Appendix Q – Capital costs estimates report

3 August 2015

Nicolas Rampelbergs
Project Manager
NSW Infrastructure
70 Anzac Street,
Chullora NSW 2190, Australia

Dear Nicolas

Re: Lucas Heights Resource Recovery Park (RRP) – Capital Investment Value & Employment estimates

As requested we have prepared a preliminary capital cost estimate for the proposed RRP at Lucas Heights. This advice satisfies the general requirements of the Secretary's Environmental Assessment Requirements (SEARS) for the EIS for the aforementioned project.

We advise the estimated capital investment value of **$94,950,000** (Ex GST), current March 2015.

The definition of Capital Investment Value (CIV) adopted by GHD is in accordance with Clause 3d of the Environmental Planning and Assessment regulation 2000. The CIV considers all costs necessary to establish and operate the project, including the design and construction of buildings, structures, associated infrastructure and fixed or mobile plant and equipment, other than the following:

a) amounts payable, or the cost of land dedicated of any other benefit provided, under a condition imposed under Division 6 of 6A of Part 4 of the Environmental Planning and Assessment Act or a planning agreement under that Division,

b) costs relating to any part of the development of the development project that is subject of a separate development consent or project approval,

c) land costs (including any costs of marketing and selling land)

d) GST (within the meaning of the New tax System (goods and Services Tax Act 1999 of the Commonwealth

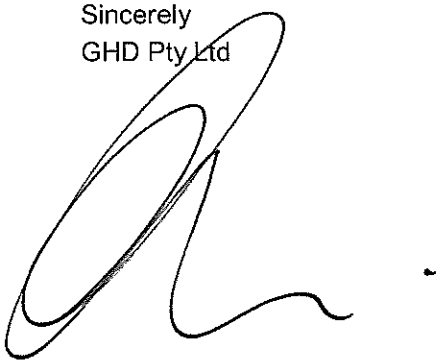
A detailed cost report has been prepared in support of the aforementioned values scheduling key assumptions and exclusions developed through the preparation of the project estimate.

Further, the attached report details the expected number of direct jobs generated by the project. Direct jobs are occupations that work directly on the project, such as designers, engineers and construction workers. GHD has relied on recent studies and relevant industry data to calculate the expected number of direct jobs. The estimate includes temporary and full time jobs during the design, construction and operations period.

We confirm that the aforementioned values and information provided in support of this advice is accurate at the date of preparation.

If you have any queries or require further information please do not hesitate to contact the undersigned directly.

Sincerely
GHD Pty Ltd



David Lawson (AAIQS) BBldg
Principal Quantity Surveyor
Infrastructure Advisory

SITA Australia Pty Ltd

Lucas Heights Resource Recovery Park

Capital Costs Estimate Report

August 2015

Executive summary

SITA Australia (SITA) is proposing a number of activities at the Lucas Heights Resource Recovery Park (LHRRP) in Lucas Heights. GHD has been engaged by SITA to prepare a capital cost estimate for the proposal as input to the environmental impact statement.

A Capital Cost estimate has been prepared in accordance with GHD's estimating guidelines to a level of accuracy consistent with the current level of project design and definition.

A number of assumptions have been developed to inform the basis of estimate and these consider both design and specific site constraints. Given the stage of the project (concept design prepared and planning approval being sought), appropriate allowances for scope and pricing risk would need to be provisioned and identified. As such the capex value represents a P90 position which is a conservative view on the likely total project costs.

Below is a summary of the various items comprising the Total Installed Cost, which must be read in conjunction with the scope and limitations set out in this report.

Table E.1 Estimate summary

Construction costs	Total ($)*
Site preparation	340,000
Earthworks - ARRT facility and GO facility	9,950,000
Piled foundations	560,000
Perimeter fencing and barriers	600,000
Pavements, hardstands and car parking	8,570,000
Stormwater drainage	550,000
Stormwater detention and rainwater tanks	800,000
Storage ponds	630,000
Access roads	730,000
Bridges	2,140,000
Site storage – first flush	250,000
Landscaping/other	580,000
Waste receiving and process building	20,810,000
Maturation building	13,370,000
GO facility	2,920,000
Utilities (excludes electrical)	2,390,000
Plant and equipment	9,920,000
Miscellaneous	570,000
Sub total direct costs	**75,680,000**
Contractors Indirect (Incl design)	14,740,000
Sub total (total construction costs)	**90,420,000**
Client costs	
Design and consulting to contract let	1,200,000
Project management	780,000
Legal fees	500,000
Owners engineer	1,010,000
Legals	500,000
Other	500,000
Detailed geotechnical study	60,000

Fees and approvals	480,000
Sub total (client costs)	4,530,000
Base estimate (construction costs+client)	94,950,000
Project contingency	By client
Project estimate	94,950,000
TOTAL INSTALLED COST∞	94,950,000

*Excludes GST

Table E.2 provides an estimate of the number of jobs that would be created as a result of construction and operation of the proposal.

Table E.2 Estimate of job creation

Component	Construction	Operation
GO facility	Included	5
ARRT facility	570	50
Landfill reprofiling	n/a – see below	7
TOTAL	**570**	**57**

Construction job estimates are based on a direct multiplier of 6 jobs being supported for each $1M spent. This estimate of employment support by the proposal has been calculated using factors derived from the 2004-05-I-O table scheduled within the 'Guidelines of estimating employment supported by actions, programs and policies of the NSW Government' document published by NSW Treasury.

It is therefore expected, based on the published multipliers that a construction project value of approximately $95m would generate direct employment of approximately 570 jobs (on a full time equivalent basis).

SITA has provided advice to GHD on the likely number of new operational jobs that would be created within the relocated (and expanded) GO facility and the new ARRT facility based on its current experience in operating similar facilities elsewhere. GHD believes that these values are consistent with other similar facilities.

It is noted that the seven additional landfill staff would be needed to prepare new areas for landfilling, fill areas with waste and then cap and revegetate them progressively. The 'construction' activities of the landfill reprofiling are considered to be part of ongoing operation as these would be progressively undertaken during operation of the landfill.

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Glossary

Term	Definition
ANSTO	Australian Nuclear Science and Technology Organisation
ARRT facility	Advanced Resource Recovery Technology facility
EIS	Environmental Impact Statement
EPA	New South Wales Environment Protection Authority and any successor body
EP&A Act	*Environmental Planning and Assessment Act 1979*
Currently approved landform	The currently approved landform heights and contours outlined in the 1999 EIS
FFL	Finished floor level
GIS	Geographic Information Systems
GO facility	The Garden Organics facility at LHRRP, that undertakes composting of waste including green and garden waste, but excluding waste types such as food waste and biosolids
GST	Goods and Services Tax
GLALC	Gandangara Local Aboriginal Land Council
Landform reprofiling	Proposed changes to currently approved landform at the LHRRP.
LHRRP	Lucas Heights Resource Recovery Park
Mitigation	The application of techniques to reduce environmental impacts arising from the proposal
OEMP	Operational Environment Management Plan and all relevant future documents, these will be provided for the landfill, GO and ARRT and will detail how these projects can be managed to meet the environmental outcomes for the site
PCA	Principal Certifying Authority
PCYC Mini-Bike Club	The mini-bike club operated by the Police and Community Youth Clubs NSW Limited (PCYC)
RL	Reduced Levels
SSC	Sutherland Shire Council
SEAR	Secretary's Environmental Assessment Requirements (formerly known as Director-General's Requirements or DGRs)
SICTA	Sydney International Clay Target Association and any successor body
SITA	SembSITA Australia Pty Ltd (SembSITA) is the holding company for the SITA Australia (SITA) group of companies in Australia. SembSITA is the parent company of both SITA and WSN Environmental Solutions Pty Ltd (WSN). WSN owns part of the land on which the LHRRP is situated, and leases the remainder from ANSTO. SITA holds the environmental protection licence (EPL), and so is the operator of the facilities at LHRRP. For simplicity, the term 'SITA' is used to refer to all of these organisations in this report.
TIC	Total installed cost
WBS	Work breakdown structure

1. Introduction

1.1 Background

SITA Australia (SITA)[1] is proposing a number of activities at the Lucas Heights Resource Recovery Park (LHRRP) in Lucas Heights (referred to in this report as 'the proposal'). GHD has been engaged by SITA to prepare a capital cost estimate for the proposal as input to the environmental impact statement. Due to the existing operational arrangements at LHRRP, Sutherland Shire Council (SSC) is a joint applicant for the proposal. The environmental impact statement is being prepared by GHD in accordance with the requirements of Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (the EP&A Act).

The report addresses the requirements of the Secretary of the NSW Department of Planning and Environment (the Secretary's Environmental Assessment Requirements (SEARs No SSD-6835) dated 3 February 2015.

1.2 Proposal overview

The following activities are proposed at the LHRRP and are collectively referred to as 'the proposal'. In addition to the proposal detailed below, SITA are committed to improving environmental outcomes by the application of best practice prevention, mitigation and rectification measures:

- **Reprofiling of existing landfill areas to provide up to 8.3 million cubic metres of additional landfill airspace capacity.** This is equivalent to approximately 8.3 million tonnes of waste, assuming 1 tonne of waste utilises 1 cubic metre of waste disposal airspace. As the process of reprofiling would include removal and replacement of capping material over previously landfilled waste and augmentation of gas and leachate collection systems, the environmental performance of the site would be ultimately improved by reducing the infiltration of stormwater into the landfill (resulting in reduced landfill leachate in the longer term) and increase the overall amount of landfill gas recovered from the site.

  As part of the proposal, SITA is seeking permission to increase the approved quantity of waste landfilled at the site from 575,000 to 850,000 tonnes per year. This would enable the reprofiling of the site to be completed in 2037.

- **Relocation and expansion of the existing garden organics (GO) facility**. The existing garden organics facility would be relocated to the western side of the site adjacent to Heathcote Road. Approval is being sought to increase the approved capacity from 55,000 to 80,000 tonnes of green waste and garden waste received per year at the facility. The new facility would include the partial enclosure, active aeration and covering of the first four weeks of the active composting process, which coincides with the period of highest potential for odour generation, to enable more effective control of odour. Relocation of the facility would result in increased separation distances from the current nearest occupied land at ANSTO, existing residential areas and the proposed new residential area at West Menai.

[1] SembSITA Australia Pty Ltd (SembSITA) is the holding company for the SITA Australia (SITA) group of companies in Australia. SembSITA is the parent company of both SITA and WSN Environmental Solutions Pty Ltd (WSN). WSN owns part of the land on which the LHRRP is situated, and leases the remainder from ANSTO. SITA holds the environmental protection licence (EPL), and so is the operator of the facilities at LHRRP. For simplicity, the term 'SITA' is used to refer to all of these organisations in this report.

- **Construction and operation of a fully enclosed advanced resource recovery technology (ARRT) facility**. The ARRT would be located on the western side of the site adjacent to the GO facility and would process and recover valuable resources from up to 200,000 tonnes of general solid waste per year, reducing the amount of waste disposed to landfill to approximately 60,000 tonnes per year. This would divert up to 140,000 tonnes of waste per year from landfill. SSC and other councils would have the opportunity to have their municipal waste processed by the ARRT facility.
- **Community parkland**. The landfill reprofiling would increase the area available for future passive recreation following site closure from 124 ha (existing approved parkland) to a total of 149 ha, an increase of approximately 25 ha. Landfilling would cease in 2037 after which time the site would be rehabilitated and converted to a community parkland, with capping and landscaping to be completed and the site made available for community use in 2039.

As part of the proposal SITA has committed to entering into an agreement with SSC in the form of a Voluntary Planning Agreement which includes 'environmental undertakings'. In addition operational environmental management plans have been prepared for the landfill, GO facility, ARRT facility and post closure measures to manage potential environmental impacts, reflect regulatory requirements and provide guidance for site operators to undertake activities in an environmentally sound manner.

1.3 Secretary's Environmental Assessment Requirements and agency requirements

The specific SEARs and agency requirements addressed in this report are summarised in Table 1.1.

Table 1.1 Secretary's Environmental Assessment Requirements and agency requirements

Assessment requirements	Where address in report
a detailed calculation of the capital investment value (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived	Chapters 2 to 5
an estimate of the jobs that will be created during the construction and operational phases of the proposed development	Chapter 6
certification that the information provided is accurate at the date of preparation	The Capital Cost estimate has been prepared in accordance with GHD's estimating guidelines. The cover letter provides certification that the information provided is accurate at the date of preparation.
Agency requirements	
Nil	n/a

1.4 Scope of the report

The assessment has been undertaken in accordance with the SEARs (Section 1.3), which specify that the Environmental Impact Statement (EIS) must be accompanied by a report from a qualified quantity surveyor.

This report advises the likely capital investment value and has been prepared to satisfy the SEARs requirements. This report considers the development of the ARRT facility and relocation of the GO facility. Reprofiling of the existing landfill areas does not form part of the capital cost assessment as it is intended to be addressed as an operational costs.

The Capital Cost estimate has been prepared in accordance with GHD's estimating guidelines to an accuracy consistent with the current level of project definition.

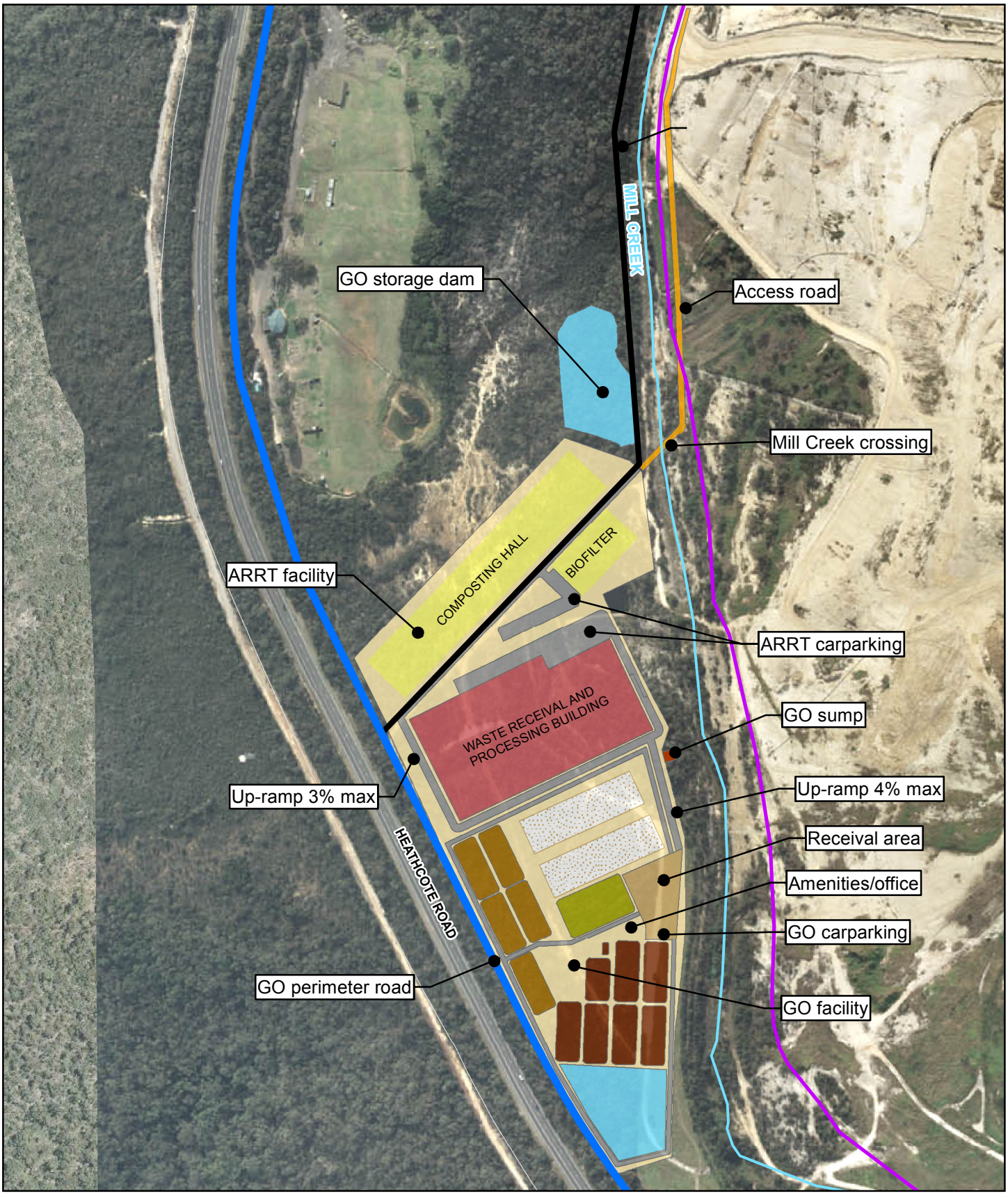
A number of assumptions have been developed to inform the basis of estimate and consider both design and specific site constraints. Given the extent of unknowns an allowance for scope and pricing risk has been provisioned and identified separately within the schedule of costs within this report. As such we advise that the capex value represents a P90 position which is a conservative view on the likely total project costs.

Figure 1.1 shows the layout of the GO facility and the ARRT facility.

1.4.1 Battery limits for estimate

The battery limits for the purposes of this estimate extend to all items bounded by red in Figure 1.2 which consider:

- All site preparation including bulk earthworks required to built form Reduced Levels (RL's)
- External works including roads, pavements and hardstand, stormwater reticulation and detention, on-site sewerage treatment, fencing and landscaping
- Composting building (10,500 m^2)
- Waste receivable and processing building (16,100 m^2)
- Biofilter (2,400 m^2)
- GO facility
- Process equipment
- Storage ponds
- New sealed internal access road joining the ARRT facility access "gate" to main Lucas Heights access road
- Utility services including water and sewerage supply



LEGEND

LHRRP boundary
SICTA boundary
Creek
Landfill area

Paper Size A4

0 15 30 60 90 120

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

SITA Australia
Lucas Heights Resource Recovery Park

GO & ARRT Facility Layout

Job Number 21-23482
Revision A
Date 05 May 2015

Figure 1.1

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

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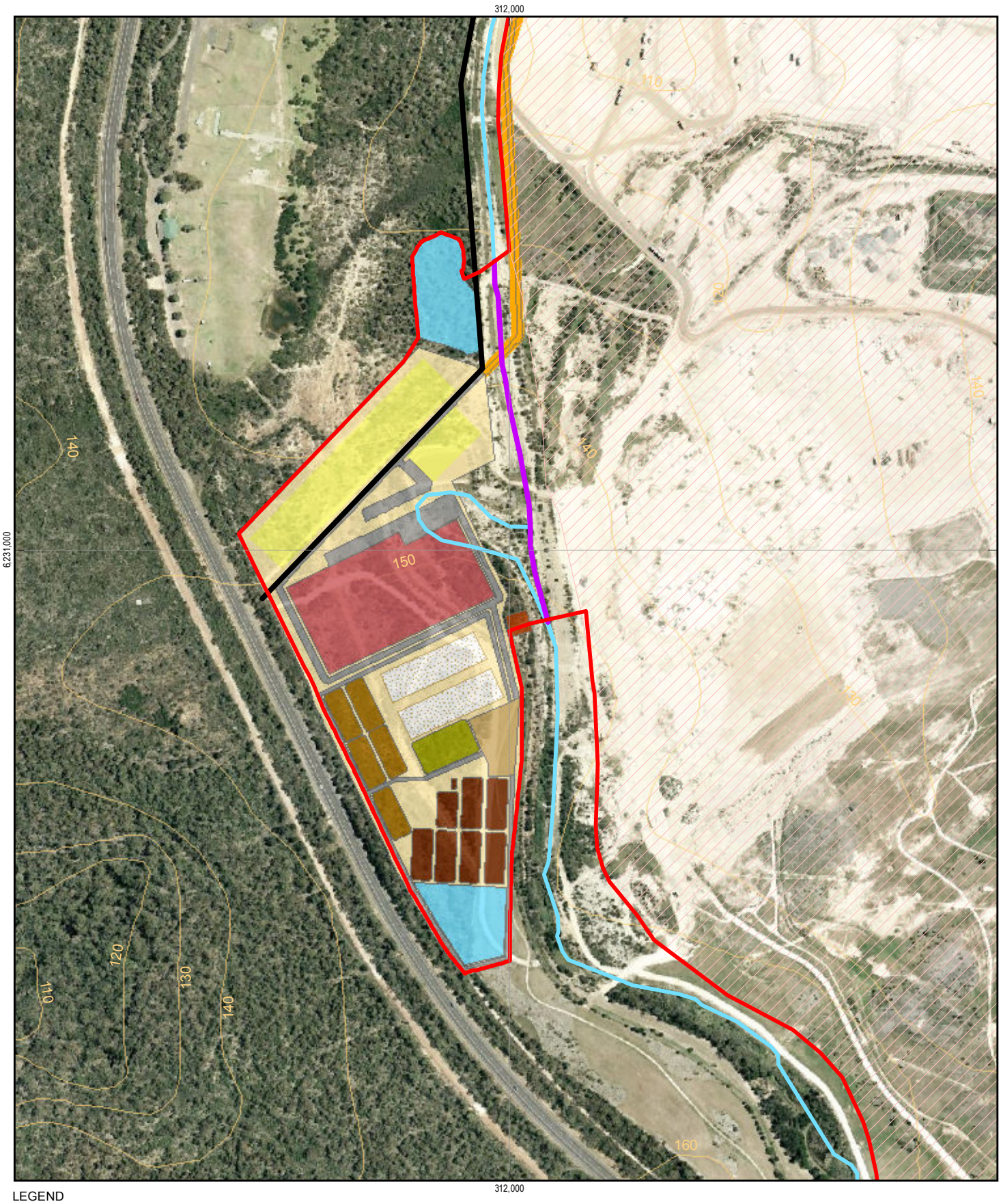
Aerial Imagery: GOOGLE, 2014. GO&ARRT: GHD/SITA, 2014. Roads/Suburb: NSW LPMA, 2012. Created by:jrichardson



LEGEND

- Project footprint
- Landform reprofiling
- Mill Creek master alignment
- Internal access road
- Mill Creek

Paper Size A4

0 25 50 100 150 200

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

GHD

SITA Australia
Lucas Heights Resource Recovery Park

Job Number 21-23482
Revision A
Date 01 May 2015

The proposal

Figure 1.2

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Level 15, 133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7199 **E** sydmail@ghd.com.au **W** www.ghd.com.au

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Data source: Google Earth: Imagery- May 2014, NSW Department of Lands: contours - Jan 2012. Created by:apmiller

1.5 Purpose of report

The purpose of this report is to provide an 'order of cost' estimate for the design and construction of the scope of works outlined within this report. This report and associated estimate is intended to consider the concept scope and associated technical advice which will be used to support the EIS and as defined within Clause 3 of the Environmental Planning and Assessment Regulation.

The estimate has been developed to represent a level of accuracy which is consistent with current levels of design development and investigations undertaken to date.

It should be noted that at the current stage of design development the extent of information unknown or unavailable influences the degree of cost certainty. Where information is unavailable GHD has made assumptions in relation to scope, design and methodology. It is advised that these assumptions be reviewed by SITA prior to adopting the capital cost advice for its intended use. Particular reference should be made to the schedule of exclusions which defines scope not considered by this estimate.

For the purpose of this report GHD has sought to maximise the available cost certainty by reference to our experience in the construction and engineering sectors, benchmark projects and studies undertaken by GHD and current market information where possible.

1.6 Limitations

This Capital Cost Estimate Report ("Report"):

a. has been prepared by GHD for SITA Australia;

b. may only be used and relied on by SITA Australia for the purpose agreed between GHD and as set out in this Report;

c. must not be copied to, used by, or relied upon by any person other than SITA Australia without the prior written consent of GHD.

GHD otherwise disclaims responsibility to any person other than the SITA Australia arising in connection with this Report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this Report were limited to those specifically detailed in the Report and are subject to the scope limitations set out in the Report.

The opinions, conclusions and any recommendations in this Report are based on conditions encountered and information reviewed at the date of preparation of the Report. GHD has no responsibility or obligation to update this Report to account for events or changes occurring subsequent to the date that the Report was prepared.

The opinions, conclusions and any recommendations in this Report are based on assumptions made by GHD described in (but not limited to) section 3.0 in this Report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared the preliminary cost estimate set out in section 5.0 of this Report using information reasonably available to the GHD employee(s) who prepared this Report; and based on assumptions and judgments made by GHD described in (but not limited to) section 4.0 in this Report.

The Cost Estimate:

a. has been prepared for the purpose SITA Australia and must not be used for any other purpose;

b. is an 'order of cost' estimate only.

1.7 Reference information

- AutoCAD files and design model for the GO facility and ARRT facility
- WSN Environmental Solutions – Lucas Heights Waste & Recycling Centre, Water Management Review, dated April 2009

2. Methodology

2.1 Construction costs [direct & indirect]

In calculating the Construction Costs element of the estimate GHD has:

- considered concept design drawings prepared by GHD including site location, building arrangements, cut to fill and stormwater layout, security fencing and retaining wall layouts
- compiled a direct cost WBS in line with the proposed scope. We note this can be altered depending on the specific needs of SITA
- where required, developed estimate rates from first principles acknowledging the complexities of delivering work in challenging environments
- benchmarked first principle rates against estimates prepared for similar scopes of work
- sourced current market pricing from suppliers where possible
- with regards to the above point, identified general and specific assumptions relative to the site and associated scope of works
- priced the quantified work schedule giving consideration to factors such as the following:
  - constraints around access to complete works
  - available working hours working
  - supply logistics including mobilisation of labour, materials and equipment
  - levels of supervision and project management
  - the likely duration of the project

It is assumed that works will be delivered in contract packages by single or multiple contractors depending on the selected delivery strategy. Head Contractors Preliminaries, Overhead and Margin have been determined as a percentage of direct costs and generally represent the scale, complexity and time required to complete the project. Consideration has not been given to separate early works packages e.g. civil being delivered by SITA or others.

2.2 Client costs

2.2.1 Design and consulting fees

Design and consultant fees have been calculated based on a Build Own Operate and Transfer procurement and delivery strategy. It is assumed that the project design will be completed by the owner to a level of definition that satisfies the minimum project requirements and mitigates the risk of design transfer to the head contractor. These documents are deemed to represent the tender and contract documents.

Cost associated with the balance of design including meeting and satisfying all statutory requirements and approvals will be borne by the head contractor. Provision has been included project management and owners engineers from inception to plant commissioning. Client costs associated with the operation of the plant do not form part of the capex estimate.

2.3 Statutory fees & charges

Cost associated with fees and approvals have been generally excluded from the estimate noting the following exceptions:

- Long Service Levy @ 0.35% of direct capital cost
- PCA fees based on previous project experience

2.4 Contingency

For the purpose of the capital cost estimate client contingencies associated with likely commercial and delivery risk have been excluded.

2.5 Escalation

Escalation has not been included in the estimates, due to the expected timeframe for construction (approximately 18 months).

3. Assumptions

3.1 General

In preparing the order of cost estimate for the proposal, GHD has made the assumptions outlined in the table below.

Table 3.1 Lucas Heights proposal estimate assumptions

Ref	Assumption
General	
Reduced levels (RL)	The cut/fill volumes have been calculated using a 3D digital terrain modelling from existing site surveys. The FFL's have been assumed based on the general location and arrangement of the proposed facilities. We specifically note that the platforms are stepped with level differentials ranging from 2.5 to 5.5 m.
Geotechnical condition	The estimate assumes that on average there is 1 metre of top soil/earth over the soft rippable rock. This is generally consistent GHD's geotechnical understandings of the Lucas Heights sites. For the purpose of the estimate it has been assumed that 80% of the bulk excavation is to be undertaken in weathered rock conditions.
Bulk excavation	GHD has adopted market rates for excavation of materials on site. We note that SITA may be capable of undertaking the bulk excavation works directly, however this has been discounted from the estimate. Where suitable GHD has assumed balanced cut to fill where excavation activities are being undertaken adjacent the bulk excavation face. All excess excavated materials will be transported to a suitable stockpile area.
Bulk fill	Excavated materials will be re-used as fill. This will include the ripped rock materials. No allowance has been made to crush the excavated rock materials. No allowance has been included for the importation of fill materials.
Refuse disposal	Net balance of cut materials is assumed to be hauled and dumped to a storage location nearby
Retaining walls	The site requires substantial retaining wall structures on the east and south boundaries with a maximum height in the south east corner. Where retaining wall height exceeds 5 m the use of reinforced earth retaining walls has been assumed.
Retaining walls	For perimeter retaining walls less than 5 m in height the use of crib lock retaining walls. It may be possible to use native sandstone blocks won from the excavation as an alternative.
Waste processing building	Overall building footprint is approximately 16,100 m^2 with clear span 'industrial type' high bays with an overall ridge height of approximately 12 m. Construction is assumed to include composite two way slab on ground with suspended slabs over made-up ground. An allowance is also made to pile approximately 50% of the building footprint, given the depth of site fill required will be in piled foundations. External façade will comprise lightweight metal clad external facade above 1.5 m with perimeter solid/masonry walls below. Architectural features are kept to a minimum. Building ventilation fans have not been allowed for due to insufficient design information.
Amenities office area	Provision has been made for a single storey office/amenities building adjacent the Waste Processing building with a total combined floor space of 120 m^2 – sufficient for 8 office staff (8 x 10 m^2 per person).
Waste processing	It is understood that the ARRT facility will house 15 composting bays, each 6 m x 30 m (based on GHD knowledge of similar

Ref	Assumption
Building tunnels	facilities). For the purposes of the estimate it has been assumed that these will be cast in situ 25 MPa reinforced concrete structures with a typical structural thickness of 200 mm.
Biofilter and ventilation system	Biofilter system will comprise an enclosure structure with an approximate 2,400 m^2 footprint (as per concept plan) which will accommodate a biofilter media bed of 2.5 m. Construction is assumed to be of 250 mm thick concrete walls and floors with a steel framed and clad roof. The stack is assumed to be 700 mm dia spiral duct with an overall height of 20 m. We have allowed for a first fill of biofilter media based on an indicative cost of \$15/t (\$25/m^3) as advised by Connsult for similar projects.
Composting building	Overall building footprint of 11,500 m^2 with clear span 'industrial type' high bays with an overall ridge height of approximately 12 m. Construction is assumed to include composite two way slab on ground with suspended slabs over made-up ground. An allowance is also made to pile foundations where required. External façade will comprise lightweight metal clad external facade above 1.5 m with perimeter solid/masonry walls below. Architectural features are kept to a minimum. Epoxy floor finishes and rapid automated doors have been included within the base estimate specification. Building ventilation fans have not been allowed for due to insufficient design information.
Composting building office	There is no allowance for an office. A small amenities area is assumed but the associated cost is considered to be covered by the overall building cost per square metre rate.
External pavements, roads and hardstand	The extent and general nature of the assumed roads and pavements is illustrated in Figure 1.1. Areas for the various pavements have been measured off the CAD drawings. Heavy duty pavements (roads/ramps) are assumed to be 200 mm thick 32 MPa reinforced concrete on a 150 mm basecourse.
External pavements, roads and hardstand	Medium duty pavements (roads/ramps) are assumed to be 50 mm bitumen pavement on a 150 mm basecourse where located over rock and costed by applying a per square metre rate. Where medium duty pavements are located over fill an aggregate per square metre rate for standard roads has been used. Access to the new facility will be achieved via a new access road from at the Eastern end of the site. The approximate length of the site is 850 m. It is assumed that the road will be sealed and suitable for heavy vehicle traffic.
Fencing	Allowance has made for a perimeter cyclone mesh security fence 2.1 m high, 3 rows barbed wire – around the ARRT and GO facility.
Landscaping	No specific areas have been nominated for landscaping but presumably some incidental areas around entry and staff amenities may be modestly landscaped. We have allowed for basic landscaping, light shrubs etc. to be landscaped.
Weighbridge	A twin deck standard aboveground weighbridge has been provided for as well as small weighbridge office.
Fuel storage	The estimate includes a bunded 27,500 litre diesel tank
Stormwater detention	Stormwater generated by new hard surface areas will be reticulated and store within dedicated ponds adjacent the site.
Water and waste water	We have provided a nominal allowance for 800 m of an underground 100 mm water main from a point of connection to a takeover point in the building compound. It is assumed that the supply network is sufficient at the point of connection. Water supply provisions and costing will need to be reviewed in due course once process water demand requirements are confirmed.

Ref	Assumption
Sewerage	All sewerage will be reticulated from the site to a connection point located approximately 800 m from the ARRT facility. No allowance has been made for the amplification of the receiving services. Given the length of the service a primary and intermediate pumping station have been included to ensure required flow rates are achieved.
Electrical supply	It is proposed to extend a new 11 kV underground supply from existing padmount substation S9425 located adjacent to the leachate ponds to a new Ausgrid chamber (building) type substation located in the vicinity of the new waste processing facility. The cost of this new electrical infrastructure will be covered by Ausgrid following separate agreements struck between the supplier and SITA.

4. Exclusions

The following items (listed below) have been excluded from the TIC.

- Imported engineered fill materials
- High Voltage power supply to the site
- On-site sewerage treatment
- Downstream upgrading of sewerage and stormwater systems (if required)
- Owner's costs which fall outside the core project activities of designing and building a facility, such as:
  - finance charges
  - bankers engineer
  - service connection fees
  - construction insurance
  - authority and approval charges with the exception of the Fees and Approvals specifically listed
- Escalation is excluded from the estimate
- GST
- Client costs including construction management
- Levies, import duties, fees and charges
- Currency fluctuations
- Land acquisition costs
- Maintaining stockpiles
- Builders work in connection with plant and equipment
- Staging costs
- Removal or treatment of excess spoil [excavated materials] off site
- Works outside the extent of the work shown on the scope of works drawings
- Operation and maintenance costs
- Any costs associated with the presence / removal of hazardous materials e.g. asbestos material (unless specifically noted).

5. Capital cost estimate

A Capital Cost estimate has been prepared in accordance with GHD's estimating guidelines to a level of accuracy consistent with the current level of project design and definition.

A number of assumptions have been developed to inform the basis of estimate and these consider both design and specific site constraints. Given the stage of the project (concept design prepared and planning approval being sought), appropriate allowances for scope and pricing risk would need to be provisioned and identified. As such the capex value represents a P90 position which is a conservative view on the likely total project costs.

Below is a summary of the various items comprising the Total Installed Cost, which must be read in conjunction with the scope and limitations set out in this report.

Table 5.1 Estimate summary

Construction costs	Total ($)*
Site preparation	340,000
Earthworks - ARRT facility and GO facility	9,950,000
Piled foundations	560,000
Perimeter fencing and barriers	600,000
Pavements, hardstands and car parking	8,570,000
Stormwater drainage	550,000
Stormwater detention and rainwater tanks	800,000
Storage ponds	630,000
Access roads	730,000
Bridges	2,140,000
Site storage – first flush	250,000
Landscaping/other	580,000
Waste receiving and process building	20,810,000
Maturation building	13,370,000
GO facility	2,920,000
Utilities (excludes electrical)	2,390,000
Plant and equipment	9,920,000
Miscellaneous	570,000
Sub total direct costs	**75,680,000**
Contractors Indirect (Incl Design)	14,740,000
Sub total (total construction costs)	**90,420,000**
Client costs	
Design and consulting to contract Let	1,200,000
Project management	780,000
Legal fees	500,000
Owners engineer	1,010,000
Legal	500,000
Other	500,000
Detailed geotechnical study	60,000
Fees and approvals	480,000
Sub total (client costs)	4,530,000
Base estimate (construction costs+client)	94,950,000
Project contingency	By client

Project estimate	94,950,000
TOTAL INSTALLED COST∞	94,950,000

*Excludes GST

6. Job creation

provides an estimate of the number of jobs that would be created as a result of construction and operation of the proposal.

Table 6.1 Estimate of job creation

Component	Construction	Operation
GO facility	Included	5
ARRT facility	570	50
Landfill reprofiling	n/a – see below	7
TOTAL	**570***	**57**

Construction job estimates are based on a direct multiplier of 6 jobs being supported for each $1M spent. This estimate of employment support by the proposal has been calculated using factors derived from the 2004-05-I-O table scheduled within the 'Guidelines of estimating employment supported by actions, programs and policies of the NSW Government' document published by NSW Treasury.

It is therefore expected, based on the published multipliers that a construction project value of approximately $95m would generate direct employment of approximately 570 jobs (on a full time equivalent basis).

SITA has provided advice to GHD on the likely number of new operational jobs that would be created within the relocated (and expanded) GO facility and the new ARRT facility based on its current experience in operating similar facilities elsewhere. GHD believes that these values are consistent with other similar facilities.

It is noted that the seven additional landfill staff would be needed to prepare new areas for landfilling, fill areas with waste and then cap and revegetate them progressively. The 'construction' activities of the landfill reprofiling are considered to be part of ongoing operation as these would be progressively undertaken during operation of the landfill.

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Document Status

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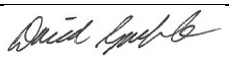
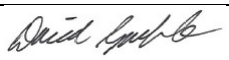
0	D Lawson	D Gamble		D Gamble		12.05.2015
1	D Lawson	D Gamble		D Gamble		3.08.2015

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