APPENDIX G BIODIVERSITY OFFSET

1. Introduction

Biodiversity offsets are measures that are used to compensate for the adverse impacts of development. Offsets are applied to the residual impacts of proposals, after all reasonable avoidance and mitigation measures have been undertaken. Direct offsets are areas of land similar and generally close to the area impacted by a proposal which are set aside permanently and managed for conservation to compensate for specific biodiversity impacts.

This section outlines the biodiversity impacts of the wind turbine project to be offset and the vegetation restoration actions proposed to directly offset the impacts.

It is noted that the scale of impact to native vegetation at the site is small and that the affected vegetation community and habitat are abundant on Lord Howe Island. The proposed offset arrangements are considered proportionate to the significance of the affected vegetation and the scale of the impact.

The proposed offset is consistent with the OEH principles for the use of biodiversity offsets in NSW and the Commonwealth EPBC Act environmental offsets policy.

2. Impacts to be offset

The upgrading of the access track to the proposed turbine site would require the removal of up to 170 m^2 of Greybark-Blackbutt (*Drypetes deplanchei–Cryptocarya triplinervis*) Closed Forest (refer section 6.1.4, and Figure E2.1). In addition, dead trees, palms and shrubs over a disturbed groundlayer would also be removed on the south-western verge of the existing track (up to 30 m^2). The total area of vegetation cleared would not exceed 200 m^2.

Figure E2.1 Vegetation clearing required for access track widening (red). Image: Google Earth

3. Offset site selection

The selected offset site is located at the southern end of the cleared paddock on Portion 101. The site is zoned Environmental Protection under the LEP. The offset site would occupy approximately 1700m^2 (0.17 hectares), offering an offset multiple of 8.5 times the clearing area.

The selected offset site meets or contributes to the following criteria for high priority rehabilitation sites in the LHI Vegetation Rehabilitation Plan 2002-2007:

- Sites inside or bordering the Permanent Park Preserve with the object of preventing dieback of native vegetation
- Sites where there is natural resilience (ie. remnant trees in a paddock)
- Vegetation corridor linking the northern and southern sections of the Permanent Park Preserve.

In addition, the proposed offset would revegetate a cleared island within the area of Significant Native Vegetation mapped under the LEP (refer Figure 3-2). The proposed offset site appears to be the same vegetation community on the same shallow basalt soil as the vegetation affected by the wind turbine project clearing. The site is located adjacent to the turbine paddock, intruding into the large forest patch occupying the central hills area of the island (refer Figure E3.1).

Revegetating the offset site provides an efficient use of resources by building on existing regeneration and eliminating a lot of edge. Windshear at forest edges is one of the processes threatening the Greybark-Blackbutt community on the island (DECC 2007). The offset restoration area is shown on Figure E3.2.

Figure E3.1 Location of the proposed turbine site (red) and the offset area (yellow). Image: Google Earth

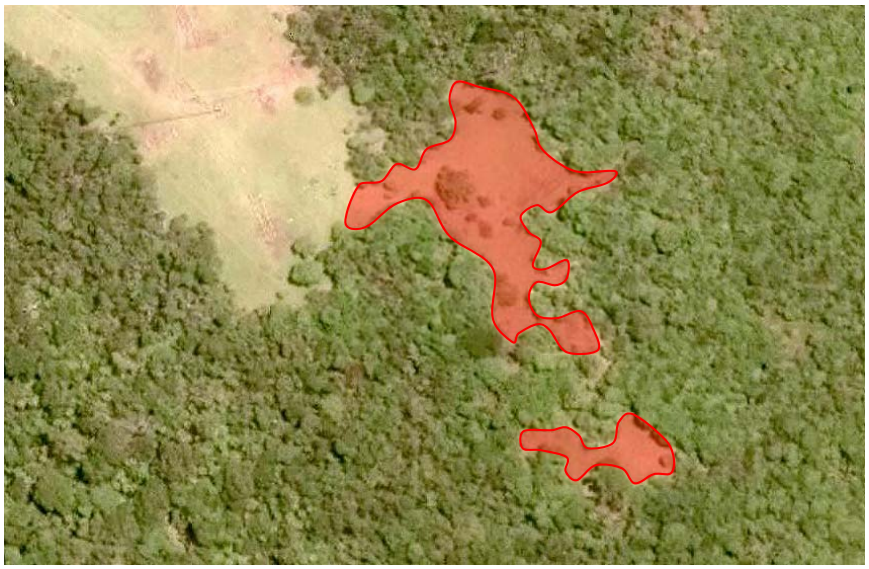

Figure E3.2 Proposed offset site adjacent to the turbine paddock (shaded red). Image: Google Earth

3. Restoration objectives and actions

The objective of restoration works at the offset site is to restore the vegetation community to a resilient, self-sustaining state using grazing exclusion, native species planting and weed control.

Under the Lord Howe Island LEP, vegetation restoration means the maintenance or rehabilitation of natural areas, including by weed eradication and erosion control and by revegetation of corridors and other areas with species of plants that are native to the Island and common in the locality.

The restoration works would be consistent with the techniques and guidelines in the LHI Vegetation Rehabilitation Plan. Specific restoration actions would involve:

- Preliminary survey to determine suitable species and abundances for planting
- Fencing to exclude cattle grazing
- Herbicide (glyphosate) treatment of existing pasture grasses
- Planting and protection of native canopy trees and pioneer species
- Monitoring and maintenance until a closed canopy is established.

The offset site would be surveyed to determine the natural dominants and pioneer species for use in revegetation planting. The LHI Vegetation Rehabilitation Plan identifies the following species which are suitable for revegetation projects, which would be affected by the proposed clearing and which may be suitable for inclusion in the offset plantings:

Canopy species

- *Cryptocarya triplinervis* (dominant)
- *Drypetes deplanchei*
- *Olea paniculata*
- *Celtis conferta.*

Pioneer species

- *Parsonsia howeana*
- *Stephania japonica*

- *Jasminum didymum*
- *Geitonoplesium cymosum*.

The proposed clearing would result in the loss of a small number of individuals of the endemic species *Howea belmoreana, Sophora howinsula, Xylosma maidenii, Cassinia tenuifolia* and *Trophis scandens* ssp *megacarpa.* Subject to the survey of the offset site and their suitability for revegetation, these species would also be included in the offset planting program.

The offset site is mapped as lower quality potential habitat for the threatened land snail *Placostylus bivaricosus*. Searches for this species would be undertaken at and around the offset site prior to the general use of herbicide.

4. Managing the offset site

The offset site would be effectively managed by the Board for conservation as part of the Permanent Park Preserve. Permanent fencing would be erected to exclude cattle grazing at the site. The maintenance of the revegetation plantings and weed control at the site would continue until the regenerating forest is self-sustaining. The offset site would be protected into the future through a subdivision plan (refer Environmental Report section 2.3.3).