



Guidelines for Preparation of a Public Environmental Report

NT Department of Planning and Infrastructure

Victoria Highway Ch. 185 to 220 km

Upgrade to Improve Flooding Immunity

November 2005

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1 INTRODUCTION TO THE GUIDELINES

These Guidelines have been developed to assist the Northern Territory Department of Planning and Infrastructure in preparing a Public Environmental Report (PER) for the upgrade of the Victoria Highway between 185 km and 220 km west of Katherine, NT, in accordance with Clause 8 of the Environmental Assessment Administrative Procedures of the *Environmental Assessment Act* (1982) of the Northern Territory. These Guidelines have been prepared by the Environment Protection Agency (EPA) within the Department of Natural Resources, Environment and the Arts.

The Administrative Procedures of the Environmental Assessment Act of the Northern Territory state that the Minister will specify the following in the Guidelines:

- Matters relating to the environment which the proponent shall deal with;
- Timeframe for submitting the report;
- Number of copies of the report to be provided to the Minister/ other agencies; and Newspapers in which and on occasions when the proponent will publish a notice.

The PER should contain sufficient information to enable understanding and assessment of the scope and environmental implications of the proposal. The PER should clearly identify the main environmental impacts associated with the development and should contain management strategies that demonstrate how these impacts will be avoided or minimised.

Information should be presented in a concise format, using maps, overlays, tables and diagrams where appropriate to clarify the text.

The PER should include the following sections, but need not be limited to these sections or inferred structure.

2 EXECUTIVE SUMMARY

The Executive Summary should include a brief outline of the project and each chapter of the PER, allowing the reader to obtain a clear understanding of the proposed project, its environmental implications and management objectives. The Executive Summary should be written as a stand-alone document.

3 THE PROPOSAL

3.1 General Information

The PER must provide detail of the proposed road works and all associated activities (such as locations for sourcing gravel and fill, contractor's camps, turn around areas etc) and its surrounding environment to place the proposal in its local and regional context. As a minimum the PER should include the following:

- An explanation of the objectives, benefits and justification for the project;
- Description of project area in terms of broad climatic zones;
- Meteorological data;
- Topography;
- All water bodies including drainage lines, dams, wetlands, etc should be included on maps;

- Broad description of vegetation communities and wildlife habitats in the area and the expected degree of disturbance;
- Surrounding land uses (including the location of farms/ stations, residential properties , tourism and recreation areas, national parks, communities etc) and land tenure and ownership;
- Areas under native title claim and determinations of native title;
- Availability of services/ infrastructure and accessibility; and
- Project schedule, including staging of the project and the timing of the stages.

3.2 Description of the Proposal

This section should describe the proposed construction works, to allow a detailed understanding of the proposed works and should include relevant plans, maps , GPS coordinates (including datum) and photographs. Where possible, the information should be provided as GIS coverage.

The PER should identify all the processes and activities intended for the road works (and associated ancillary activities) during the life of the project. This should include details of:

- The proposed road works, including all associated ancillary activities such as laydown and storage areas, borrow pits, gravel sources, access roads, detours, construction camps etc;
- The location of laydown and storage areas, borrow pits, gravel sources, access roads, detours, construction camps etc ;
- All equipment and materials used, and construction methods;
- Waste generation and/or by-products and their storage and disposal;
- All chemicals, including fuels and the proposed methods for transportation, storage, use and emergency management of these substances;
- An assessment of statutory obligations under all relevant NT legislation including the *Planning Act* and *Pastoral Land Act* for permits to clear native vegetation (include appropriate timelines to allow for application assessment and approvals), and the *Territory Parks and Wildlife Conservation Act*;
- Employment and business opportunities (directly and indirectly, including the Traditional Owners of the area and other local Aboriginal people) in the different sections of the road works and at the different stages of the Project (construction and operation), likely sources of the workforce and level of skill required;
- The accommodation requirements and arrangements for both construction and maintenance activities, and any associated infrastructure and services;
- Transport methods and routes for delivering construction and maintenance materials and other necessary goods and consumables ;
- Information on the use of and impact on the road network including the possible interruption to road traffic during construction;
- The use and extent of other infrastructure required for the works , including but not limited to gas, telecommunications and power;
- Details of water supply, source, treatment and usage for construction activities and workforce; and

- Proposed rehabilitation of road works construction areas, including camp sites and storage areas.

4 ALTERNATIVES

Alternative proposals, which may still allow the objectives of the project to be met, should be discussed, detailing reasons for the selection and rejection of particular options. The short, medium and long-term potential beneficial and adverse impacts of each of the options should also be considered.

Alternatives to be discussed should include:

- not proceeding with the proposal;
- alternative road realignments;
- alternative management of works and traffic flows;
- alternative gravel extraction sources and construction techniques ; and
- alternative environmental management techniques.

5 EXISTING ENVIRONMENT, POTENTIAL IMPACTS AND ENVIRONMENTAL SAFEGUARDS

5.1 Preliminary

Studies to describe the existing environment should be of a scope and standard sufficient to serve as a benchmark against which the impacts of the road works may be assessed over an extended period. Control areas not impacted by the project should be included in proposed studies, and long-term monitoring locations should be established, particularly with respect to potential ecological impacts.

This section of the PER should include an in-depth description of the environmental matters that may potentially, or are likely to, be impacted by the project. Clearly identify, qualify and quantify, where appropriate, those potential environmental impacts. The section should also include an assessment of the level of significance of the impact, be it global, regional or local (eg. impacts to regionally or globally threatened species, localised impacts to water bodies from gravel extraction activities). The possibility of remediation should also be discussed. Performance indicators for all potential impacts and remediation efforts should be identified. Environmental Management Plans (EMPs) will be need to be developed in order to minimise and manage impacts associated with the project.

Cumulative impacts should also be discussed including the extent to which the environment is already affected by existing developments. The reliability and validity of forecasts and predictions, confidence limits and margins of error should be indicated as appropriate.

5.2 Landform

5.2.1 Baseline

- Provide suitably detailed maps showing topographic features, geological information, soil types and land units at the location of the proposed road works (including associated works such as access roads).

- Estimates of slope should be included in descriptions of areas for proposed road works, pits and gravel sources.
- Describe topographical, geological or landform features/sites that may be of conservation or economic significance.
- Provide suitably detailed maps showing topographic features, geological information, soil types and land units at the location of the proposed borrow pits and gravel sources to be used. Also, describe depths of excavations.

5.2.2 *Impacts*

- Detail the type, extent and implications of possible impacts to morphological, topographical, geological or landform features/sites from road construction and gravel/ fill extraction.
- Provide details of limiting properties of soil types and land units at the proposed road works and borrow pits relating to erosion, rehabilitation or special management requirements such as salinity.
- Describe the potential for soil erosion, including loss of soils and impacts on receiving land and waterways from both borrow pits and road construction/ associated activities.

5.2.3 *Management*

- Discuss measures taken to avoid or minimise the impacts identified in 5.2.2.
- Provide a sediment and erosion control plan, which is to be incorporated into the EMP. This should include rehabilitation measures to be undertaken, how soon these will be implemented after disturbance and maintenance required such as watering of planted vegetation.
- Detail the requirements for approvals to extract, eg Extractive Minerals Permit or Licence. The proponent should consult with the Department of Primary Industries, Fisheries and Mines (DPIFM) Mines Division for extraction outside of the road corridor.
- Provide the “standard DPI clauses for gravel extraction rehabilitation” referred to in the NOI and describe in detail the best practice techniques to be used.
- The construction and design methods proposed to minimise environmental impacts, such as erosion.

5.3 **Hydrology and water quality**

5.3.1 *Baseline*

- Provide a broad description of all waterways or other wetland habitat, natural or artificial, ephemeral or permanent, including the Victoria River, creeks, remnant pools and springs, which may be impacted directly or indirectly by the project. Include a description of catchment systems, existing surface drainage patterns, flow, likelihood of flooding and present water uses.
- Provide a description of relevant groundwater resources in any areas likely to be affected by excavation and abstraction requirements.
- Provide details of locations where potential road realignments will affect waterway crossings including bed and bank profiles at those locations. Include information on the flow regime of the waterways in the vicinity of the road works, in particular the timing (and volume) of flows in relation to any construction work.

- Provide details of the amount of water, including potable water, required for the proposed road works, construction camps and borrow pits. Include details of where this water is to be sourced and the extraction methods.

5.3.2 *Impacts*

- Describe selection criteria for determining the final crossing locations.
- Describe how the road works may impact on the surface and ground water features described in 5.3.1. Include a description of any potential effects of localised lowering of groundwater tables (i.e. zone of influence) and any associated disturbance to wetland and aquatic flora and fauna
- Detail the quantities of water to be used and where it will be sourced.
- Discuss the potential impacts of extracting water from the Victoria River for construction activities on fauna, regional hydrology and any possible downstream users. In particular, detail the implications to confined instream aquatic systems as a result of water abstraction from perennial pools in the Victoria River and its tributaries.
- The proponent is to undertake bed-load movement studies during flood periods and determine the potential for sediment mobilisation and substrate mobility if gravel extraction from the river is pursued. The potential impacts to instream habitat diversity are to also be addressed.
- Describe the potential impacts to surface or groundwater of any contaminated wastewater discharge.
- Consider and discuss the risks associated with the proximity of the proposed road works to aquifer recharge zones that may supply potable water.

5.3.3 *Management*

- Detail safeguards and management strategies used to minimise the impacts of road works on the hydrological features described in 5.3.1. In particular, provide details on the following:
 - measures to safeguard surface and groundwater resources including options for abstraction of surface water for construction activities, the appropriate treatment and disposal of construction wastewater, and discharge of abstracted water. Identify the preferred option and the selection criteria used;
 - measures to ensure the beds and banks of water courses remain stable and protected from the natural forces of erosion as required, including monitoring, incorporating preferred methodologies of relevant Advisory Agencies where practicable particularly where there has been any disturbance to the bank or to the bed; and
 - measures to safeguard downstream water quality.
- Assign clear responsibilities in relation to all approvals and permits to be obtained with respect to groundwater use and surface water abstraction.

5.4 **Ecology**

5.4.1 *Baseline*

- Describe the fauna species (including exotic species) and biological communities that could be affected by the road works. Rare, threatened or endangered species should be identified against relevant Northern Territory legislation and the EPBC Act. In addition, baseline information regarding the population/s of listed threatened species known to occur in the proposal area should be outlined. This should include information such as the species' population size, overall

distribution, habitat requirements and the quality and area of habitat that is likely to be impacted. In particular, surveys should be conducted in consultation with the Curator of Fishes in Department of Natural Resources, Environment and the Arts (NRETA) to identify the presence of the Freshwater sawfish (*Pristis microdon*) and Dwarf sawfish (*Pristis clavata*) in the Victoria River system. Species with Indigenous conservation values should also be described.

- Detail any significant vegetation that may be impacted. Significant vegetation includes:
 - rare, threatened, endangered and regionally restricted species, vegetation types or habitats;
 - communities that are particularly good examples of their type;
 - vegetation types which are outside their normal distribution or have other biogeographical significance;
 - ecologically outstanding areas which have importance beyond the immediate site, eg. wetlands, riparian forests, etc; and
 - vegetation which is the habitat of rare and threatened fauna or has outstanding diversity.
- Flora and fauna species listed as “data deficient” under Northern Territory or Australian Government legislation should be included in descriptions.
- List the existing weed species that occur within the proposed work areas.

5.4.2 **Impact**

- Outline the amount of vegetation to be cleared and the location and method of disposal of cleared vegetation (i.e. mulched, buried, burnt).
- Indicate the vegetation types that are proposed to be cleared including their significance.
- Discuss the potential for the proposal to impact on species, communities and habitats of local, regional or national significance including NES matters as described in 5.4.1, in particular the impact from gravel and fill extraction. Include detailed analysis of potential impacts to the Freshwater sawfish (*Pristis microdon*) and Dwarf saw fish (*Pristis clavata*), and the Purple-crowned fairy wren (*Malurus coronatus*) as a result of the proposed project.
- Identify pest species/noxious weeds that are likely to or could occur as a result of activity along the route. Include discussion of the potential for spread of existing pest species as a result of the works. Devils claw (*Martynia annua*) should be added to the list of weed species of greatest risk as it is a Class A declared weed (to be eradicated).
- Specify the extent of clearing required along the road works.
- Discuss the potential impacts to the values of Gregory National Park associated with proposed clearing activities.
- Discuss the implications of spreading weeds to the biodiversity values of the National Park.

5.4.3 **Management**

- Discuss strategies to prevent or minimise impacts on species, communities and habitats (eg minimised disruption to fish passage, timing of works, erosion and sediment control, minimise riparian vegetation disturbance, alternative gravel extraction and water abstraction arrangements, proposed rehabilitation of instream and riparian disturbances).
- Detail the possible mitigation measures that will be employed to offset the potential loss and fragmentation of important habitat for the Purple-crowned fairy wren. For example, various route alternatives to avoid areas of important habitat, rehabilitation of compensatory habitat for

the species, or a conservation covenant for the ongoing protection of an offset area could be considered. Discussion should also address monitoring and corrective actions to ensure management objectives are achieved.

- Describe the methods for rehabilitating disturbed areas following construction, including revegetation strategies, surface stabilities and aquatic monitoring programs. This should include a list of species that would be used, ongoing management of rehabilitated areas such as watering of planted species and a monitoring program to assess the rehabilitation performance.
- Include a weed management plan in the EMP to cover construction, rehabilitation and ongoing maintenance that includes best practice weed management principles.
- Discuss the strategies employed to manage/minimise the introduction of feral animals, and other exotic fauna species.
- A Vegetation Clearing Plan that is consistent with existing land clearing guidelines (DIPE 2002) should be developed as part of the EMP.

5.5 Air quality & Noise

5.5.1 Baseline

- Sensitive noise receptors, including potential ecological receptors, adjacent to the proposed road works, and adjacent to relevant ancillary activities, should be identified. The potential sensitivity of such receptors should be discussed. Performance indicators and standards should be nominated for each affected receptor.
- Background noise and dust levels should be measured with respect to potentially sensitive receptors.

5.5.2 Impacts

- Assess potential impacts of noise generated during construction along the proposed road works and ancillary activities, against current typical background levels. Anticipated noise levels, their timing and duration should be considered in conjunction with the sensitivity of the receptor.
- Assess the possible impacts of increased dust emissions to air on adjacent residents and flora, resulting from the construction works.

5.5.3 Management

- Outline noise mitigation and dust suppression strategies, and any intended monitoring of noise and dust impacts.

5.6 Waste Management

5.6.1 Impact

- Describe all chemical and mechanical activities to be conducted on the construction sites and ancillary work areas and camps (eg. chemical storage, sewage treatment, power generation, fuel burning, mechanical workshop, diesel storage), and identify, quantify and describe all sources of waste associated with these activities including hazardous and non-hazardous waste, wastewater and sewage.

5.6.2 **Management**

- Discuss waste management strategies, including avoiding waste generation, reduction, reuse, recycling, storage, transport and disposal of waste including site drainage and erosion control.
- Detail hazardous materials to be stored and/or used on site; provide their Material Safety Data Sheets and environmental toxicity data and biodegradability for raw materials and final products.
- Describe the management of wastewater from construction activities and gravel/ fill extraction.
- Describe on-site wastewater management for sewage. The proponent should note that any wastewater treatment systems used during the construction must comply with the requirements of the *Code of Practice for Small On-Site Sewage and Sullage Treatment Systems and the Disposal or Reuse of Sewage Effluent*.
- Katherine West Health Board - Environmental Health should be contacted for information on onsite wastewater disposal systems that may be proposed. Approval is required for these systems.
- Solid waste disposal shall comply with the Environment Protection Agency's *Guidelines for the Siting, Design & Management of Solid Waste Disposal Sites in the NT*, which can be downloaded online: <http://www.nreta.nt.gov.au/whatwedo/waste/guidelines.html>

5.7 **Biting Insects**

- Discuss the impact of biting midge and mosquito populations as pest and disease vectors on the work force and potential for construction activities to create new sources of biting insects for nearby residents.
- Identify measures to prevent the creation of new mosquito breeding sites in quarries and borrow pits. Note that the proposed development should conform to the applicable sections of the Medical Entomology Branch guideline '*Guidelines for preventing the creation of mosquito breeding sites in non-residential rural subdivisions or developments*'. All borrow pits within 5km of present or future human inhabited areas should generally be rehabilitated such that they do not hold water for a period greater than five consecutive days .
- Identify measures to prevent construction activities causing impacts on drainage lines, which will lead to increases in biting insect species of pest and health significance.
- Discuss the effects of construction activities and disposal of construction wastes on biting insect species of pest and health significance, including measures to prevent increases in these species and to reduce the risk to the workforce. Workers should be informed of a potential mosquito pest and disease transmission problem during the wet season and early dry season. Note: any machinery or tyres sourced from North Queensland may contain eggs of the dengue mosquito *Aedes aegypti*. Potential receptacles include backhoe buckets, new or used tyres without rims and excavator tracks, as well as other machinery equipment capable of ponding small amounts of water. Any equipment sourced from North Queensland capable of ponding water should be treated with a chlorine solution to kill any *Aedes aegypti* eggs that may be present.
- Construction camps should be located at least 3km from large water bodies such as floodplains, rivers and large creeks, if practical, as greatest pest problems from most mosquito species generally occur within 3km of breeding sites. Sleeping quarters and mess areas should be well screened to prevent the entry of mosquitoes and biting midges.
- Workers should be supplied with the Medical Entomology Branch handout '*Personal protection from mosquitoes and biting midges in the NT*', and be supplied with insect repellent when necessary.

5.8 Infrastructure and Transport

5.8.1 Baseline

- Detail existing transport networks, telecommunications (optical fibre routes), any gas and electricity infrastructure, and water supply and wastewater utilities in the area of the proposed works.
- Identify constraints with the existing infrastructure (eg wet season access, periods of road closure and load limits).
- Provide details of new infrastructure or upgrades that will be required for the works including locations of new roads or tracks, lay down storage areas, turning circles, approach diversion lanes etc.

5.8.2 Impact

- Describe the potential impacts of the proposal on existing and future local infrastructure and transport networks during the road works. This should include reference to increased road usage generated by the project and interference to road users.
- Discuss the potential impacts of transport operations on public amenity associated with construction (noise, dust, light).

5.8.3 Management

- Describe the management of impacts on the road system and other existing infrastructure, including proposed corrective measures and relevant guidelines used for construction and maintenance phases. Include measures to upgrade, maintain and restore gazetted or nominated roads and access tracks, and to undertake road works crossings of tracks.
- Outline requirements and responsibilities for rehabilitation or maintenance of roads and other project infrastructure upon project completion.
- Discuss measures to minimise disruption to road users during construction of the road works and to ensure their safety during both construction and subsequent operation of the pipeline.
- With regards to traffic related issues, the proponent should liaise with the Timber Creek Police and the Superintendent of the Katherine & Central Operational Service Division.

5.9 Fire

- Identify activities, which pose a risk of wildfire and describe safeguards for minimising the likelihood of wildfire and fire response plans.
- Develop a fire management plan for the construction period in consultation with the Bushfires Council and NT Parks and Wildlife.

5.10 Socio-Economic

5.10.1 Baseline

- Identify key stakeholders, zoning, land uses and features in the vicinity of and potentially impacted by the proposed road works including:
 - Urban and rural residential;

- Agricultural, pastoral and forestry;
 - National Park, conservation, wilderness, scenic and heritage areas;
 - Recreational land use (eg recreational fishing), areas of research, educational and scientific value;
 - Tourism industry;
 - Defence areas; and
 - Extractive, mining and other commercial industries.
- Identify land titles (eg freehold, leasehold, pastoral, crown land, native title, mining tenure etc) and rights over land to be used for road construction, borrow pits, construction camps or any other activities, such as Native Title under the *Native Title Act 1993*, Aboriginal land claims under the *Aboriginal Land Rights (Northern Territory) Act 1976* and any other appropriate legislation. List the permissions/approvals required/granted from identified land owners.

5.10.2 *Impact*

- Describe, including timeframes, potential site specific and cumulative impacts on existing and potential land uses, development and industry (as described in 5.10.1) anticipated to occur during the road works. In particular, the proponent needs to carefully consider impacts on park management and conservation, and the tourism, defence and pastoral industries. Each of these industries have particular requirements for vehicular movement (large defence convoys, cattle road trains and caravans), especially during the dry season. The new Bradshaw Field Training Area will become operational during the construction phase of this project. There will be periods of significant vehicle movement associated with the Bradshaw Field Training Area once it is operational.
- Outline opportunities for training and employment of local labour during construction and maintenance (eg. employment, monitoring and maintenance contracts).
- List the potential impacts and opportunities available to regional centres/communities following the upgrade and improved flood immunity including an indication of the broader development benefits of the project. In particular, business opportunities for the local Aboriginal people should be discussed.
- The PER should present a balanced broad summary of the project's impact on the regional and territory economies in terms of direct and indirect effects on employment, income and production. It should specify any disturbance to existing land use or threat to wilderness areas, which may impact on commercial activities and potentially impact adversely on employment.
- Discuss how road closures and disruptions to vehicular traffic will be minimised, particularly during the peak season between June and September given the high volume of caravan traffic. Road detours are to be adequately signposted and maintained to limit the potential for accidents.

5.10.3 *Management*

- Detail the consultation that will be undertaken and has already been undertaken for the project. Effective and timely consultation with Park Management, industry bodies and defence authorities will be required to minimise the impact of disruptions on these activities .
- The Timber Creek Police are to be notified of developments of the road construction camps at an early stage so that any potential adverse effect of the camps on communities may be circumvented.

5.11 Aboriginal, Historic and Cultural Heritage Values

- The PER should include all information that has been collected to date, any further survey and data requirements and any approvals and conditions that have been provided pertaining to Aboriginal sacred site protection, and cultural and historic heritage values that could potentially be disturbed as a result of road works. The results of any archaeological surveys should be included in the PER.
- A number of sacred site issues have been identified by the Aboriginal Areas Protection Authority (AAPA). The AAPA should be consulted with regard to obtaining an Authority Certificate for the proposed works. This is likely to require consultation by the AAPA with Aboriginal custodians. The PER should also clearly outline that the “Aboriginal Cultural Heritage Investigations” did not include any research findings in relation to Aboriginal Sacred Sites.
- Discuss the local Aboriginal people’s relationships to the land including cultural values.

6 PROJECT ENVIRONMENTAL MANAGEMENT

Specific safeguards and controls, which would be employed to minimise or remedy environmental impacts, are to be outlined. These are to be covered in detail in the Environmental Management Plan (EMP).

6.1 Resourcing and Policies

Information is to be provided on strategic matters relating to environmental management and should include:

- staffing arrangements to ensure that the measures described in the report will be carried out effectively;
- procedures and instructions to employees on minimising unnecessary environmental impacts; and
- a staff induction and education program to ensure an informed response to environmental concerns.

6.2 Environmental Management Plan

- Describe the pathways of responsibility for preparing, implementing, monitoring and auditing the Environmental Management Plan (EMP). Describe actions to be taken in case of non-compliance.
- Describe the role and authority of the suitably qualified and competent person to be employed for undertaking environment management of the project and if this person is to be employed by DPI or the contractor.
- It is recommended that all environmental commitments made in the PER be included and indexed in the EMP.
- The EMP should be prepared in consultation with the relevant Commonwealth and Territory advisory agencies.
- Discuss the process for updating the EMP including periods for regular review.

- The EMP commitments should include clear timelines for key commitments, especially in relation to stabilisation and rehabilitation of disturbed areas.
- When information is not available, it should be described with an indication of how and when the information will be incorporated into the final detailed EMP.
- The EMP must be prepared in accordance with recognised standards and, in particular, to standards applicable to road construction.
- The EMP should also cover any ancillary developments with potential environmental impacts.
- The plan should address, but not be limited to, the following matters:
 - the management objectives;
 - specific strategies to meet the management objectives, such as the preparation and implementation of various management plans, eg. rehabilitation plans, habitat enhancement projects, erosion and sediment control plans, waste management plan, etc, in consultation with relevant agencies;
 - the quality assurance, monitoring and auditing requirements and programs including the identification of performance indicators and criteria, monitoring and auditing locations and frequency;
 - identification of responsible personnel within all parties involved in the project including regulating agencies;
 - reporting processes;
 - mechanisms by which the public can lodge complaints, processes for responding to complaints and follow-up actions;
 - whole of project and life of project variations to environmental conditions; and
 - linking of PER findings with environmental authorities and development approvals where applicable.
- The *EPBC Act – Draft Checklist for Environmental Management Plans* (Attachment A) outlines general requirements for management plans submitted under the EPBC Act. Reference should be made to this checklist in drafting management plan/s to be submitted under the EPBC Act to ensure the plan/s meet the requirements of the Act. In particular, the Management Actions, including auditable mitigation measures, monitoring requirements, performance indicators, corrective actions, responsible person/s, agreement/s between parties, and timing of actions should be clearly identified in the management plan/s.

6.3 Monitoring and Reporting Strategies

- Specific programs of monitoring or measuring the success of the project's environmental management are to be outlined. These should be covered in greater detail in the Environmental Management Plan. Matters to be considered should include:
 - monitoring of significant ecological species and their habitats, including monitoring and reporting on any proposed mitigation measures for protection, impact minimisation and/or enhancement of particular species or habitat;
 - details of inspections and environmental audits to be undertaken, including frequency, and who will be undertaking the audits and inspections ; and
 - objectives to measure environmental management strategies and controls including but not limited to rehabilitation, weed infestation, erosion and sediment control along the upgraded

highway, water quality in adjacent streams and biting insect species of pest and health significance.

- Performance requirements should be specified quantitatively, including performance indicators for each aspect to be measured, and the stipulated target level or standard to achieve for each indicator. The timing and frequency of monitoring should also be provided. Monitoring programs should:
 - ensure safeguards are being effectively applied;
 - be capable of identifying any differences between predicted and actual impacts; and
 - identify the party responsible for undertaking corrective actions, and the actions taken to address problems.
- The reporting program should detail:
 - steps to be taken to correct detrimental effects identified by monitoring;
 - procedures for reporting on monitoring programs; and
 - proposed recipients of reports and timelines for reporting.
- The monitoring of rehabilitation success adjacent to or across waterways must continue for an adequate period to ensure that such works/rehabilitation withstand the natural flow regimes of the region.

7 HEALTH AND SAFETY PROGRAM

- Health and Safety issues pertaining to the design and construction phases of the project, and the transport of construction materials, should be investigated. This should address issues concerning employees visiting the site and members of the public.
- Discuss issues relating to provision of emergency first aid treatment and transport of sick or injured persons to the nearest appropriate medical facility.
- Prepare a management and administration plan outlining strategies and procedures in the event of an emergency. Discuss the potential linkages between an emergency management plan for the proposal and the Emergency Response Plan for Gregory National Park and Counter Disaster Plan for the region.
- In the event that the Victoria River Roadhouse commercial food facilities are not used, the contractor will be required to ensure that commercial food preparation facilities for the work camp complies with the requirements of the *Food Act 2004* and Food Standards. The food preparation facility must be registered as a food business. This can be done online: www.transact.nt.gov.au/ths/healthmanager/HealthNotifications.nsf or by contacting Katherine West Health Board – Environmental Health on 8971 9315.
- The Camp will require registration as a boarding house in accordance with the *Public Health Act and Regulations*. An application form can be downloaded online: www.nt.gov.au/health/healthdev/enviro_health/application_forms/boarding.shtml or by contacting Katherine West Health Board – Environmental Health on 8971 9315.
- All building works must comply with the *NT Food and Public Health Acts and Regulations* and the Building Code of Australia, and be carried out to the satisfaction of the Katherine West Health Board – Environmental Health. Detailed plans, in relation to works proposed within the terms of the above legislation, must be submitted to the Katherine West Health Board – Environmental Health for assessment, prior to the commencement of works.

- The provisions of the *Building Act* will also apply if building works are located within the Building Control Area designated by the Highway Control Plan. The Director of Building Control – DPI should be contacted for further information.
- The potable water supply to the Camp shall comply with the NH&MRC Australian Drinking Water Guidelines. Bore setbacks to onsite wastewater disposal shall be in accordance with the *Code of Practice for Small On-Site Sewage and Sullage Treatment Systems and the Disposal or Reuse of Sewage Effluent* as will any wastewater treatment systems used during the construction and operational phases.
- The construction camp and camp facility must not cause a public health nuisance, particularly at the Victoria River Roadhouse and at National Park facilities.
- The Northern Territory *Public Health Act* and subordinate legislation is applicable to this project. Licences may need to be obtained. The Proponent should take note that construction works and camp facility must not cause a public health nuisance, particularly at the Victoria River Roadhouse.

8 RISK ASSESSMENT

- All potential risks associated with the road works should be discussed in the PER. Where possible, describe these risks in quantitative terms. The PER must deal comprehensively with on site risks and should also consider external risks to the project.
- Analysis shall be conducted of the consequences of flood events in terms of possible risks that may arise to public safety and environmental damage in the area, particularly in the vicinity of the road works.
- Details are to be provided of the safeguards, which will be employed or installed to reduce the risk of injury to persons, fauna and environmentally sensitive sites along the proposed road works.
- A review of potential hazards and accidents should be provided for the road works.

9 PUBLIC INVOLVEMENT AND CONSULTATION

Public involvement and the role of government organisations should be clearly identified. The outcomes of surveys, public meetings and liaison with interested groups should be discussed and any resulting changes made to the proposal clearly identified. Details of any ongoing liaison should also be discussed.

Negotiations and discussions with local and community government, the Territory Government and the Australian Government should be detailed and any outcomes referenced. Details of any ongoing negotiations and discussion with government agencies should also be presented.

10 GLOSSARY

A glossary should be provided, defining the meaning of technical terms, abbreviations and colloquialisms. (Note: throughout the PER, technical terms and jargon should be minimised).

11 APPENDICES

Information and data related to the PER but unsuitable for inclusion in the main body of the statement (eg. because of its level of technical detail) should be included as appendices. This may

include detailed analyses, monitoring studies, baseline surveys, raw data and modelling data. Where necessary, specific guidance should be provided on the most appropriate means of accessing information not appended to the PER.

12 ADMINISTRATION DETAILS

The Project Officer is Mr Rod Johnson from the Environment Protection Agency, Department of Natural Resources, Environment and the Arts. The contact number is (08) 8924 4002 and facsimile (08) 8924 4053, e-mail: roderick.johnson@nt.gov.au.

Three "Preliminary" copies of the draft PER should be lodged with the Environment Protection Agency for internal review prior to release for public and advisory body comment. One copy will also be required for review by the Department of the Environment and Heritage.

Once this internal review is complete and any necessary changes implemented by the proponent, approximately 20 bound copies of the PER will be required for distribution to NT advisory bodies and public viewing locations (eg. Environment Centre NT, Katherine Council Offices and Katherine Library).

The PER should also be made available for public review at the Victoria River Roadhouse.

Copies of the PER are to be provided to:

- Department of Defence
- Environment Centre NT
- Northern Land Council
- Kimberley Land Council
- Western Australian Tourism Commission
- Parks and Wild life Katherine Regional Office
- Parks and Wildlife Timber Creek District Office

In addition, 8 CD ROM copies (in ADOBE*.pdf format) plus two unsecured Microsoft Word copies should be submitted (to allow placement on the Office's Internet site and to facilitate production of the Assessment Report and Recommendations).

The proponent should also consider producing at least several copies for direct sale to the public, on request.