APPENDIX D
Road Use Management Plan (RUMP)

Australian

Pipeline Trust

Bonaparte Gas Pipeline Project

Project Plan BGP-XX-XXX

Road Use Management Plan

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1.0 OVERVIEW

The Australian Pipeline Trust (APT) proposes to construct the Bonaparte Gas Pipeline (BGP) from Wadeye to Ban Ban Springs in the Northern Territory, a distance of approximately 280 km (refer to Fig1-1). The BGP will be a high pressure gas pipeline that will connect to the Amadeus Basin to Darwin Gas Pipeline (ADP). The BGP Project is estimated to cost $150 million and provide employment for up to 250 people during construction.

The pipeline will be a buried, 300 mm nominal diameter, high pressure gas transmission pipeline. The pipe will be supplied in 18m lengths which will be welded together at site and buried with a minimum cover of 750 mm, depending upon terrain and prevailing land use. The pipeline will be operated with a maximum allowable operating pressure of 15.3 MPa.

2.0 PURPOSE AND SCOPE OF PLAN

This Road Use Management Plan (RUMP) describes the method of transport and traffic management, with due care and diligence toward safety, environmental, cultural heritage and third party considerations, for construction of the BGP Project.

The plan identifies the BGP transport and traffic requirements, the transport infrastructure to be used and the management strategies to be adopted to minimise the potential for damage to infrastructure and disruption to the public.

The plan covers:

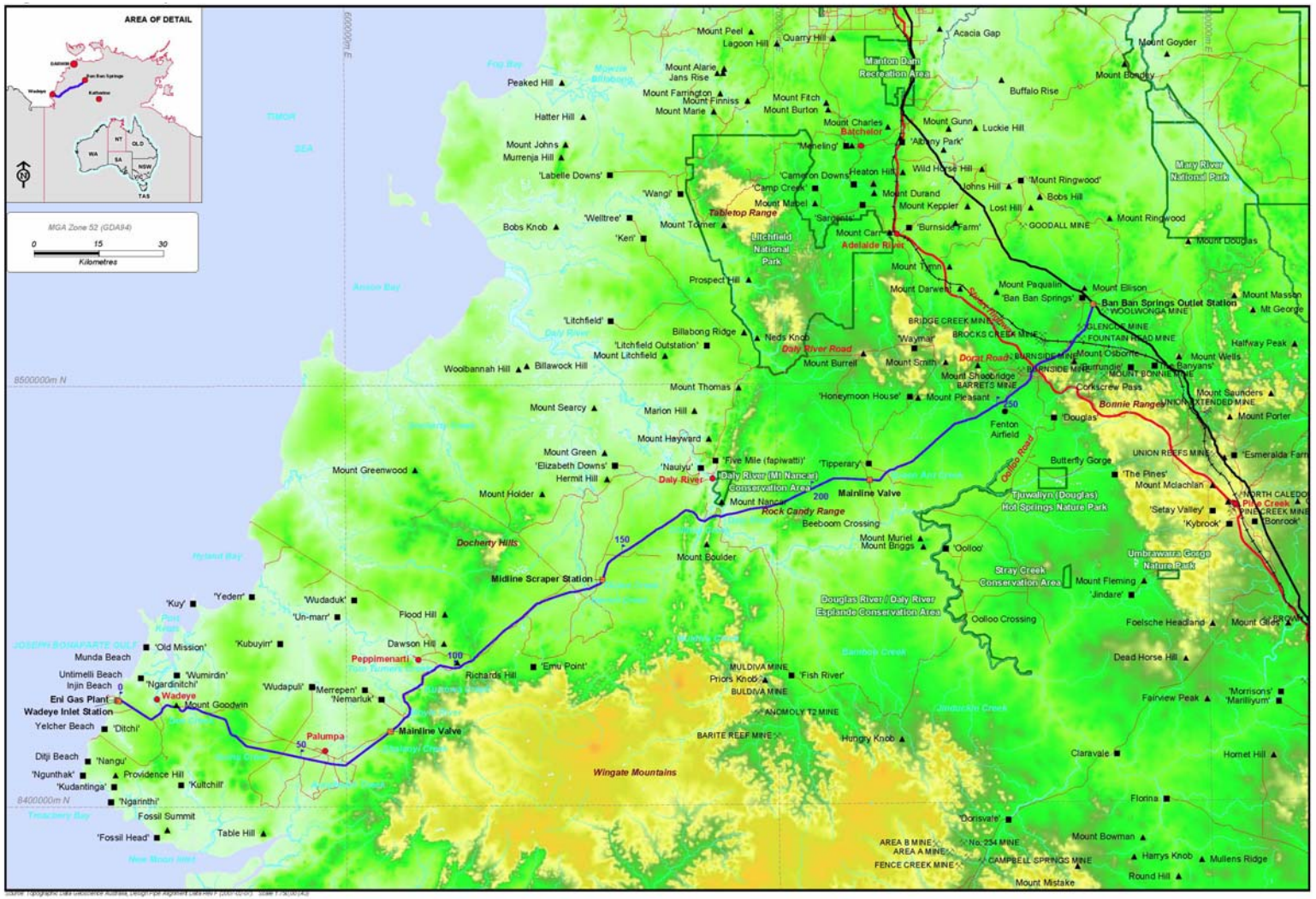
- Increased traffic volumes on roads due to Project activities;
- Pipeline construction corridor/public road intersections and other access tracks – access/egress;
- Pipeline public road crossing activities;
- Close parallel construction of the pipeline with public or private roads; and
- Traffic safety.

The actual methodology for constructing a given road crossing will be addressed in a separate application to the DPI under the normal DPI requirements.

Whilst the plan provides transport and traffic management solutions for a number of typical traffic management scenarios that will be routinely encountered during construction, it does not provide a solution for all circumstances that will be encountered. There is therefore, a need for site specific plans to be developed where the standard solutions are not appropriate (refer Appendix 1). Other plans/policies which will be developed by the construction contractor to support this document include:

- Driving and Vehicle Policy
- Fitness for Work and
- Field Safety and Environment Procedures

Figure 1: Location Map



3.0 PROJECT DESCRIPTION

Key transport requirements will be:

- Pipe haulage;
- Mobilisation/demobilization of plant, equipment and heavy vehicles; and
- Mobilisation/demobilization and relocation of campsites.

Planning for the BGP Project anticipates two potential scenarios for the delivery of pipe and equipment:

- Rail to Katherine and road to site.
- Sea to Darwin and road to site.

A haulage contractor will be utilised and all transport vehicles will be refuelled and maintained at commercial service stations or the contractor's depot.

The progressive nature of pipeline construction enables a staggered mobilisation of resources that minimises the impact on the public and other road users. No convoys are anticipated and vehicle movements are not expected to create any issues for overtaking or turn out.

Construction of the pipeline will involve up to 250 personnel of which approximately 150 would be expected to operate from the construction campsites on a daily basis during the peak construction period. The vehicle fleet is anticipated to include:

- 60 light vehicles (mainly Toyota Landcruisers);
- 35 heavy vehicles (e.g. service trucks, hi-ab crane trucks); and
- 50 items of major plant.

Pipe will be delivered to site on a daily basis throughout the construction phase. Haulage of fuel for use at site will be by conventional road tanker through a licensed provider to the campsites. Refuelling of project vehicles will occur at the construction campsites or be carried out by dedicated Project tankers along the construction corridor. These tankers will only travel to and from the campsite and the construction corridor on public roads.

Mobilisation and demobilisation lay-down (plant and equipment storage) areas, construction start and finish points, camp locations and obstacles requiring transport of plant and equipment are shown in Appendix 2.

3.1 Pipe Haulage

Approximately 15,400 tonnes of pipe will be transported for the Project. Depending upon whether single of double trailers are used this will equate to approximately 670 single or 335 double loads in total. A stockpile of approximately 50km, or about 2,750 lengths, will be maintained at either Katherine or Darwin (depending on how the pipe is deliver to the Northern Territory) to ensure continuity of supply to the construction corridor. The actual stockpile/transfer location would be determined based on transportation agreements and availability of land.

Truck movements for delivery of pipe are anticipated to be in the order of 7 per day during the peak period.

Road haulage routes and pipe traffic volumes from Darwin or Katherine are set out in Appendix 2.

Line pipe is provided in 18m lengths. The total length of a pipe delivery truck with single trailer will therefore be approximately 23 –24m or a double 43m. Extendable semi-trailers will be used for the line pipe and transport will be in accordance with the *Motor Vehicles Act 2006* (*MVA*) and Motor Vehicles (Standards) Regulations (MV(S)R). Note that it is anticipated that empty pipe trucks may travel with the second trailer stacked on top of the first.

3.2 Mobilisation/Demobilisation of Plant, Equipment and Heavy Vehicles

Equipment unable to be sourced locally (e.g. specialised pipeline equipment such as pipe bending machines, side booms and padding machines) is likely to be brought from interstate. The source and timing for mobilisation and demobilisation of plant, equipment and heavy vehicles varies making road transport the most likely option although rail transport will be investigated. Materials will arrive along the highway via Katherine and then by road to the start of the pipeline construction corridor near Ban Ban Springs. This will involve approximately 60 truck movements of around 35 tonnes for mobilisation to Ban Ban Springs and a further 60 movements for demobilisation from Wadeye (refer Appendix 2).

The majority of the work will be carried out sequentially from the Ban Ban Springs station end and moving west. Once delivered to the start of the pipeline, all plant, equipment and many heavy vehicles will travel exclusively along the construction corridor from the start to the finish. The likely exceptions to this would be:

- Transport around major rivers or physical obstacles (e.g. Daly River, Green Ant Creek, Tom Turners Creek and the Moyle River.
- Special crews such as horizontal directional drilling (HDD) and hydrostatic pressure testing whose work is not contiguous;
- Line pipe haulage;
- Daily servicing of work crews; and
- Water haulage for construction corridor and access track maintenance and camp water supply.

Occasionally it may also be necessary to re-allocate plant or equipment between work crews or to alter the construction sequence (e.g. due to weather conditions).

Mobilisation of plant, equipment and heavy vehicles to Ban Ban Springs for the pipeline is expected to occur between TO BE ADVISED and demobilisation from Wadeye around TO BE ADVISED. Construction is planned to take approximately 5 months.

Transportation of all plant, equipment and heavy vehicles required for the pipeline construction is not expected to generate any special transport requirements. Any over size loads will be transported in accordance with the MVA and MV(S)R.

3.3 Mobilisation/Demobilisation and Relocation of Camps

To facilitate the pipeline construction, camps will be constructed at locations convenient to the construction corridor. The actual locations have not been finalised but are likely to be around KP74, KP142, KP214, and KP256. There will be no more than 2 operational camps at any one time; one full camp and one 'fly camp' about half the size of a full camp. The movement of a camp will involve approximately 90 semi trailer loads including accommodation and ablution units, messing units, offices and workshop. The core elements of a camp (i.e. messing units, office units and equipment) and the workshop represent approximately 40 loads (25 being approximately 15 tonnes per load and the remainder 6 tonnes per load) whilst the accommodation units represent the remaining 50 loads (6 tonnes per load).

Camps are set up by installing the core elements and workshop and then relocating the accommodation as required. Therefore Camp 1 will require the full 90 loads to be delivered to site immediately mobilisation commences. Camp 2 will have the 40 core and workshop loads delivered to site and then the 50 accommodation loads will be progressively relocated from Camp 1 (refer Appendix 2). At the end of Camp 1 the 40 loads of the core and workshop will be relocated to Camp 3. The accommodation will then be transported progressively from Camp 2 to Camp 3 (refer Appendix 2). As a worst case it has been assumed that all movements will be via the road network however it is possible that accommodation units may be transported along the construction corridor thus relieving the load on the road network. Transport of any over size loads will be in accordance with the MVA and MV(S)R.

3.4 Construction Trips

Construction trips will include water cartage, waste disposal, fuel deliveries and floating of tracked plant and equipment around obstacles. Most of these trips will be short as water would be sourced as close to the construction corridor and campsites as possible and float of tracked plant will be limited as far as practicable. Typical movements are given in Table 3-1 and are estimated to equate to 500 vehicle movements in total over the construction phase of the Project. These have been accounted for in the overall traffic movements through the conservative estimating of unloaded plant, equipment and camp vehicle movements.

Table 3-1: Construction Trips per Day **Error! Reference source not found.**

Activity	No of Units	No of Trips per Unit per day	Approx Trips per day
Water cartage (potable and Project road maintenance)	5	5	25
Fuel	3	1	3
Camp Service and Waste Disposal	6	0.3	2
Floating equipment around construction corridor	11	0.3	3
TOTAL			33

4.0 OBJECTIVES

4.1 Objectives

Ensure that the relatively short term higher use of local government and private roads is managed efficiently and to the satisfaction of road managers and provide the minimum conditions to be met to ensure safe conditions for Project personnel and the public and to minimise disruption to traffic flows and environment.

4.2 Targets

- Avoid long term damage to infrastructure, whether public or private;
- Minimise disruption to the public, number of trips and trip lengths;
- Ensure safe conditions in all aspects of road management; and
- Minimise and manage any environmental impacts.

5.0 STRATEGY & IMPLEMENTATION

5.1 Constraints and Obligations

Before commencing the work, a Construction Execution Plan (CEP) and Job Hazard Analysis (JHA) for each independent work activity shall be conducted and signed off by the crew conducting the works. Every crew member who participated and signed off on the JHA/CEP shall abide by the requirements agreed.

The following reference documents (in their latest revision) shall be adhered to:

- Construction Specification;
- Safety Management Plan;
- Construction Environmental Management Plan;
- Construction Quality Management Plan;

- *AS1742-3* Manual of Uniform Traffic Control Devices (MUTCD) – Part 3 – Traffic Control Devices for Works on Roads. ; and
- *AS 2885 Pipelines – Gas and Liquid Petroleum.*
- *Control of Roads Act*
- *Traffic Act*

In the event that conflicting information exists between the above documents and this plan, the conflicting information shall be raised for resolution by the Construction Manager.

6.0 STATUTORY /REGULATORY

The following statutory requirements will apply:

- Motor Vehicles Act and Regulations
- Traffic Act and Regulations

7.0 CONTRACTUAL

Commitments made in the Public Environmental Report (PER) and in this document will be written into all contracts, particularly where they affect roads.

8.0 SAFETY MANAGEMENT

The BGP management team is committed to providing a safe work environment by identifying and appropriately managing work practices that have the potential to contribute to injuries/illnesses, equipment damage or environmental impacts. Ensuring employees and contractors present fit for work each day contributes to this objective. As such the BGP management team and the construction contractor will initiate a number of plans and procedures during the construction phase to address personnel safety and fitness for work. A key management policy will be the management of fatigue. This will be managed through a number of mechanisms: These will be finalised once a construction contractor has been appointed, but APT will expect the following issues to be managed:

- Driving and Vehicle Policy which restricts travel times and duration;
- Fitness for Work Policy which includes prohibition of drugs, appropriate management of alcohol, limits working hours and provides for minimum rest periods to minimise fatigue;
- Field Safety Procedures that require drivers to take regular breaks;
- Driver training and/or competency assessment; and
- Toolbox and/or pre start meetings.

Specific safety procedures will be developed, taking into account other contractors working in the area, for key areas such as:

- The Darwin Adelaide Railway line crossing;
- Entry to Ban Ban Springs Station from the Stuart Highway; and

- Union Reef and other mining activities.

A risk evaluation of haulage roads will be made by the Transport Operator prior to mobilisation, and additional safety procedures and/or measures developed where required (see Section 9.3)

9.0 ROLES and RESPONSIBILITIES

9.1 Construction Manager

The Construction Manager is responsible for implementation of this RUMP including ensuring that competent transport operators and contractors are used for all of the Projects transport requirements.

9.2 Construction Superintendent(s)

Construction Superintendents are responsible for the correct execution of this plan. The Construction Superintendent(s) are to ensure the resources are adequate to provide the services required to conduct traffic management at the required locations.

The Construction Superintendent(s) shall:

- Undertake a timely assessment of traffic management risks (refer Appendix 1);
- Ensure signage design meets the specifications (refer Appendix 1);
- Ensure that all personnel at a work site are aware of their responsibilities; and
- Ensure that traffic controllers are appropriately trained and informed of their duties.
- Ensure all Project personnel who drive vehicles are appropriately licensed, competent, and knowledgeable on Project road and traffic requirements.
- Ensure all appropriate permits and associated requirements (under the MVA and MV(S)R) are obtained and complied with.

9.3 Transport Operators, Contractors, Drivers

Transport operators, contractors and drivers are responsible for ensuring that all loads carried do not exceed the legal limit, are permitted as required, are transported only on approved access routes and that all transport is undertaken in accordance with this RUMP. All Project drivers will be required to hold current licences for the plant/vehicle they drive. A qualifications and training register will be maintained.

9.4 Traffic control[1]

9.4.1 Contractors Responsibility

The Contractor is to engage a local accredited contractor to provide all Traffic Control measures wherever required by the BGP. This contractor shall deliver all traffic control services to the standards required by the DPI.

[1] Note: Traffic Controller is a duty under taken by various personnel not a specific position.

The Contractor may elect to train and have accredited to the DPI requirements, sufficient staff to provide Traffic Control measures for the BGP, instead of engaging a Traffic Control contractor.

9.4.2 Traffic Controller

The Traffic Controller shall be responsible for placement, maintenance and removal of signage and conduct of traffic control on public roads according to this plan. The Traffic Controller shall be familiar with, and act as far as is practicable, in accordance with the provisions of AS 1742.3-2002[2], and ensure that they and the personnel under their control are courteous to the travelling public.

9.5 Foreman

The Foreman is responsible for ensuring that traffic management processes are in place prior to works commencing.

9.6 Managers Environment and Land Access

The Managers for Environment and Land Access are responsible for consultation and liaison with the relevant road owners (e.g. DMR, Local Government, private owners), the development of access mapping and the management of associated community issues

9.7 Road Haulage Company (Personnel & Responsibilities)

A road haulage contract has not been let at this early stage of the Project. However, the successful contractor will be required to have plans and procedures in place that meet or exceed the requirements of the BGP Safety Management Plans and Procedures.

10.0 COMMUNICATION MANAGEMENT

A Project specific communication plan has been developed for the BGP. Prior to construction a construction specific procedure will be implemented that documents the external communications methodology for the Project.

10.1 Consultation with Road Owners

The majority of the roads affected by the BGP are controlled or owned by the DPI.

The Construction Superintendent shall meet with the affected Road Owners along the pipeline route to specifically address issues associated with local pipeline construction works, open cutting and boring of roads and traffic management.

Agreement shall be reached with the relevant road owners to ascertain the existing condition of the roads at least 2 weeks prior to the commencement of construction activities in a given area.

[2] AS1742 Manual of uniform traffic control devices Part 3: Traffic control devices for works on roads.

10.2 Consultation with Residents and Communities

The Manager Land Access or their delegate (e.g. Lands Officer) will make initial contact with residents and communities to address any issues relating to traffic access. Disruption of traffic on private tracks and road shall be minimised as far as practicable.

11.0 TRAFFIC MANAGEMENT

11.1 Traffic Control

Traffic control on public roads shall be by accredited traffic controllers

All signage on public roads shall be placed in accordance with the requirements of the latest edition of the *AS1742.3* and the *Traffic Act*.

Additional signs will be installed as required to advise the public and those involved in pipeline construction of changed conditions and potential hazards. At each location where pipeline traffic enters or leaves the public road network W5-22 or T2-45 signs will be erected. The approval of DPI Transport and Infrastructure will be obtained to erect any proposed signs.

Signs will be manufactured and installed to AS 1742 and associated Standards.

11.2 Operating Speed

Speed restrictions will apply for travel along the construction corridor (generally 60 kph, 20kph in the vicinity of pedestrians and other areas as signposted).

Travel on the open road will be in accordance with the legal speed limits or as otherwise advised depending upon the condition of the road (refer Table 11-1).

11.3 Pavement/Road Surface Management

11.3.1 Review of Condition

A review of the existing condition of the proposed roads was carried out by a Northern Territory based senior roads engineer during 2006. The reviewer also carried out an inspection of the roads during 2005 for the proposed Trans Territory Pipeline. Based on these reviews key areas of concern have been identified along the proposed routes (refer Table 11-1).

Because road conditions are changing with use, weather conditions, and road upgrades and maintenance, a further, similar review will be carried out immediately prior to construction of the BGP commencing, in the dry season of 2008.

11.3.2 Agreed Management Approach

The BGP is consulting with the DPI to agree on an upgrade and maintenance regime required to ensure there is no ongoing additional detriment to the road assets controlled or maintained by the DPI, as a result of construction of the gas pipeline.

Once this regime is agreed, BGP will arrange for appropriate resources to be engaged to maintain the Department's road assets to appropriate standards.

Table 11-1: Summary of Road Conditions

Road Section	Length	Type	Condition	Proposed Speed Limits
Victoria Highway, Katherine Railway Goods Yard to Stuart Highway Intersection		National Highway: Dual carriage way/bitumen Road train route	Inspect and record condition prior to construction commencing. No additional traffic control by APT required	As per the posted limits for the highway
Stuart Highway Katherine to Dorat Road South and Fountain Head Road East		National Highway: Dual carriage way/bitumen Road train route	Inspect and record condition prior to construction commencing. No additional traffic control by APT required	As per the posted limits for the highway
Fountain Head Road East, Stuart Highway to Ban Ban Pastoral Access.		Public road Dual carriage way/bitumen Road train route	Inspect and record condition prior to construction commencing. (i)Widening of the bend where the road transitions from the WWII alignment to the upgraded alignment. Installation of appropriate signage (ii) Development of a work procedure for crossing of the Alice Springs to Darwin railway line. The proposed crossing has good visibility	80kph
Dorat Road South from Stuart Highway to Daly River Road Turn Off	34km	Public Road constructed to Single lane/bitumen Triple road train route	Inspect and record condition prior to construction commencing. Improve shoulders prior to construction commencement. Use of signage to warn of heavy vehicle movements during pipe haulage.	80 kph maximum. Heavy vehicles 60 kph maximum
Oolloo Road from Dorat Road to Pipeline Crossing	7km	Public Road 2 lane/bitumen Triple road train route	Inspect and record condition prior to construction commencing. Use of signage to warn of heavy vehicle movements at entry/exit points	80kph

Road Section	Length	Type	Condition	Proposed Speed Limits
Daly River Road from Dorat Road to the Daly River.	78km	Public Road 58km: 2 lane/bitumen 20km: 1 lane/bitumen	Inspect and record condition prior to construction commencing. Works to improve/maintain shoulders in single lane section. Use of signage to warn of heavy vehicle movements across single land section.	2 lane sealed sections: 100kph single lane 80 kph maximum for heavy vehicles. 60 kph when passing traffic travelling in the opposite direction.
Wadeye Road from Daly River Crossing to Wadeye	178km	Public Road/ Private Road / gravel	Poor condition. Limit speed to 80km/h to minimise dust impacts and maintain safe conditions for other road users. 122km in NLC lands; requires permit to enter. Consultation program with aboriginal community members on safe practices during construction period. Routine grading to provide a smoother riding surface during construction. Final grade at the completion of pipeline construction. Use signage to warn construction vehicles of hazards on the roads (e.g. bends, dips, narrow drainage structures)	50 to 80 kph depending upon conditions

11.4 Intersections

The various intersections with the potential to be impacted by the Project have been reviewed as part of the road survey report. A summary of the findings from that report are provided in Table 11-2. No additional works were identified for any of the intersections although some may need variable message signage to be installed.

Table 11-2: Intersection Capacity

ROAD	INTERSECTION CAPACITY
Victoria Highway, Katherine Railway Goods Yard to Stuart Highway Intersection.	Adequate for triple road trains. Doubles with extended trailers should be able to safely utilise the intersections.
Stuart Highway Katherine to Dorat Road South and Fountain Head Road East.	Both intersections are used by triple road trains normally hauling cattle. Geometry of the intersections is satisfactory Visibility is satisfactory although some vegetation trimming required Cosmo Howley mine currently using intersection with the use of variable message boards.
Fountain Head Road East, Stuart Highway to Ban Ban Springs Pastoral Access.	All potential intersections to be used by the Project are adequate in their current configuration and are currently used by triple road trains
Oolloo Road from Dorat Road to Pipeline Crossing	Intersection adequate for needs and currently used by triple road trains
Daly River Road from Dorat Road to the Daly River	Intersection to Tipperary Station access has good visibility and is used by triple road trains.
Wadeye Road from Daly River Crossing to Wadeye	No issues with any of the intersections along this section of road.

11.5 Stopping and Parking

All parking will be at camp sites or work areas. It is not anticipated that there will be any parking of construction vehicles on roadways. The road survey report included an inspection of the roads for parking potential; no major impediments were identified in the event that any vehicle had to stop for emergency reasons.

11.6 'Platooning' or 'Convoying' and Passing Opportunities

It is not anticipated that any transport movements will be carried out in convoy. Due to the limited pavement width in a number of areas and other road users likely to be using the area (e.g. cattle road trains, mining, tourists) convoying will be discouraged.

11.7 Parallel Construction Close to Public or Private Roads

Parallel construction close to public or private roads (i.e. within road reserve) occurs for the first 140km of the pipeline route. Where this occurs construction may require a half lane closure, which shall be in accordance with Section 4.3 of the MUTCD (see also Appendix 1).

In development of the site specific plans consideration shall be given to:

- Proximity of the works to the road;
- Speed limit;
- Sight distances, road layout and traffic load;
- Access/egress requirements to the works area from the road;
- Duration of the works; and
- Road Manager requirements.

11.8 Shift Changes and Haulage Operator Handovers

Construction crews typically work a 12 hour shift from camp departure to return.

Work is expected to be carried out with a single spread on the pipeline plus a smaller crew working on special areas (e.g. road crossings).

Typically the construction workforce would work 28 days on and 7 days off. Due to the restricted construction window it is anticipated that crews will work on a staggered roster (i.e. not all crews will take a break at the same time).

Workers are typically transported by bus to and from the nearest airport (e.g. Darwin).

11.9 Completion of Days Work

Signs are to be covered each evening. Signs to indicate normal road speeds will be erected at the end of the construction zone.

11.10 Transportation Management

11.10.1 Infrastructure

Any potential damage to infrastructure will be avoided by:

- Restricting access routes to the most suitable routes only;
- Denying Access to unsuitable routes;
- Signposting of permitted and denied routes;
- Performing a condition survey of selected routes to create a baseline for route condition;

- Scheduling construction to occur during the recognised dry season;
- Employment of road maintenance resources for unsealed local and private roads;
- Agreements with Landowners covering the use of private roads; and
- Use of rail transport for pipe haulage where practicable.

11.10.2 Public

Any potential disruption to the public will be minimised by:

- Restricting access routes to the most suitable routes;
- Denying access to unsuitable routes;
- Signposting (signage to be in accordance with DPI standards and in consultation with DPI personnel) of permitted and denied accesses;
- Construction operations restricted to daylight hours as far as is reasonably practicable to do so; and
- Minimising the amount of travel required through built up areas by Project vehicles of all types.

11.10.3 Trips

Number and length of trips will be minimised by:

- Careful design of pipeline access points to ensure maximum potential for travel along the construction corridor;
- Ensuring loads carried are efficiently packed;
- Procurement of water sources close to, or on the construction corridor; and
- Careful selection of camp locations to: minimise the number of camps required, minimise the distance from camps to the construction corridor.

11.11 Vehicle Management

11.11.1 Maintenance & Inspections

Haulage transport will be maintained by the transport company. BGP expects that as a minimum all vehicles will be regularly serviced to ensure that they operating safely, efficiently and with minimum emissions. . A well-equipped vehicle maintenance workshop at the camps will carry out maintenance of Project vehicles.

11.11.2 Refuelling

Refuelling of transport vehicles will be carried out at licensed service centres or at the haulage contractor's premises. Where this is not practical emergency refuelling maybe carried out at the campsites. Plant and equipment will be refuelled on the construction corridor by mobile refuelling trucks. All other Project vehicles will be refuelled at the campsite

11.11.3 Night-time Operations

Night-time operations are not expected; however, if night travel is required, it will be evaluated, and measures implemented to ensure road safety is not compromised

11.11.4 Loading and Unloading Operations

Loading and unloading will involve the unloading of construction plant, equipment and pipe skid units, on the construction corridor or camp-sites/workshop.

11.12 Environmental Impact Management

Environmental impacts have been addressed through the PER and a draft Construction Environmental Management Plan for the management of all environmental impacts has been prepared as part of the EIA.

APPENDICES

APPENDIX 1 – Traffic Management

Selection of Signage Requirements

	Road Traffic Stopped for greater than 5 mins	**Road Traffic Stopped for less than 5 mins**	**General Use Access to/from** construction corridor **on to the Road**
Highways	Type A	Type A	Type B
Sealed Roads	Type A	Type A	Type B
Unsealed Roads	Type A	Based on Form 1 Road Crossing Assessment	Type C *

* For Type C crossings vehicles or plant must be fitted with a vehicle-mounted warning device (MUTCD Section 4.8.3)

FORM 1 – ROAD CROSSING ASSESSMENT

The road sign and traffic issues associated with Project construction have been considered in relation to the road listed below.

Date of Assessment _____

Assessment by _____ ❑ Site Inspection

_____ ❑ Desktop

Road being Assessed _____ KP _____

1. Can extra length vehicles turn off carriageway? ❑ Yes ❑ No

If no, actions ……

……

……

2. What is road speed? _____ Kmph

3. For following speeds is line of sight achievable?

60km road / traffic visible for 150m both directions ❑ Yes ❑ No
80km or above road / traffic visible for 250m both directions ❑ Yes ❑ No

4. Are traffic flows low? ❑ Yes ❑ No

5. Based on review of the above, it is determined that the following traffic controls will be installed and maintained at this crossing.

❑ Type A or B signs as appropriate (if NO to Q3 or Q4)

❑ Inserting of access gateways for long vehicles

❑ Type C crossing procedure to be implemented (If Yes to Q3 and Q4)

Signed : _____ Date: _____

Superintendent


DRAFT

APPENDIX 2 – Transport Maps

Figure A2.1 : Pipe Trucks Based on 300mm Pipe and Double Trailers

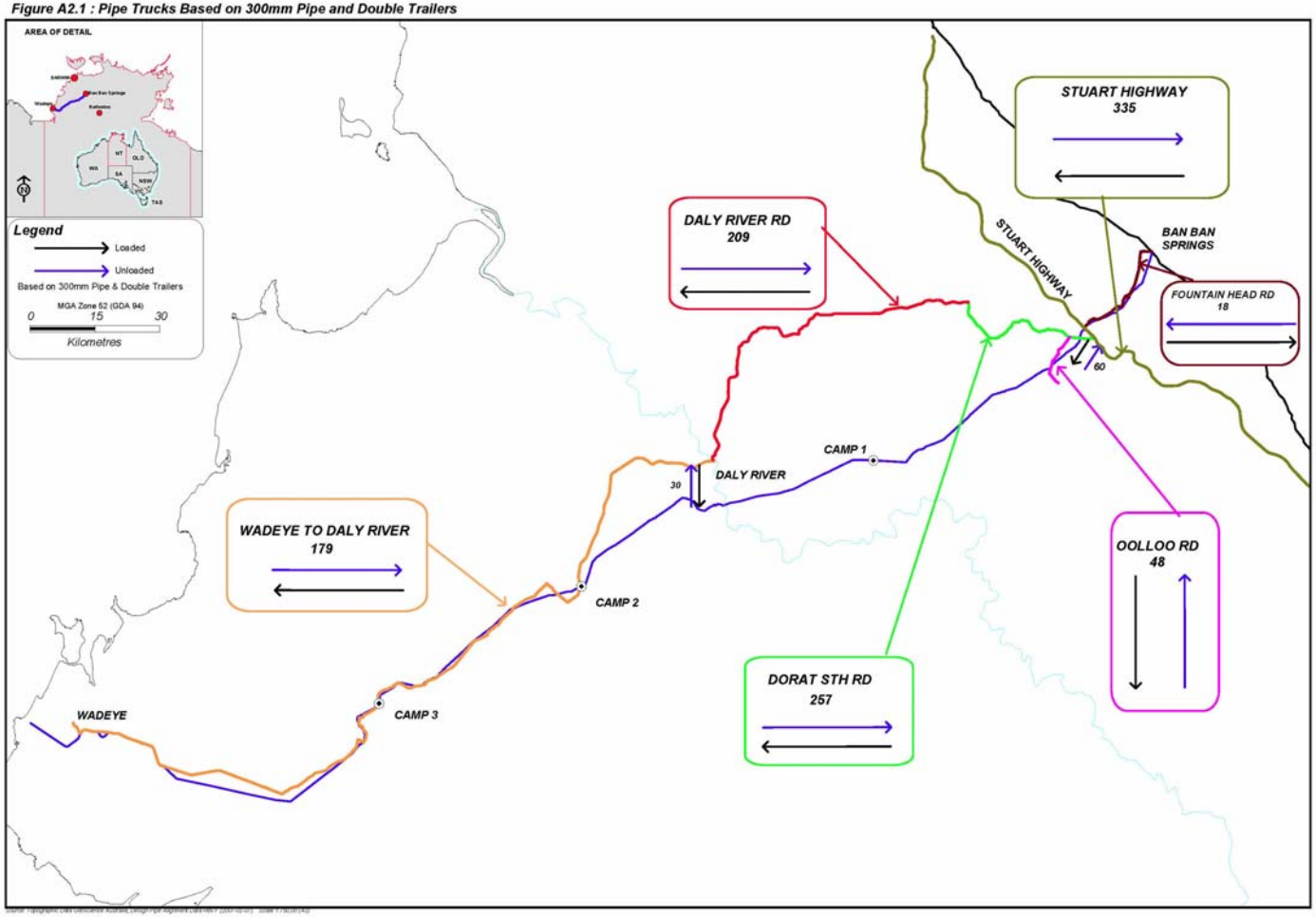


Figure A2-2: Plant & Equipment Vehicles Movements

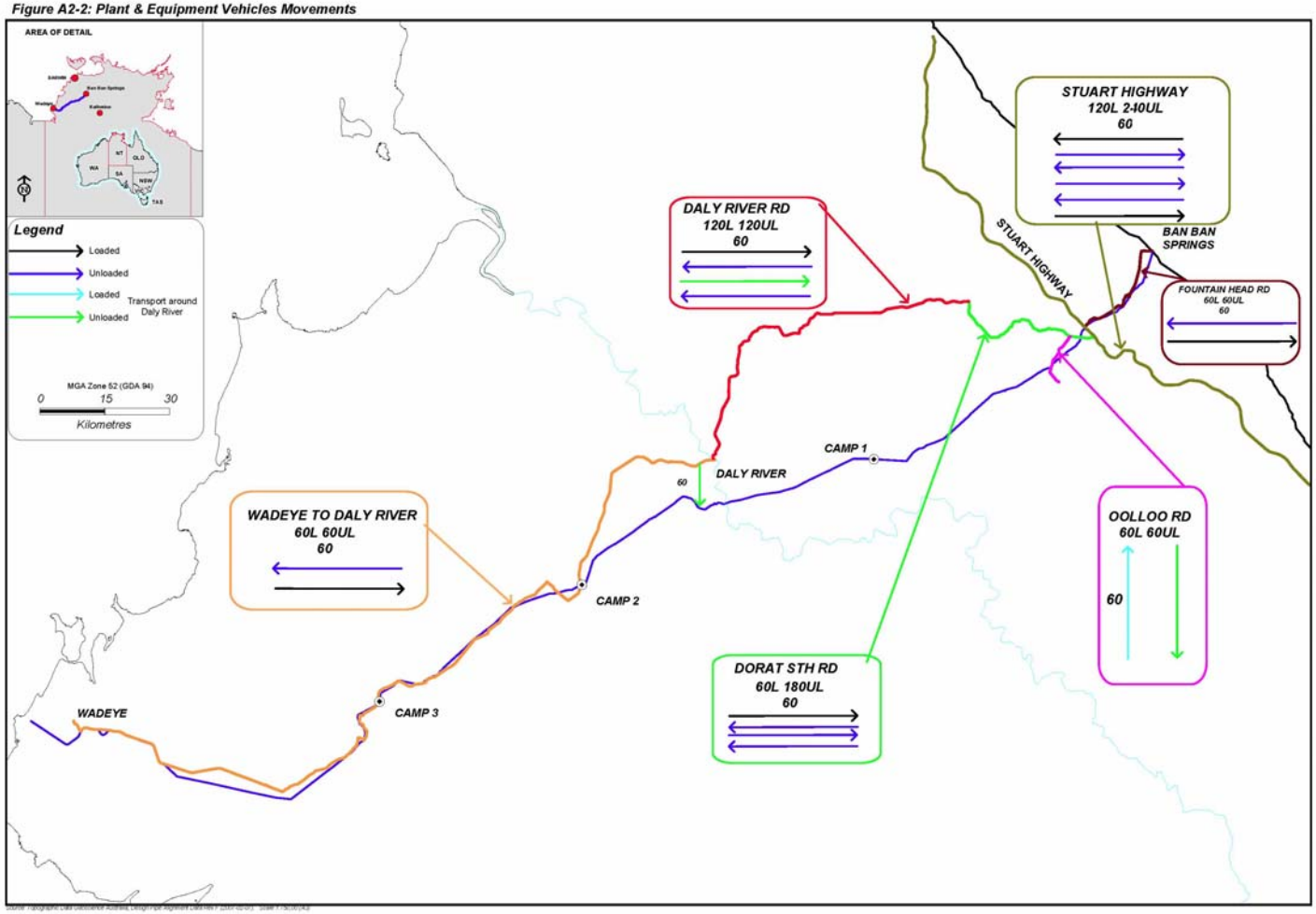


Figure A2-3: Camp Vehicle Movements

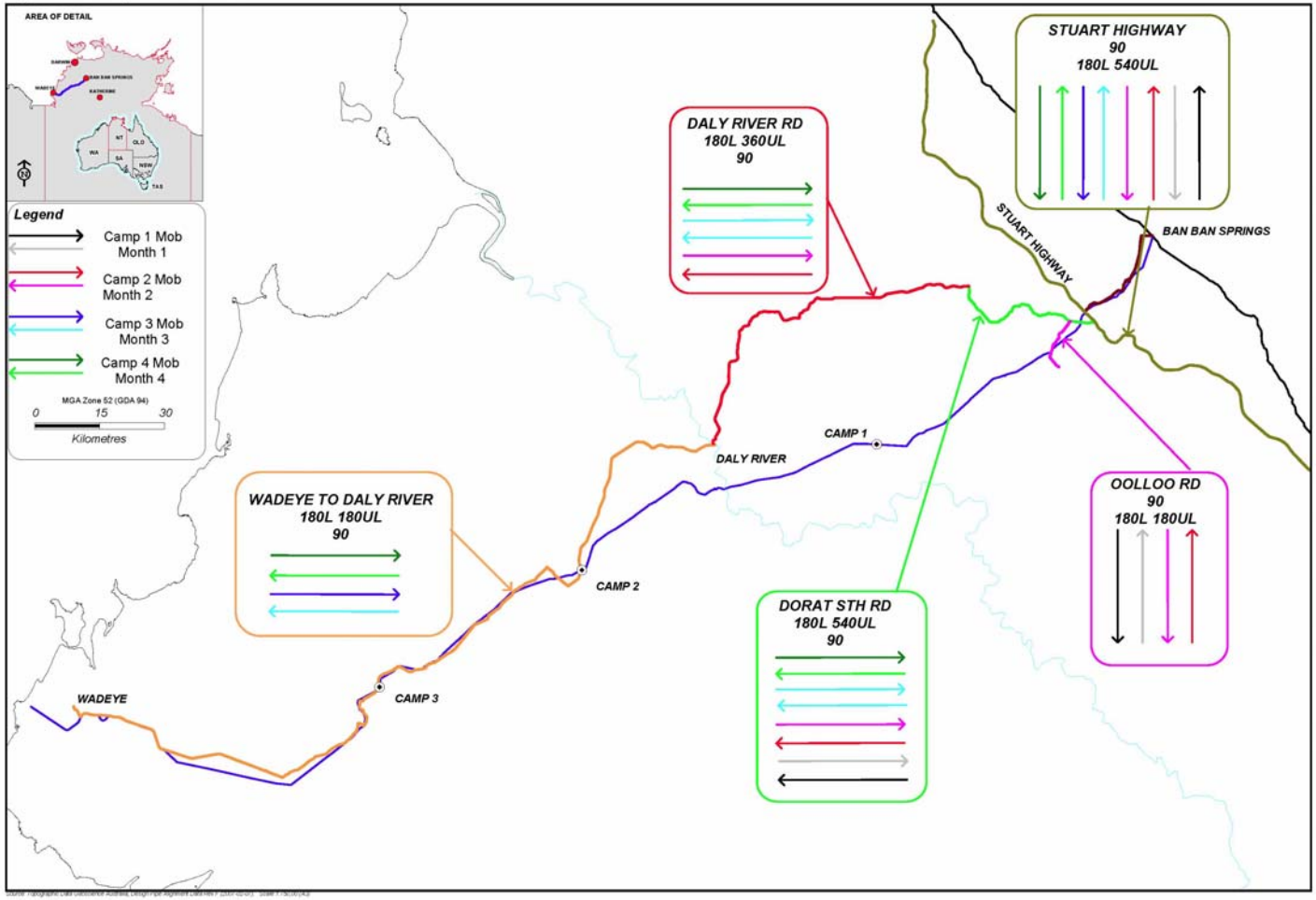


Figure A2-4: Total Vehicle Movements