North East Freight Roads Prossers Road Intersection Upgrades

Submission to the Parliamentary

Standing Committee on Public Works



June 2012



Department of Infrastructure, Energy and Resources

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A. PROPONENT AND PROJECT DETAILS

A 1. Proponent

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A 2. Project Description

In 2007 the Australian and Tasmanian Governments committed \$34 million and \$8.5 million respectively for a total investment of \$42.5 million towards the North East Freight Roads (NEFR) program. This included projects targeted at improved safety, efficiency and level of service along key freight roads in the north east of Tasmania to meet the then forecast 40% increase in freight generated from this part of the State (DIER 2010, *Project Proposal Report (Scoping)– North East Freight Roads)*.

As a part of the North East Freight Roads package, this Submission presents a case to upgrade three (3) intersections, located in the Launceston Council municipality in northern Tasmania, which are listed below.

- 1. Lilydale Road junction with Prossers Road
- 2. Prossers Road junction with Patersonia Road
- 3. Patersonia Road junction with The Tasman Highway (at Nunamara)

It is also proposed to upgrade the drainage infrastructure along Prossers Road as a part of the North East Freight Roads package, which will improve the wet weather conditions along the unsealed surfaces of the road.

The three junctions listed above lie along the Prossers Road freight route linking Camden Hills Road and the Tasman Highway with Lilydale Main Road. Prossers Road was originally constructed as an industry specific forest freight route linking the Mt Barrow, Camden Hills, Diddleum Plains and Sideling forestry harvesting catchment areas with the Long Reach and Bell Bay woodchip and sawmills. Industry uses Prossers Road to bypass the city of Launceston. Prossers Road, which is predominantly unsealed, is owned by the Launceston City Council and is HPV/HML gazetted. It continues to form part of the most efficient freight route for industry operating between the aforementioned locations because it provides for the use of heavy vehicles, and enables trucks to bypass the more congested central part of Launceston. Use of Prossers Road by these vehicles therefore plays a part in alleviating congestion and reducing heavy vehicle numbers in the Launceston CBD. The upgrades to the intersections on the Prossers Road freight route, as well as the drainage improvements along Prossers Road itself, address safety concerns raised by both residents and industry alike.

The freight route comprises the following combination of roads; Tasman Highway (east of Nunamara)/ Patersonia Road/ Prossers Road/ Lilydale Main Road/ East Tamar Highway. Figure 1 shows an overview of the intersection locations. This route is a gazetted HPV+HML route (i.e. 26m, 68t vehicle capacity).

Figure 1 Overleaf: Prossers Road Intersections Location Overview

1



Proposed Upgrades

Details regarding the safety concerns of the existing junctions are provided below, along with the scope of work to upgrade all three locations in order to improve road safety for all users. All construction activities are to be completed by June 2013.

In addition to the intersection upgrades, the project is to include drainage improvement works along Prossers Road.

Lilydale Road / Prossers Road Intersection

The junction of Lilydale Road and Prossers Road is a give-way intersection, with Lilydale Road forming the major approach. The safety concerns relating to this intersection include:

- An embankment on the southern Lilydale approach limits sight distance to less than that required by Austroads Guidelines;
- Tight radius of curve on the southern Lilydale approach; and
- No dedicated right turn lane for vehicles turning into Prossers Road.

The broad scope of works for this intersection includes:

- Removal of embankment south of intersection to improve sight distance;
- Increased radius of curve south of intersection;
- Installation of dedicated deceleration right turn lane for Lilydale Road southern approach;
- Lane and shoulder widening;
- Improved road markings;
- Excavation of V-drain along Lilydale Road;
- Installation of stormwater culvert under Prossers Road;
- Installation of new traffic signs;
- Replacement of guide posts; and
- Property acquisition and fence relocation.

Figure 2 shows the design overview for the Lilydale Road / Prossers Road intersection.

Figure 2 Overleaf: Lilydale Road and Prossers Road Intersection Upgrades Design Overview



Prossers Road / Patersonia Road Intersection

The junction of Prossers Road and Patersonia Road is a give-way intersection, with Patersonia Road forming the major approach. The safety concerns relating to this intersection include:

- Limited sight distances as intersection is in a hollow;
- Priority of intersection is not consistent with major traffic movements from Patersonia Road to Prossers Road;
- Gravel/seal issues with major approach sealed and minor approach unsealed. Minimal pavement marking and existing marking only partially visible; and
- Patersonia Road residents have raised concern that HPVs travelling between Prossers Road and Patersonia Road do not stop and give way.

The broad scope of works for this intersection includes:

- Reprioritise the intersection by reshaping to provide priority for through traffic from Patersonia Road to Prossers Road;
- Provision of a BAR (Basic Right) turning treatment to allow vehicles to pass safely to the left of those waiting to turn right into Patersonia Road;
- Regrading and raising at the centre of the intersection to improve sight stopping distance;
- Relocation of Telstra infrastructure;
- Lane and shoulder widening;
- Land acquisition;
- Fence relocation;
- Extension of bituminous seal along Prossers Road;
- Improved road markings;
- Replacement of guide posts; and
- Installation of new traffic signs.

The design overview for the Prossers Road / Patersonia Road intersection is illustrated in Figure 3.

Figure 3 Overleaf: Prossers Road and Patersonia Road Intersection Upgrades Design Overview





NEW INTERSECTION RESHAPING TO PROVIDE PRIORITY FOR THRU TRAFFIC FROM PROSSERS ROAD TO PATERSONIA ROAD, WITH REGRADING AND RAISING AT CENTRE OF INTERSECTION TO TO ACHIEVE ADEQUATE SIGHT STOPPING DISTANCE.

11

12

RELOCATE SIGN



EXISTING PROPERTY BOUNDARY

NOTES: THE PROPOSED HORIZONTAL ALIGNMENT HAS BEEN DERIVED FOR AN OPERATING DESIGN SPEED OF 50Km/h, ADOPTING A DESIRABLE MINIMUM RADIUS OF 60m AT 3% SUPERELEVATION. REFER TO AUSTGROADS: RURAL ROAD DESIGN TABLE 9.2 MINIMUM RADII OF HORIZONTAL CURVES BASED ON SUPERELEVATION AND SIDE FRICTION AT MAXIMUM VALUES. 1.0m 1. SHOULDER **DETAIL DESIGN - DRAFT** 15 20 25п SCALE 1:250 (A1) 10 PATERSONIA AND PROSSERS RD INTERSECTION UPGRADE APPROVED PROJECT DIRECTO SCALE PROJECT No 1:200@A1 VT30447 RAWING № /T30447-ECC-DG-1140 AMDT 10 11 12

Patersonia Road / Tasman Highway Intersection

The junction of Patersonia Road and The Tasman Highway is a give-way intersection, with the Tasman Highway forming the major approach. The safety concerns relating to this intersection include:

- Intersection utilised by school buses for drop off and pick up of students resulting in conflict between school buses and heavy vehicles;
- School children currently walk across bridge with no hard shoulder between Patersonia Rd and service station where buses also stop; and
- Tight geometry for HPVs.

The broad scope of works for this intersection includes:

- Installation of new bus bays on either side of Tasman Highway to Austroads Standards;
- Provision of a BAR (Basic Right) turning treatment to allow vehicles to pass safely to the left of those waiting to turn right into Patersonia Road;
- Extend existing stormwater culverts;
- Reshape existing stormwater catch drains;
- Installation of appropriate signage to compliment the new bus bays; and
- Improved road markings.

Figure 4 shows the design overview for the Patersonia Road / Tasman Highway intersection.

Figure 4 Overleaf: Patersonia Road and Tasman Highway Intersection Upgrades Design Overview



Prossers Road Drainage Improvements

These drainage improvements works will include the following:

- Upgrading existing culverts at approximately 20 locations by either replacing existing, adding additional pipes or extending existing; and
- Clearing out and re-shaping of swale drains both along the road and at a number of locations into adjacent properties.

These works will be delivered within this contract. The road is currently unsealed and these drainage improvements are designed to protect the road surface from erosion damage and reduce the risk of flooding across the pavement, thus improving safety for road users.

Figure 5 shows the proposed upgrades along the road.

Figure 5 Overleaf: Proposed Drainage Upgrades along Prossers Road



Project Cost

Cost estimates for the upgrade works have been carried out and the value of works is estimated to be \$3.04 million at 90% confidence level (P90), and \$2.84 million at 50% confidence level (P50).

Project Programme

The Planning and Scoping Phase for the project has been completed and the Development and Delivery Phase is currently underway. Further details regarding the timing of the project can be found in Section D of this submission.

B. STRATEGIC FIT

The Development and Delivery Phase for these road upgrades (as part of the North East Freight Roads program) was approved in July 2011 by the Minister for Infrastructure and Transport.

The North East Freight Roads Strategy is identified in the MOU between the Australian and Tasmanian Governments.

The Project meets the Strategic Merits Test for the North East Freight Roads Strategy and was forwarded to the then Department of Infrastructure, Transport, Regional Development and Local Government (DITRDLG) in June 2008 as the business case document for this Nation Building Program Schedule A project.

C. PROJECT OUTCOMES

The proposed upgrades to the Prossers Road intersections will support the following strategic objectives:

- Strategic road upgrades that support improved freight vehicle priority and safety;
- Better access to high quality road networks to cater for projected increase of industry vehicles in the north east of Tasmania;
- Reduced crash costs for industry vehicles;
- Safer travel and interactions between all vehicle types; and
- Re-prioritisation of intersections to support freight movement and efficiency.

The key outcomes from the upgrades include are described below.

Lilydale Road / Prossers Road Junction

Improved safety for all road users either utilising or travelling past the junction through:

- Removal of embankment south of intersection to improve sight distance;
- Increased radius of curve south of intersection; and
- Installation of dedicated deceleration right turn lane (into Prossers Road) for Lilydale Road.

Prossers Road / Patersonia Road Junction

Improved safety and efficiency for all road users either utilising or travelling past the junction through:

- Reprioritise the intersection by reshaping to provide priority for through traffic from Patersonia Road to Prossers Road (which will increase freight vehicle efficiency);
- Regrading and raising the centre of the intersection to achieve adequate sight stopping distance; and
- Short extension of bituminous seal along the Prossers Road approach to junction.

Patersonia Road / Tasman Highway Junction

Improved safety for bus users through the installation of new bus bays.

Prossers Road Drainage Works

- Improved drainage of pavement surface, thus improving the performance of the unsealed pavement along the route; and
- Protection of unsealed pavement from damage caused by erosion, thus prolonging life of pavement and reducing maintenance costs.

D. PROJECT APPROACH AND TIMING

The milestones for the Prossers Road Intersection Upgrades have the timing detailed in Table 1 below:

Table 1: Development and Delivery Phase Milestones

| Key Milestones | Completion Date / Timing | Critical Path (Yes/No) | | | |
|---|-----------------------------|---------------------------|--|--|--|
| Development Phase | | | | | |
| Approval of PPR (by DoIT) | June 2012 | Yes | | | |
| Final Design Approved by DIER | July 2012 | No | | | |
| Preparation of Tender Documentation | August 2012 | Yes | | | |
| Land Acquisition | October 2012 | Yes | | | |
| Stakeholder Consultation (ongoing) | Contract Award | No | | | |
| Delivery Phase | | | | | |
| Tender Issued | September 2012 | Yes | | | |
| Tender Award | November 2012 | Yes | | | |
| Construction Start | January 2013 | Yes | | | |
| Construction Completion | June 2013 | Yes | | | |
| Final Pavement Seal (12 months after initial) | April 2014 | Yes | | | |

E. FINANCIAL ANALYSIS

E 1. Anticipated Project Total Outturn Cost

Total project outturn cost for the proposed upgrades to the Tasman Highway and Gladstone Main Road is \$3.04 million at a 90% confidence level (P90). The corresponding outturn cost at a 50% confidence level (P50) is 2.84 million. These values were determined using the Evans and Peck "Best Practice Cost Estimation for Publicly Funded Projects".

The cash flow shown in Table 4 below is for the P50 and P90 capital expenditure values.

Table 2: Cash Flow

| Year | 2011/2012 | 2012/2013 | 2013/2014 | Total Funding |
|---------------|-----------|----------------|----------------|----------------|
| P50 Cash Flow | 0 | \$2.74 million | \$0.06 million | \$2.84 million |
| P90 Cash Flow | 0 | \$2.93 million | \$0.07 million | \$3.04 million |

E 2. Qualitative Analysis Summary

The upgrades to the Prossers Road freight route address safety concerns raised by both residents and industry. As a result of data limitations and Austroads guidance, it was decided to undertake a qualitative analysis in lieu of a formal Cost Benefit Analysis.

A summary of proposed treatments by location has been provided in Section A. These treatments will address the majority of the compliance issues and improve safety in the area. While it is difficult to measure these treatments and its overall impact on reducing crashes, it can be surmised they all improve safety to varying degrees. In particular:

- Improving intersection sight distances at Lilydale Road and Prossers Road will assist with reducing crashes and near misses, especially overtaking and head on collision.
 This is particularly relevant for heavy vehicles since their length of up to 26m means that they tend to edge out and straddle two lanes when turning and their weight increases the time it takes to stop.
- Creating a right hand turn lane on Lilydale Road will assist in reducing crashes and near misses, especially rear end collisions.

The ability for turning vehicles to queue clear of through traffic will improve safety at the intersection.

 Intersection upgrades at Lilydale Road and Prossers Road will help to clear the road of frost and ice during winter conditions.

This will be achieved through super elevation corrections, vegetation clearing and drainage improvements.

 Drainage upgrades along Prossers Road will reduce the risk of flooding across the pavement, and also reduce the risk of erosion of the unsealed road surface.

Drainage improvements will help to improve safety and travel efficiency of all vehicles.

 <u>Re-prioritising the intersection for through traffic from Patersonia Road to Prossers Road will assist channelling</u> increased volumes of traffic. Traffic on Prossers Road is forecast to increase by 49% whereas Patersonia is only forecast to grow by 9%. This means that the re-prioritising and reshaping will improve vehicle efficiency.

Installation of new bus bays.

The formalisation of bus bays is particularly important because currently there is a potential conflict between school buses and heavy vehicles, resulting in an increased risk to school children.

It is also important to consider the project in the context of the wider network and the linkages it provides. This project forms part of the North East Freight Roads strategy as described in Section A of this report. The benefits in terms of safety and efficiency of this element of the package of works form only a portion of the overall benefit to the freight route.

F. RISK AND GOVERNANCE

DIER has established a Governance Structure and Risk Assessment process, both of which have been set up to support delivery of the North East Freight Strategy. Governance for this project fits in with the overall NEFR governance structure set out in the May 2010 PPR (Scoping) – North East Freight Roads and reiterated in the May 2011 Amendment. The governance structure is detailed in Appendix B.

The key risks associated with this project are:

- Design time and DIER review and approval time;
- Scope creep during detailed design;
- Delays associated with enabling works;
- Unforseen geotechnical conditions during construction;
- Unforseen underground services during construction;
- Adverse weather;
- Council Development Application

Further details of the risks involved with this project are provided in Appendix A.

F 1. Environmental and Cultural Issues

Heritage

The Historical Heritage Assessment (SKM, August 2011) has identified one historical heritage site that has potential to be impacted by the project. This site is the Nunamara War Memorial which is located on the north corner of the Patersonia Road junction with Tasman Highway, Nunamara.

The nearest edge of the concrete apron is approximately 500mm from the current edge of the road pavement. The proposed works are unlikely to impact the memorial.

Aboriginal Heritage Tasmania has undertaken a search of the Tasmanian Aboriginal Site Index (TASI) regarding the proposed intersection upgrades and has advised that there are no Aboriginal heritage sites recorded within or close to the intersections. Due to the area being highly disturbed, it is believed that the area has a low probability of Aboriginal heritage being present. Based on advice from Aboriginal Heritage Tasmania, there is no requirement for an Aboriginal heritage investigation and they have no objection to the project proceeding.

Environmental

The Flora and Fauna Assessment undertaken in March 2011 for the works at Lilydale Rd/Prossers Rd intersection identified two trees of a threatened species that will be impacted by the project. A 'Threatened Species Permit to Take' may be required for the removal of these trees. This permit could take 6-8 weeks of negotiation with the Department of Primary Industries, Parks, Water and Environment (DPIPWE). A Development Application to the Launceston City Council is also required for the removal of these threatened trees.

The Desktop Ecological Risk Assessment undertaken in November 2011 for the intersections at Tasman Highway/Patersonia Road and Prossers Road/Patersonia Road does not identify any native vegetation that is likely to be removed or impacted on as part of the project.

F 2. Public and Stakeholders

Public consultation and stakeholder engagement for this project is ongoing. The consultation process with key stakeholders has been facilitated through interviews, group meetings and phone / email correspondence. Key stakeholders have been given the opportunity to review concept plans for the intersection upgrades and provide feedback, which has been documented and used to inform subsequent design phases. The key stakeholders to the upgrades of the Prossers Road intersections are:

- Launceston City Council;
- St Patricks River Regional Development Association;
- Forestry industry;
- Private landowners; and
- School bus operators.

Ongoing liaising with the Launceston City Council is required for the duration of this project. A meeting will be held with representatives from the St. Patricks River Developments Association to present the final design plans and keep them updated regarding the intersection upgrade process. Forestry Industry and school bus operators will be provided with pre-construction advice regarding the project programme and construction impacts.

The upgrades to the Prossers Road Intersections require some areas of private land to be acquired and some property fence relocations. Property owners who are affected by these issues have been contacted by DIER representatives. One property owner near the Prossers Road/Lilydale Road intersection has strong objections to land acquisition. Further consultation with this landowner is required.

G. FREIGHT DEMAND FORECASTS

The economy of north east Tasmania is dependent on primary industries, including forestry, dairy farming and agriculture, with tourism growing in significance. Forestry freight is the major freight task in the region and the projected increase in freight relates to the harvesting of plantation forestry estate in the region over recent years.

For the purpose of transport efficiency the timber industry preference is to use HPV+HML haul units with a capacity for 68 tonnes gross vehicle mass. While the Prossers Road intersections are currently HPV/HML gazetted, they possess geometric safety deficiencies for all road users, and in particular industry vehicle users. The proposed upgrades will improve the safety of people in the region using both freight and passenger vehicles, including school bus users.

In the 2009 Tasmanian Freight Survey just over 1 million tonnes of hardwood logs and 680,000 tonnes of softwood logs were harvested from the region, representing 22% and 50% of the total state harvest respectively. Quantification of the forecast forestry task has been calculated using DIER's Forestry Freight Model (FFM) which utilises industry supplied projected harvest volume data and timber destination. Two sets of data have been analysed with the FFM:

- Combined plantation (including hardwood and softwood) and non-plantation timber resource utilising data collected in 2003; and
- Plantation ONLY data utilising data collected in 2011.

The plantation only data represents a conservative minimum estimate of future forestry freight, while the combined data (which includes non-plantation timber) represents an upper estimate. Because the plantation only data was obtained in 2011, in context of the current down-turn and re-structuring in the industry, plantation harvest volumes provided until 2015 are below the long-term forecast average.

At a state-wide level, the Tasmanian Forests Intergovernmental Agreement (2011) has resulted in 430,000 hectares of native forest being immediately placed into informal reserves and an independent verification group is examining a total of 572,000 hectares and will make recommendations on future reservation. Reservations under this Forest Agreement will result in some changes in harvest forecasts under the original 2003 FFM data. However, it is important to note that for the north east region a high proportion of timber is contained in the plantation estate. There are significant areas of state forest that are not identified for reservation under the Forest Agreement, and may be available for future harvest. It is on this basis that future harvest is likely to be higher than the plantation only dataset.

The FFM forecasted daily laden log truck movements in regards to the Prossers Road intersection upgrades are shown in Table 3. Truck numbers are on the basis of trucks carrying plantation only logs (lower limit) and an upper limit being the original FFM data which includes both plantation and non-plantation logs. Comparing 2014 through to 2029, the laden log truck numbers from plantation generally peak in the year 2024, with increases of 60 - 100% between 2014 and 2024. The upper limit data fluctuates between peaks in 2014 and 2024, with increases in daily truck movements as high as 90% between 2014 and 2024.

| Table 3: Forestry | y Freight Model | Data - Daily | Truck Movements |
|-------------------|-----------------|--------------|------------------------|
|-------------------|-----------------|--------------|------------------------|

| Location | Average LADEN Daily Log Truck Movements* | | | | | | | | | | | |
|---------------------------------|--|----------|------------|----------|------------|----------|------------|----------|--|--|--|--|
| | 20 | 14** | 20 | 019 | 20 |)24 | 2029 | | | | | |
| | | | | | | | | | | | | |
| | 2011 | 2003 | 2011 | 2003 | 2011 | 2003 | 2011 | 2003 | | | | |
| | Plantation | Combined | Plantation | Combined | Plantation | Combined | Plantation | Combined | | | | |
| | Only Data | data | Only Data | data | Only Data | data | Only Data | data | | | | |
| Tasman Highway (west of | | | | | | | | | | | | |
| Patersonia Road) | 0.4 | 6 | 0.5 | 4 | 1 | 6 | 0.1 | 4 | | | | |
| Tasman Highway (east of | | | | | | | | | | | | |
| Patersonia Road) | 9 | 43 | 14 | 22 | 14 | 42 | 14 | 29 | | | | |
| Prossers Road | 10 | 49 | 15 | 26 | 16 | 48 | 14 | 33 | | | | |
| Lilydale Road (east of Prossers | | | | | | | | | | | | |
| Road) | 4 | 10 | 4 | 7 | 9 | 6 | 5 | 6 | | | | |
| Lilydale Road (west of Prossers | | | | | | | | | | | | |
| Road) | 15 | 59 | 19 | 33 | 24 | 54 | 20 | 39 | | | | |

*FFM assumes 32 tonne payload per truck operating 240 days per year. Doubling of figures required to include un-laden truck trips

** Plantation data provided with knowledge of current downturn in Forestry industry. Upper-limit data provided before downturn. It should be noted that the data for the FFM is based around predicted harvest tonnages collated in five year blocks, however the 2003 Combined Data and 2011 Plantation Data are modelled from differing time periods – therefore average daily truck numbers have been compared for years common to both data sets.

Freight associated with agricultural production is also a significant freight task in the north east, and projected growth from this sector is expected to more than double over the next 20 years. However, agricultural freight does not significantly impact the Prossers Road intersections and their proposed upgrades, as the majority of vehicles do not utilise these roads or intersections.

Appendix A – Risk Assessment

DIER has adopted a formal risk assessment model to be applied in the planning phase of all projects.

The model requires the following steps:

- identification of possible risk events;
- scoring "consequence" (scale of 1 (low) 6 (catastrophic)) and "likelihood" (scale 1(rare) 5 (almost certain)) of that event occurring;
- determine the risk ranking (via risk assessment matrix);
- proposing risk mitigation strategies;
- revise the consequence and likelihood ratings for each risk with mitigation strategy implemented; and
- revise the risk ranking for each risk event with mitigation strategies in place.

Note that the "consequence" scoring is based on agreed project planning related definitions, and includes consideration of Community, Environment and Heritage, Legal and Compliance, Reputation, Management Impact, Financial Impact and Program Impact.

The Risk Assessment matrix framework and definitions can be found on the following pages. Financial risks are included as part of the cost estimation model.

The following page shows the identified risk events for the Prossers Road intersection upgrades, their impact, risk rating, mitigation strategies and revised risk rating, throughout the Development and Delivery Phases of the project.

| RISK MATRIX | | | | | LIKELIHOOD (Refer to Definitions right) | | | | | | | |
|----------------------------|--------|-----------|-----------------------|-------------------------|--|--------------|-------------|-----------|----------------------|--|--|--|
| | | | | | 1. Rare | 2. Unlikely | 3. Possible | 4. Likely | 5. Almost Certain | | | |
| | | | 6 - Catastro | ophic | В | В | А | A | Α | | | |
| | (Ref | Cov | 5 - Extreme |) | С | В | В | A | Α | | | |
| Ove | er to | ISEC | 4 - Severe | | С | С | В | В | A | | | |
| rleaf) | Defin | ŨEN | 3 - High | | D | С | С | В | В | | | |
| | itions | CES | 2 - Medium | I | D | D | С | С | В | | | |
| | | | 1 - Low | | D | D | D | С | С | | | |
| | И | /ha Ra | t is the like ting | lihood Criter | of the se ria | lected conse | equences oc | curring? | | | | |
| 5. | Alm | ios | t Certain | • Ove • "Ha • "Un | ar 90% probability; or ppens Often"; or likely that it won't happen" | | | | | | | |
| 4. | Like | ely | | • Gre • "Co | eater than 50% probability; or buld easily happen" | | | | | | | |
| 3. | Pos | sib | le | • Gre • "Co | eater than 10% probability; or buld happen, has occurred before". | | | | | | | |
| 2. Unlikely = Gre = "Ha | | | | • Gre • "Ha | eater than 1% probability; or asn't happened yet but could". | | | | | | | |
| 1. Rare • Les • Con | | | | | ss than 1% probability; or nceivable, but only in extreme circumstances. | | | | | | | |

| | Risk Action Levels |
|-------------|---|
| A - Extreme | Immediately stop the process; Minister/Secretary decision/direction required. |
| B - High | Take immediate action to further control the risk; General Manager/Governance Group action required. |
| C - Medium | Specific risk management plan to be implemented. Review for improvement opportunities. |
| D - Low | Implement normal procedures and processes. Monitor risk, reduce if practicable. |

| Conse | quence Definitio | ns – What are the likely | consequences in the eve | nt of a failure? | | | |
|--------------|--|--|--|--|---|---|---|
| Rating | Community | Environment & Heritage | Legal & Compliance | Reputation | Management Impact | Financial Impact | Program Impact |
| Catastrophic | Complete loss of trust by affected community leading to social unrest & outrage. | Very serious long term impairment of ecosystem or damage to a species; Total destruction of significant heritage items and complete loss of heritage values | Major litigation with significant damages costs; Jailing of Minister or Secretary; Court or NGO imposed fine | Minister or Government forced to resign; | Requires management at Ministerial level. Requires new or amended Legislation. | Project unable to proceed; Loss of Federal funding; Election commitment projects cancelled or deferred to balance budget | Project is never able to proceed |
| Extreme | Prolonged community outrage; | Serious medium term environmental effects; Partial loss of significant heritage items and values | Major litigation ; Class action; Possibility of custodial sentence for Senior Management. | Secretary leaves; National press reporting. Vote of no confidence in Minister | Critical event that requires considerable Secretarial time to handle over many months. | Additional funding required from Federal Government at project level Additional funding required from State to balance program budge | Project is delayed indefinitely |
| Severe | Long-term community irritant leading to disruptive actions & requiring continual management attention | Moderate short-term effects but not affecting ecosystem function; Disturbance of heritage items and moderate impact on heritage values | Major breach of regulation with punitive fine; Significant litigation involving many weeks of Divisional Management time. | Divisional Manager leaves; State-based media reporting. | Will require the involvement of the Secretary and will take the time of R & T General Manager over an extended period | Other projects cancelled or deferred (Internal budget reallocation.) | Critical timeframe for delivery cannot be met |
| High | Short term community outrage or longer term unrest & dissention | Minor effects on biological or physiological environment; Minor effects on heritage values | Serious breach of regulation with investigation or report to authority with prosecution and/or moderate fine possible. | Manager disciplined; Significant level of discussion in Parliament; Local media reporting. | Significant event that can be managed with the careful management attention; Will take some Branch-level Management time over several weeks. | Scope reduced on other projects in the program. Internal budget reallocation. | Significant delay against non-critical timeframe for delivery |
| Medium | One-off community protest requiring intervention and management attention | Limited damage to minimal area or low significance; | Minor legal issues, non- compliances and breaches of regulation. | Employee disciplined; Public awareness. | Will require Section Manager attention over several days. | Scope reduced on this project | Moderate delay against non-critical timeframe for delivery |
| Low | One complaint | Small impact; | Minor breach of regulation. | No visible impact on the portfolio | Impact of event absorbed in normal management activity. | Use of contingency funds is required. | Minor delay to program |

PROSSERS ROAD INTERSECTION UPGRADES - RISK ASSESSMENT Development and Delivery Phase

| | | | | | | | | | Residu | ual Risk | | | |
|--------|-----------|---|------------|---|-------------|------------|---|-------------------|------------|-------------|------------|----------------------------------|-----------------------------------|
| Number | Element | Risk | Likelihood | Potential Consequence | Consequence | Risk level | Risk treatment initiative | Responsible party | Likelihood | Consequence | Risk level | Project Phase (ID, Sc, Dev, Del) | Inherent or Contingent Risk (I/C) |
| 1 | Scope | | | | | | | | | | | | |
| 1.1 | | Scope change through logging industry down turn, and refinement to plantation timber only | 3 | Project does not proceed, or sections of scope are removed. | 5 | в | None - outside proiect control | DIER | 3 | 5 | в | Dev. | с |
| 1.2 | | Scope change through political drivers, and project prioritisation from state and federal perspective (agriculture prioritisation, alternative requirements for funds) | 3 | Project does not proceed, or sections of scope are removed. | 5 | В | None - outside project control | DIER | 3 | 5 | В | Dev. | с |
| 1.3 | | Unforeseen geotechnical issues encountered on site at the Lilydale Road / Prossers Road intersection cutting requiring scope change to design | 3 | Project cost, timeline, and stakeholders affected, potential cease project and recommence | 4 | в | Further geotech investigations to be undertaken during detailed design,tender documentaiton to be designed to minimise disputes regarding geotechnical issues (including the inclusion of provisional rates for blasting) | DIER | 3 | 3 | С | Del. | с |
| 1.4 | | Scope change through underground services discovery | 2 | Disruption with contractor activities on site, design documentation not fixed | 3 | С | Consultation with land owners on their knowledge of u/g services to take place in detailed design phase | DIER | 2 | 2 | D | Dev. De | I. C |
| 1.5 | | Service providers require additional services | 2 | Disruption with contractor activities on site, design documentation not fixed | 3 | С | Consultation with relevant service providers regarding exisitng / future services to be undertaken in detailed design phase | DIER | 1 | 3 | D | Dev. | с |
| 2 | Programme | | | | | | | | | | | | |
| 2.1 | · · · g | Delay to PPR approval upsetting start time | 3 | Delay to overall project programme. | 4 | в | Limit changes and reviews to document which may delay submission time | DIER | 2 | 3 | С | Dev. | с |
| 2.2 | | Design approval (including traffic engineering issues) takes longer than planned | 3 | Delay to overall project programme. | 4 | В | Ensure that DIER technical reviews and road safety audit are undertaken during Development Phase to identify any aspects that require improvement (before designs are finalised). | DIER | 2 | 4 | с | Dev. De | l. C |
| 2.3 | | Tender process on project critical path and takes longer than planned | 3 | Delay to overall project programme and potential funding difficulties | 4 | В | Strict controls used for tender dates. Clear tender docs | DIER | 2 | 4 | С | Del. | с |
| 2.4 | | Inclement weather affects construction programme | 3 | Delay to overall project programme. | 4 | В | Contractor risk for weather defined within the contract documents | DIER | 2 | 4 | С | Del. | 1 |
| 2.5 | | Contract negotiations are drawn out. | 3 | Delay to overall project programme. | 4 | в | Produce clear tender docs. Efficient approval process | DIER | 2 | 2 | D | Del. | с |

PROSSERS ROAD INTERSECTION UPGRADES - RISK ASSESSMENT Development and Delivery Phase

| | | | | | | | | | Residu | ual Risk | | | |
|--------|---------------------------|--|------------|--|-------------|------------|---|-------------------|------------|-------------|------------|----------------------------------|-----------------------------------|
| Number | Element | Risk | Likelihood | Potential Consequence | Consequence | Risk level | Risk treatment initiative | Responsible party | Likelihood | Consequence | Risk level | Project Phase (ID, Sc, Dev, Del) | Inherent or Contingent Risk (I/C) |
| | | | | | | | Tender documents to clearly state | | | | | | |
| | | Contractor project durations at time of tender are | | | | | required construction completion | | | | | | |
| 2.6 | | too long | 1 | Delay to overall project programme. | 4 | С | dates | DIER | 1 | 2 | D | Del. | С |
| 2.7 | | Contractor project programme (Submitted post award) is too protracted | 1 | Delay to overall project programme. | 4 | С | Tender documentation to stipulate completion date and liquidiated damages to be applied | DIER | 1 | 2 | D | Del. | с |
| 2.8 | | Contractor fails to deliver project in advised timeline | 3 | Delay to overall project programme. | 3 | С | Mechanisms to be included within the contract to prevent this (i.e. liquidated damages) | DIER | 1 | 3 | D | Del. | с |
| 2.9 | | Contractor programme with multiple critical path elements | 3 | Delay to overall project programme. | 3 | С | Tender documents to state the requirement of only "one" critical path | DIER | 1 | 3 | D | Del. | с |
| 3 | Financial | | | | | | | | | | | | |
| | | | | Project does not proceed, or sections of | | _ | | | | | _ | _ | |
| 3.1 | | PPR not approved due to unfavourable BCR | 3 | scope are removed. | 5 | В | None - outside project control | DIER | 3 | 5 | В | Dev. | |
| 3.2 | | Tender prices exceed project budget | 3 | Project does not proceed, or sections of scope are removed. | 5 | В | Tasmanian State Government may be required to provide the additional finances | DIER | 3 | 3 | С | Del. | с |
| 3.3 | | P90 cost estimate at detailed design exceeds project budget | 2 | Project does not proceed, or sections of scope are removed. | 3 | С | Tasmanian State Government may be required to provide the additional finances | DIER | 2 | 2 | D | Dev. | с |
| 3.4 | | Contractor delivers project ahead of programme (cash flow implications) | 2 | Project funding difficulties | 3 | С | DIER and funding organisation to be made aware that cash flow may exceed projected forecast | DIER | 2 | 2 | D | Del. | с |
| 3.5 | | Contractor variations exceed project budget | 2 | Project funding difficulties | 4 | С | Tasmanian State Government may be required to provide the additional finances | DIER | 2 | 2 | D | Del. | с |
| 3.6 | | Contract admin exceeds project budget | 2 | Project funding difficulties | 4 | с | Contract admin to be controlled within existing project budget | DIER | 1 | 2 | D | Del. | с |
| 3.7 | | Construction inflation exceeds budget allowance | 2 | Project funding difficulties | 4 | С | Allow sufficient contingencies in cost estimates | DIER | 1 | 2 | D | Del. | с |
| 4 | Stakeholder Management | | | | | | | | | | | | |

PROSSERS ROAD INTERSECTION UPGRADES - RISK ASSESSMENT Development and Delivery Phase

| | | | | | | | | | Residu | ıal Risk | | | |
|--------|----------------|---|------------|--|-------------|------------|--|-------------------|------------|-------------|------------|----------------------------------|-----------------------------------|
| Number | Element | Risk | Likelihood | Potential Consequence | Consequence | Risk level | Risk treatment initiative | Responsible party | Likelihood | Consequence | Risk level | Project Phase (ID, Sc, Dev, Del) | Inherent or Contingent Risk (I/C) |
| | | | | | | | | | | | | | |
| 4.1 | | Traffic management issues during construction | 3 | Disruption with contractor activities on site. Programme delays | 3 | С | Undertake landowner consultation detailed design phase and ensure public notices submitted | DIER | 1 | 3 | D | Del. | с |
| 4.2 | | Landowner access during construction | 3 | Disruption with contractor activities on site. Programme delays | 3 | С | that landowner access is to be maintained | DIER | 1 | 2 | D | Del. | с |
| 4.3 | | Full suite of stakeholders not consulted and project objectives subsequently not aligned | 2 | Disruption with contractor activities on site. Scope changes and possible delays to satisfy stakeholders | 3 | С | Further landowner consultation to take place early in detailed design phase. | DIER | 1 | 2 | D | Dev. | 1 |
| 44 | | Records of stakeholder consultation not kept and scope of agreements not firmed up | 2 | Scope changes and possible delays to satisfy stakeholders | 4 | C | Obtain landowner sign-off on all | DIER | 1 | 2 | П | Dev Del | C |
| 4.5 | | Contractor personnel cause issues with local community | 3 | Disruption with contractor activities on site. Programme delays | 3 | С | Tender documents to specify that Contractor produce community engagement plan for approval | DIER | 2 | 2 | D | Del. | с |
| 5 | Resources | | | | | | | | | | | | |
| 5.1 | | Contractor market volatility | 2 | Difficult to source contractor to deliver project to programme and budget | 4 | С | Construction contract advertised to national market | DIER | 2 | 2 | D | Del. | I |
| 5.2 | | Pavement material sourcing issues | 2 | Increase in materials cost and therefore to budget | 4 | с | Tender documents to specify that Contractor undertake early engagment with local quarries | DIER | 2 | 2 | D | Del. | с |
| 5.3 | | DIER project management/contract administration resources stretched | 2 | approvals. Insufficient feedback to consultants leading to delays or design oversights | 4 | С | DIER to undertake resource forecasting and provide additional personell if required | DIER | 1 | 2 | D | Del. | с |
| 5.4 | | Contractor skilled labour issues | 3 | Issues or mistakes on site leading to delays. General delays to contractor progress. | 3 | С | Contractor qualifications to be reviewed during tender submissions | DIER | 2 | 2 | D | Del. | I |
| 6 | Communications | | | | | | | | | | | | |
| 6.1 | | Document control issues during construction | 3 | Contractor not using latest drawings on site. Delays, cost implications | 4 | В | Ensure PEP outlines document control procedures | DIER | 2 | 2 | D | Del. | с |
| 6.2 | | Communication process not mapped out | 3 | Miscommunications, errors or delays | 3 | С | DIER to produce PEP with some input from consultants | DIER | 1 | 1 | D | Dev. | с |

Appendix B – Governance Structure

GOVERNANCE STRUCTURE

The project will be run with an alliance philosophy under a Governance Structure, clearly defining lines of reporting and accountability. The structure is shown in the following chart, on the following page.

- Blue boxes indicate key levels within the structure for accountability and reporting.
- Green arrows define the lines of reporting, accountability and direction within the structure.
- Purple boxes indicate where key inputs are derived from resources or groups external to the lines of reporting.



Project Governance Structure

Governance for this project fits in with the overall NEFR governance structure set out in the May 2010 PPR (Scoping) – North East Freight Roads and reiterated in the My 2011 Amendment.

PROJECT EXECUTIVE GROUP

The Project Executive Group provides the link between Government Policy and the Project Management and Project Delivery teams.

The role of the Project Executive Group is to oversee the delivery of the project, ensuring that:

- Outcomes meet strategic intent and are consistent with long-term planning for infrastructure in Tasmania.
- Public funds are being expended in an appropriate manner;
- Progress is being made in the delivery of the project in accordance with the Project Plan;
- Public consultation messages and communication are consistent with the broader intent of the Agency and State Government;
- The Agency Executive, Minister and Government are kept informed of progress on, and issues arising from, the project;
- Strategic risks have been recognized and appropriate mitigation strategies implemented and
- Keep DoIT informed on progress, critical issues, timeframes and future opportunities.

The Project Executive Group shall specifically:

- Approve the project objectives and outputs of the proposed planning activities;
- Provide direction on strategic issues that arise during the course of the project;
- Liaise with Corporate Affairs on critical stakeholder issues and critical communication; and
- Provide strategic advice to the Minister, Secretary and Deputy Secretary.

The Project Executive group has the sole authority to amend the project objectives, amend the project scope, extend project timeframes or increase project budget.

The Project Executive Group shall comprise:

- General Manager Roads & Traffic Division, DIER (Chair)
- General Manager Infrastructure Strategy Division, DIER
- Director Traffic and Infrastructure Branch, DIER
- Manager Corporate Affairs

The Project Executive group shall meet with the Project Management Team at regular intervals to review progress of the project. Project Governance meetings will be held on an as needs basis as determined by the Chair.

In the event that a Project Executive Group member cannot attend a scheduled meeting, they may nominate a proxy who shall assume their full rights and responsibilities.

The Project Executive Group is active for the North East Freight Roads Strategy, has endorsed the PPR and has set direction for project prioritisation for delivery within the allocated funding.

PROJECT MANAGEMENT TEAM

The role of the Project Management Team is to manage the delivery of the project in accordance with the agreed objectives and directions from the Project Executive Group. The Project Management Team is specifically responsible for the management of the project risks, budget, programme and outputs.

The Project Management Team has the authority to reallocate funds within the approved budget and reorganise activity timeframes within the approved programme, without prior approval of the Project Executive group. Any changes of this nature are to be reported to the Project Executive Group in normal monthly reporting.

The Project Management Team shall organise Project Governance meetings as requested by the Chair.

The Project Management Team shall comprise:

- 1. Project Manager, DIER
- 2. Director

The DIER representative on the Project Management Team shall be responsible for officer level liaison with the DoIT.

PROJECT DELIVERY TEAM

The role of the Project Delivery Team is to deliver the technical and statutory requirements of the Project Brief through the application of relevant Legislation, Technical & Design Guidelines, Australian Standards, standard specifications and sound engineering and planning judgement.

The Project Delivery Team reports directly to, and takes direction from, the Project Management Team. While the Project Delivery Team will seek technical input and guidance from other areas of the Agency it has no reporting line or accountability other than to the Project Management Team.

The Project Delivery Team shall comprise:

- 1. Project Manager, Planning & Design
- 2. Technical Manager, relevant consultant
- 3. Technical Resources
- 4. Sub-consultants