

Worsley Mine Development

CONTINUING OPERATIONS

The **objective** for this component of the environmental review is to **protect social surroundings from significant harm**.

Within this assessment Social Surroundings includes the aesthetic, cultural, economic and social surroundings to the extent that those surroundings directly affect or are affected by physical or biological surroundings.



INTRODUCTION

South32 Worsley Alumina is an integrated bauxite mining and alumina refining operation in the South West of Western Australia with a proud track record spanning more than 35 years.

The Worsley Alumina Mine Development is the next phase of bauxite mining near the town of Boddington, providing access to future reserves and resources to sustain production at our Worsley Alumina refinery near Collie.

The project is a key enabler for Worsley Alumina to continue to deliver benefits to the Peel and South West regions, and Western Australia more broadly, for many years to come.

The project is currently subject to a State and Commonwealth environmental approvals process, with a comprehensive environmental review undertaken and an eight-week public review period.

BACKGROUND

The focus areas, or “receiving environment” for Social Surroundings includes:

- Sensitive receptors (i.e. residents, agricultural properties and public recreation sites);
- Tourists and other land users;
- Aboriginal heritage sites; and
- European heritage sites.

The predominant land uses within and adjacent to the Worsley Mine Development Envelope (WMDE) and Bauxite Transport Corridor (BTC) are mining and agriculture (freehold land), including plantations. Other land uses include Crown Land, State Forest, road reserves and timber reserves. Freehold land consists primarily of rural properties and areas allocated to Civic and Community uses under Local Planning Scheme No.3 (DPLH, 2019). Crown Land includes the Marradong, Saddleback and Quindanning Timber Reserves. When not allocated to mining processes, the Timber Reserves are managed by DBCA for timber production, recreation and biodiversity conservation. The Contingency Bauxite Mining Envelope (CBME) is covered by the existing mining lease area for the Refinery.

The natural, cultural, tourism and heritage values within and adjacent to the Worsley Alumina operations are related to visual amenity. The Dwellingup State Forest and the Hotham River both form integral parts of the natural landscape surrounding the Boddington Bauxite Mine (BBM), while the Harris River State Forest forms the entire natural landscape surrounding the Refinery. The State Forests provide scenic qualities within the Shire of Boddington and the southwest region, and the Hotham River provides aesthetic values for the local communities as well as recreational opportunities (ERM, 2020).

Additional factsheets for Noise & Vibration and Heritage, which are both components of the Social Surroundings review, have been developed to provide more detailed information and as such will not be further included in this overview.

POTENTIAL IMPACTS

Project activities that have the potential to impact on social surroundings include clearing of vegetation and land disturbance from activities associated with mining.

The potential impacts that may occur to social surroundings because of the project are:

- Reduced visual amenity from proposed mining activities and infrastructure, in addition to existing operations and infrastructure;
- Disturbance to heritage and tourism areas; and
- Changes to land use.

The proposed mining activities and infrastructure have the potential to reduce the quality of the existing visual amenity within and surrounding the project area. The visual components of the project near Boddington are broadly the same as the existing operations, with the key differences being that the mining activities will occur in new areas and additional permanent infrastructure including new bridges/crossings, roads, buildings and potentially an additional crusher and overland conveyor will be required. Activity near the Refinery will include mining related visual changes, which has not historically occurred, aside from the development of residue storage areas which includes similar activities (clearing, material movement, movement of mobile equipment and rehabilitation).

There are no current plans to directly impact the Tullis Bridge for the project and is likely to only experience minor impacts to visual amenity. Furthermore, noise modelling indicates predicted levels did not exceed noise criteria under any scenario. Changes to land use may impact on individuals residing in private residential properties within the WMDE and BTC. Worsley Alumina will work with these landowners to develop an outcome to minimise the impact of the operation. As with current existing operations, development within the WMDE and the BTC within areas of Crown Land, State Forest, road reserves and timber reserves will be required. Access to these areas is included in the State Agreement and processes and practices for informing the relevant agency about these activities are well established. The post-mining land use will be refined as part of the ongoing closure planning process. It is anticipated that end land uses will be reviewed regularly throughout the life of the project, in consultation with key stakeholders. The end land use of the CBME will also be refined as part of closure process for the Refinery.

MITIGATION

Mitigation management plans and procedures regarding heritage, noise and visual amenity have been in place and implemented at the existing Worsley Alumina mining operation for many years.

These procedures will continue to be implemented throughout the life of this project and include considerations such as designing the location of infrastructure where possible to minimise clearing and maintenance of vegetation buffers or planting of vegetation along boundaries to assist in screening where appropriate.

A 1.1 km section of the Bibbulmun Track intersects the north-western extent of the WMDE. Worsley Alumina commit to implementing a minimum 100 m buffer to protect the Bibbulmun Track from direct ground disturbing activities, and where possible, following mine design in the area, will increase the buffer to 200 m consistent with the DBCA's Forest Management Plan. Consultation with DBCA and the Bibbulmun Track Foundation will be undertaken prior to impacts within the area to determine the most appropriate management for this area. The north-western extent of the WMDE is not planned to be mined in the near term (more than 10 years), so there is time for consultation with and approval from the relevant regulatory authority and community partners to be obtained prior to any potential impact.

PREDICTED OUTCOME

Mining in the Boddington area will remain a dominant feature of the landscape through the removal of trees, stripping of topsoil and establishment of permanent infrastructure within the Primary Assessment Area (PAA).

However, the visual changes in the project are not likely to be visually discernible from the existing visual impacts, with minimal noticeable changes. Most noticeable changes to visual amenity will be temporary and progressively rehabilitated. Mitigation through vegetation screening will be considered for noticeable, permanent changes as identified in the Landscape and Visual Impact Assessment. The residual visual impact of the project is considered to be negligible to minor (ERM, 2020).

More detailed information is provided in Section 5.7 of the Environmental Review Document.