed and operational parts of the site, which have been previously cleared as part of the construction of the current SAWT facility. As such no impacts to any vegetation or fauna habitat are anticipated to result from the proposed amendments. The proposed works associated with the modification would not extent or disturb any riparian vegetation associated with Badgerys Creek.</p> |
| Heritage | <p>The proposed modifications to the existing SAWT facility would be confined to already disturbed and operational parts of the site. The original 2007 EA for the SAWT facility did not identify any items of Aboriginal or European heritage significance within the SAWT facility site. As such ground disturbance associated with the proposed modification is considered to pose a low risk of uncovering any previously unidentified items of Aboriginal or historic heritage value.</p> |

6.0 Summary of Mitigation and Management Measures

This section provides a summary of the construction and operation mitigation and management measures proposed in relation to the modification. The mitigation measures proposed are identified in Table 6-1.

Table 6-1 List of Mitigation Measures

| Issue | Construction Mitigation Measures | Operational Mitigation Measures |
|---------------------|--|---|
| Odour | - Nil | <ul style="list-style-type: none"> - Implementation of the proposed modifications to the existing SAWT facility as proposed in Section 3.2 of this report. - Daily monitoring of the Bureau of Meteorology Website to determine if inclement weather (rainfall) is predicted in the next 24 hours to ensure readiness to cover windrows with impervious covers. - Covering of windrows with impervious covers at night time during winter to mitigate against odour generation under temperature inversion conditions. |
| Dust Management | <p>The following practices and procedures would be adopted to ensure that dust levels are adequately controlled:</p> <ul style="list-style-type: none"> - progressive earthworks where possible to minimise areas of exposed soil; - dust suppression along work areas using a water cart, where required; - minimising traffic movements on exposed areas; - dampening of temporary stockpiles; - removing mud from vehicles before leaving the Resource Recovery Precinct, where necessary; - conducting regular maintenance of machinery and vehicles; and - providing awareness training in the importance of minimising dust generation at its source. | - Nil |
| Leachate Management | - Nil | <ul style="list-style-type: none"> - Implementation of existing site leachate management process including collection of leachate from upgraded maturation pads in on-site leachate collection ponds and off site tankering of excess leachate from the ponds as required. - Where possible leachate would be re-used during active composting or other processes in the facility to minimise the requirement for off-site tankering of excess leachate. |

| Issue | Construction Mitigation Measures | Operational Mitigation Measures |
|-------|--|---|
| Noise | <ul style="list-style-type: none"> - Development and implementation of a Construction Noise Management Plan to ensure measures to proactively manage construction noise are identified and implemented with particular consideration of measures to minimise noise during the sensitive 6am to 7am early morning period and measures to minimise cumulative noise from existing operational activities at the SAWT facility. These shall include but not necessarily be limited to: <ul style="list-style-type: none"> - undertake works on Saturdays only where necessary and unavoidable; - carefully planning works to minimise undertaking noisy activities during the sensitive 6am to 7am early morning period, wherever possible; - select appropriate plant for each task, to minimise the noise impact; - fit non-tonal reversing alarms on all construction equipment where possible; - orient noisy equipment away from residential sensitive receivers; - use existing buildings as noise shielding wherever possible; - implement a complaints handling procedure for handling and responding to construction noise complaints; - review construction activities and operational activities which are expected to occur concurrently and identify opportunities for minimising cumulative impacts (including the timing of plant and vehicle movements), where possible; and - notify surrounding receivers where high noise generating activities are proposed. | <ul style="list-style-type: none"> - Select and source the fans for the Biocell Building from suppliers to ensure compliance with the SAWT facility’s operational noise limits and install the fans with silencers to minimise the generation of noise during operation - Operational noise performance monitoring shall be undertaken at the commencement of operations to confirm the operational noise performance of the SAWT facility site with the inclusion of the new Biocell Building to ensure that the modified facility site is operating in compliance with site’s operational noise criteria at all nearest sensitive receivers. <p>Should any exceedances be identified, SITA would identify and implement all reasonable and feasible measures to manage noise generated at the facility such that the operational noise criteria specified in the approval are achieved.</p> |

| Issue | Construction Mitigation Measures | Operational Mitigation Measures |
|---------|---|---------------------------------|
| Traffic | <ul style="list-style-type: none">- Development and implementation of a Construction Traffic Control plan to identify measures to prevent impacts to the local road network and to minimise conflicts with existing operational vehicle movements on-site. These shall include but not necessarily be limited to:<ul style="list-style-type: none">- ensuring all loads leaving the site are covered;- ensuring that any mud or material tracked or spilled on local public roads are cleaned up; and- ensuring appropriate traffic protocol for internal traffic movements to avoid conflicts with operational traffic movements on-site including designated turning and parking areas. | - Nil |

7.0 Conclusion

The proposed modification has been assessed in accordance with the requirements of the EP&A Act.

The environmental impacts of the proposed modification have been assessed and found to be acceptable subject to the implementation of mitigation measures and unlikely to result in significant adverse impacts to the environment or surrounding sensitive receivers. The proposed modification is expected to result in improvements to air quality at surrounding receivers by improving on-site odour control and management. The modification represents active measures proposed to be undertaken by SITA to ameliorate odour generation attributable to the site in the interim period until the implementation of more permanent changes to facility operations as part of the Proposed Expansion of the facility. The proposal would therefore provide direct benefits to the community and the environment upon implementation and represents an improvement to the existing situation with respect to local air quality.

The proposal would furthermore be confined to the existing SAWT facility site, to already disturbed and operational areas and would not involve disturbance to any new land.

The proposed modification is considered necessary to support the continued efficient operation of the Kemps Creek SAWT facility site and would provide significant benefits to the local community. The changes proposed as part of the modification are relatively small scale in nature, however would generate substantial benefit to the local community by improving existing air quality conditions.

Based on the above, the proposed modification is considered to be justified, site suitable and in the public interest and appropriate for approval under Section 75W of the EP&A Act.

References

- AECOM (2013) *Expansion of the Advanced Waste Treatment Facility, Kemps Creek Resource Recovery Precinct*, Volumes 1 and 2, April 2013.
- Coker, C., "Part I - Managing Storm Water", BioCycle, February 2008.
- Coker, C., "Part II - Storm Water Treatment", BioCycle, April 2008.
- Commonwealth Department of the Environment (2013) Protected matters Search, Accessed 1 October 2013.
- Kalaba, L. *et al.*, "A Storm Water Runoff Model for Open Windrow Composting Sites", *Compost Science & Utilization*, Vol. 15, No. 3, p. 142-150.
- Levesque, S. 2003. "Management of stormwater runoff at open windrow composting sites". *BScE Senior Report, Geological Engineering Program*, University of New Brunswick.
- OEH (2013) NSW Wildlife Atlas, Accessed 22 October 2013.
- Maunsell | AECOM (2007) *Advanced Waste Treatment Facility - Elizabeth Drive Environmental Assessment*, March 2007.
- Wilkinson Murray (2013) *SAWT Expansion SITA Elizabeth Drive Noise Assessment*, March 2013.
- Wilson, B.G., *et al.*, "Stormwater Runoff From Open Windrow Composting Facilities", *Journal of Environmental Engineering Science*, Vol. 3, 2004, p. 537-540.