

Table of contents

| | | |
|------|--|----|
| 1. | Background information..... | 1 |
| 1.1 | Proposal identification | 1 |
| 1.2 | Purpose of this report | 1 |
| 1.3 | Need for the proposal | 6 |
| 1.4 | Other known proposed vegetation clearing in the local area..... | 6 |
| 1.5 | Relevant government strategies | 7 |
| 1.6 | Relationship with other actions | 9 |
| 2. | Description of the action..... | 10 |
| 2.1 | Scope of works..... | 10 |
| 2.2 | Construction methods..... | 11 |
| 2.3 | Operational requirements of the action | 20 |
| 2.4 | Timing and duration of the proposal..... | 20 |
| 2.5 | Extent of potential direct and indirect impacts | 20 |
| 3. | Description of the environment and matters of national environmental significance..... | 21 |
| 3.1 | Current land uses, zoning and conservation areas..... | 21 |
| 3.2 | Commonwealth land in the vicinity of the proposal | 22 |
| 3.3 | Land topography | 24 |
| 3.4 | Relevant matters of national environmental significance | 24 |
| 4. | Impacts..... | 46 |
| 4.1 | Direct impacts | 46 |
| 4.2 | Indirect impacts | 53 |
| 4.3 | Contribution to key threatening processes | 54 |
| 4.4 | Significance of the impacts of the proposal | 55 |
| 4.5 | Unknown, unpredictable or irreversible impacts | 55 |
| 4.6 | Additional studies completed since submission of the referral | 56 |
| 5. | Proposed avoidance, management and mitigation measures..... | 57 |
| 5.1 | Overview..... | 57 |
| 5.2 | Connectivity mitigation..... | 57 |
| 5.3 | Exclusion zones | 58 |
| 5.4 | Protection and short term replacement of hollows | 58 |
| 5.5 | Felling of hollow-bearing trees | 58 |
| 5.6 | Habitat provisions..... | 59 |
| 5.7 | Rehabilitation | 59 |
| 5.8 | Soil and water quality safeguards and management measures | 60 |
| 5.9 | Mitigation effectiveness | 60 |
| 5.10 | Ongoing monitoring | 60 |
| 5.11 | Summary of safeguards and management measures | 63 |
| 5.12 | Construction environmental management plan | 71 |

| | | |
|------|---|----|
| 6. | Proposed biodiversity offsets..... | 72 |
| 6.1 | Overview..... | 72 |
| 6.2 | Description of the biodiversity offset site | 72 |
| 6.3 | Methods | 74 |
| 6.4 | How the offset will compensate for the impact on matters of national environmental significance | 74 |
| 6.5 | Management actions..... | 80 |
| 6.6 | Consistency with Commonwealth environmental offsets policy | 80 |
| 6.7 | How the offset will ensure the protection, conservation and management of matters of national environmental significance in perpetuity..... | 82 |
| 6.8 | Sources of costs for delivery of the offset..... | 83 |
| 6.9 | Offsetting of impacts on NSW threatened biota..... | 83 |
| 6.10 | Key outcomes | 83 |
| 7. | Social and economic impacts..... | 84 |
| 7.1 | Context | 84 |
| 7.2 | Social and economic impacts of the proposal | 84 |
| 8. | Other approvals and conditions | 86 |
| 8.1 | Relevant state government planning legislation | 86 |
| 8.2 | Approvals obtained or required from State agencies and conditions that apply to the proposal | 87 |
| 8.3 | Monitoring, enforcement and review procedures that apply to the proposal..... | 88 |
| 8.4 | Roads and Maritime Services..... | 88 |
| 9. | Information sources provided in the preliminary documentation | 90 |
| 9.1 | Sources of information..... | 90 |
| 9.2 | Reliability of information..... | 92 |
| 9.3 | Uncertainties in the information..... | 93 |
| 10. | Terms and acronyms..... | 94 |

Table index

| | | |
|------------|--|----|
| Table 3.1: | Locations and dates of Box-Gum Woodland surveys..... | 26 |
| Table 3.2: | Classification criteria for Box-Gum Woodland..... | 27 |
| Table 3.3: | Size and numbers of hollows in the study area and locality | 36 |
| Table 4.1: | Vegetation types in the development site that would be removed by the proposal | 46 |
| Table 4.2: | Box-Gum Woodland in the development site, study area and locality | 46 |
| Table 4.3: | Hollow-bearing trees to be removed by the proposal | 47 |
| Table 4.4: | Hollow-bearing trees and hollows recorded in the development site, study area and locality | 47 |
| Table 4.5: | Hollows suitable for Squirrel Gliders in the study area and locality..... | 51 |

| | |
|---|----|
| Table 5.1: Ecological safeguards and management measures to be implemented for the proposal | 63 |
| Table 5.2: Soil and water quality safeguards and management measures to be implemented for the proposal | 68 |
| Table 6.1: Attribute values entered in the offset assessment guide calculations | 78 |
| Table 6.2: Consistency of the proposed offsets with the environmental offset policy | 81 |

Figure index

| | |
|---|----|
| Figure 1.1: Proposal location..... | 2 |
| Figure 1.2: Proposed Olympic Highway realignment and new bridge at Kapooka | 3 |
| Figure 1.3: Development site and study area..... | 4 |
| Figure 1.4: Aerial photograph of locality..... | 5 |
| Figure 2.1: Utilities proposed to be relocated..... | 19 |
| Figure 3.1: Land use, zoning and conservation areas | 23 |
| Figure 3.2: Flora and Squirrel Glider survey locations in the study area | 31 |
| Figure 3.3: Flora and Squirrel Glider survey locations in the locality..... | 32 |
| Figure 3.4: Woodland bird survey locations in the study area..... | 33 |
| Figure 3.5: Ground-truthed Box-Gum Woodland vegetation mapping in the locality | 37 |
| Figure 3.6: Vegetation communities and hollow-bearing trees in the study area..... | 38 |
| Figure 3.7: Squirrel Glider and Superb Parrot records in the study area..... | 43 |
| Figure 3.8: Squirrel Glider and Superb Parrot records in the locality | 44 |
| Figure 3.9: Squirrel Glider recaptures in the study area illustrating movement over linear infrastructure | 45 |
| Figure 4.1: Vegetation communities to be removed | 48 |
| Figure 4.2: Hollow-bearing trees in the study area and hollow-bearing trees to be removed..... | 49 |
| Figure 5.1: Proposed locations for Squirrel Glider crossings and tree plantings..... | 62 |
| Figure 6.1: Biodiversity offset site location | 73 |
| Figure 6.2: Biodiversity offset site Commonwealth Box-Gum Woodland and Superb Parrot observation | 77 |

Appendices

Appendix A – Information requested by DoE and where addressed in the preliminary documentation

Appendix B – Biodiversity offset strategy

Appendix C – NSW species impact statement specialist study – Box-Gum Woodland and hollow-bearing trees

Appendix D – NSW species impact statement specialist study – Targeted Squirrel Glider surveys autumn 2013

Appendix E – NSW species impact statement specialist study – winter and spring woodland bird surveys