

Executive Summary

Introduction

This *Environmental Assessment* has been prepared by R.W. Corkery & Co. Pty. Limited to support an application for project approval by Dellara Pty Ltd ("the Proponent") to develop and operate a waste and resource management facility (the "Project") on a 60ha property at Orchard Hills (the "Project Site" – see **Figure A**).

This *Environmental Assessment* describes the existing environment within and surrounding the Project Site including the current status of the clay/shale extraction area and the Proponent's plans to continue clay/shale extraction. The planned development and operation of a waste and resource management facility (with the emphasis upon maximising recycling and re-processing) would provide for the progressive rehabilitation of the expanding clay/shale extraction area and providing an important facility in satisfying the identified justifiable demand for such a facility in western Sydney.

Apart from describing the proposed development and operation of the Project, this *Environmental Assessment* provides information on the mitigation measures and management controls the Proponent would adopt to avoid or reduce potential impacts of the Project on the surrounding environment. The residual impact(s) are described and proposed monitoring outlined to assess the ongoing performance of the Project. The *Environmental Assessment* has been prepared in accordance with the provisions of Part 3A, Section 75 of the *Environmental Planning and Assessment Act 1979*.

The Need for the Project

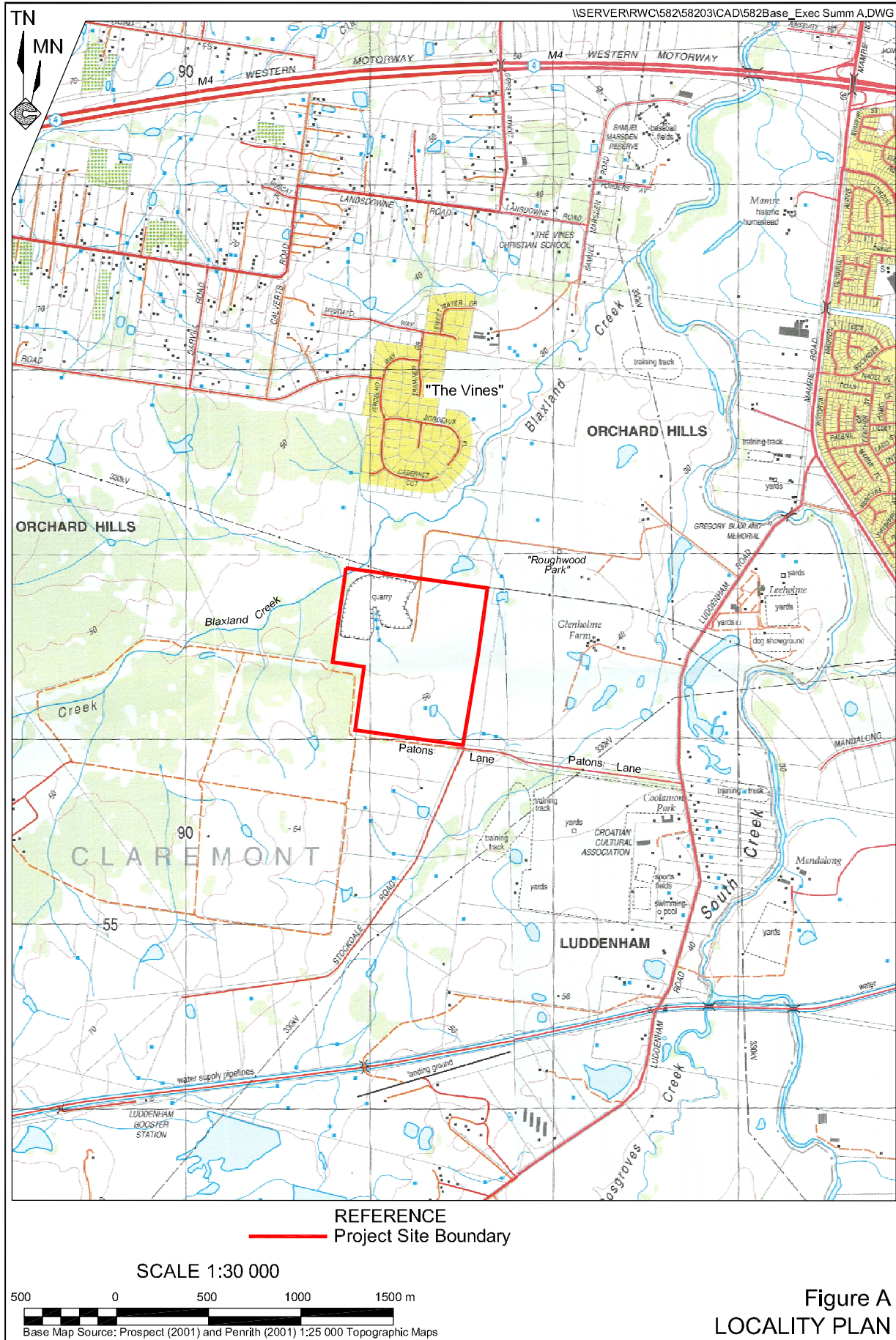
The Project has been designed in a manner that reflects the objectives of the *NSW*

Waste Avoidance and Resource Recovery Strategy 2007 (the "Waste Strategy 2007"). The Waste Strategy 2007 is the principal document to guide State and Local Government agencies, industries and the broader community in waste prevention and avoidance, re-use and recycling. The strategy also provides guidance and priorities for action to ensure that efficient resource use and impacts on the environment are considered. The Waste Strategy 2007 focuses on solid wastes that, unless recovered and diverted to beneficial uses, would be disposed of to solid and inert waste facilities throughout NSW.

The need for this Project and the Proponent's objectives are therefore derived from environmental, social and economic benefits, which include the following.

- Provision of the necessary infrastructure to achieve the 2014 recycling performance targets in the Waste Strategy 2007, combined with the ever expanding amount of waste generation, particularly in Sydney.
- Provision of important infrastructure to service the proposed Employment Lands and the Western Sydney Employment Hub identified in the NSW State Government's Metropolitan Strategy for Erskine Park and Eastern Creek.
- Provision of waste recycling infrastructure that is ideally located in terms of accessibility between Sydney's planned northwest and southwest growth sectors.
- Provision of a Waste Recycling Facility to support Penrith's growth as a Regional City to service the northwest sub-region as set out in the NSW Government's Metropolitan Strategy.





- Provision of a source of reusable building, construction and landscaping materials (in accordance with resource recovery exemptions, where applicable).
- Assistance in addressing landfill capacity for Sydney's waste under pinned by the justifiable demand for the landfill component of the project.
- Continued future extraction of the remaining clay/shale resources (subject to demand).
- Sustainable re-use of an existing disturbed landform.
- Reduction in greenhouse gas emissions through recycling of C&D and C&I waste.

The Project Site

The Project Site comprises Lot 40, DP 738126, a 60ha lot purchased by the Proponent in August 2008.

The Project Site has been operated intermittently as a quarry since 1981 with the bulk of the site disturbed by previous extraction, stockpiles or perimeter bund walls constructed by the previous landowner (see **Plate A**).

Access to the Project Site is provided from Luddenham Road via Patons Lane which is oriented parallel to the southern boundary of the Project Site and intersects Luddenham Road approximately 1.1km to the east-southeast of the entrance to the Project Site (see **Figure A**).

The Proponent

The Proponent for the Project is Dellara Pty Ltd which is an associate company of Roderick Holdings. Roderick Holdings was established in 1977 and is involved in Project Management (civil works), Property Development and Property Investment throughout NSW. Dellara Pty Ltd is currently negotiating with an established and experienced waste management company to operate the proposed facility and be in partnership with the operation.



Project Overview

The Project would involve three principal activities designed to collectively underpin a financially sound facility able to provide an important environmentally responsible waste and resource management service and the ultimate re-instatement of productive rural grazing land in an area zoned for ongoing agricultural production.

1. Recycling and Re-processing
(to maximise the recovery of useable products for re-use).
2. Clay/Shale Extraction
(to supply brick raw materials, cover material and to increase volume for waste emplacement).
3. Residual Waste Emplacement
(to progressively rehabilitate the former and deepened quarry).

It is proposed the waste and resource management facility would receive general (non-putrescible) waste comprising predominantly solid construction and demolition (C&D) waste and commercial and industrial (C&I) waste. No liquid, restricted or dangerous materials would be accepted at the facility.

It is recognised that C&D wastes delivered to the facility may contain very small quantities of asbestos in a bonded matrix. However, the facility would not accept any asbestos sheeting (wrapped or unwrapped) or any asbestos material in a dust form. The Proponent would have in place a comprehensive Screening and Refusal Procedure for these and other wastes not accepted at the facility.

Figure B displays the indicative site layout with the main components as follows.

- A series of re-shaped bund walls around the perimeter of the Project Site.
- Weighbridge, office, proposed workshop, Initial and Long-Term Leachate Evaporation Ponds.
- A Recycling and Re-processing Area/Final Cell initially to be used as the area for the recycling and re-processing facility.
- Three cells initially for completion of clay/shale extraction and then backfilling emplacement with residual waste and waste that cannot be recycled/re-processed.

Effectively, the various activities would be undertaken to within 10m of all boundaries except the riparian corridor along Blaxland Creek that traverses the northwestern corner of the Project Site.

Figure C displays the proposed activity sequence on the Project Site.

Figure D schematically presents the proposed quantity of materials to be imported and exported from the Project Site and emplaced within the Project Site.

The final landform created on the Project Site would be a gentle hill with side slopes typically varying from 1:3 (V:H) to 1:8 (V:H). **Figure E** displays the contours of the final landform, the remaining dams and the proposed native vegetation

plantings on the northern and eastern side of the final landform.

Traffic and Transportation

All heavy vehicles transporting waste to the Project Site or recycled products or clay/shale from the Project Site would approach the Project Site from Mamre Road and Luddenham Road. The Proponent proposes a cap of 158 heavy vehicles per day (316 truck movements) irrespective of the materials being transported.

Employment

- Direct full-time employment opportunities for approximately 20 people.
- Direct part-time employment for approximately 10 contractors on site.
- Employment for estimated 10 to 15 truck drivers.
- Indirect employment through flow on benefits including purchase of consumables and spending of employee wages.

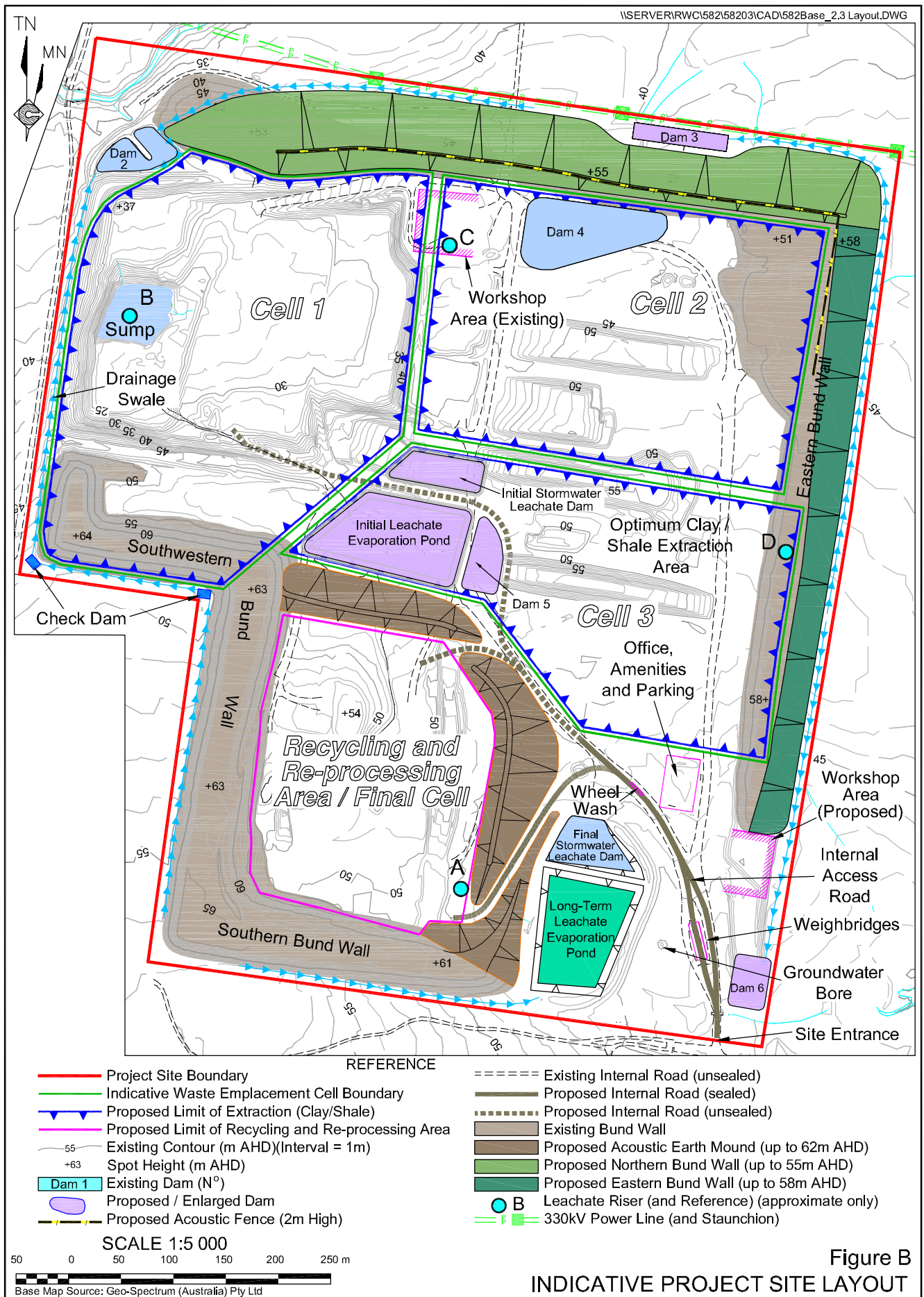
Proposed Hours of Operation

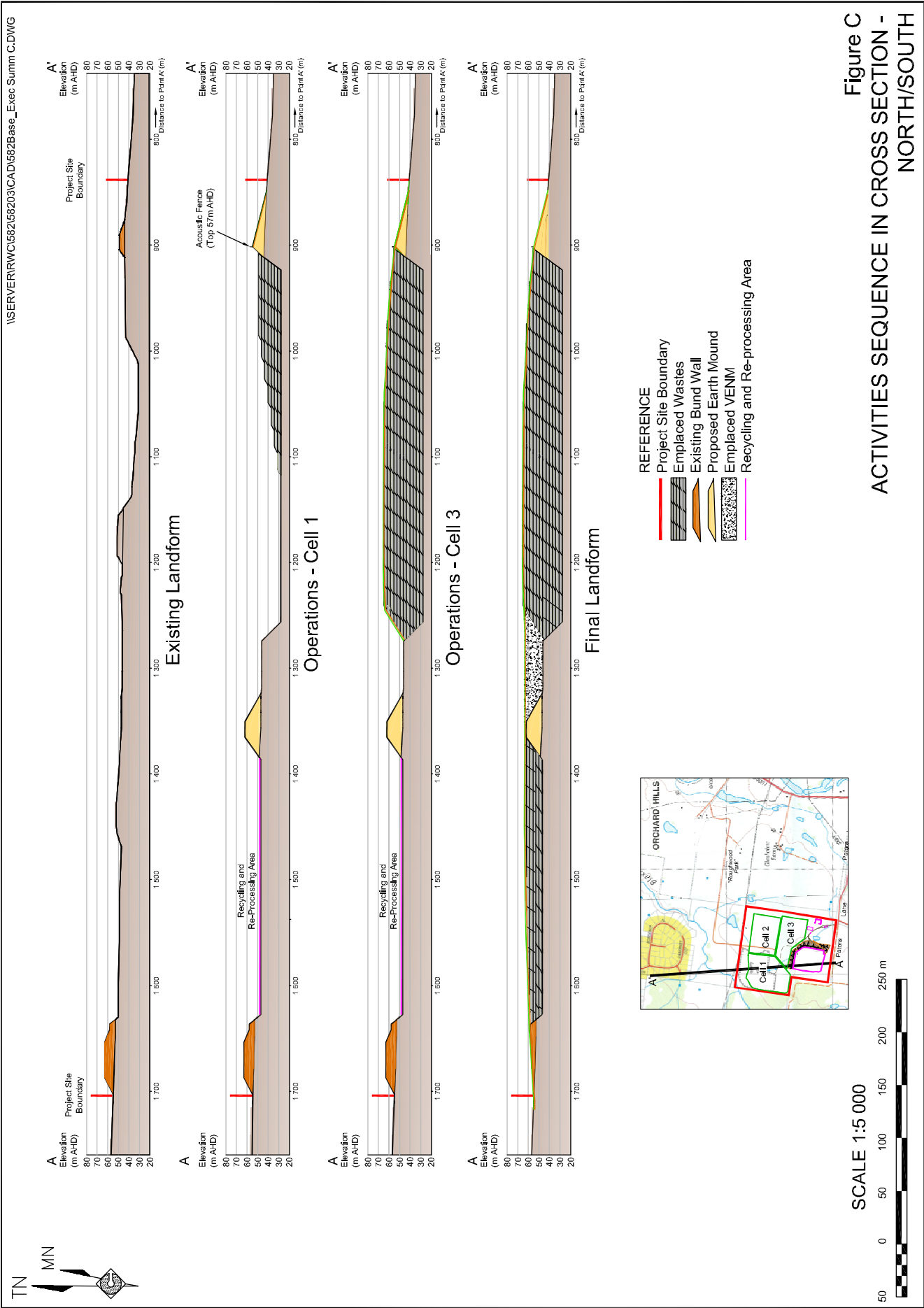
Activity	Monday to Friday	Saturday
Waste Receipts and Recycled Products Despatch	6am to 5pm	8am to 5pm
Clay/Shale Transportation	7am to 6pm	8am to 5pm
Extraction Activities	7am to 6pm	8am to 5pm
Waste Re-processing	7am to 6pm	8am to 5pm
Waste Emplacement Management	7am to 6pm	8am to 5pm

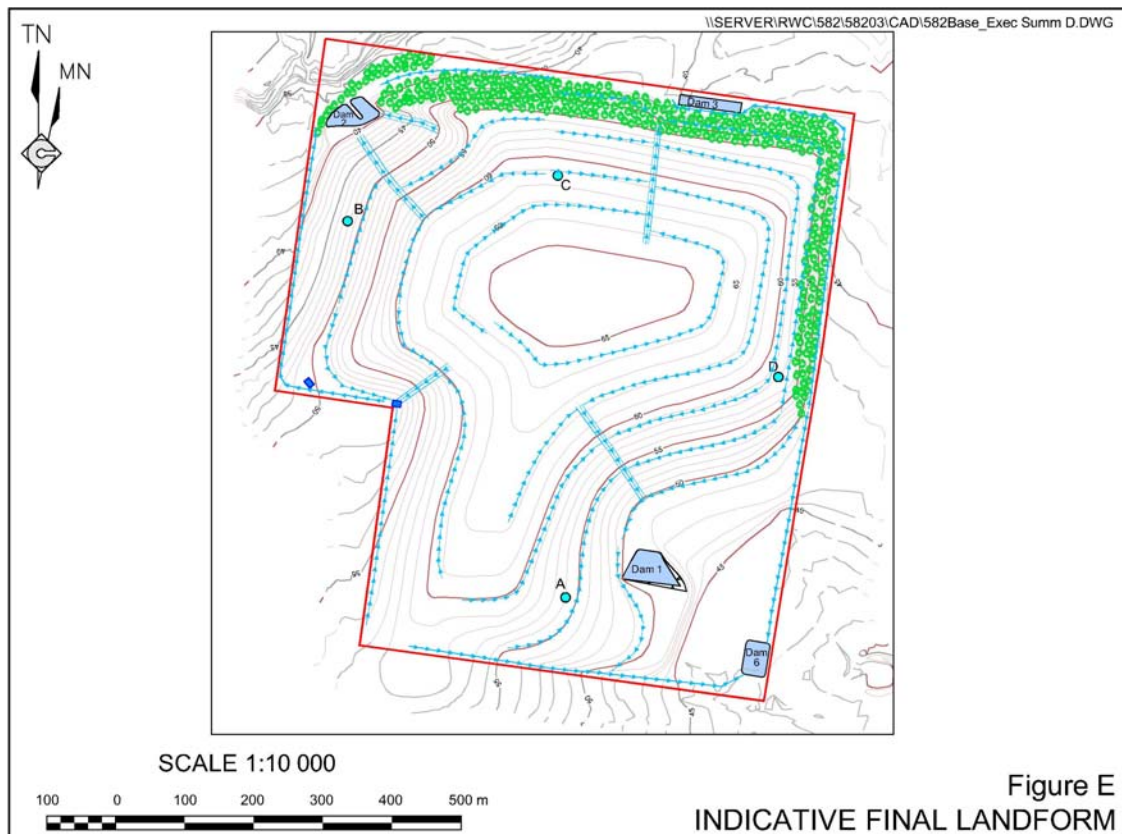
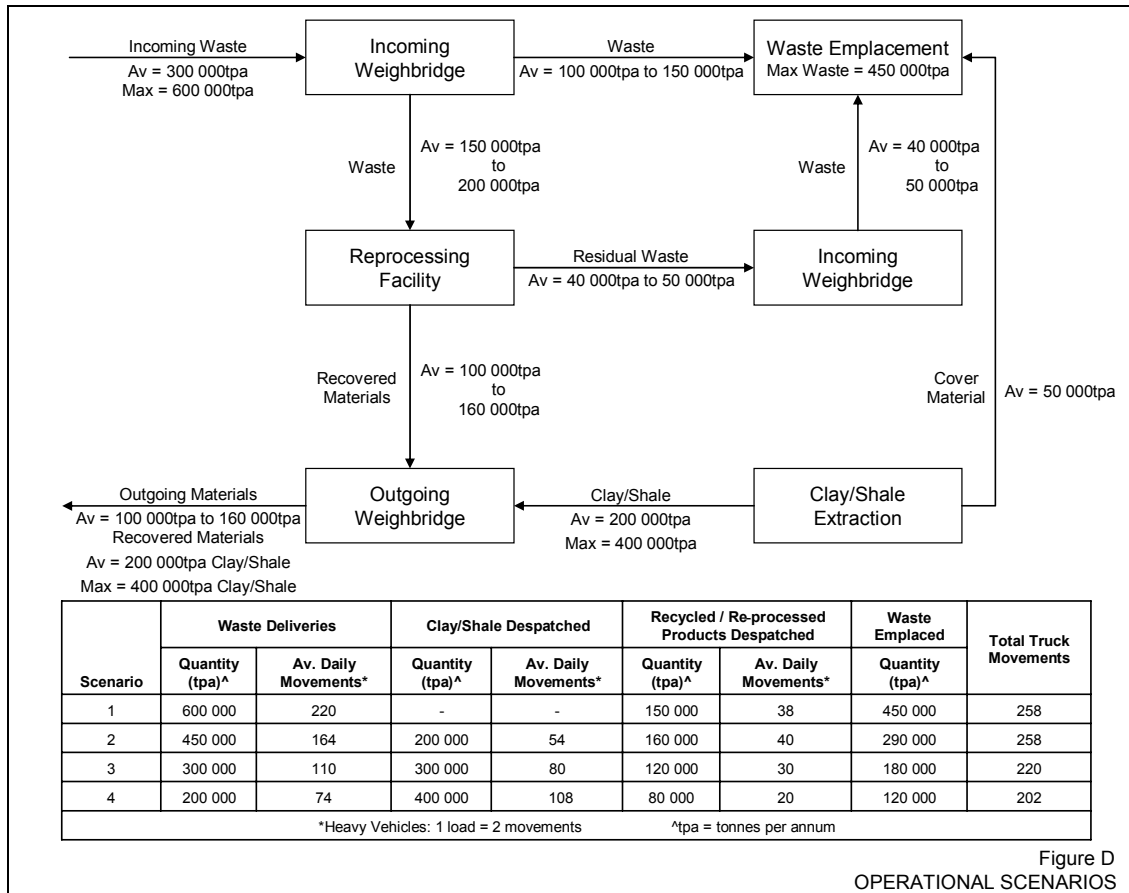
Project Life

The Proponent proposes the recycling / reprocessing activities would be undertaken for a period of up to 25 years after which the site would solely accept approved waste to complete the final landform across the site of the former recycling and reprocessing facility.









Issue	Objective	Proposed Management and/or Mitigation	Residual Environmental Impact
Surface Water	To protect the quality of surface water resources and ensure that water from the Project Site is not sediment laden or contaminated.	A set of internal and external sediment dams, sumps and source controls and water coagulation, if required. Leachate would be separated from the surface water system.	Planned discharge off site (from two licensed discharge points) should meet water quality objectives and assistance with maintaining environmental flows.
Ground-water	To protect groundwater resources from leachate.	The natural characteristics of the shale and clay would protect the groundwater. A comprehensive leachate management system would be installed with reliance placed on on-site leachate evaporation.	No adverse impacts are predicted with all leachate appropriately contained on site.
Air Quality	To minimise levels of airborne and deposited dust and odour to satisfy relevant goals.	Use a water truck to minimise dust generation on active unsealed roads applying water; revegetate completed areas as soon as practical; disturb the minimum area necessary for operations to take place at any one time, monitor wind direction and deposited dust levels; and seal internal roads up to wheel wash to minimise dust generation. Adoption of benchmark landfilling practices to control odour and use of a gas distribution layer in the final landform. Non acceptance of putrescible waste.	Five modelled operational scenarios predicted that 24-hour and annual average PM ₁₀ , TSP and deposition levels at nearest sensitive receptors would be below the DECCW assessment criteria, even when existing background levels are included. Therefore it is considered that the Project would have an acceptable impact upon air quality. However, 24-hour PM ₁₀ levels would be elevated on a few days per year when background levels are elevated. Odour levels at the nearest residences are predicted to be below the most stringent DECCW odour assessment criterion.
Traffic and Parking	To minimise interaction between additional traffic and existing motorists/ road users.	Ensure all drivers are aware fully of requirements specified in the Driver's Code of Conduct, and install safety and speed signs on Patons Lane. No trucks will be permitted to approach Patons Lane from the south.	Maximum daily heavy vehicle movements would be 316. These heavy vehicle volumes on Luddenham Road would represent 12% and 14.8% in the morning and evening peak hours respectively. All mid block road capacity and intersection performance would be satisfactory. On-site parking would be appropriate.
Noise	To minimise noise impact on all adjoining land owners.	Sequence earthmoving operations to avoid excessive noise levels; recycling and re-processing activities to occur within a cell bounded by acoustic earth bunds within the southwestern corner of the site away from residences; develop earth bunding to most sections of the northern, eastern and southern site boundaries; augment the northern and eastern bunds with additional 2m-high fence; erect additional bunding enclosing the waste recycling and re-processing cell, erect additional acoustic screen to the northern and eastern sides of the re-processing plant, and the deployment of a 4m high mobile acoustic barrier in the order of 100m to 150m in length which will be positioned as required to shield residences from all plant operating on external faces of the Site's perimeter bunding and final landform.	No traffic noise impacts are predicted-inclusive of the potential for sleep disturbance from early morning truck movements. No noise exceedances are predicted to occur at neighbouring residences during the construction phase of the Project. During the Project's operational phase, the greatest potential for noise impacts results from the need to have mobile equipment operating on the outer side of the perimeter bunding and final landform. During such times, noise will be suitably ameliorated by deploying a 4m-high mobile acoustic barrier that will be progressively positioned as required to shield residences from mobile earthmoving plant that would otherwise be in line-of-sight of residences. This strategy in particular will also ensure that no noise exceedances would occur during the operational phase of the Project.

Issue	Objective	Proposed Management and/or Mitigation	Residual Environmental Impact
Visual Amenity	To limit visibility of all site activities from adjoining roads and surrounding residences.	Revegetate the outer slope of the completed northern bund wall with tree and shrub species to enhance views from "The Vines" estate; ensure vegetation progressively shields the 2m acoustic fence; maintain a high standard of housekeeping (particularly with respect to litter control), and ensure that the views of the final landform blend into the rural landscape character of the land when viewed from "The Vines" estate and Luddenham Road.	The Project would achieve the objectives of the local planning framework for its rural context via proposed progressive rehabilitation of the Project Site through the proposed landform re-construction. At the end of the life of the emplacement, the final landform would be a landscaped, gently sloping knoll that would be consistent with the surrounding rural character. In comparison to the effect of the current site upon visual amenity, it is considered that the Project would result in a long-term improvement of visual amenity.
Soil	To protect soil resources from erosion and ensure the final landform is suitable for Class A land use.	Store any topsoil that is brought to the Project Site (as waste) or produced on site (following reprocessing) for use in rehabilitation works; handle disturbed all natural soil as little as possible to minimise mechanical damage to soil structure; and incorporate a minimum of 750mm of subsoil/clay and 250mm of topsoil on the final capping layer.	The pre-disturbance Land Capability [Classes III and VI] and Agricultural Land Suitability [Class 3] of the Project Site were determined. The post-use Land Capability [Classes III and VI] and Agricultural Land Suitability [Class 3] of the Project Site were determined. Therefore, long term vegetation and landform suitable for grazing. Protection of topsoil in the manner proposed would avoid adverse impacts.
Flora	To enhance the ecological value of the Project Site.	Revegetate the northern bund wall with native trees and shrubs after stabilisation of the northern face of the northern bund wall is complete; enhance the existing riparian vegetation adjacent to Blaxland Creek; cultivate and sow a suitable perennial grass pasture mix on completed areas; and control weeds.	No significant negative impacts would occur on threatened flora species, Endangered Ecological Communities, Endangered Flora Populations or Critical Habitat as a consequence of the Project. It is considered that the revegetation along the northern boundary of the Project Site and adjacent Blaxland Creek would result in positive effects on flora values.
Fauna	To retain and enhance fauna habitat within the Blaxland Creek riparian zone.	Revegetate the riparian zone of Blaxland Creek and the northern bund wall with native trees to compliment the existing riparian ecosystem.	The habitat types represented within the Project Site are either highly modified and/or well represented in the locality. Whilst three fauna species listed as vulnerable on the TSC Act occur or are likely to occur within the Project Site, there is unlikely to be a significant effect on these species or their habitats. Hence, there would be no significant negative impacts upon fauna.
Aboriginal Heritage	To salvage artefacts under the guidance of DECCW and Aboriginal Stakeholders.	Contact the Aboriginal stakeholders re salvage of "Orchard Hills ISO 1" and "Orchard Hills ISO2."	Written correspondence from the relevant Aboriginal stakeholder organisations indicate that the two artefacts do not pose a constraint to development. With the proposed salvage of the items prior to disturbance, it is considered that there would be no significant impacts.
European Heritage	No structures or relics of heritage interest were observed in the Project Site.	None Applicable.	No residual environmental impact.

Environmental Safeguards and Impacts

The components and features of the existing environment on and around the Project Site have been studied in detail and the Project designed to avoid or minimise impacts on that environment. A brief overview of the main components of the surrounding environment, the proposed safeguards and the assessed level of impact are set out on pages ES-8 and ES-9.

Socio-economic

The local community within 3km of the Project Site comprises a range of sectors from: the longstanding agricultural sector e.g. on the adjoining "Glenholme Farm" and "Roughwood Park"; rural-residential properties fronting Luddenham Road; the recent large block residential subdivision for "The Vines" estate, and densely populated suburbs such as St Clair.

The community consultation process established concerns that the Project would have adverse impacts on both local amenity and real estate values. It remains the Proponent's objective through operating a state-of-the-art facility that issues relating to amenity and in turn real estate values would remain unchanged. The Proponent acknowledges that from both a visual and noise perspective the surrounding community would be aware of the Project, however, the Project is recognised as a "means to an end" of rehabilitating the existing quarry and returning the land for grazing purposes.

Whilst the Proponent recognises the Project Site is comparatively isolated with respect to the surrounding communities, it none-the-less recognises its corporate responsibility to participate / recognise local community events and activities.

The Proponent is fully supportive of the formation of a Community Consultative Committee for the Project involving local community representatives to keep local residents informed about the Project's progress and to provide a forum for regular discussion.

Project Evaluation and Justification

An evaluation of the Project has been undertaken by firstly reviewing the residual risks posed to the local environment by project related activities following the implementation of all operational controls, safeguards and / or mitigation measures and secondly through consideration of the principles of ecologically sustainable development.

Importantly, the assessment of justifiable demand has identified the need exists for both the proposed recycling and re-processing facility and the emplacement area. Furthermore, the presence of the facility would also contribute to an improved level of competition which would assist consumers.

The assessments recorded in this report have established that noise, surface water, air quality and traffic were the key issues requiring a high level of environmental performance to achieve an acceptable Project.

Conclusions

The Project has, to the extent feasible, been designed to address all issues raised by the local community and all levels of government as well as the principles of ecologically sustainable development. The Project would assist in the management of Sydney's waste, maximise opportunities for recycling and re-processing waste and progressively rehabilitating the former Erskine Park Quarry back to productive grazing land.

