NSW GOVERNMENT

NSW Resources Regulator

# REHABILITATION INFORMATION RELEASE

**DATE: 1 JULY 2020**

## Rehabilitation of part of Horsley Park Quarry to industrial land use

## Overview

The NSW Resources Regulator is a stand-alone regulator within Regional NSW and is responsible for compliance and enforcement activities across the mining and exploration industry. The Regulator undertakes risk-based compliance and enforcement activities in relation to obligations under the *Mining Act 1992*. This includes:

- conducting assessments and compliance activities to ensure the rehabilitation of quarries and mines is undertaken in accordance with the conditions of mining leases and the requirements of the *Mining Act 1992*
- ensuring that rehabilitation security deposits, held by the department, cover the full costs in undertaking rehabilitation in the event of default by the mining company.

This information release provides information about the successful completion of rehabilitation on part of the Horsley Park (Plant 23) Quarry in western Sydney, NSW. The quarry is owned and operated by the Austral Brick Co Pty Ltd and operates pursuant to mining (mineral owner) lease 7 issued under the *Mining Act 1992*. The site where rehabilitation has been completed is within the western part of this mining lease, with the remaining area of the lease occupied by the existing quarry operations.

## The quarry

The quarry is situated at Horsley Park in western Sydney and extracts clay, shale and kaolin. The quarry includes a large extraction pit, settling ponds, stockpiles, internal access tracks and internal drainage lines.

Extraction operations at the quarry commenced in the early 1970s and provided a range of shale/clay raw materials for use in the manufacture of bricks at the adjoining Horsley Park Brick Plant 23.

Maximum annual production levels at the manufacturing plant are about 130 million bricks, for which about 530,000 tonnes of clay/shale is required annually from the quarry.

The site, where rehabilitation has been completed, previously comprised part of the quarrying operations but was historically backfilled. The site comprises around 11 hectares within the south western corner of the quarry, and until recently, was used for the stockpiling of materials extracted from the quarry. Rehabilitation has been undertaken progressively on the site since about 2018 as part of a redevelopment associated with the Oakdale East Industrial Estate.

*Figure 1 Aerial photo of the quarry in 2018 showing the site to be rehabilitated outlined in blue*


# Required rehabilitation outcomes

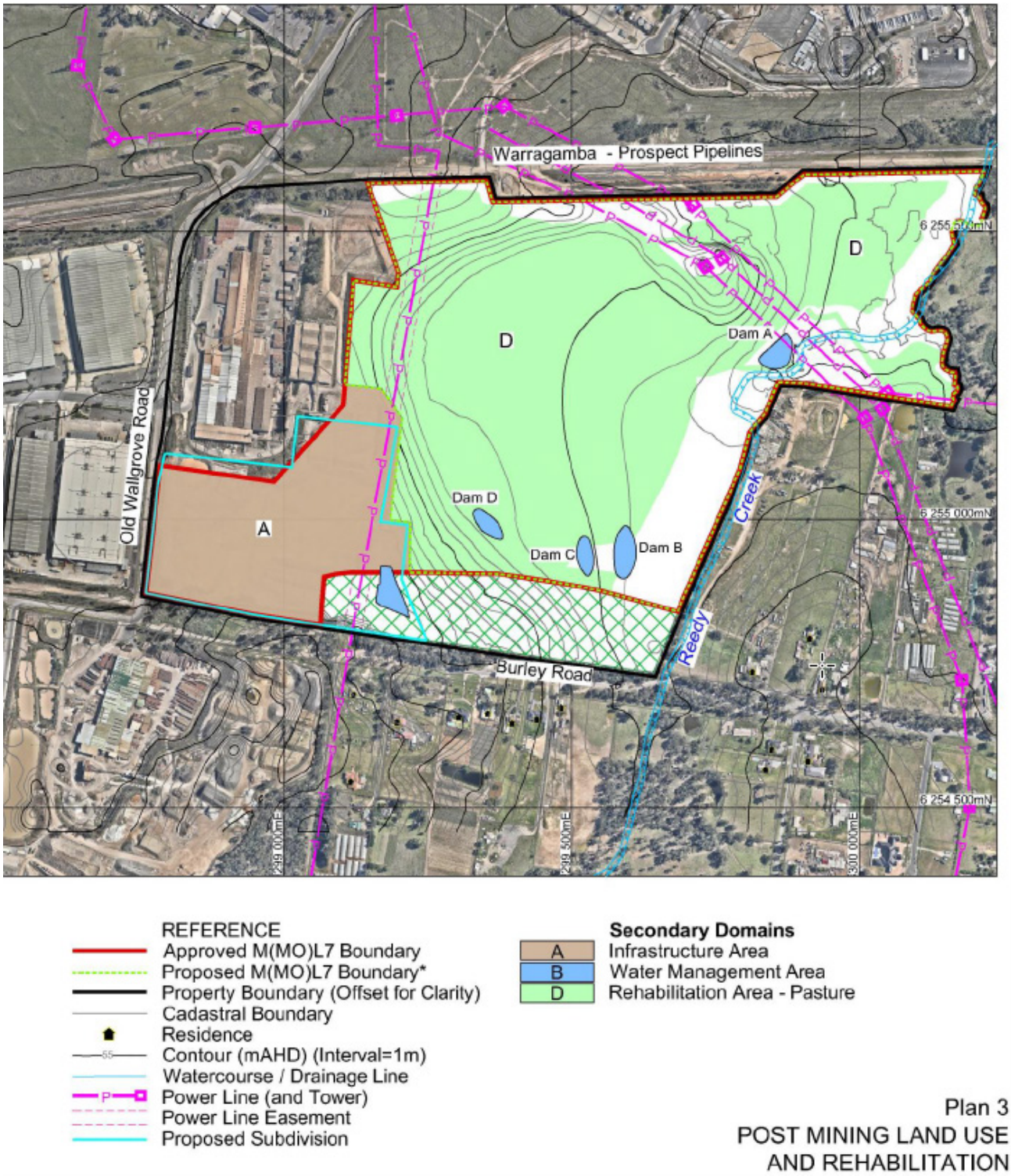
The required rehabilitation outcomes for the site are detailed in the Horsley Park Plant 23 Quarry mining operations plan (MOP) approved by the Regulator. The MOP requires the lease holder to achieve the approved rehabilitation objectives, rehabilitation completion criteria and final landform. This includes the following key obligations:

- Establish a safe, stable, self-sustaining and non-polluting landform that is free-draining.
- Establish a final land use that consists of an industrial subdivision that will include access roads, hardstand areas and industrial buildings.

The approved final rehabilitation outcomes are consistent with the development consents granted by Fairfield Council City for the subdivision (DA133.1/2019) and industrial redevelopment (DA93.1/2019) of the site.

The approved industrial development includes several new warehouses and a masonry plant on either side of a new estate cul-de-sac.

*Figure 2 Post-mining land use and rehabilitation in the approved MOP*



The approved final land use is also consistent with the land use in the vicinity of the quarry. This includes the CSR Bricks quarry to the south, as well as commercial and industrial properties.

*Figure 3 Layout of the approved industrial development on the site*


# Rehabilitation progress

Following completion of quarrying operations, the site was historically backfilled with about 1.6 million tonnes of imported material. However, only limited records were available with respect to the original source of the historically imported materials and the potential for co-placement of waste. The rehabilitation works therefore included the relocation of these placed materials to a separate portion of the quarry land to achieve the approved rehabilitation outcomes and industrial final land use.

A stockpile relocation management plan (SRMP) was prepared to provide a framework that allowed for historically imported/placed materials that may represent a potential environmental and/or health-

based risk (i.e. contaminated or with otherwise deleterious characteristics) to be appropriately identified and managed during the relocation work.

During the relocation work, material that was potentially impacted as a result of co-placement of building and construction waste was identified around parts of the historical quarry margins within the site. Subsequent environmental investigations were undertaken which identified that a small portion of the remaining material was impacted with asbestos-containing materials. Consequently, a remedial action plan (RAP) was prepared to guide the procedures to be implemented during the stockpile relocation work to remove or manage the risks posed from the identified soil contamination.

The SRMP and RAP were implemented while relocating the approximate 1.6 million tonnes of non-natural materials from the site. The principal 'rehabilitation' activities included:

- the removal of existing stockpiled raw materials to elsewhere within the operating quarry
- the removal of waste material that was identified in the historic fill. The materials that were contaminated with asbestos were sent to a designated containment cell outside of the mining lease area in accordance with the approved RAP and local and state planning requirements.
- commencement of cut and fill works and compaction to create the various levelled building pads and road alignment associated with the proposed industrial development.

*Figure 4 Stockpiles on the land in 2018 before rehabilitation*

The rehabilitation was the subject of ongoing monitoring and maintenance in accordance with the requirements of the approved MOP, the SRMP and the RAP.

*Figure 5A & 5B Earthworks in April 2019 preparing the land for industrial use*

Following completion of the rehabilitation works, a mining lease validation report was prepared in support of the completion of rehabilitation at the site and the relinquishment of part of the mining lease. The objectives of the validation works were to:

- assess the removal of all stockpiled, fill and bund materials
- assess the in-situ natural materials to confirm the absence of residual contamination
- document the validation process.

The following scope of works were implemented to achieve the validation objectives:

- Review and audit material tracking documentation.
- Site supervision during removal of potentially contaminated materials inspections from December 2019 to May 2020.
- Collection of 54 natural soil validation samples and laboratory analysis of soil samples for identified contaminants of potential concern.
- Data assessment and preparation of this validation report.

The validation report concluded that the requirements for post-mining remediation of the site had been achieved and that:

- the final landform is safe, stable, non-polluting and free draining
- the site was suitable, from a contamination and remediation perspective, to be excised from the existing mining lease.

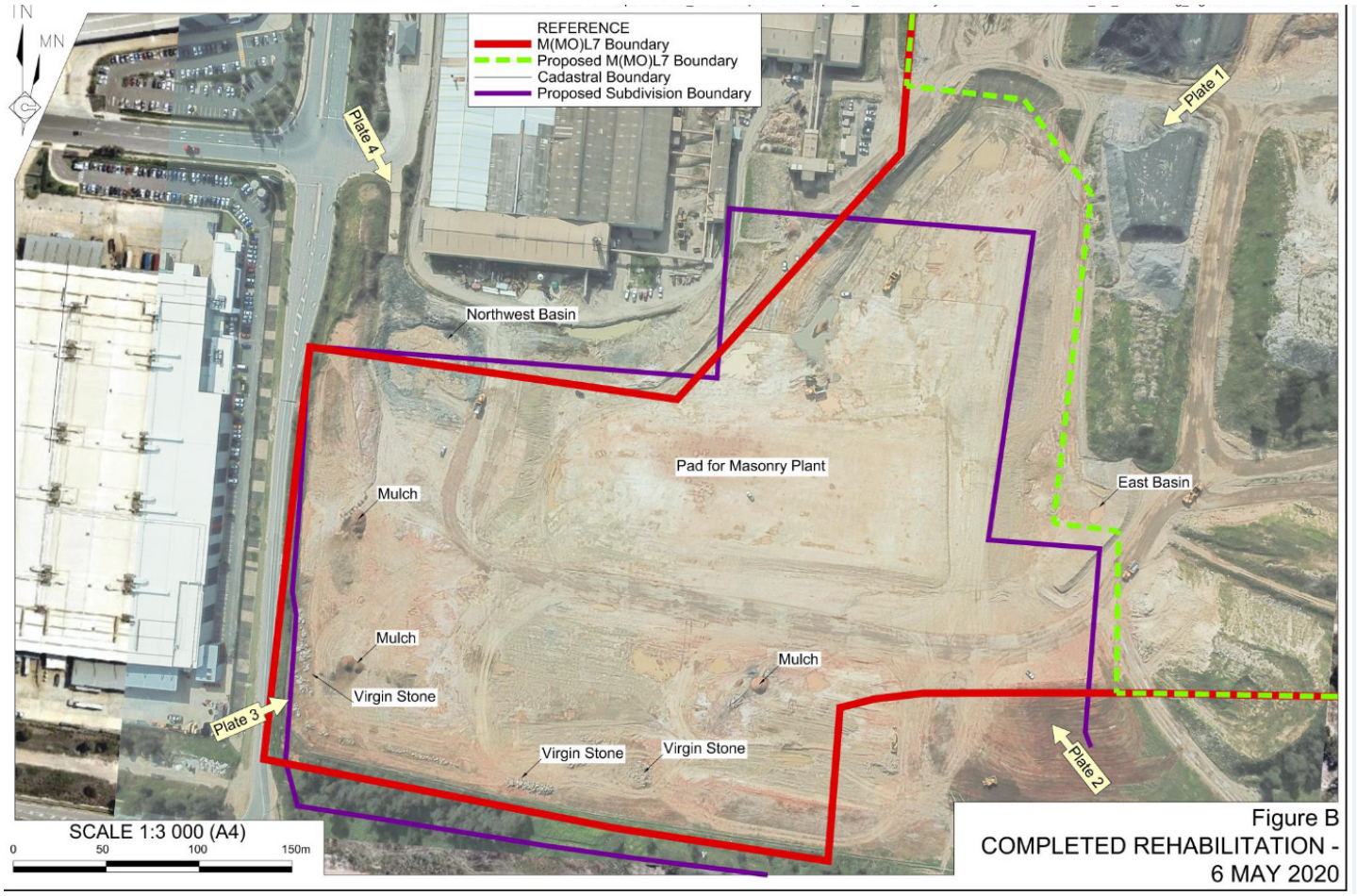
# Rehabilitation completion

The lease holder lodged an application with the Regulator in May 2020 (using Form ESF2 Rehabilitation completion and/or review of rehabilitation cost estimate) to obtain formal sign-off on the completed rehabilitation works and to facilitate relinquishing part of the mining lease to the future industrial development.

A detailed assessment was completed by the Regulator, which included consultation with the quarry owners and site inspections.

This assessment determined that rehabilitation obligations were fulfilled in accordance with the approved rehabilitation objectives and completion criteria included in the MOP.

*Figure 6 Rehabilitated site ready for industrial development – May 2020*



# Obligations

The completion of rehabilitation at the site, and subsequent sign-off from the Regulator, demonstrates that there is a strong regulatory framework in relation to quarry and mine rehabilitation and that beneficial post-mining land use can be established after closure.

The Regulator requires lease holders to comply with their rehabilitation obligations under the *Mining Act 1992*. This includes:

- undertaking rehabilitation progressively and in a timely manner
- developing and implementing rehabilitation techniques, in consideration of detailed risk assessments and sound scientific principles, to overcome barriers/constraints to achieving successful rehabilitation
- undertaking monitoring to assess whether rehabilitation is trending towards meeting the approved rehabilitation objectives and completion criteria in a timely manner
- developing and implementing a maintenance program for rehabilitation areas to rectify potential issues identified from the monitoring program
- maintaining records of the methods used to establish rehabilitation, as well as monitoring data, to demonstrate success and facilitate continual improvement
- submitting a security bond that is held by the government to cover the full cost of rehabilitation should a company default on its obligations.

# Further information

- Exploration and mining rehabilitation fact sheet
- Form ESF2: Rehabilitation completion
- NSW Resources Regulator mining operations plan guidelines
- Rehabilitation compliance and reporting reforms
- Australian Government, Department of Industry, Innovation and Science 2016: Leading Practice Sustainable Development Program in the Mining Industry – Mine Rehabilitation
- Australian Government, Department of Industry, Innovation and Science 2016: Leading Practice Sustainable Development Program for the Mining Industry – Risk Management

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# About this information release

The information contained in this publication is based on knowledge and understanding at the time of writing. However, because advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the NSW Resources Regulator or the user's independent advisor.

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