

## Total Area of Clearing at Lockyer project site

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Condition 1 of the EPBC Approval (EPBC referral 2017/7994) states that:

*The **approval holder** must not clear vegetation outside of the **project site** and the **approval holder** must not **clear** more than 18.38 hectares of vegetation within the **project site**.*

The project site is defined as the Impact Area as shown on Figure 5 in Attachment C to the approval. This drawing contains four impact areas with a combined area of 18.38 hectares and is included as Figure 5 below.

The total area cleared on the Lockyer PS site within the approved project site (the Impact Areas) via Clearing Works Contract PLC160/2, was 15.92 hectares and is therefore less than 18.38 hectares, so the **approval holder has complied with this condition**.

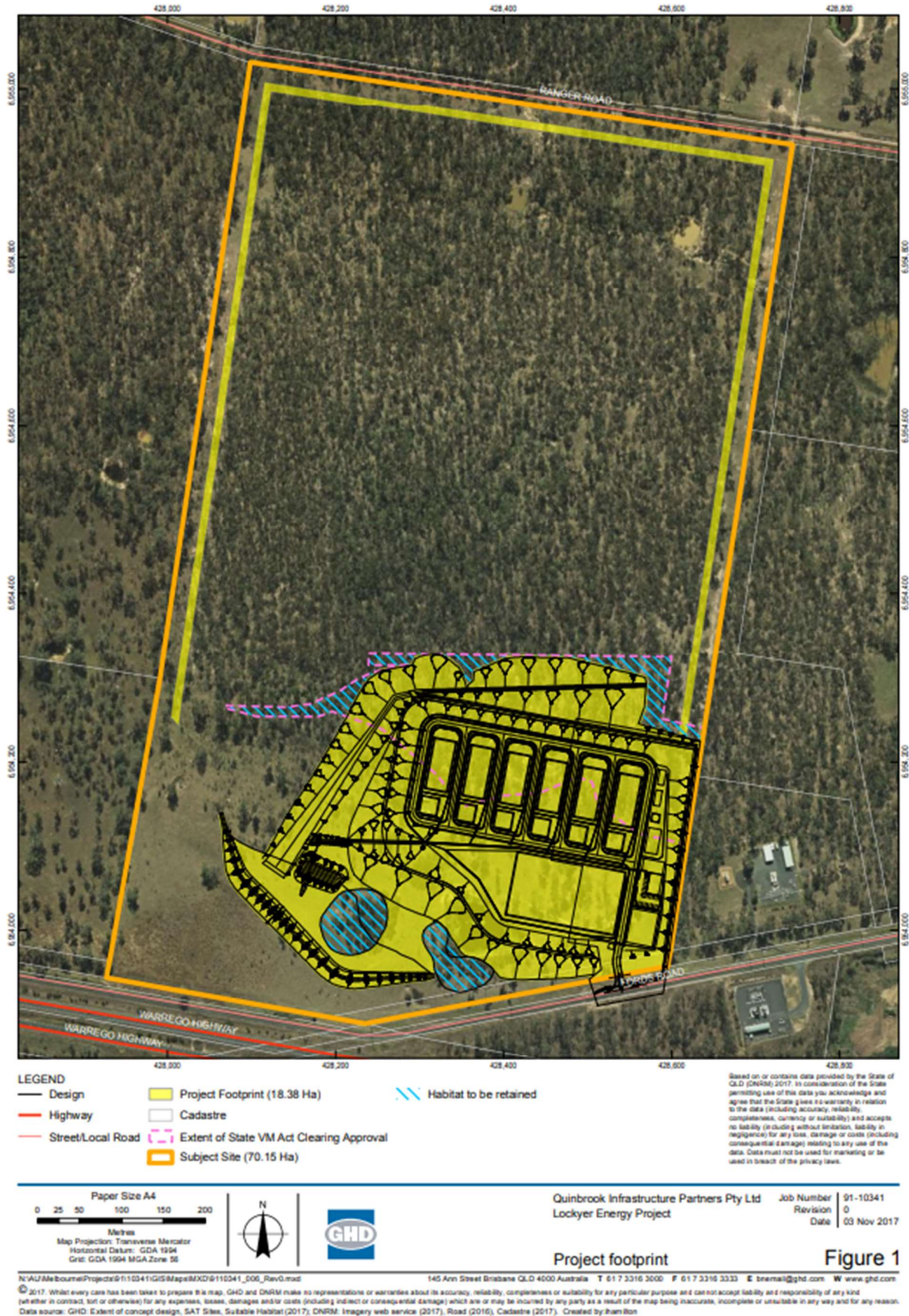
### Area Approved for Clearing

The *GHD Response to Preliminary Documentation Information Request (EPBC 2017/7994) November 2017* (the “GHD Response”) contained the following Table at page 9, which calculated the total area to be cleared (in the right-hand column) as 18.38 hectares:

**Table 1 Koala and grey-headed flying-fox habitat area calculations**

Description	Total area (ha)	Disturbance area (ha)
No habitat value	8.89	3.51
Low habitat value	14.37	7.46
Medium habitat value	4.15	0.17
High habitat value	42.72	7.24
Total	70.13	18.38
Rehabilitation / Enhancement Area	9.81	N/A

The same GHD Response contained the following Figure 1 at page 11, which confirms the same area of 18.38 hectares:



Prior to registration of the Covenant, a series of survey pegs was installed around the entire boundary of the Covenant Area. Please refer to Sketch 2 - Portion of Drawing from SP303401 showing Covenant B in Lot191 CSH2361 below. These markers were installed at each of the points shown by a ring in this drawing to accurately define the covenant area. I inspected this survey line before and after clearing and can confirm that no vegetation was removed from the covenant area.

Table 1 and Figure 1 referenced above both conform with the area of 18.38 hectares as contained in the EPBC Approval.

## Calculation of Total Area Cleared using progressive subtraction method

Total Area of Lot191 CSH2361 is approx. 694,164.81m<sup>2</sup>, or 69.42ha – see Sketch 1

Less area of Covenant B (41.65ha) consisting of Offset Area A and Offset Area B – see Sketch 2

Less area of existing cleared pipeline easement along eastern portion of front boundary (0.73ha) – see Sketch 3

Less area of existing cleared pipeline area (no formal easement in place yet) along western portion of front boundary (0.48ha) – see Sketch 4

Less area of grove of trees west of dam (0.36ha) – see Sketch 5

Less area of grove of trees south-west of dam (say 0.23ha) – see Sketch 6

Less triangular area of flooding grasslands not cleared - 3.74ha – see Sketch 7 and Sketch 8

Less 30m wide strip along three sides of Covenant Area B – 6.31ha – see Sketch 2, yellow area in Sketch 9 and calculations below

## Summary of above

<b>Total Area of lot 191 CSH2361</b>	69.42ha
<b>Less Covenant Area</b>	41.65ha
<b>Less cleared pipeline lease</b>	0.73ha
<b>Less cleared pipeline other</b>	0.48ha
<b>Less grove of trees - west of dam</b>	0.36ha
<b>Less grove of trees - south-west of dam</b>	0.23ha
<b>Less triangular flooding area</b>	3.74ha
<b>Less approved 30m wide strip around Covenant Area</b>	6.31ha
<b>Total Area cleared under PLC160/2</b>	<b>15.92ha</b>

Sketch 1. Showing measurement of Lot191 CSH2361 using Qld GlobeTM





Sketch 3. Area of Existing cleared pipeline easement prepared with Qld GlobeTM. This strip is regularly mowed by the pipeline operator



Sketch 4. Area of cleared land over which a formal pipeline easement does not yet exist, but the pipeline is in place, prepared with Qld GlobeTM. This strip is regularly mowed by the pipeline operator



Sketch 5. Grove of trees west of dam prepared with Qld GlobeTM

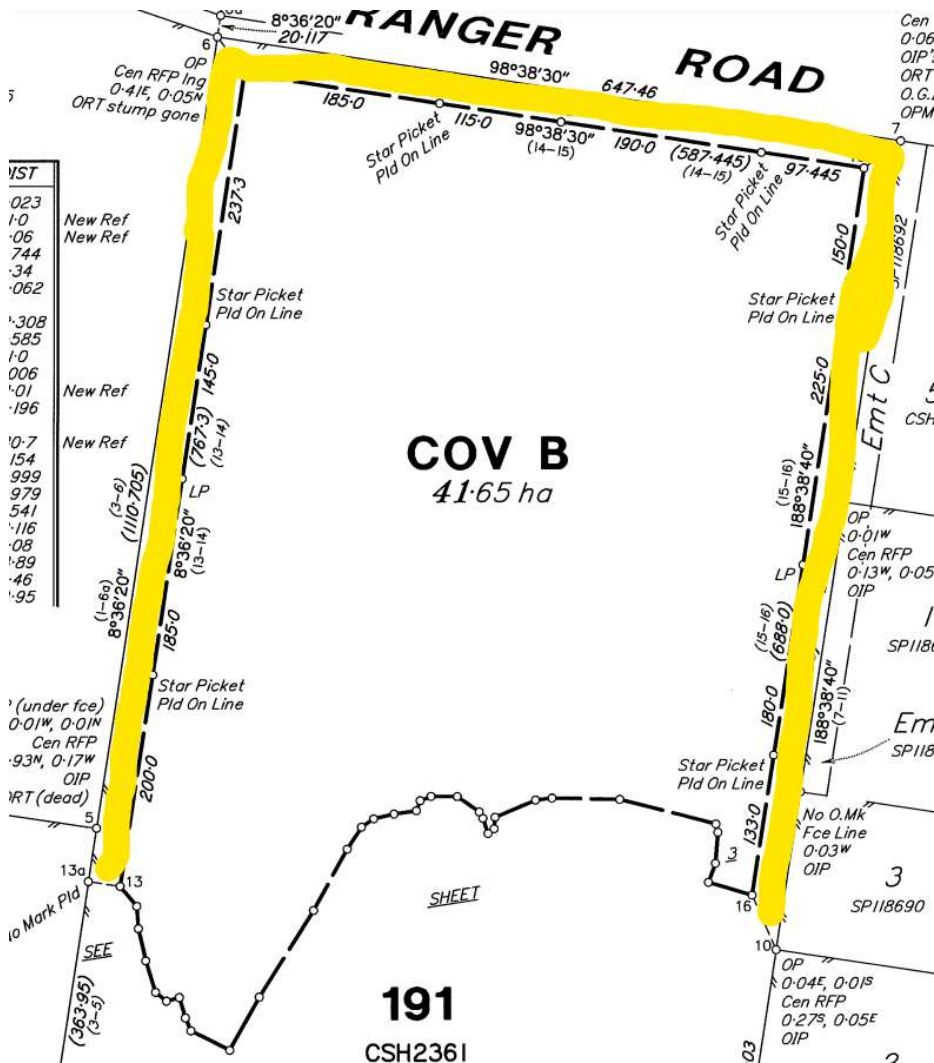




Sketch 8. Triangular Flooding Area prepared with Qld Globe™ based on Sketch 7



Sketch 9. Yellow highlighting showing 30m wide strip outside Covenant Area B that was not part of contract PLC160/2





## Calculations of additional area not cleared around fire maintenance lines

Approval was originally granted to clear a fire maintenance line of 50m width along each fence, around the outside of the Covenant Area.

Subsequently, during negotiations with regulators, this was reduced to 30m width, and SP303401 illustrates a 30m corridor (see hand-drawn yellow highlight in Sketch 9). See also pages 6 and 7 of *GHD Response to Preliminary Documentation Information Request (EPBC 2017/7994) November 2017* for discussion.

Ultimately, the Client determined to maintain only a narrow approximately 10m wide fire maintenance line along these three fences, so did not clear to the approved width of 30 metres. Note that the mowing of this 10m wide fire maintenance line was the subject of a separate maintenance contract so is not included as a cleared area in these calculations.

See also Sketch 2 and Sketch 9 for details.

Area not cleared =

$$\{[(767.3\text{m} + 587.445\text{m} + 688.0\text{m}) \times 30\text{m}] + [(30\text{m} \times 30\text{m}) + (30\text{m} \times 30\text{m})]\} / 10,000\text{m}^2/\text{ha} =$$

$$[(2,042.745 \times 30\text{m}) + (30\text{m} \times 30\text{m}) + (30\text{m} \times 30\text{m})] / 10,000\text{ha}/\text{m}^2 =$$

$$(61,282.35 + 900 + 900) \text{m}^2 / 10,000\text{ha}/\text{m}^2 =$$

$$63,082.35\text{m}^2 / 10,000\text{ha}/\text{m}^2 = 6.31\text{ha}$$