

Visual Impact Assessment Addendum

Date 23 September 2016

Our Ref Addendum to the *South Flank Project: Landscape and Visual Impact Assessment* (GHD and 360 Environmental, 2013)

1 Purpose of This Addendum

This addendum has been prepared to identify if the changes to the Southern Flank mine plan:

- have resulted in a significant change in visual impacts from those detailed in the GHD and 360 Environmental (2013) *South Flank Project: Landscape and Visual Impact Assessment* (the LVIA); and
- require the LVIA to be updated or new LVIA to be undertaken.

2 Scope of the Addendum

South Flank is located approximately 90 km northwest of Newman in the Pilbara region of Western Australia (WA) and immediately south of Mining Area C. In 2013 GHD and 360 Environmental undertook an LVIA of the current South Flank mine plan to identify potential impacts to visual amenity associated with the project (**Figure 1**). Following the completion of their report the South Flank development was shelved.

In 2016 the South Flank project was restarted and a new mine plan was developed (**Figure 2**) a maximum of OSA extent was also provided (**Figure 3**). The 2016 mine plan contains nine OSAs of which two were new, four were lower, three were higher and four had been removed from what was assessed in 2013.

These changes were reviewed to determine what (if any) impact they would have on the overall visual impact associated with the South Flank project as detailed in the 2013 report.

3 Changes in Impact

The review of the proposed changes identified that the visual impact has remained unchanged or has been reduced for most OSAs from most viewing points with only five minor increases in impacts identified by this review (**Table 1**; **Appendix 1**).

Table 1: OSAs with an Increase in Visual Impact

Viewing Point	OSA Number	Increase in Impact
1	37	<i>Minor increase in impact</i> The extension of the OSA to the west is blocked by Mt Robinson. While the central and eastern extent of the OSA was always visible the OSA is now 30m higher and 800m closer to Viewing point 1 resulting in a minor increase in the impacts associated with this OSA.
5	31	<i>Minor increase in impact</i> OSA is visible from this point and will be 30m higher and 750m closer to the viewing point. This results in the ridgeline behind being fully obscured by this OSA. This view is from the highway with people traveling at approximately 110 km/hr and overlooking a mine site
6	36	<i>Minor increase in impact</i> The OSA has been raised by 30m which make the eastern end of the OSA visible from this Viewing Location. Viewing Point 6 is not a high traffic area.
6	37	<i>Minor increase in impact</i> The increase in OSA height means that the final 3m of OSA 37 is now visible from the Mt Robinson viewing location (centre and eastern ends). Movement away from the viewing area of more than 100m may cause more of the OSA to become visible. Viewing Point 6 is not a high traffic area.

Viewing Point	OSA Number	Increase in Impact
6	43	<p><i>Minor increase in impact</i></p> <p>This is a new OSA located 14km from the viewing point. The top 35m of the OSA will always be visible from this location. Impact will be minimal as the OSA is 14km away and Viewing Point 6 is not a high traffic area.</p>

4 Conclusion

Based on the review of the 2016 Maximum OSA extent against the GHD / 360 LVIA (2013) there is no further requirements to undertake a new LVIA of the 2016 mine plan as:

1. The visual impacts associated with a majority of OSAs has remained unchanged or has been reduced; and
2. In the five instances where impacts have been increased these changes have been minor in nature and are associated with either low traffic view points or view points located along the highway where the OSA will only be visible for a short period of time.

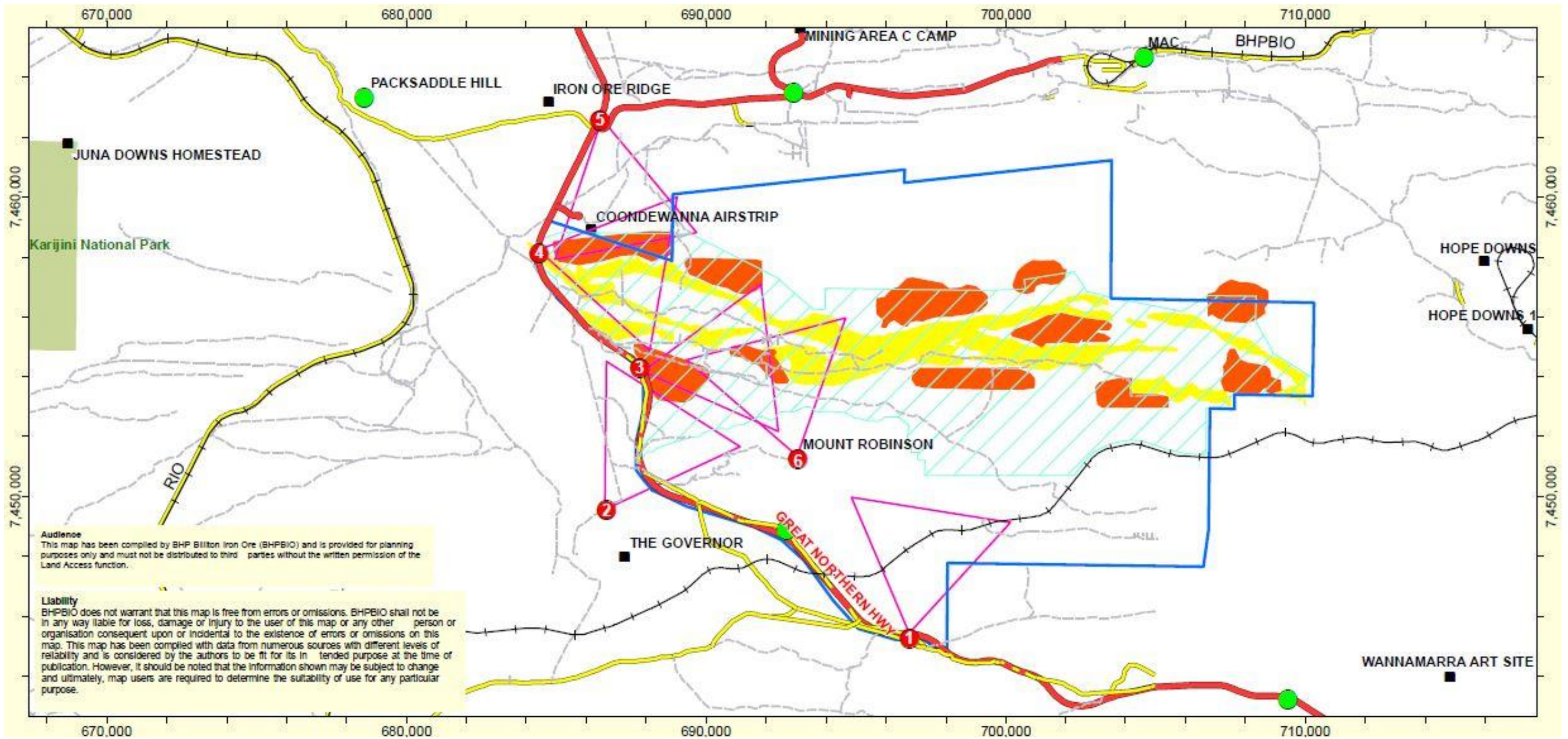


Figure 1: 2013 Mine Plan assessed by GHD / 360.

Key

Orange = OSAs

Yellow = Pits

Numbered Points = Viewing Points 1 to 6.

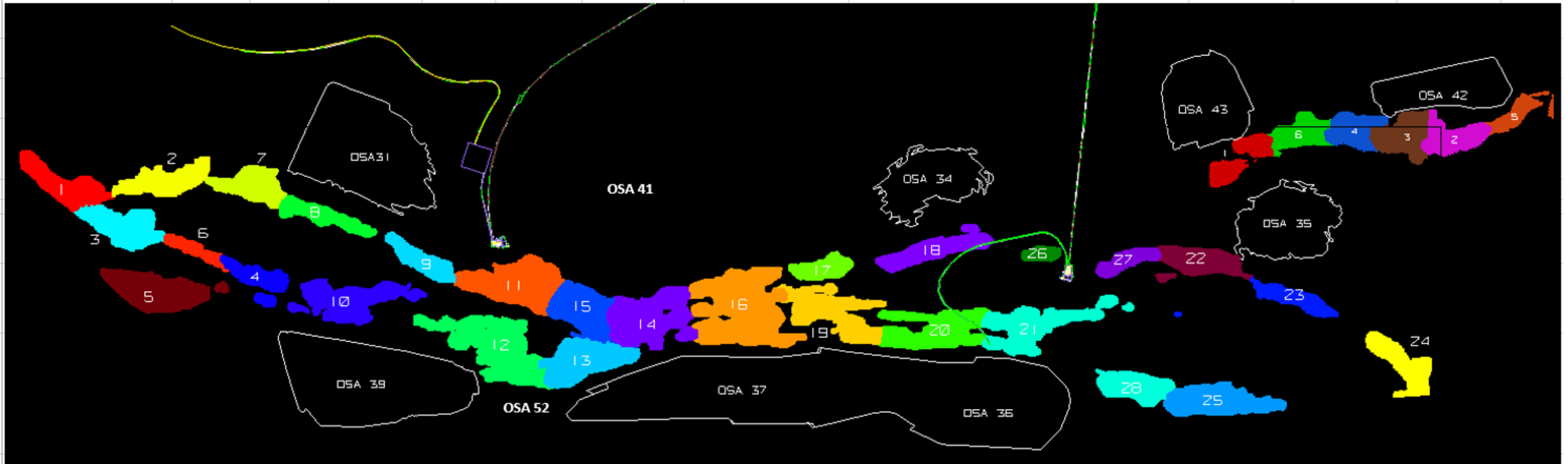


Figure 2: 2016 Mine Plan (Note OSA 42 was not assessed as it has been assessed and Approved under MS 491)

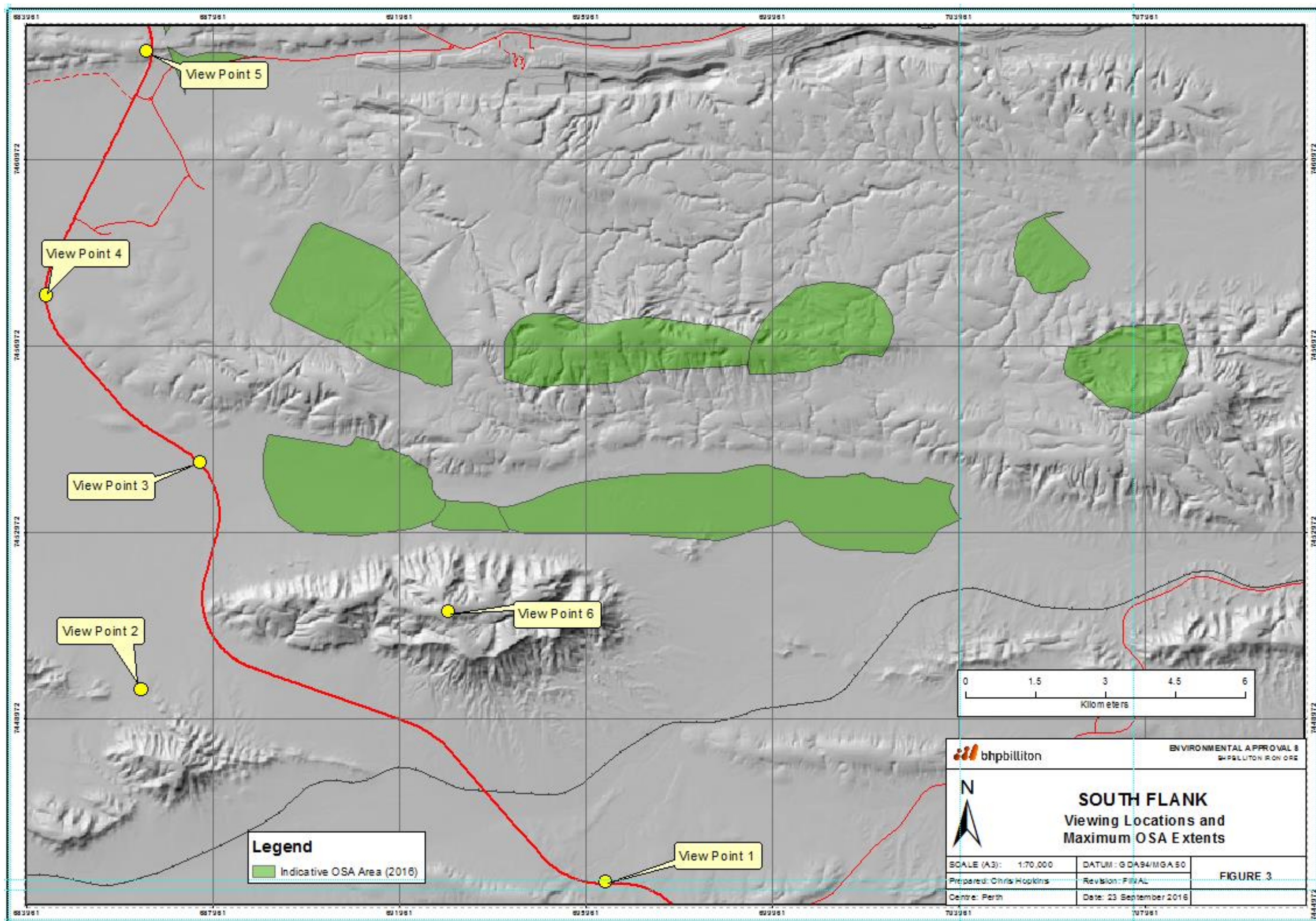


Figure 3: Viewing Locations and Maximum OSA Extents (2016)

Appendix A – Review of Changes from the 2013 LVIA and the 2016 Mine Plan

OSA	Ground Level (mRL)	Original Height (mRL)	Original increase in height (m)	Revised Height (mRL)	Revised increase in height (m)	Change in height original to revised (m)	Changes in location	Changes in dimension	View point 1 Impact	View point 2 Impact	View point 3 Impact	View point 4 Impact	View point 5 Impact	View point 6 Impact
OSA immediately east of Viewing Point 4	700	770	70	N/A	0	-70	OSA removed	OSA removed	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced
31	750	810	60	840	90	30	Combined back to one OSA which extends 1.8km further north and 1.3 km further east.	1.6 km longer 1.3 km wider Now 580 ha larger than original OSA	Unchanged	Unchanged	Unchanged	Reduced Overall (however minor increase in impact specifically for this OSA)	Minor increase in impact	Unchanged
33	750	830	80	750	0	-80	OSA removed	OSA removed	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced
34	760	890	130	820	60	-70	OSA has a larger footprint	730 m wider to the west 500 m wider to the east 400m longer north and south	Reduced OSA still visible, but has a lower height	Unchanged	Unchanged	Unchanged	Unchanged	Reduced
35	710	870	160	850	140	-20	OSA has a larger footprint	OSA 460m wider to the east and 250m longer to the south	Reduced	Unchanged	Unchanged	Unchanged	Unchanged	Reduced
OSA south of OSA 35	800	840	40	N/A	0	-40	OSA removed	OSA removed	Unchanged	Unchanged	Unchanged	Unchanged	Unchanged	Reduced
OSA between OSA 34 and OSA 36	N/A	no data	N/A	N/A	N/A	N/A	OSA removed	OSA removed	No data Unchanged / Reduced	No data Unchanged / Reduced	No data Unchanged / Reduced	No data Unchanged / Reduced	No data Unchanged / Reduced	No data Unchanged / Reduced
OSA 36	681	730	49	760	79	30	OSA reduced by 3.36 km on the eastern side and extended 2.6 km west to link up with OSA 37 which has been moved 800m west	1.6 km wide by 3.7 km long (previous 4 km x 0.6 km)	Unchanged	Unchanged	Unchanged OSA is blocked by OSAs 37 and 39	Unchanged	Unchanged	Increase in impact (new OSA height allows a view of 31m vertical at the eastern end)
OSA 37	690	770	80	800	110	30	OSA larger footprint	800m wider (north south) 3 km longer to the west	Minor increase in impact OSA western extension blocked by Mt Robinson, but OSA is 30m higher and 800m closer	Unchanged	Unchanged OSA is blocked by OSA 39	Unchanged	Unchanged	Minor increase in impact

OSA	Ground Level (mRL)	Original Height (mRL)	Original increase in height (m)	Revised Height (mRL)	Revised increase in height (m)	Change in height original to revised (m)	Changes in location	Changes in dimension	View point 1 Impact	View point 2 Impact	View point 3 Impact	View point 4 Impact	View point 5 Impact	View point 6 Impact
39	700	850	150	800	100	-50	OSA moved 1 km east and 1.6 km longer	OSA larger	Unchanged	Reduced	Reduced (Site still has a high overall impact as identified in the LVIA)	Reduced	Unchanged	Reduced (The original LVIA did not have this OSA as visible, however it can clearly be seen from this location. Reduction in OSA height and movement to the east has reduced overall impact from the original scenario)
OSA 41 (between OSA 31 and OSA 34)	800	930	130	880	80	-50	OSA reinstated; larger footprint than before	OSA 1.3 km wider to the west 0.4km north	Reduced OSA still visible, but has a lower height	Unchanged	Reduced	Reduced	Reduced	Reduced
43	690	N/A	0	748	58	58	New OSA	New OSA	No impact	No impact	No impact	No impact	No impact	Minor increase in impact
OSA 52 (new - Joins 39 and 37)	700	N/A	0	726	26	26	New OSA 1.2km long 0.6km wide	New OSA	No impact	No impact	No impact OSA is blocked by OSA 39	No impact	No impact	No impact

Key

No change in impact / No impact

Reduced Impact

Increase in OSA height

Minor increase in impact