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Subject: Vegetation Assessment for the Bylong Quarry Modification Project, located at 8346 Bylong Valley Way, Bylong NSW

Project Background

Habitat Environmental Services (Habitat) was engaged by MAAS Group Pty Ltd to undertake a vegetation assessment at the Bylong Quarry, which is located at 8346 Bylong Valley Way, Bylong NSW. The Bylong Quarry is an active hardrock quarry (mainly for Basalt and Sandstone) currently operated by Regional Group Australia (RGA). The quarry operates under a 20-year lifecycle approval (DA 0330/2012) that was granted on 17th February 2014. This approval allows for extraction of up to 199,000 tonnes per year.

A modification to the existing approval is currently being sought. The modification will allow for the regularization for the operational areas, including the pit shell, Overburden Stockpile Areas (northwest) and the Processing/ Product Stockpile Areas (southeast). These areas are hereafter referred to as the “Modification Investigation Areas” as shown on **Figure 1**.

Ecological investigations were undertaken within the Bylong Quarry site in 2011 by Ecobiological Pty Ltd. A Flora, Fauna and Threatened Species Assessment Report was prepared to support the Bylong Quarry Expansion Project. Vegetation community mapping within the report shows that at the time of the assessment, native vegetation was comprised of narrow isolated patches of woodland and native grasslands, which mainly occurred near the western and northern site boundaries. The mapping also indicates that the remainder of the site, including the Modification Investigation Areas (**Figure 1**), were vegetated with Exotic Grassland.

Aim

The aim of the assessment was to describe the condition and extent of vegetation types within the Modification Investigation Areas and to provide a conclusion as to whether impacts to these areas would trigger entry into the NSW Biodiversity Offset Scheme.

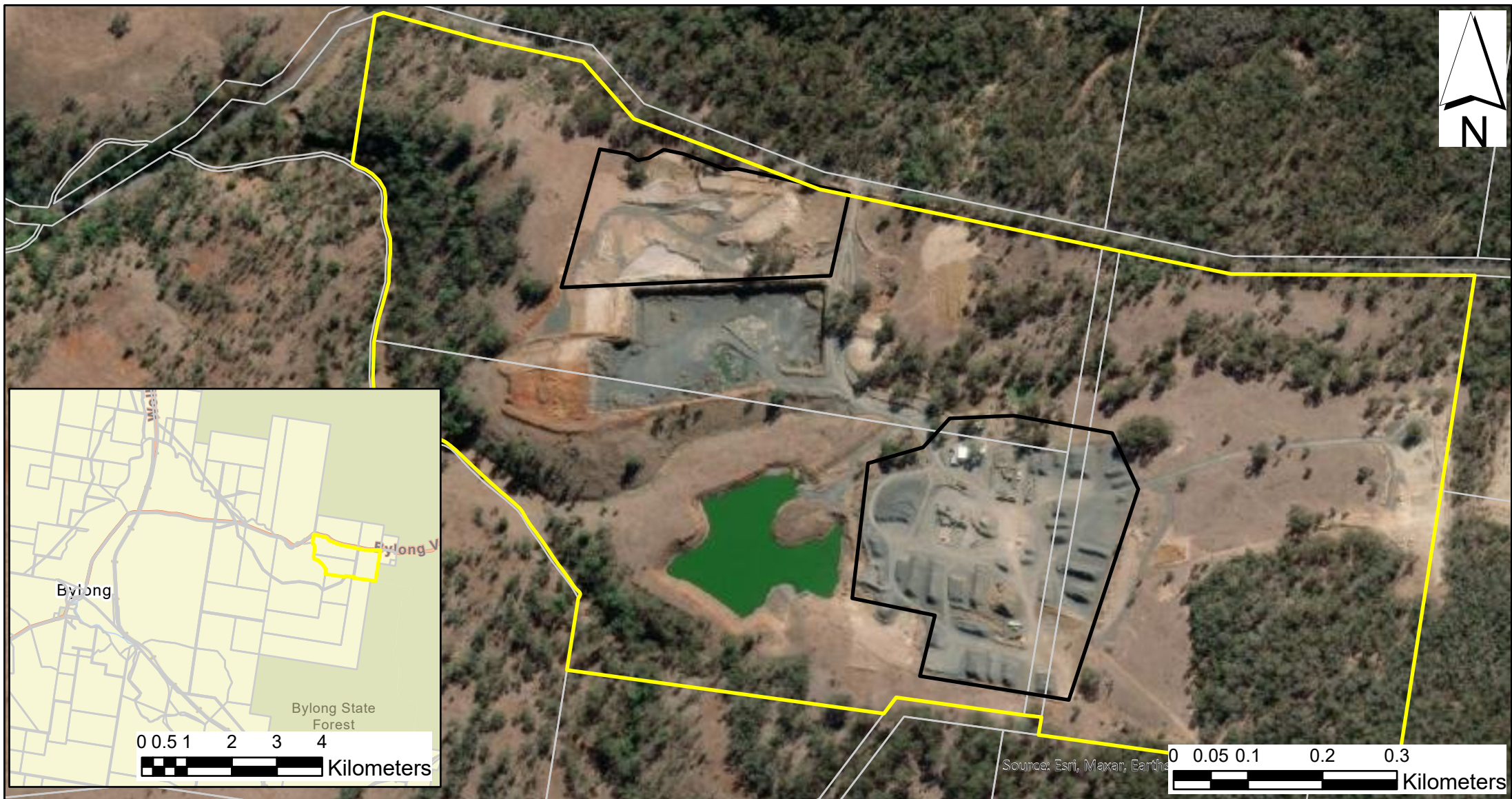


Figure 1: Locality & Modification Area



Legend

- Site Boundary
- Lot Boundaries

- Modification Investigation Areas

Site Description

The following terms are used throughout this report:

- **The Site/The Quarry** – Land located at 8346 Bylong Valley Way, Bylong NSW (Lots 53, 55 and 66 DP 755420).
- **Modification Investigation Area** – Land pertaining to the modification of the approved DA (DA 0330/2012); specifically, the Extraction Area, Overburden and Processing and Product stockpile areas as shown in the black hatched area in **Figure 1**.
- **Locality** – Land within 5 kilometers of the Quarry.

The Bylong Quarry occurs approximately five kilometers east north-east of the Bylong township. The site is approximately 67 hectares (ha) and is located adjacent to the Goulburn River National Park. The ecological assessment prepared by Ecobiological (2011) reports that vegetation within the site is comprised of a mosaic of native woodland, derived native grasslands and exotic grasslands. Exotic Grasslands occupy the majority of the site (41 ha). Infrastructure associated with quarry operations include active quarrying pits, roads, and stockpiles.

Survey Methods

A site inspection was undertaken by Ecologist Ben Stewart on 23rd August 2023. The extent and condition of vegetation was assessed using the following methods:

- Three (3) floristic plots were sampled in accordance with the Biodiversity Assessment Method (BAM) to assess vegetation integrity. Plots were sampled in representative areas of vegetation.
- Rapid Data Points (RDPs) were used to classify and map vegetation condition based on characteristics such as species composition, structural characteristics, and the prevalence of native versus exotic species.
- Photographs were taken of vegetation and key habitat features.
- Delineation of native woodland vegetation along the northern Overburden stockpile boundary.

The survey effort undertaken during the assessment is shown in **Figure 2**.



Figure 2: Survey Effort



Legend

Site Boundary

Modification Investigation Areas

BAM Plot

Random Data Point (RDP)

Results

The vegetation within the Modification Investigation Areas were found to contain a high coverage of exotic plant species, including several species that are listed as High-Threat Weeds (HTWs), and a sparse occurrence of native species. Trees and shrub species were generally absent throughout.

The dominant exotic species included *Galenia pubescens* var. *pubescens* (Galenia), *Conyza bonariensis* (Fleabane), *Tagetes minuta* (Stinking Roger), *Carthamus lanatus* (Saffron Thistle), *Verbena bonariensis* (Purpletop), *Hirschfeldia incana* (Hairy Brassica), *Modiola caroliniana* (Red-flowered Mallow), *Hypericum perforatum* (St John's Wort) and *Lysimachia arvensis* (Scarlet Pimpernel).

Native species were limited to sparse occurrences of native grasses and herbs. The dominant grass species include *Sporobolus creber* (Slender Rat's Tail Grass), *Aristida ramosa* (Purple Wiregrass) and *Chloris truncata* (Windmill Grass). Other native species, such as *Geranium homeanum*, *Dichondra sp. Inglewood* (J. M. Dalby 86/93) *Oxalis perennans*, *Maireana microphylla* (Bluebush) and *Aristida vagans* (Three-awned Speargrass) are infrequent throughout.

Representative photographs of the vegetation are presented in **Plates 1-4**.

The percentage cover of exotic species was found to be greater than 80% at each floristic plot, with an average of 90% exotic cover across all three plots. As such, the Modification Investigation Area is considered to support exotic vegetation. This is consistent with the findings of the investigations undertaken by Ecobiological in 2011.

The current extent of vegetation is illustrated on **Figure 3**.



Plate 1 Modification Investigation Area along the Processing/Product stockpiling area in The Site's south-east, looking north.



Plate 2 Processing and Product stockpiling area in The Site's south-east, looking west towards the extraction area.



Plate 3 Modification Investigation Area along the Overburden stockpiling area in The Site's north (Highwall), looking east towards the site office.




Plate 4 Modification Investigation Area along the Overburden stockpiling area in The Site's north (Highwall) showing close up of exotic vegetation.




Figure 3: Vegetation Map



Legend

 Site Boundary

 Modification Investigation Areas

Vegetation Type

 Exotic Grassland

 Cleared

Threatened Ecological Communities

Two Threatened Ecological Communities (TECs) were previously mapped within the Site (Ecobiological 2011):

- *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland* - Listed as Endangered under the TSC Act (now repealed).
- *White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands* – Listed as Critically Endangered under the EPBC Act.

The vegetation within Modification Investigation Areas was assessed against the final determinations (DPE 2023b) for each of the TECs listed above. Note that the TEC previously listed under the TSC Act is now listed at a national level and is synonymous with the EPBC listed community. To be included as part of the TEC, patches without an overstorey of native trees must have a predominantly native understorey. In accordance with the *White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands listing advice and conservation advice* (DCCEEW 2006), a predominantly native understorey is considered to be one where 50% or greater of the perennial vegetation cover in the ground layer is native. Given that all floristic plots show native perennial vegetation cover as 20% or less (i.e., 80% or greater exotic cover), then the Modification Investigation Area is not considered to form part of this TEC. This is consistent with the status of the Exotic Grasslands previously mapped within the Site (Ecobiological 2011).

Two TECs have been listed under the BC Act since the 2011 ecological assessment:

- *Hunter Valley Foothills Slaty Gum Woodland in the Sydney Basin Bioregion* – listed as Vulnerable under the BC Act.
- *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* – listed as Critically Endangered under the BC Act.

The vegetation within the Modification Investigation Areas does not contain any of the key diagnostic species represented in either of these TECs.

Habitat Values

The Modification Investigation Area is highly degraded and does not contain key habitat features for most threatened and migratory species previously recorded (DPE 2023) or modelled to occur (DCCEEW 2023) within the locality. Of these species, the following species have previously been recorded in disturbed and fragmented landscapes containing Exotic Grasslands:

- *Diuris tricolor* (Pine Donkey Orchid) – Vulnerable (BC Act)
- *Delma impar* (Striped Legless Lizard) – Vulnerable (BC Act and EPBC Act)

The above listed species are known from the Hunter Valley Region; however, given that the habitat within the Modification Investigation Areas contains a high cover of perennial exotic species, it is likely that these areas are too degraded to support populations of either of these species.

Biodiversity Offset Scheme

The NSW BC Act together with the NSW BC Regulation outlines the framework for addressing impacts on biodiversity from development and clearing. The framework details a pathway to avoid, minimise and offset impacts on biodiversity from development through the Biodiversity Offset Scheme (BOS).

Entry into the NSW Biodiversity Offset Scheme (BOS) is triggered by developments, projects and activities that meet criteria or certain thresholds for significant impacts on biodiversity in accordance with Section 6.3 of the BC Act. A discussion of the criteria is provided below:

- **Criteria: Local Development (assessed under Part 4 of the *Environmental Planning and Assessment Act 1979*) that triggers the BOS Threshold or is “likely to significantly affect threatened species” (based on a test of significance pursuant to Section 7.3 of the BC Act).**

The habitat within the Modification Investigation Areas is degraded and lacks the presence of key habitat features for threatened species.

- **Criteria: Clearing of vegetation that exceeds the vegetation clearing threshold (based on the minimum lot size).**

The vegetation clearing threshold for the site is 1 ha based on a minimum lot size of 40 ha. The advice presented on the DPE Assessor Questions and Answers webpage (DPE 2023c) states the following:

- Where there is greater than 75% native vegetation in the ground cover then treat the vegetation as 100% native and assess the area to be cleared accordingly.
- Where the proportion of exotic to native vegetation in the ground cover is between 15-75% - the calculation of native vegetation extent is adjusted by multiplying the proportion (%) of native cover by the total area to be cleared.
- Where there is less than 15% native ground cover all vegetation can be considered exotic and the area clearing threshold will not be exceeded.

The survey plot data shows that the coverage of exotic species within the Modification Investigation Areas ranges from 81.64% to 96.50% (90.37% when averaged). Given that average native cover is <15% all vegetation is considered to be exotic and the area clearing threshold is not exceeded.

- **Impacts within an area mapped on the NSW Biodiversity Values Map (BV Map) (DPE 2023).** Review of the BV Map on 01/09/23 shows that forested areas along the northern boundary of the northern Modification Investigation Area are identified as “Threatened species or communities with potential for serious and irreversible impacts”. Vegetation clearing within these areas would trigger entry to the BOS.

- **State Significant Development (SSD) and State Significant Infrastructure projects (SSI), unless “the Secretary of the Department of Planning, Industry and Environment and the environment agency head determine that the project is not likely to have a significant impact”.**

The modification to the existing approval currently being sought is not an SSD; therefore, this criterion is not relevant to the proposed modification.

- **Biodiversity certification proposals.**

Biodiversity certification is not being sought; therefore, this criterion is not relevant to the proposed modification.

- **Clearing of native vegetation in urban areas and areas zoned for environmental conservation that exceeds the BOS threshold and does not require development consent.**

The project site does not occur within an urban area and no areas within the Modification Investigation Areas are zoned for environmental conservation.

- **Clearing of native vegetation that requires approval by the Native Vegetation Panel under the *Local Land Services Act 2013*.**

Approval by the Native Vegetation Panel under the *Local Land Services Act 2013* is not required for the project; therefore, this criterion is not relevant to the proposed modification.

- **Activities assessed and determined under Part 5 of the EP&A Act (generally, proposals by government entities) if proponents choose to ‘opt in’ to the Scheme.**

The proposed modification will be determined under Part 4 of the EP&A Act; therefore, this criterion is not relevant to the proposed modification.

Summary

In summary, the vegetation assessment revealed the following:

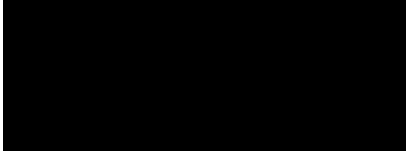
- The vegetation within the Modification Investigation Areas is dominated throughout by Exotic Grassland with an average native cover is that is less than 15%
- The vegetation does meet the listing criteria for any TECs previously mapped within the Study Area.
- The vegetation lacks key habitat features for threatened or migratory species that are known to occur within the locality.
- Review of the criteria and thresholds that trigger entry to the BOS indicates impacts to Exotic Grassland would not trigger entry into the BOS.
- Impacts to areas mapped on the NSW BV Map along the northern boundary of the Modification Investigation Areas would trigger entry into the BOS if such impacts involved the clearing of native vegetation that met the condition criteria previously discussed.



Closing

If you have any questions, please get in touch at your earliest convenience.

Yours sincerely,



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