



Clearing Permit Referral Supporting Information

ML 106 STP18BD Access Road

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Version No: V1.0
Version date: 30.08.2023

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1.0 Introduction

Christmas Island is an Indian Ocean Territory of Australia, located approximately 2,600 km North - West of Perth. The island is predominantly National Park (63%).

2.0 Proposed Clearing

Figure 1 - The proposed clearing of 0.29ha will be conducted to give safe access to ML106 STP18BD for mine haulage operations, the purpose is to reinstate and widen the current road. Figure 2 - Vegetation mapping showing the nominated area as Weed dominated vegetation with pioneer regrowth.

3.0 Existing Environment

Christmas Island has a tropical monsoonal climate with distinct wet and dry seasons and little seasonal variation in temperature. The dry season (May-November) is dominated by low and sporadic rainfall events with consistent south-east trade winds. The wet season generally occurs from December – April with the island receiving most of its rainfall during this period.

Temperatures remain relatively uniform throughout the year, the island has high humidity throughout the year with frequent dews and heavy mists during the wet season.

4.0 Geology and Soils

Christmas Island is one of a series of seamounts that rise above the 5,500m deep abyssal areas of the West Australian Basin. At the core of the island are volcanic rocks, mainly composed of basalt with a layer of limestone generally covering these volcanic rocks, with occasional outcrops.

A series of geological uplifts and successive layering of coral reefs over the basalt core of the island have led to the eruption of new cliffs and terraces from the ocean, forming stepped terraces and inland cliffs. Limestone is mixed with dolomite sediments, basalts and tuffs. Phosphate rich soil covers the limestone over approximately half of the island.

5.0 Landforms and Topography

The island is characterised by sea cliffs that rise via a series of terraces to a central plateau. The shoreline is dominated by cliffs with a few small beaches. The islands natural landscape is dominated by karstic surface landforms and cave systems.

6.0 Hydrology

A major feature of the island is the lack of surface drainage. Rainfall mostly infiltrates the land surface and is utilised by plants, contributes to soil water stores or recharges to groundwater.

Christmas Island soils are generally highly permeable and there is consequently little runoff or erosion in the wet season when the soils are saturated, runoff can during heavy rainfall have some risk of erosion and sedimentation carriage.

Permanent surface water habitats on Christmas Island are limited to a number of spring fed streams found along coastal or sloping areas of the island. Hosnie Springs and The Dales are both listed as a Wetland of International Importance under the Convention on Wetlands of International Importance, Water Fowl Habitat 1971 (RAMSAR Convention) and are listed in the Directory of Important Wetlands in Australia.

7.0 Flora

The Christmas Island National Park covers 63% of the island, approximately 25% of the islands original vegetation has been cleared for mining and infrastructure.

The geology and climate on Christmas Island create the biophysical environment and constraints for the vegetation communities. These factors determine the soil nutrient status, seasonal availability of moisture and degree of exposure to wind which in turn control the distribution, structure and functioning of the natural vegetation.



7.1 Site Vegetation

Vegetation within the nominated area contains of degraded vegetation, the vegetation is dominated by *Nephrolepis biserrata*, and various weed species including *Mutungia calabra* and *Leuceana leucocephala*, native species also found within the nominated area were *Macaranga tanarius*, *Arenga listeri*, *Tristopsis acutangula*,

Site No.	GPS Co-ordinates	Location/Vegetation
1	051167 8838548	T Junction - ML106 STP18BD – <i>Nephrolepis biserrata</i> , <i>Macaranga tanarius</i> , <i>Arenga listeri</i> , <i>Tristopsis acutangula</i> - clearing within this zone will be for safe visual access
2	051167 8838548	Current Access Road – <i>Arenga listeri</i> , <i>Nephrolepis biserrata</i> and various weed species
3	0571162 8838580	Current Access Road – <i>Tristopsis acutangula</i> , <i>Macaranga tanarius</i> , <i>Nephrolepis biserrata</i> and various weed species
4	0571161 8838589	Current Access Road – Juvenile <i>Macaranga tanarius</i> , <i>Nephrolepis biserrata</i> and various weed species
5	0571168 8835756	Current Access Road – <i>Nephrolepis biserrata</i> and various weed species
6	0571178 8835796	Current Access Road – <i>Macaranga tanarius</i> , <i>Nephrolepis biserrata</i> and various weed species
7	051176 8838830	Base of Stockpile – this area is covered under existing CPS

Table 1 Vegetation Site Survey Data

8.0 Fauna

There have been 22 terrestrial fauna species identified as significant. These include 3 seabirds; 7 forest birds; 6 reptiles and 3 land crabs. Of these 2 mammals, 6 birds and 2 reptiles are listed as Threatened under the EPBC Act. There is no threat to fauna within the proposed action.

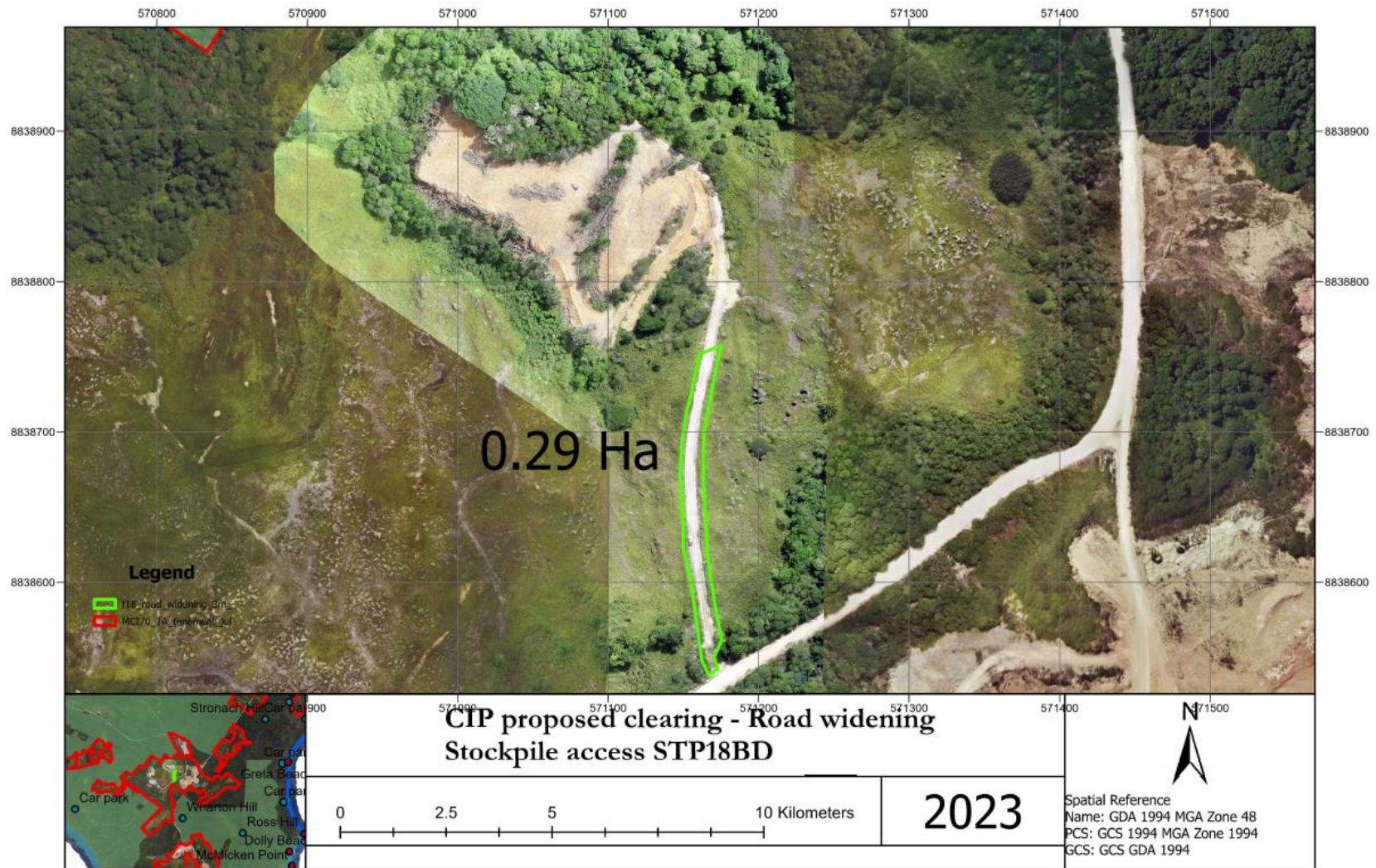


Figure 1 Site Map - proposed clearing

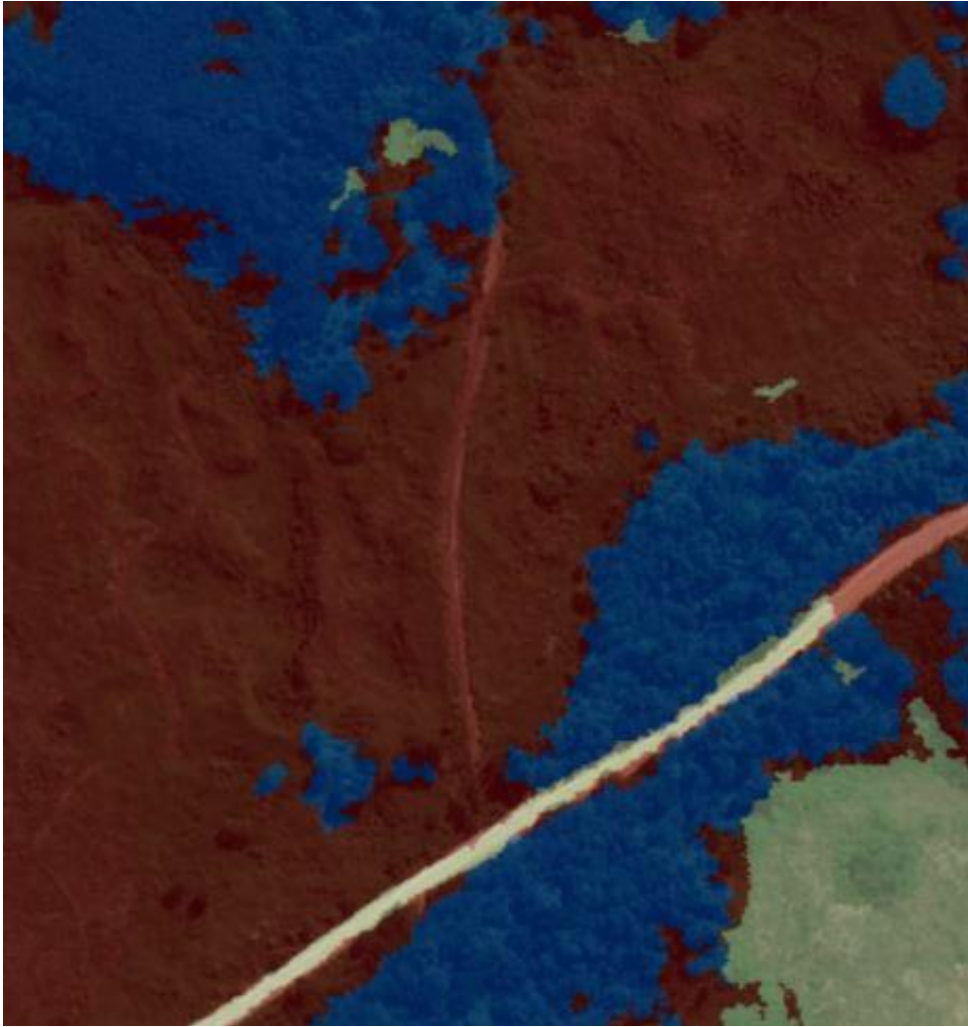


Figure 2 Current Access Road - Vegetation Mapping



Plate 1 Site 1 - T Junction Current Access Road/Blowholes Road



Plate 2 **Site 2 - Current Access Road showing edging vegetation**



Plate 3 **Site 3 - Current Access Road showing edging vegetation**



Plate 4 **Site 4 - Current Access Road showing edging vegetation**



Plate 5 **Site 5 - Current Access Road showing edging vegetation**



Plate 6 **Site 6 - Current Access Road at stockpile showing edging vegetation**



Plate 7 **Site 7 - Current Access Road at base of stockpile showing edging vegetation**