

IMPACTS OF VULCAN SOUTH ON CONNECTIVITY

According to the *Queensland Environmental Offsets Policy Significant Residual Impact Guideline*, a development impact on connectivity areas is determined to be significant if either of the following are true:

1. The change in the core remnant ecosystem extent at the local scale (post impact) is greater than a threshold determined by the level of fragmentation at the regional scale (as per Table 1); or
2. Any core area that is greater than or equal to one hectare is lost or reduced to patch fragments (core to noncore).

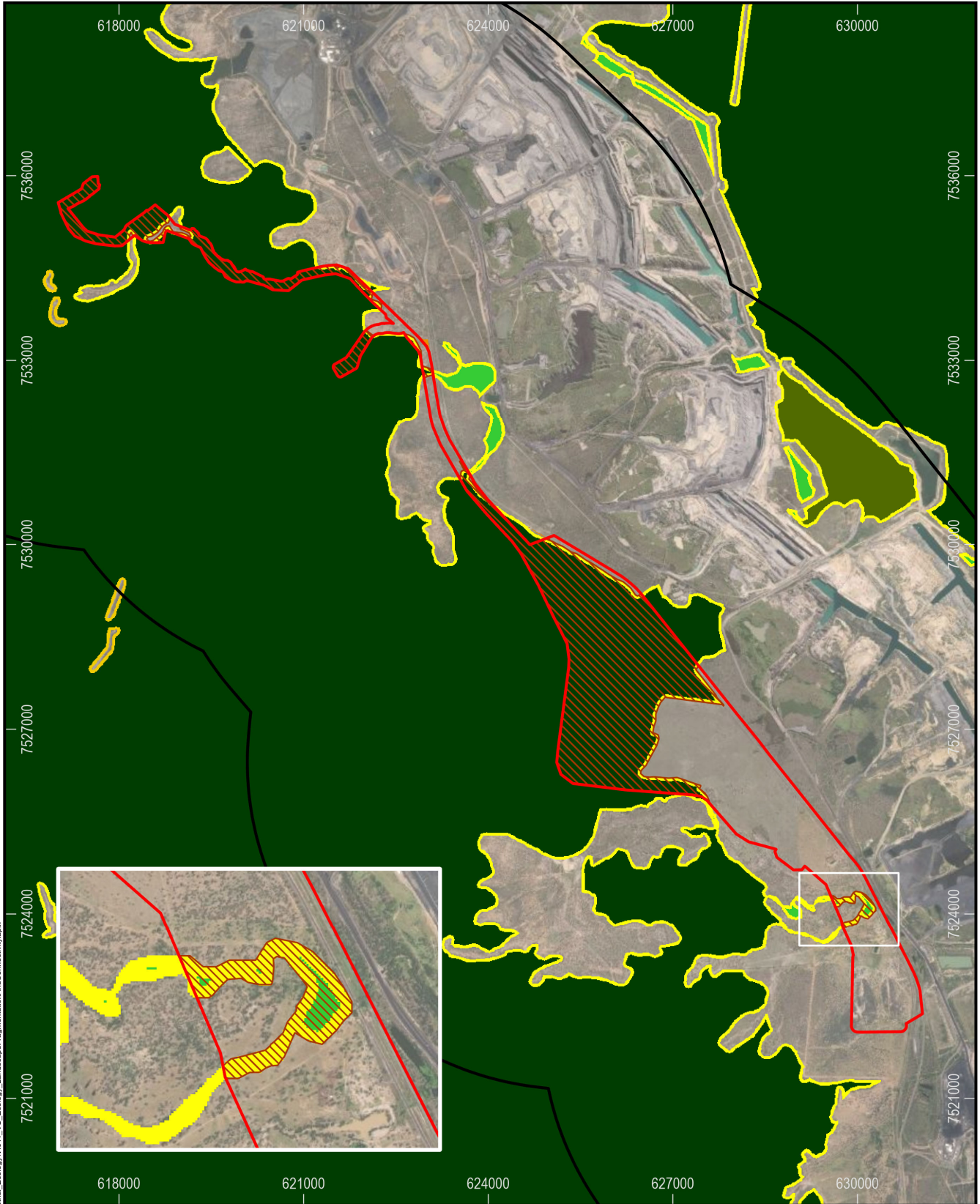
Table 1 Significant impact threshold for loss of core habitat on a local scale

Regional scale extent of core remnant ecosystem (%)	Change threshold for local core scale remnant ecosystem (%)
>90	50
70-90	30
50-70	20
30-50	10
10-30	5
<10	2

The Landscape Fragmentation and Connectivity Tool determined that the extent of core remnant ecosystem at the regional scale was 54.5%. At the local scale, the project will reduce the extent of core remnant ecosystem by 5.5%, which is well below the 20% threshold for a significant impact. Vulcan South therefore does not trigger the first significant impact criterion.

The second criterion is triggered by Vulcan South on the grounds that a single 1.9-ha patch of core remnant ecosystem along Hughes Creek will be removed (**Figure 1**). All other core remnant vegetation to be removed for Vulcan South will reduce the size of core patches, but will not reduce the number.

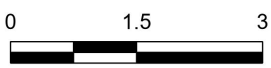
As a matter of state significance, impacts to connectivity will require offsets. For connectivity, an appropriate offset site must be a non-remnant ecosystem and in the same subregion.



Path: S:\Projects\W011_VCP_Stage2\ArcGIS\ProjectFiles\Project\Ecology_LandscapeFragmentationAndConnectivity.aprx

- Legend**
- Impact site
 - Impact site local buffer (5km)
 - core (> 500 hectares)
 - core (< 100 hectares)
 - edge
 - patch
 - perforated
 - other
 - Cleared regulated vegetation (Cat. B)
- Regional fragmentation pre impact

Vulcan South
Landscape Fragmentation and Connectivity Assessment - Pre-Disturbance



Kilometers
 Scale: 1:90,000 (A4)

16/08/2022

Datum: GDA2020
 Projection: MGA55

FIGURE 1

VITRINITE
 BRIGHTER COAL

METSERVE
 Mining & Energy Technical Services Pty Ltd

Source: State of Queensland (Department of Resources) 2022, Vitrinite 2022, METServe 2020-2022, Earthstar Geographics.