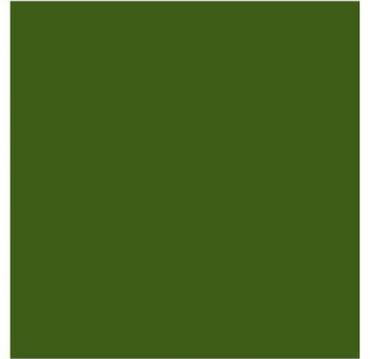


Tarkine Drive Upgrade



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Glossary of Terms

The Approval – The approval granted under Sections 130(1) and 133 of the *EPBC Act: Tarkine Forest Drive Road Upgrade (EPBC 2011/6210)*.

The Conditions – The conditions of approval, as per the approval granted under Sections 130(1) and 133 of the *EPBC Act: Tarkine Forest Drive Road Upgrade (EPBC 2011/6210)*.

DFTD – Devil Facial Tumour Disease

The Department – Tasmanian Department of State Growth (formerly the Department of Infrastructure, Energy and Resources)

DotE – Commonwealth Department of the Environment (formerly the Department of Sustainability, Environment, Water, Population and Communities)

EPBC Act – *Environment Protection and Biodiversity Conservation Act 1999*

PER – Public Environment Report

QRMR – Quarterly Roadkill Monitoring Report

The Report – Tarkine Drive Upgrade Annual Compliance Report 2015

RMAMP – Roadkill Monitoring and Adaptive Management Plan

STDA – Save the Tasmanian Devil Appeal

The Project – Tarkine Drive Upgrade (formerly referred to as the Tarkine Forest Drive Upgrade)

TRMR – Tarkine Roadkill Monitoring Report

TRRP – Tarkine Regional Rehabilitation Plan

1. About

The *Tarkine Drive Upgrade Annual Compliance Report 2015* is the second annual report (the Report), which addresses compliance with federal approval EPBC 2011/6210 (the Approval). Condition 20 of the Approval states:

“Within three months of every 12 month anniversary of the commencement of the action, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans or programs (however described) as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the department at the same time as the compliance report is published.”

Construction on the Tarkine Drive Upgrade commenced on 16th September 2013 and was completed on 28th February 2015. The Department of State Growth remains committed to ensuring that the upgrading of the Tarkine Drive will have minimal impacts on local populations of native animals, plants and the surrounding environment. The Department is committed to achieving the highest practicable environmental outcomes and takes its responsibilities seriously. The Report addresses each condition of the Approval specifically, outlining how compliance has been met. The Report covers a period of construction and a period of full operation. Some conditions have still yet to be triggered, where others have hitherto been met; some conditions will be addressed in future reports as appropriate.

Section 2 of this Report addresses compliance with the Approval and will re-state each condition of the Approval (*in bold and italics*) followed by statements of compliance. Where any of the Conditions of Approval refer to an attachment, this refers to those attachments as contained within the Approval itself. A copy of the Approval is provided in *Appendix A* of this Report.

1.1 Key Dates

Activity	Date
Date of EPBC Act Approval	27 th March 2013
Construction commenced	16 th September 2013
Receipt of payment to STDA	17 th February 2014
Submission of TRRP and RMAMP	27 th March 2014
Submission of revised TRRP and RMAMP	4 th June 2014
First annual compliance report due	16 th December 2014
Construction completed	28 th February 2015
Expiry date of EPBC Act Approval	1 st March 2033

Table 1. Key dates relevant to this compliance report

2. Compliance

The Department of State Growth has fully complied with, and has strictly adhered to, the conditions

of the Approval. This section will outline how compliance has been achieved and maintained according to each of the Conditions. Table 2 below identifies conformance with each of the conditions.

Condition #	Conformed	Yet to be Completed	Non-Conformance	Not Triggered / Relevant
1	x			
2	x			
3				x
4				x
5	x			
6	x			
7	x			
8	x			
9	x			
10	x			
11	x			
12				x
13				x
14				x
15				x
16		x		
17		x		
18				x
19		x		
20		x		
21				x
22				x
23				x
24		x		

Table 2. Which conditions have been triggered, and how they have been managed.

Condition 1

1. **The person taking the action must develop an environmental induction training and awareness program that instructs employees and contractors on the importance of protecting EPBC species while undertaking construction works related to the Tarkine Forest Drive. The program must:**
 - a. **involve face to face sessions, prominently displayed posters and provision of glovebox guides;**
 - b. **include clear images and simple descriptions (including distinguishing features) to aid in the identification of EPBC species;**
 - c. **include information on the location of construction exclusion zones and the importance of not breaching these;**
 - d. **include information on the importance of adhering to the conditions contained within this notice, specifically implementing mitigation measures to minimise construction impacts on EPBC species;**
 - e. **include maps of high risk EPBC species roadkill locations, identified through roadkill monitoring data included in the PER and updated annually from the commencement of construction for the life of the approval based on monitoring data collected in accordance with conditions 9 and 10 of this approval and information published by the Save the Tasmanian Devil Program;**
 - f. **include instructions on how to avoid or reduce incidences of all fauna species roadkill;**
 - g. **include protocols for dealing with injured EPBC species, including**
 - i. **animal welfare considerations;**
 - ii. **initial response provisions;**
 - iii. **expert care provisions**

- h. provide information on roles and responsibilities, including recording and reporting obligations for staff who observe EPBC species (dead or alive) in accordance with conditions 9 – 11 and any template documents used in these requirements; and*
- i. include protocols to ensure that all construction and material transport vehicles travelling outside of daylight hours (including within civil twilight) will not exceed 50 km per hour along the Tarkine Forest Drive.*
- j. Include reference to the penalties imposed on any workers found causing intentional harm to EPBC species, including legal and onsite environmental responsibilities.*

The induction training must commence at or prior to the commencement of the action and be maintained for the construction phase. In addition the program must be implemented during any required maintenance or monitoring activities post construction to ensure that all employees and contractors who travel on the Tarkine Forest Drive are inducted prior to undertaking any construction, maintenance or monitoring activity. Details of induction and awareness training must be logged and maintained within an induction and awareness register.

The Department developed a targeted *Environmental Induction and Awareness Training Program*. A summary of this program has been published on the Department's website.

All contractors involved in works completed training under this program prior to their participation in activities onsite. This applied throughout the construction period as new workers became involved. This also included sub-contractors.

The sub-conditions to this condition are specifically addressed below:

- a. All training sessions were delivered in a face-to-face format, monthly and usually onsite (in either the site office or in the field). The site office maintained visual displays alerting all site staff and visitors of the importance of minimising impacts to EPBC species and the local environment whilst onsite. Each vehicle involved in construction activities or used to transport construction workers throughout the site was provided with glovebox guides, and this was checked monthly.
- b. All of the components in sub-condition (a) above had a strong focus on educating workers and visitors on the identification of EPBC species.
- c. 'Construction Environmental Plans' were developed and provided to site managers and foreman outlining detailed exclusion zones onsite. These were regularly referenced in daily toolbox meetings and during face-to-face monthly training sessions. The importance of these areas was explained through both increasing awareness of the values throughout the site as well as the legislative implications of non-compliance.
- d. As with sub-condition (b) above, the importance of following the Conditions of Approval was detailed within the program by focusing on educating workers on how to minimise impacts to EPBC species during works. This included information on – and reasoning for – exclusion zones, roadkill mitigation measures, data collection, etc.
- e. Mapping of high risk EPBC roadkill locations was completed quarterly and presented to workers as part of the monthly face-to-face training sessions, providing current information on roadkill during construction works. Between these periods, monthly quantitative updates on roadkill numbers were presented to workers to assist with the heightening of awareness of the reality of this impact.
- f. Monthly face-to-face sessions included education and quiz components. Workers were questioned on the best means for mitigating and reducing potential roadkill on all local fauna – EPBC or otherwise.

- g. All of the components in sub-condition (a) specific addressed protocols for managing any instances where injured fauna may have be found. Furthermore, a number of workers on site completed additional training for handling injured wildlife and initial response provisions. These workers were referred to as *Roadkill Identification Persons*. Contact details of these workers were made available to all workers onsite, with external assistance being provided by private organisations to assist in meeting this requirement.
- h. All of the components in sub-condition (a) required all workers to notify a *Roadkill Identification Person* if injured or deceased species were identified onsite, and the location of where they were identified. *Roadkill Identification Persons* were then required to verify the observation as able, and in the case of roadkill (for any species), ascertain specific details of the animal mortality, remove the individual and dispose of the carcass in a timely and appropriate manner (in accordance with the Approval).
- i. A table detailing times for civil twilight were developed and maintained to restrict permissible hours of all contractor vehicles accessing the site. Speed limits were strictly adhered to outside these times and within one hour inside civil twilight to ensure no discrepancies with timing.
- j. All of the components in sub-condition (a) cited legislation and outlined penalties for non-compliance by workers, or their company, with any of the Conditions in the Approval. Similarly, these components also cited legislation and penalties for anyone found causing intentional harm to animals.

Condition 2

2. ***The person taking the action must ensure that induction and awareness training (condition 1) is held no less than monthly during the construction phase to maintain worker knowledge about the importance of avoiding and minimising impacts (particularly roadkill) on EPBC species and of recording and reporting observations of EPBC species.***

Contractor training was conducted monthly (on a calendar basis), throughout the construction period, in accordance with the Contractor Training and Awareness Program and as per all of the criteria within Condition 1. These training sessions had a specific focus on education, minimising impacts to EPBC species, their identification and the requirements around reporting roadkill, etc.

Condition 3

3. ***Prior to works commencing in any given area, the person taking the action must engage a suitably qualified person to map the known EPBC Orchid Species and clearly mark exclusion zones around these populations. To mitigate and reduce the impact of construction works on these species habitat, the person taking the action must:***
 - a. ***ensure that temporary and high visibility fencing will be erected to restrict access to exclusion zones where these occur within 50 m of construction activities. Temporary fencing must be of a design appropriate to restrict unauthorised access and prevent the passage of vehicles or material, in exclusion zones where accidental incursion could reasonably occur;***
 - b. ***implement measures to mitigate the spread or establishment of new or additional weed species, or soil or plant pathogens into these areas as a result of construction; and***
 - c. ***implement stormwater management measures to prevent the unintentional diversion or discharge of stormwater during both construction and operation over known populations or habitat supporting EPBC Orchid species.***

EPBC-listed orchid species were known to occur in one discrete location adjacent to works within the project area. In September 2013, specialist ecologists were engaged to identify exclusion zones for

this area to mitigate and reduce the impact of any works on these species. A subsequent survey was undertaken in November 2013 by the same specialist ecologists, following excavation and sealing works, to verify the extent of impacts and the effectiveness of exclusion fencing and drainage measures. Works in this location were completed in early 2014. Thereafter, no works were undertaken which may have impacted on these species within the reporting timeframes of this Report. Activities related to this condition were addressed in previous reporting.

Condition 4

4. The person taking the action must ensure that targeted surveys are undertaken in potential habitat for EPBC species occurring in areas proposed for disturbance. These targeted surveys must be undertaken by a suitably qualified person, prior to commencing work in the vicinity. Specific features to be targeted, along with a mandatory management response in parentheses, must include:

- a. **Tasmanian Wedge-tailed Eagle nests (if the suitably qualified expert determines that the nest is occupied then all activity within 500 m or 1 km if activity is within the line of site of the nest must cease during the breeding season, until any chicks have been fledged, as determined by the suitably qualified expert);**
- b. **Masked owl nests (if the suitably qualified person determines that the nest is occupied then all works within 100 m must cease during the breeding season);**
- c. **Tasmanian Azure Kingfisher nests (if the suitably qualified expert determines that the nest is occupied then all works within 100 m must cease during the breeding season as determined by the suitably qualified person));**
- d. **Tasmanian Devil dens (cease all works within 50 metres until the den is vacated and the individual(s) have naturally dispersed from the area as determined by a suitably qualified person); and**
- e. **Tasmanian Spot-tailed Quoll dens (cease all works within 50 m until the den is vacated and the individual(s) have naturally dispersed from the area as determined by a suitably qualified person).**

Relevant breeding seasons must be determined by a suitably qualified expert.

Targeted surveys were undertaken by specialist ecologists on two separate occasions prior to works commencing in areas of known EPBC fauna species as required by this condition. These surveys were undertaken in September and November of 2013. Specific results of these surveys have already been addressed in previous annual reporting. There is no new information to report.

Condition 5

5. The person taking the action must contain construction works within the designated construction zone.

All construction-related activities were confined to the areas described in submission documents to DotE and as per the definition of *construction zone* contained within the Approval.

Condition 6

6. To reduce the threat of increased unmanaged fires on EPBC species and their habitats, the person taking the action must:

- a. **install measures to prevent unauthorised vehicle access to any forestry or spur roads that connect to the Tarkine Forest Drive and that provide access to fire sensitive areas and;**
- b. **at all tourist rest areas and parking lots on the Tarkine Forest Drive, install and maintain cigarette disposal receptacles and signage informing visitors of potential fire hazards.**

The Department made all efforts to ensure that there were no increased risks for unmanaged fires to occur within the Tarkine area due to any road construction activities. This was facilitated through management practices relating to specific instructions on cigarette smoking restrictions and their

disposal by workers, water drawing and usage, usage of plant and material storage measures. Specific requirements per this condition have been completed.

- a. All roads accessing fire-sensitive areas within the project area were either marked as closed and flagged off (where access was not required) or permanently gated to enable access as needed for construction activities, forestry and Parks and Wildlife activities, or other authorised activities.
- b. Additional tourist facilities have been installed in conjunction with Parks and Wildlife. Cigarette receptacles were installed at eight distinct locations throughout the project area. These locations were identified through discussions with Parks and Wildlife officials, and are as follows:
 1. Arthur River Parks and Wildlife office car park;
 2. Tourist signage at Couta Rocks junction;
 3. Kanunnah Bridge barbeque shelter;
 4. Sumac Lookout;
 5. Julius River Reserve;
 6. Lake Chisholm Reserve;
 7. Milkshake Hills Reserve; and
 8. Tourist signage at Tayatea Bridge.

In addition to this, new signage was installed at each of the main tourist stops, informing visitors of the risk of fire reduction requirements in addition to other environmental considerations.

Condition 7

7. ***The person taking the action must ensure that the construction of any bridge or road culvert of diameter 900mm or greater in crossing areas of potentially suitable Giant Freshwater Crayfish habitat, as defined by a suitably qualified expert, is designed to encourage water flow and crayfish movement. The suitability of these designs in encouraging water flow and crayfish movement must be determined by a suitably qualified person. Appropriate sediment and erosion control measures must be implemented and maintained during construction to prevent water quality changes impacting on the Giant Freshwater Crayfish or its habitat.***

All bridges and culverts that were identified for replacement in areas of Giant Freshwater Crayfish habitat were completed within previous reporting periods. Thereafter, no additional works were undertaken within the reporting timeframes of this Report.

Condition 8

8. ***The person taking the action must ensure that all roads within the Tarkine Forest Drive are designed, upgraded and maintained in a manner that minimises the potential for EPBC species roadkill, through deterrence and increased visibility, and including in particular:***
 - a. ***clearly signposted speed limits no greater than the limits indicated in Attachment A;***
 - b. ***the use of light coloured pavement as indicated in Attachment B;***
 - c. ***regular underpasses to allow passage of small fauna at key sites as determined to be appropriate by a suitably qualified person;***
 - d. ***the use of audible rumble strips as indicated in Attachment B;***
 - e. ***road alignment amendments to improve visibility as indicated in Attachment B;***
 - f. ***designing and contracting all table drains required as part of the action to minimise the pooling of water and resulting vegetation growth; and***

- g. on-going active management (reduction) of vegetation that could provide shelter for the Tasmanian Devil and Spot-Tailed Quoll within 5 m of the edge of the Tarkine Forest Drive.**

For the avoidance of doubt, vegetation management is to be undertaken in manner that is sympathetic with the conservation of EPBC Orchid Species and consistent with advice from a suitably qualified expert where this occurs within exclusion zones.

All roads within the Tarkine Drive project were upgraded in a manner which aims to minimise roadkill to fauna by methods described in the sub-conditions of this condition. All vegetation clearance has been conducted in a way which is sympathetic to potential impacts on EPBC-listed orchid species; ongoing vegetation maintenance continues to be so.

In addition to these methods, the Department is also trialling other methods (as yet untested on Australian or Tasmanian fauna). These trials are still in early stages and have not yet yielded sufficient data to be analysed.

- a. All speed limits within the project area are clearly signposted. In some cases, areas have been marked with speed limits lower than those detailed in *Attachment A* of the Approval.
- b. Light-coloured pavement has been installed in the areas designated in *Attachment B* of the Approval.
- c. There were no areas away from bridge crossings identified by specialist ecologists as providing beneficial locations for fauna underpasses. These would generally require areas of roads elevated above the local landscape, and the intentional lifting of road height would unnecessarily increase the surrounding area of impact due to fill and batter effects. As such, bridge replacements have been designed to enable safe terrestrial fauna passage.
- d. Audible rumble strips have been installed at all of the required locations. These are in accordance with *Attachment B*.
- e. Amendments to road alignment for the benefit of improving line-of-sight and driver visibility have been carried out in accordance with requirements as per *Attachment B*.
- f. All table drains have been designed to minimise potential for the pooling of water and to prevent vegetation growth. This is a Departmental standard requirement in all table drain designs.
- g. Ongoing maintenance of roadside vegetation is being undertaken in a way which maintains a clear distance from the edge of road seal free of vegetation suitable for sheltering fauna. These works are undertaken in a way which is sensitive of known orchid populations.

Condition 9

- 9. During the construction phase of the project when construction activities are being undertaken, the person taking the action must ensure that any roads travelled by construction and material transport vehicles within the Tarkine Forest Drive are visually inspected daily, and all carcasses (whether EPBC species or not) removed to at least 40 m from the edge of the road including offsite disposal.**

- a. The person taking the action must ensure that all roadkill detected on the Tarkine Forest Drive is recorded consistent with information required by condition 11 a.**

During each day of construction – and for each road travelled – daily inspections were undertaken to ensure identification of any roadkill on these roads was recorded and removed as per the condition requirements. In all instances, carcasses were disposed of at least 40m along forestry roads or removed completely offsite. Disposal locations are specifically not revisited so as to not generate unnatural food sources.

- a. All roadkill has been recorded consistent with requirements of condition 11(a), with data published in the QRMR on the Department's website.

Condition 10

10. ***During the operational phase of the project, the person taking the action must ensure that all roads within the Tarkine Forest Drive and areas of additional mitigation measures are visually inspected at least once per week, and all carcasses (whether EPBC species or not) removed to at least 40 m from the edge of the road.***
 - a. ***The person taking the action must ensure that all roadkill detected on the Tarkine Forest Drive is recorded consistent with information required by condition 11 a.***

The operational reporting phase of the project commenced at the beginning of March 2015, occurring during reporting in the sixth QRMR. All project roads are driven and inspected for roadkill once a week. Days of inspection are selected at random, with each week ending on a Sunday. All roadkill hitherto identified has been recorded, removed and reported as per requirements of the Approval.

- a. All roadkill has been recorded consistent with requirements of condition 11(a), with data published in the QRMR on the Department's website.

Condition 11

11. ***Within twelve months of the date of this approval, the person taking the action must submit to the minister for approval a Roadkill Monitoring and Adaptive Management Plan (RMAMP). The RMAMP must include detailed baseline traffic data and high quality spatial and current temporal data on animal abundance and roadkill, including any identified roadkill hotspots. The RMAMP must include the following:***

Stage one

- a. ***ongoing Stage 1 roadkill monitoring, undertaken at least one day per week for a period of 12 weeks on an ongoing cycle. Data collected must include:***
 - i. ***species;***
 - ii. ***condition;***
 - iii. ***date;***
 - iv. ***time;***
 - v. ***location coordinates;***
 - vi. ***any noteworthy circumstances including circumstances of injury death where relevant and known; and***
 - vii. ***for Tasmanian devils, whether Devil Facial Tumour Disease (DFTD) has been detected;***

- b. ***a first level trigger of more than 15 and less than 20 individual roadkill counts from all species occurring in any consecutive three month period (12 days of monitoring activity). If this trigger level is met, a further four weeks of monitoring to identify whether the increased roadkill level is sustained must be undertaken. If the level is sustained, the person taking the action must implement Stage 2 monitoring, contained in condition 11 d.***

Stage two

- c. ***a second level trigger of 20 or more individual roadkill counts from all species, or more than two roadkill counts of individual Tasmanian devils, occurring in any three month period. If this trigger level is met, the person taking the action must implement the measures contained in condition 11 d.***
- d. ***should Stage 2 monitoring be required under conditions 11 b or c the person taking the action must engage a suitably qualified expert to develop an additional detailed monitoring proposal aimed at identifying:***

- i. any changes in the impact to EPBC species;*
- ii. any roadkill spatial patterns or potential new hotspots;*
- iii. changes in animal abundance;*
- iv. any occurrences of DFTD within the area;*
- v. external changes to traffic such as unforeseen developments; and/or*
- vi. whether speed is a factor in the increase to roadkill and if so who is speeding, when and why;*

Stage three

- e. If the additional detailed monitoring identifies that overall roadkill has increased by any more than 5 % from Stage 2 levels as a result of the action, and that an adverse impact on any EPBC species has or is occurring. Additional targeted mitigation measures, developed by a suitably qualified person and submitted for approval by the minister. The approved additional targeted mitigation measures must be implemented within 30 days of being approved. Potential mitigation measures may include, but shall not be limited to:*

- i. legal speed enforcement;*
- ii. installation of additional rumble strips and/or light coloured pavement;*
- iii. road alignment amendments to improve visibility;*
- iv. construction of animal escape routes;*
- v. vehicle triggered roadside lighting; and*
- vi. progressive reduction in road speed limits by 10 km per hour.*

The approved targeted mitigation measures must be implemented.

General

- f. every 3 months following the approval of the RMAMP, the person taking the action must publish a report on their website containing the results of the roadkill monitoring data (including any trigger levels met or exceeded and actions taken in response);*
- g. should monitoring detect that any trigger levels have been met or exceeded the person taking the action must provide written advice to the department outlining the details of the exceedance within 7 days of the exceedance having been detected.*

The draft *Roadkill Monitoring and Adaptive Management Plan* was submitted to DotE on 27 March 2014 pending further approval from the Minister for the Environment. DotE provided comments on the Plan to the Department on 5 May 2014. An amended draft of the Plan was subsequently provided to DotE for approval on 4 June 2014. There is no specific need to address the sub-conditions of this condition as they are covered by the draft Plan of 4 June 2014. All roadkill related activities are being undertaken in accordance with the RMAMP. To date, no triggers have been met during any quarterly periods.

Condition 12

- 12. Five years following the approval of the RMAMP required under condition 11, and every five years thereafter, the person taking the action must engage a suitably qualified expert to undertake a review and audit of the RMAMP. The person taking the action must:**
 - a. consult with relevant recovery teams for EPBC Species on the findings of the review;**

- b. *publish the report containing the findings of the review and audit on a publically available website;*
- c. *amend the RMAMP in accordance with any recommendations made in the report;*
- d. *submit the revised plan to the minister for approval; and*
- e. *following approval by the minister, implement the revised plan.*

There has not been a need to take any action under this condition as yet. This condition will be addressed in subsequent annual compliance reporting.

Condition 13

13. *Prior to the commencement of the action, the person taking the action must establish an EPBC species register on its website that includes all records of sightings of EPBC species (including carcasses), as collected under conditions 1, 9 – 11 (and 12 if required). The EPBC Species register must be updated at least every three (3) months over the life of the action.*

Prior to the commencement of works, the Department created a register on its website for the publishing of all EPBC species identification. This register continues to be maintained and updated in the form of quarterly reporting as per requirements under condition 11 of the Approval.

Condition 14

14. *The person taking the action must make available any raw data relating to Tasmanian Devils and the Devil Facial Tumour Disease, on request from any Commonwealth or Tasmanian Government agency or the Save the Tasmanian Devil Program.*

The Department has maintained all data it has collected relating to Tasmanian devils and the Devil Facial Tumour Disease. This data remains available to both the Commonwealth Government and other Tasmanian Government agencies (including Save the Tasmanian Devil Program).

Condition 15

15. *To compensate for unavoidable significant impacts on the Tasmanian Devil from increased roadkill, the person taking the action must provide no less than \$110,000 (GST exclusive) in funding to the Save the Tasmanian Devil Program Appeal, in accordance with any approved Tasmanian Devil recovery plan and explicitly for the purpose of “maintenance of the Tasmanian Devil Insurance Population”.*

This sum must be donated within 1 year of this approval and evidence of payment provided to the department within 30 days of payments being made.

Funding for the Save the Tasmanian Devil Appeal to a value of \$110,000 (excl. GST) was paid on 17 February 2014. This funding was provided for the purpose of ‘maintenance of the Tasmanian Devil Insurance Population’.

Condition 16

16. *Prior to the commencement of the action, the person taking the action must install and maintain rumble strips at roadkill hotspots identified at:*

- a. *two sites on the Arthur River Road; and*
- b. *four sites on the Roger River Road;*

and as identified in Attachment B. Rumble strips must be designed to effectively warn wildlife and drivers of potential collision through the production of noise leading to a reduction of roadkill in the above roadkill hotspots.

Rumble strips were installed prior to the commencement of works and have since been maintained at the six locations required by this condition, and as per *Attachment B* of the Approval. The

Department is investigating design options for more durable materials, which produce either the same or better fauna deterring effects as the original design.

Condition 17

17. *Within 3 years following the completion of construction of the Tarkine Forest Drive, the person taking the action must install light coloured pavement in three identified roadkill hotspots. Suitable locations for these installations will be informed by data collected during construction of the project, including roadkill data collected under condition 9 of this approval.*

Light-coloured pavement has been installed in three locations of known roadkill hotspots. These are located at the 'primary', 'secondary' and 'tertiary' locations, as identified on *Attachment B* of the Approval. These locations, as identified prior to commencement of works and in consideration of data during the construction phase, are the best locations for these treatments.

Condition 18

18. *If monitoring detects that the Stage 3 trigger levels outlined in the revised RMAMP continue to be exceeded following the implementation of targeted mitigation measures in accordance with condition 11 of this approval, the person taking the action must submit an additional offset strategy to the minister for approval. As part of this strategy the proponent must undertake the following contingency compensation response:*

- a. *for impacts to wedge-tailed eagle, the person taking the action must contribute to regional or state-wide Tasmanian Wedge-tailed Eagle monitoring strategies as agreed to by the department; or*

install an additional 2 Rumble Strips at two sites in road kill hotspot areas within 100 km of the Tarkine Forest Drive;

and/or

- b. *for impacts to the spot-tailed quoll, the person taking the action must fund a program of feral dog and / or cat trapping and / or shooting as agreed by the department; or*

install an additional Rumble Strip at one sites in a road kill hotspot within 100 km of the Tarkine Forest Drive;

and/or

- c. *for impacts to Tasmanian Devils, the person taking the action must contribute funding to the Save the Tasmanian Devil Program Appeal, explicitly for the purpose of "maintenance of the Tasmanian Devil insurance population", at an amount to be agreed by the department; or*

install an additional 4 Rumble Strips at sites, or resurface 8 km of road within road kill hotspots with a light coloured surface in road kill hotspot areas within 100 km of the Tarkine Forest Drive.

Any of the above responses must be undertaken in such a way to avoid negative impacts on EPBC species, and (except in the case of direct financial contributions) in accordance with the advice of a suitably qualified person and relevant Commonwealth and Tasmanian Government law and / or policies where relevant.

There has not been a need to take any action under this condition as yet. This condition will be addressed following the approval of the revised RMAMP as per condition 12 of the Approval.

Condition 19

19. *The person taking the action must prepare and submit a Tarkine Region Rehabilitation Plan (the plan) for approval by the Minister within 12 months of the date of this notice. The plan must outline historic areas of environmental disturbance in the Tarkine region associated with road developments that are suitable for environmental rehabilitation. These could include former quarry sites or gravel pits or abandoned roads or measures to remediate pollution of waterways, and may also incorporate permanently restricting public access to environmentally sensitive areas. Funding of the works associated with the plan must equal no less than \$50,000 (GST exclusive), unless otherwise agreed by the minister. The plan must include;*

- a. *the proposed number, type and location of sites suitable for rehabilitation;*

- b. *the proposed rehabilitation methods and benchmarks for success, including completion timeframes; and*
- c. *benefits that rehabilitation will have on listed threatened species.*

The approved plan must be initiated within 6 months of approval by the Minister and continued until all actions within the plan have been completed.

The draft *Tarkine Region Rehabilitation Plan* was submitted to DotE on 27 March 2014 pending further approval from the Minister for the Environment. DotE provided comments on the Plan to the Department on 5 May 2014. An amended draft of the Plan was subsequently provided to DotE for approval on 4 June 2014. There is no specific need to address the sub-conditions of this condition as it is covered by the draft Plan of 4 June 2014. Implementation of this draft Plan is currently underway.

Condition 20

20. *Within three months of every 12 month anniversary of the commencement of the action, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans or programs (however described) as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the department at the same time as the compliance report is published.*

The purpose of this Report is to satisfy this condition. This report contains statements addressing compliance with each of the conditions of the Approval. Each of the conditions referring to the implementation of management plans or programs has already been addressed in the respective statements of compliance throughout this Report. Upon publishing this Report on the Department's website, evidence will be provided to DotE of this fact at the time of publishing.

Condition 21

21. *If the person taking the action wishes to carry out any activity otherwise than in accordance with a program or management plan as specified in the conditions, the person taking the action must submit to the department for the minister's written approval a revised version of that program or management plan. The varied activity shall not commence until the minister has approved the varied program or management plan in writing. The minister will not approve a varied program or management plan unless the revised program or management plan would result in an equivalent or improved environmental outcome over time. If the minister approves the revised program or management plan, that program or management plan must be implemented in place of the program or management plan originally approved.*

All activities which correspond to programs or management plans within the Approval have been undertaken and implemented accordingly. No activities covered by these programs or plans have been undertaken in a manner other than those specified in their corresponding programs or plans.

Condition 22

22. *If the minister believes that it is necessary or convenient for the better protection of EPBC species to do so, the minister may request that the person taking the action make specified revisions to the program or management plan specified in the conditions and submit the revised program or management plan for the minister's written approval. The person taking the action must comply with any such request. The revised approved program or management plan must be implemented. Unless the minister has approved the revised program or management plan, then the person taking the action must continue to implement the program or management plan originally approved, as specified in the conditions.*

There has not been a need to take any action under this condition as yet. This condition will be addressed in subsequent annual compliance reporting, as required.

Condition 23

23. *If, at any time after 5 years from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially commence the action without the written agreement of the minister.*

Works on this project commenced on 16 September 2013. This condition can no longer be satisfied.

Condition 24

24. *Unless otherwise agreed to in writing by the minister, the person taking the action must publish all programs or management plans referred to in these conditions of approval on their website. Each program or management plans must be published on the website within 1 month of being approved.*

An overview of the *Environmental Induction and Awareness Training Program*, implemented as per condition 1 of this Approval, was published on the Department's website on 16 August 2013. This program was not subject to the approval of DotE or the Minister for the Environment.

As both the *RMAMP* and the *TRRP* are still pending approval by the Minister for the Environment following their submission on 4th June 2014, neither of these plans have yet been published on the Department's website. These will be published following approval, as per the requirements of this condition.

3. Conclusion

This Report is intended to meet the full requirements of condition 20 of the Approval. All statements made in the Report are true and evidence-based. Further information can be provided as required. This Report will be publicly available on the Department's website within the three month anniversary of the commencement of works.

**Appendix A – Approval – Tarkine Forest Drive Road Upgrade EPBC
2011/6210**



Approval

Tarkine Forest Drive Road Upgrade (EPBC 2011/6210)

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted Tasmanian Department of Infrastructure, Energy and Resources

proponent's ACN 36 388 980 563

proposed action To upgrade and seal existing road corridors and associated infrastructure in north west Tasmania to form the Tarkine Forest Drive from the southern abutment of the Tayatea bridge to the Arthur River township [See **EPBC Act** referral 2011/6210].

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approve

conditions of approval

This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 1 March 2033.

Decision-maker

name and position Tony Burke

signature

date of decision

27.3.13

Conditions attached to the approval

1. The **person taking the action** must develop an environmental induction training and awareness program that instructs employees and contractors on the importance of protecting **EPBC species** while undertaking **construction** works related to the **Tarkine Forest Drive**. The program must :
 - a. involve face to face sessions, prominently displayed posters and provision of glovebox guides;
 - b. include clear images and simple descriptions (including distinguishing features) to aid in the identification of **EPBC species**;
 - c. include information on the location of **construction** exclusion zones and the importance of not breaching these;
 - d. include information on the importance of adhering to the conditions contained within this notice, specifically implementing mitigation measures to minimise construction impacts on **EPBC species**;
 - e. include maps of **high risk EPBC species roadkill locations**, identified through roadkill monitoring data included in the PER and updated annually from the commencement of construction for the life of the approval based on monitoring data collected in accordance with conditions 9 and 10 of this approval and information published by the Save the Tasmanian Devil Program;
 - f. include instructions on how to avoid or reduce incidences of all fauna species roadkill;
 - g. include protocols for dealing with injured **EPBC species**, including
 - i. animal welfare considerations;
 - ii. initial response provisions;
 - iii. expert care provisions
 - h. provide information on roles and responsibilities, including recording and reporting obligations for staff who observe **EPBC species** (dead or alive) in accordance with conditions 9 – 12 and any template documents used in these requirements; and
 - i. include protocols to ensure that all **construction and material transport vehicles** travelling outside of **daylight hours** (including within **civil twilight**) will not exceed 50 km per hour along the **Tarkine Forest Drive**.
 - j. include reference to the penalties imposed on any workers found causing intentional harm to **EPBC species**, including legal and onsite environmental responsibilities.

The induction training must commence at or prior to the **commencement** of the action and be maintained for the **construction phase**. In addition the program must be implemented during any required maintenance or monitoring activities post construction to ensure that all **employees and contractors** who travel on the **Tarkine Forest Drive** are **inducted prior to undertaking any construction, maintenance** or monitoring activity. Details (including the names and number of staff) of induction and awareness training must be logged and maintained within an induction and awareness register.

2. The **person taking the action** must ensure that induction and awareness training (condition 1) is held no less than monthly during the **construction phase** to maintain worker knowledge about the importance of avoiding and minimising impacts (particularly roadkill) on **EPBC species** and of recording and reporting observations of **EPBC species**.
3. Prior to works commencing in any given area, the **person taking the action** must engage a **suitably qualified person** to map the known **EPBC Orchid Species** and clearly mark exclusion zones around these populations. To mitigate and reduce the impact of **construction** works on these species habitat, the **person taking the action** must:
 - a. ensure that temporary and high visibility fencing will be erected to restrict access to exclusion zones where these occur within 50 m of **construction** activities. Temporary fencing must be of a design appropriate to restrict access and prevent the passage of vehicles or material, in exclusion zones where accidental incursion could reasonably occur;
 - b. implement measures to mitigate the spread or establishment of new or additional weed species, or soil or plant pathogens into these areas as a result of **construction**; and
 - c. implement stormwater management measures to prevent the unintentional diversion or discharge of stormwater during both construction and operation over known populations or habitat supporting **EPBC Orchid species**.
4. The **person taking the action** must ensure that targeted surveys are undertaken in potential habitat for **EPBC species** occurring in areas proposed for disturbance. These targeted surveys must be undertaken by a **suitably qualified person**, prior to commencing work in the vicinity. Specific features to be targeted, along with a mandatory management response in parentheses, must include:
 - a. **Tasmanian Wedge-tailed Eagle** nests (if the **suitably qualified person** determines that the nest is occupied then all work within 500 m or 1 km if activity is within the line of site of the nest must cease during the breeding season, until any chicks have been fledged, as determined by a **suitably qualified person**);
 - b. **Masked owl** nests (if the **suitably qualified person** determines that the nest is occupied then all works within 100 m of the nest must cease during the breeding season);
 - c. **Tasmanian Azure Kingfisher** nests (if the **suitably qualified person** determines that the nest is occupied then all works within 100 m must cease during the breeding season as determined by the **suitably qualified person**);
 - d. **Tasmanian Devil** dens (cease all works within 50 metres of the den until it is vacated and the individual(s) have naturally dispersed from the area as determined by a **suitably qualified person**); and
 - e. **Tasmanian Spot-tailed Quoll** dens (cease all works within 50 m until the den is vacated and the individual(s) have naturally dispersed from the area as determined by a **suitably qualified person**).

Relevant breeding seasons must be determined by a **suitably qualified person**.

5. The **person taking the action** must contain **construction** works within the designated **construction zone**.

6. To reduce the threat of increased unmanaged fire on **EPBC species** and their habitats, the **person taking the action** must:
 - a. install measures to prevent unauthorised vehicle access to any forestry or spur roads that connect to the **Tarkine Forest Drive** and that provide access to **fire sensitive areas** and;
 - b. at all tourist rest areas and parking lots on the **Tarkine Forest Drive**, install and maintain cigarette disposal receptacles and signage informing visitors of potential fire hazards.

7. The **person taking the action** must ensure that the construction of any bridge or road culvert of diameter 900 mm or greater in crossing areas of potentially suitable **Giant Freshwater Crayfish** habitat, as defined by a **suitably qualified person**, is designed to encourage water flow and crayfish movement. The suitability of these designs in encouraging water flow and crayfish movement must be determined by a **suitably qualified person**. Appropriate sediment and erosion control measures must be implemented and maintained during construction to prevent water quality changes impacting on the **Giant Freshwater Crayfish** or its habitat.

8. The **person taking the action** must ensure that all roads within the **Tarkine Forest Drive** are designed, upgraded and maintained in a manner that minimises the potential for **EPBC species** roadkill, through deterrence and increased visibility, including in particular:
 - a. clearly signposted speed limits no greater than the limits indicated in Attachment A;
 - b. the use of **light coloured pavement** as indicated in Attachment B;
 - c. regular underpasses to allow passage of small fauna at key sites as determined to be appropriate by a **suitably qualified person**;
 - d. the use of audible **rumble strips** as indicated in Attachment B;
 - e. road alignment amendments to improve visibility as indicated in Attachment B;
 - f. designing and contracting all table drains required as part of the action to minimise the pooling of water and resulting vegetation growth; and
 - g. on-going active management (reduction) of vegetation that could provide shelter for the **Tasmanian Devil** and **Spot-Tailed Quoll** within the defined road reserve (including roadside table drains and verges) of the **Tarkine Forest Drive**.

For the avoidance of doubt, vegetation management is to be undertaken in manner that is sympathetic with the conservation of **EPBC Orchid Species** and consistent with advice from a **suitably qualified person** where this occurs within exclusion zones.

9. During any time period during the **construction phase** of the project when **construction** activities are being undertaken, the **person taking the action** must ensure that any roads travelled by **construction and material transport vehicles** within the **Tarkine Forest Drive** are visually inspected daily, and all carcasses (whether **EPBC species** or not) removed to at least 40 m from the edge of the road including offsite disposal.
 - a. The **person taking the action** must ensure that all roadkill detected on the **Tarkine Forest Drive** is recorded consistent with information required by condition 11 a.

10. During the **operational phase** of the project, the **person taking the action** must ensure that all roads within the **Tarkine Forest Drive** and **areas of additional mitigation measures** are visually inspected at least once per week, and all carcasses (whether **EPBC species** or not) removed to at least 40 m from the edge of the road including offsite disposal.
 - a. The **person taking the action** must ensure that all roadkill detected on the **Tarkine Forest Drive** is recorded consistent with information required by condition 11 a.
11. Within twelve months of the date of this approval, **the person taking the action** must submit to **the minister** for approval a Roadkill Monitoring and Adaptive Management Plan (RMAMP). The RMAMP must include detailed baseline traffic data and high quality spatial and current temporal data on **animal abundance** and roadkill, including any identified **roadkill hotspots**. The RMAMP must include the following:

Stage one

- a. ongoing Stage 1 roadkill monitoring, undertaken at least one day per week for a period of 12 weeks on an ongoing cycle. Data collected must include:
 - i. species;
 - ii. body condition;
 - iii. date;
 - iv. time;
 - v. location coordinates;
 - vi. any noteworthy circumstances including circumstances of injury death where relevant and known; and
 - vii. for Tasmanian devils, whether Devil Facial Tumour Disease (DFTD) has been detected;
- b. a first level trigger of more than 15 and less than 20 individual roadkill counts from all species, or 2 roadkill counts of individual Tasmanian devils, occurring in any consecutive three month period (12 days of monitoring activity). If this trigger level is met, a further four weeks of monitoring to identify whether the increased roadkill level is sustained must be undertaken. If the level is sustained, the **person taking the action** must implement Stage 2 monitoring, contained in condition 11 d.

Stage two

- c. a second level trigger of 20 or more individual roadkill counts from all species, or more than two roadkill counts of individual Tasmanian devils, occurring in any three month period. If this trigger level is met, the **person taking the action** must implement the measures contained in condition 11 d.
- d. Should Stage 2 monitoring be required under conditions 11 b or c the **person taking the action** must engage a **suitably qualified person** to develop an additional detailed monitoring proposal aimed at identifying:
 - i. any changes in the impact to **EPBC species**;
 - ii. any roadkill spatial patterns or potential new hotspots;

- iii. changes in animal abundance;
- iv. any occurrences of DFTD within the area;
- v. external changes to traffic such as unforeseen developments; and/or
- vi. whether speed is a factor in the increase to roadkill and if so who is speeding, when and why;

Stage three

- e. If the additional detailed monitoring identifies that overall roadkill has increased by any more than 5 % from Stage 2 levels as a result of the action, and that an adverse impact on any **EPBC species** has or is occurring, additional targeted mitigation measures, developed by a **suitably qualified person** and submitted for approval by **the minister**. The approved additional targeted mitigation measures must be implemented within 30 days of being approved. Potential mitigation measures may include, but shall not be limited to:
 - i. legal speed enforcement;
 - ii. installation of additional **rumble strips** and/or **light coloured pavement**;
 - iii. road alignment amendments to improve visibility;
 - iv. construction of animal escape routes;
 - v. vehicle triggered roadside lighting; and
 - vi. progressive reduction in road speed limits by 10 km per hour.

The approved targeted mitigation measures must be implemented.

General

- f. every 3 months following the approval of the RMAMP, the **person taking the action** must publish a report on their website containing the results of the roadkill monitoring data (including any trigger levels met or exceeded and actions taken in response).;
 - g. Should monitoring detect that any trigger levels have been met or exceeded the **person taking the action** must provide written advice to **the department** outlining the details of the exceedance within 7 days of the exceedance having been detected.
12. Five years following the approval of the RMAMP required under condition 11, and every five years thereafter, the **person taking the action** must engage a **suitably qualified person** to undertake a review and audit of the RMAMP. The **person taking the action** must:
- a. consult with relevant recovery teams for **EPBC Species** on the findings of the review;
 - b. publish a report containing the findings of the review and audit on a publically available website;
 - c. amend the RMAMP in accordance with any recommendations made in the report;

- d. submit the revised RMAMP to **the minister** for approval; and
 - e. following approval by **the minister**, implement the revised plan.
13. Prior to the **commencement** of the action, the **person taking the action** must establish an EPBC species register on its website that includes all records of sightings of **EPBC species** (including carcasses), as collected under conditions 1, 9 – 11 (and 12 if applicable). The **EPBC Species** register must be updated at least every three (3) months over the life of the action.
14. The **person taking the action** must make available any raw data relating to **Tasmanian Devils** and the Devil Facial Tumour Disease, on request from any Commonwealth or Tasmanian Government agency or the Save the Tasmanian Devil Program.
15. To compensate for unavoidable significant impacts on the **Tasmanian Devil** from increased roadkill, the **person taking the action** must provide no less than \$110,000 (GST exclusive) in funding to the Save the Tasmanian Devil Program Appeal, in accordance with any approved **Tasmanian Devil** recovery plan and explicitly for the purpose of "**maintenance of the Tasmanian Devil Insurance Population**".

This sum must be donated within 1 year of this approval and evidence of payment provided to the **department** within 30 days of payments being made.

16. Prior to the **commencement** of the action, the **person taking the action** must install and maintain **rumble strips** at roadkill hotspots identified at:
- a. two sites on the Arthur River Road; and
 - b. four sites on the Roger River Road;
- and as identified in Attachment B. **Rumble strips** must be designed to effectively warn wildlife and drivers of potential collision through the production of noise leading to a reduction of roadkill in the above **roadkill hotspots**.
17. Within 3 years following the commencement of construction of the **Tarkine Forest Drive**, the **person taking the action** must install **light coloured pavement** in three identified **roadkill hotspots**. Suitable locations for these installations will be informed by data collected during construction of the project, including roadkill data collected under condition 9 of this approval.
18. If monitoring detects that the Stage 3 trigger levels outlined in the revised RMAMP continue to be exceeded following the implementation of targeted mitigation measures in accordance with condition 11 of this approval, the **person taking the action** must submit an additional offset strategy to the **minister** for approval. As part of this strategy the proponent must undertake the following contingency compensation response:
- a. for impacts to wedge-tailed eagle, the **person taking the action** must contribute to regional or state-wide **Tasmanian Wedge-tailed Eagle** monitoring strategies as agreed to by **the department**; or
- install an additional 2 **Rumble Strips** at two sites in road kill hotspot areas within 100 km of the **Tarkine Forest Drive**;
- and/or

- b. for impacts to the **spot-tailed quoll**, the **person taking the action** must fund a program of feral dog and / or cat trapping and / or shooting as agreed by **the department**, or

install an additional **Rumble Strip** at one sites in a **road kill hotspot** within 100 km of the **Tarkine Forest Drive**;

and/or

- c. for impacts to **Tasmanian Devils**, the **person taking the action** must contribute funding to the Save the Tasmanian Devil Program Appeal, explicitly for the purpose of “maintenance of the **Tasmanian Devil** insurance population”, at an amount to be agreed by **the department**; or

install an additional 4 **Rumble Strips** at sites, or resurface 8 km of road within **road kill hotspots** with a light coloured surface in road kill hotspot areas within 100 km of the **Tarkine Forest Drive**.

Any of the above responses must be undertaken in such a way to avoid negative impacts on EPBC species, and (except in the case of direct financial contributions) in accordance with the advice of a **suitably qualified person** and relevant Commonwealth and Tasmanian Government law and / or policies where relevant.

19. The **person taking the action** must prepare and submit a **Tarkine Region Rehabilitation Plan** (the plan) for approval by **the minister** within 12 months of the date of this notice. The plan must outline historic areas of environmental disturbance in the Tarkine region associated with road developments that are suitable for environmental rehabilitation. These could include former quarry sites or gravel pits or abandoned roads, or measures to remediate pollution of waterways, and may also incorporate permanently restricting public access to environmentally sensitive areas. Funding of works associated with the plan must equal no less than \$50,000 (GST exclusive), unless otherwise agreed by **the minister**. The plan must include;
- the proposed number, type and location of sites suitable for rehabilitation;
 - the proposed rehabilitation methods and benchmarks for success, including completion timeframes; and
 - benefits that rehabilitation will have on listed threatened species.

The approved plan must be initiated within 6 months of approval by **the minister** and continued until all actions within the plan have been completed.

Administrative Conditions

20. Within three months of every 12 month anniversary of the **commencement** of the action, the **person taking the action** must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans or programs (however described) as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to **the department** at the same time as the compliance report is published.
21. If the **person taking the action** wishes to carry out any activity otherwise than in accordance with a program or management plan as specified in the conditions, the **person taking the action** must submit to **the department** for **the minister's** written

approval a revised version of that program or management plan. The varied activity shall not commence until **the minister** has approved the varied program or management plan in writing. **The minister** will not approve a varied program or management plan unless the revised program or management plan would result in an equivalent or improved environmental outcome over time. If **the minister** approves the revised program or management plan, that program or management plan must be implemented in place of the program or management plan originally approved.

22. If **the minister** believes that it is necessary or convenient for the better protection of **EPBC species** to do so, **the minister** may request that the **person taking the action** make specified revisions to the program or management plan specified in the conditions and submit the revised program or management plan for **the minister's** written approval. The **person taking the action** must comply with any such request. The revised approved program or management plan must be implemented. Unless **the minister** has approved the revised program or management plan, then the **person taking the action** must continue to implement the program or management plan originally approved, as specified in the conditions.
23. If, at any time after 5 years from the date of this approval, the **person taking the action** has not **substantially commenced** the action, then the **person taking the action** must not substantially commence the action without the written agreement of **the minister**.
24. Unless otherwise agreed to in writing by **the minister**, the **person taking the action** must publish all programs or management plans referred to in these conditions of approval on their website. Each program or management plans must be published on the website within 1 month of being approved.

Definitions

animal abundance refers to the frequency of presence of individuals of any one species calculated through headlight surveys.

areas of additional mitigation measures refers to the location of roadkill mitigation measures including rumble strips, advisory signage, roadside and table drain vegetation clearance to be installed outside of the Tarkine Forest Drive on Roger River Road and the Arthur River Road.

civil twilight refers to the time at which the sun is 6 degrees below the horizon. At this time, there is enough light for objects to be clearly distinguishable.

commencement of the action means the construction of any infrastructure, excluding fences and signage, associated with the proposed action.

construction includes any preparatory works required to be undertaken including clearing vegetation, the erection of any onsite temporary structures and the use of heavy duty equipment for the purpose of breaking the ground for buildings or infrastructure.

construction and material transport vehicles means any vehicles used to facilitate the projects **construction**

construction phase the time period during which **construction** of the action including road upgrades and bridge replacement are undertaken but does not include regular road maintenance works.

construction zone refers to the area required for the rehabilitation of existing road pavements and construction of the proposed final road surface, embankment fill batters and cut batters,

drains and associated works, including existing disturbed areas such as quarries, spurs and access roads and areas where proposed tourism works are to be constructed.

The construction zone is to be limited to:

- existing road features within areas of land owned by DIER;
- areas of un-alienated Crown Land revoked from Forestry Tasmania to accommodate road and/or drain construction or widening, cut and fill batter works and limited vegetation trimming and removal;
- areas required for works approved by the National Parks and Wildlife Service Tasmania within the Arthur Pieman Conservation Area; and
- existing disturbed areas confirmed by a **suitably qualified person** as containing no known **EPBC species** and made available by agreement with other owners for junction and other minor works or for the temporary storage of materials and equipment.

coordinates means the latitude and longitude (or any other measure consistent with any protocol established by the Save the Tasmanian Devil Program), measured by global positioning system (GPS).

daylight hours extend from 30 minutes after morning civil twilight until 30 minutes prior to evening **civil twilight**.

department means the Australian Government Department administering the *Environment Protection and Biodiversity Conservation Act 1999*.

EPBC Act is the *Environment Protection and Biodiversity Conservation Act 1999*.

EPBC species means the following species listed under the **EPBC Act**:

- Arthur River greenhood (*Pterostylis rubenachii*)
- shortspike midge (*Corunastylis brachystachya*)
- western leek orchid (*Prasophyllum favonium*)
- windswept spider orchid (*Caladenia dienema*)
- **spot-tailed quoll** (*Dasyurus maculatus* subsp. *maculatus*)
- **Tasmanian Devil** (*Sarcophilus harrisi*)
- **Tasmanian Azure Kingfisher** (*Ceyx azureus* subsp. *diemenensis* syn. *Alcedo azurea* subsp. *diemenensis*)
- **Tasmanian Masked Owl** (*Tyto novaehollandiae* subsp. *castanops*)
- **Tasmanian Wedge-tailed Eagle** (*Aquila audax* subsp. *fleayi*)
- Australian grayling (*Prototroctes maraena*)
- **Giant Freshwater Crayfish** (*Astacopsis gouldi*)

EPBC Orchid species means individuals or populations of:

- Arthur River greenhood (*Pterostylis rubenachii*);
- shortspike midge (*Corunastylis brachystachya*);

- western leek orchid (*Prasophyllum favonium*) and
- windswept spider orchid (*Caladenia dienema*).

high risk EPBC species roadkill locations refers to an area that is an existing **roadkill hotspot**, has demonstrated high animal abundance, allows higher vehicle speeds, and is in an area that receives local and through traffic (as opposed to predominately tourist traffic).

light coloured pavement means a colour shade that improves the visibility of an **EPBC species** (particularly the Tasmanian devil) by increasing the contrast between the animal and the road surface.

maintenance of the Tasmanian devil insurance population includes any activities associated with the care of Tasmanian devils within the insurance population established and managed by the Save the Tasmanian Devil Program, including capture and release, transport, feeding, enclosure and security, monitoring, veterinary care and breeding support, but does not include program oversight and administration, public awareness or research activities.

operational phase refers to the time period beginning at completion of the **construction phase** until the life of the approval.

suitably qualified person means an individual with tertiary qualifications or a minimum of (5) years experience relevant to the task in question.

the minister means the minister administering the *Environment Protection and Biodiversity Conservation Act 1999* and includes a delegate of the minister.

person taking the action is the Tasmanian Department of Infrastructure, Energy and Resources or any person or organisation acting under their authorisation.

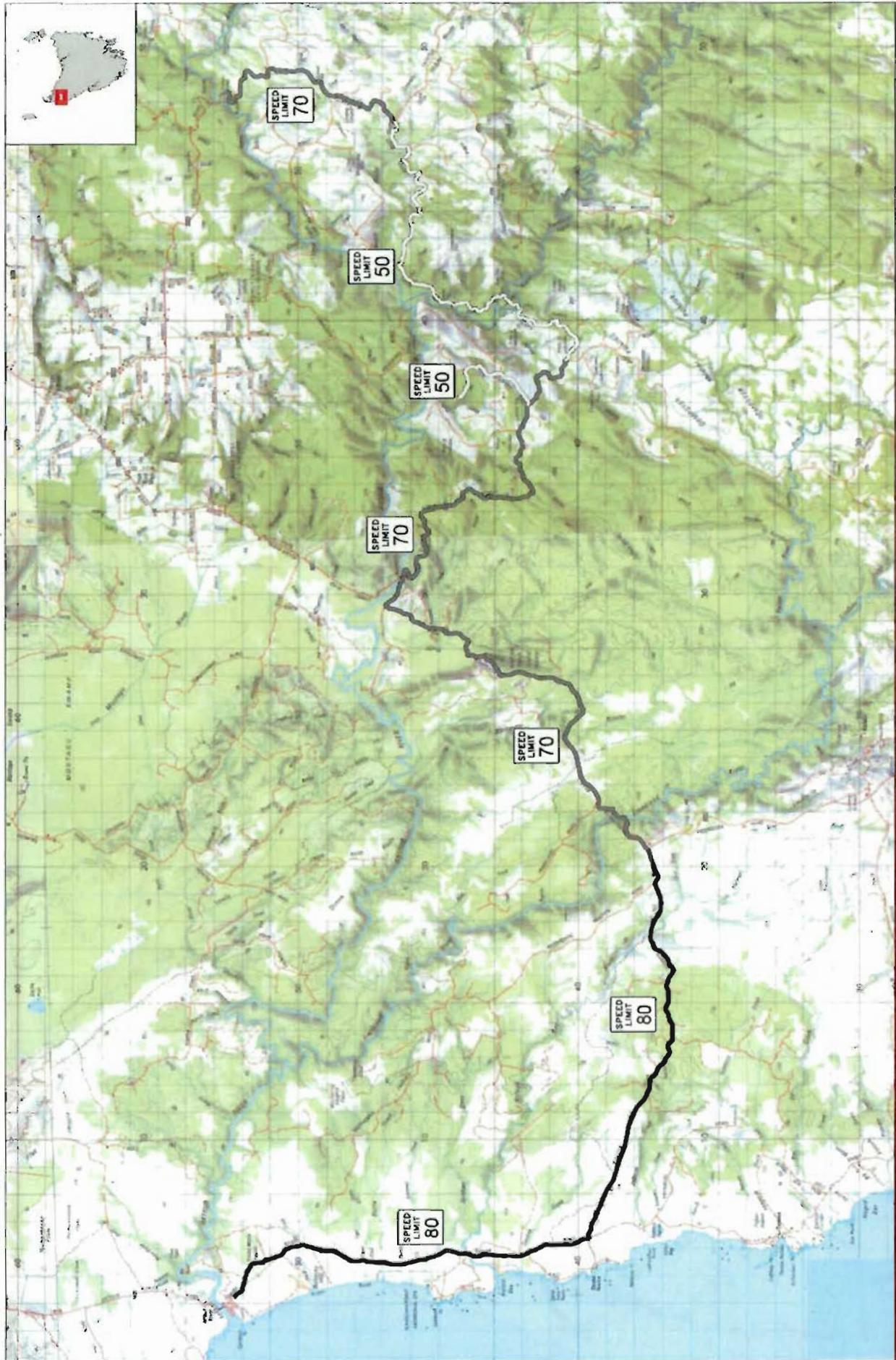
roadkill hotspot refers to areas where roadkill surveys identify definite spatial clustering of roadkill recordings.

Rumble Strips means as described on page 163 and by figure 6.7 of the December 2012 Tarkine Forest Drive Public Environment Report.

Tarkine Forest Drive refers to the roads listed below and marked in Attachment B:

- Temma Road;
- Rebecca Road;
- Blackwater Road;
- Sumac Road;
- Lake Chisholm Road;
- Rapid River Road; and
- Tayatea Road.

ATTACHMENT A – Tarkine Forest Drive operational speed limits



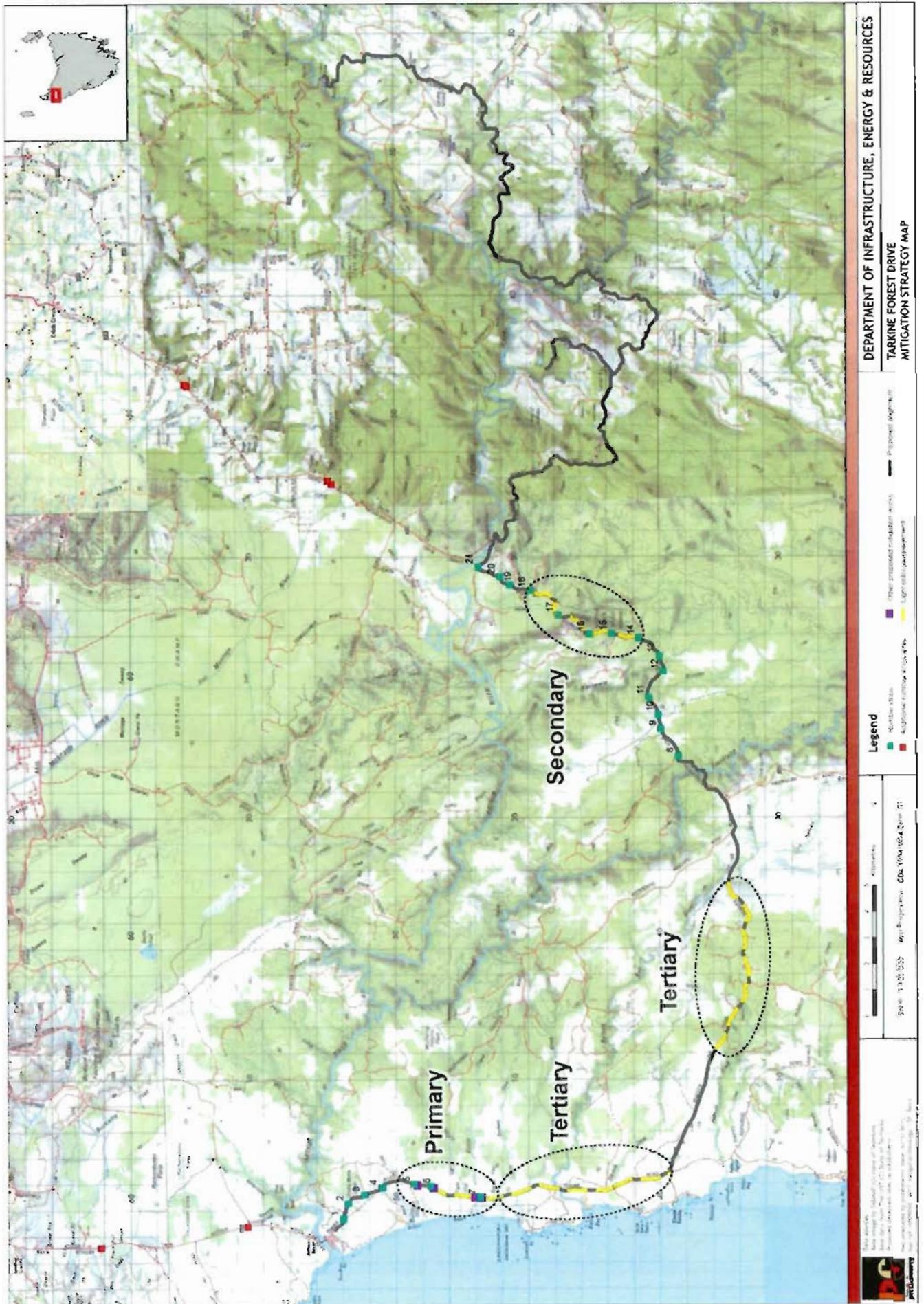

DEPARTMENT OF INFRASTRUCTURE, ENERGY & RESOURCES
TARKINE FOREST DRIVE
PROPOSED SPEED LIMITS

Legend
 Proposed Speed Limits: 80 km/h, 70 km/h, 50 km/h
 Main Road, Trunk Road, Minor Road

Scale: 1:250,000
 Map Projection: UTM, Zone 56, UTM, UTM Zone 56, UTM

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ATTACHMENT B – Tarkine Forest Drive mitigation measures location maps





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Selena Dixon