POLICY

PERFORMANCE AND DESIGN STANDARDS FOR NORTHERN TERRITORY GOVERNMENT ROADS

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Owner: Department of Transport

Manager: Transport Infrastructure Planning Division

INTRODUCTION

The Northern Territory Government is responsible for the care, control and management of Freeways, National Highways and Arterial road network. All other roads are under management by local government authorities where they exist.

The Northern Territory Government road network provides for:

1. safe and efficient movement of people and goods by road-based transport (cars, trucks, public transport, cyclists, motorcyclists and pedestrians); and
2. vehicular access to adjoining and nearby land (either directly or via intersecting roads) to support land use development.

Whilst the need for vehicular access to properties is fundamental to land use development, it is important to consider the principal functional classification of each road, which is either a traffic route (traffic movement or 'through traffic' function) or a local street (amenity or access function).

This section sets out the minimum standards required for the design and construction of roads and intersections under the care, control and management of the Northern Territory Government.

NORTHERN TERRITORY GOVERNMENT ROAD HIERARCHY

The main road network in the Northern Territory is generally defined. The road hierarchy outlined in Table 1 has been adopted for the management of the Territory road network.

Table 1: Road classification and function

Road class	Function
Freeway	Traffic movement function exclusively
National Highway	Traffic movement function primarily. Principal avenue for communication between two capital cities or major regions of Australia.
Primary Arterial (urban and rural)	Traffic movement function primarily. Primary network of strategic links between important centres in a city, town or rural area.
Sub-arterial/ Rural Secondary or Distributor Road	Combined traffic movement and access function. Connect arterial roads to areas of development and distribute traffic to local street systems.
Collector Road	Access[1] function. Collects and distributes traffic in an area and serves abutting properties. Provides access between local roads/ streets and sub-arterial/ distributor roads.
Local Road	Access[1] function. Used primarily for access to abutting properties.
Pastoral 1	Access[1] function. Provides dry weather access to a single Pastoral property.
Pastoral 2	Access[1] function. Provides dry weather access for up to three Pastoral properties.
Pastoral 3	Access[1] function. Provides partial wet weather access to more than three Pastoral properties.

Note 1: "Access" in this Table refers to an individual property access from a road.

ROAD RESERVE WIDTHS

The minimum road reserve widths to be provided in development proposals and subdivision designs are to be in accordance with Table 2.

Table 2: Road Reserve Widths

Road Class	Reserve Width [1, 2]
National Highway[3]	200m
Arterial - Urban[3]	80m
Arterial - Rural	150m
Sub-arterial/Distributor - Urban Industrial	22m
Sub-arterial/Distributor - Urban Residential	(Note 4)
Sub-arterial/Distributor - Rural Industrial	100m
Rural Secondary Road	100m
Pastoral 3	100m
Collector - Urban Industrial	20m
Collector - Urban Residential	(Note 4)
Collector - Rural Industrial[5]	40m
Collector - Rural	40m
Local - Urban Industrial	20m
Local - Urban Residential	(Note 4)
Local - Rural Industrial	30m
Local - Rural	30m
Pastoral 1 and 2	100m

Note 1: It may be necessary to increase road reserve widths at certain locations to ensure that all earthworks and drainage requirements are properly accommodated within the road reserve.

Note 2: Road reserves shall be of sufficient width to fully accommodate the cross-section specified in Table 3, Table 4 and Table 5 at curves and other locations.

Note 3: For major developments which require construction or realignment of a national highway or arterial road, the applicable road reserve is to be discussed with the Department for advice.

Note 4: Road reserve for this and any other roads not in this list refer to the relevant local authority.

Note 5: For rural industrial developments with lots less than 20 ha, the road reserve may be 100m. For developments with lot sizes higher than 20 ha, the Department would assess the road reserve requirements on its merit.

The Department may require wider road corridors than indicated in Table 2 to cater for long term network needs

ROAD SURVEY AND SET-OUT

All survey and design information are to be shown on drawings with connection to existing or proposed cadastral boundaries. Fully dimensioned road reserve boundaries are to be shown on all plans and cross-section drawings.

Set-out of road reserve boundaries on curves are to ensure that chord lengths opposite each other are parallel and that the road is centred as far as possible within the reserve width. The secant distance of any chord used for road reserve boundary set-out purposes shall not exceed the dimensions given in Table 3.

Table 3: Secant Measurements for Curve Set-out

Road Reserve Width	Secant Measurement
Less than 40 metres	0.5 metres
40 – 100 metres	1.0 metres
Greater than 100 metres	2.0 metres

PRINCIPAL CHARACTERISTICS AND STANDARDS FOR NORTHERN TERRITORY GOVERNMENT ROADS

Table 4 outlines the key characteristics and standards applicable to Territory roads to be considered in the design of road intersections and vehicular access points.

Table 4: Road Characteristics and Standards

Road Class	Maximum Signposted Speed [4, 5]	Minimum Cross-section [1]	Intersections [2, 3]	Provision for Turning Movements
Freeway	110 km/h	Divided carriageway	Grade separated interchanges	Separate ramps or lanes
National Highway	130 km/h	2-lane 2-way carriageway	Usually at-grade; desirable minimum spacing 1km	Protected turning lanes, subject to traffic volumes
Urban Arterial	90 km/h	2-lane 2-way carriageway	Usually at-grade; desirable minimum spacing 500m	Protected turning lanes
Urban Industrial Sub-arterial/ Distributor	90 km/h	2-lane 2-way	At-grade; desirable minimum spacing 350m	Protected turning lanes, subject to traffic volumes
Urban Industrial Collector and Local	80 km/h	2-lane 2-way	At-grade; spacing to suit good road design and land use practice	Turning lanes desirable, subject to traffic volumes
Rural Arterial	110 km/h	2-lane 2-way	At-grade; large spacing, minimum 1km	Protected turning lanes, subject to traffic volumes and road alignment
Rural Industrial Sub-arterial	100 km/h	2-lane 2-way	At-grade; spacing to suit good road design and land use practice	Turning lanes as required by road safety and traffic efficiency analysis
Rural Sub-arterial	100 km/h	2-lane 2-way	At-grade, desirable minimum spacing 400m	Turning lanes as required by road safety and traffic efficiency analysis
Rural Industrial Collector and Local	80 km/h	2-lane 2-way	At-grade; spacing to suit good road design and land use practice	Turning lanes as required by road safety and traffic efficiency analysis
Rural Collector and Local	80 km/h	2-lane 2-way	At-grade; spacing to suit good road design and land use practice	Turning lanes as required by road safety and traffic efficiency analysis
Pastoral 1	100 km/h	1-lane	N/A	N/A
Pastoral 2	100 km/h	1-lane	At-grade	N/A
Pastoral 3	100 km/h	2-lane 2-way	At-grade	N/A

Note 1: Subject to traffic demand, higher order roads may be duplicated to multiple lanes.

Note 2: Intersection spacing represents the distance for developing intersections on opposite sides of a road. Hence, intersections on the same side of the road are to be located at double the distance shown in the Table, if there is an affected access on the opposite side of the road.

Note 3: Intersection spacing objectives will form the basis for consideration of property accesses. Existing direct property accesses not meeting these objectives will be addressed as indicated in Section 3.7.

Note 4: Different signposted speed limits may apply, according to the road environment.

Note 5: Design Speed to be 10 km/h higher than the existing sign posted speed limit.

SUBDIVISIONS:

Subdivisions generally comprise lower order roads (sub-arterial/distributor, collector and local roads) that link into the arterial road network in accordance with the adopted road hierarchy. Freeways, national highways and primary arterial roads are not considered part of a subdivision development.

Urban roads generally comprise of chip sealed/ asphalt surfaces, kerbed roadway edges, verges, and underground stormwater drainage systems that discharge into either piped or open trunk drains.

Roads and intersections in port related industrial subdivisions shall be of a standard and design to allow for road train access.

Rural roads generally comprise sealed or gravelled surfaces, are un-kerbed with either sealed or gravel surface shoulders, and have open lined or unlined drainage systems.

For subdivisions within an existing local government area, refer to the relevant local authority requirements. New road reserves (distributor, collector or local roads) created via subdivisions shall be vested with the relevant local authority and shall be noted on the survey plan as such. The Northern Territory Government will not accept new distributor, collector or local roads in existing local government areas.

Road Cross Section Requirements

Road cross-sections and surface requirements are dependent on the road type under consideration as reflected in Table 5.

Table 5: Subdivision Roads - Cross-section and Surfacing Requirements

Subdivision	Road Type [1]	Carriage-way Width	Sealed Width	Traffic Lanes	Surface [2, 3, 4]
Urban Industrial	Sub-arterial	13 m	13 m	2 x 6.5 m	Kerbed and sealed
	Collector	11 m	11 m	2 x 5.5 m	Kerbed and sealed
	Local	11 m	11 m	2 x 5.5 m	Kerbed and sealed
Rural Industrial	Sub-arterial	10 m	9 m	2 x 3.5 m	Sealed
	Collector	9 m	9 m	2 x 3.5 m	Sealed
	Local	9 m	9 m	2 x 3.5 m	Sealed
Rural lots less than 2 ha [5]	Sub-arterial	10 m	8 m	2 x 3.5 m	Sealed
	Collector	9 m	7 m	2 x 3.0 m	Sealed
	Local	8 m	7 m	2 x 3.0 m	Sealed
Rural lots between 2 and 20 ha	Sub-arterial	10 m	8m	2 x 3.5 m	Sealed
	Collector	9 m	7m	2 x 3.0 m	Sealed
	Local	8 m	7m	2 x 3.0 m	Sealed
Lots > 20 ha (rural living)	Sub-arterial	10m	-	2 x 3.5 m	Gravel [6-8]
	Collector	9m	-	2 x 3.0 m	Gravel [6-8]
	Local	8m	-	2 x 3.0 m	Gravel [6-8]

Subdivision	Road Type [1]	Carriage-way Width	Sealed Width	Traffic Lanes	Surface [2, 3, 4]
Horticultural properties [6]	Sub-arterial Collector Local	10m 9m 8m	8m 7m 7m	2 x 3.5 m 2 x 3.0 m 2 x 3.0 m	Sealed Sealed Sealed
Pastoral properties	Pastoral 3 Pastoral 2 Pastoral 1	8m 6m 4m	- - -	2 x 3.0 m 1 x 6.0 m 1 x 4.0 m	Gravel [9] Formed [9] Formed [9]

Note 1: For details on Freeway, National Highway and Arterial road cross-sections, contact the Department.

Note 2: Where a development requires the provision of a gravel road, a Developer may wish to provide a higher standard of road to improve the saleability of the properties being released. The Department is prepared to accept sealed pavements as an alternative to gravel roads.

Note 3: Refer pavement design standards for more detail.

Note 4: Land zoning, environmental factors and present and potential future land uses will all be considered on a case-by-case basis in making decisions on any deviation from standards to be adopted.

Note 5: For lots <0.4 ha, an urban cross-section (sealed surface with concrete kerb and channel) may be required subject to assessment.

Note 6: Irrespective of the minimum standards specified, sealed roads shall be provided in rural subdivisions where projected traffic volumes on the proposed roads within the subdivision are likely to exceed 200 vehicles per day within 10 years of construction.

Note 7: Where adjacent developments or land zoning are likely to generate traffic volumes that will include greater than 10 per cent of commercial vehicles, a minimum cross section profile of a Rural Industrial Collector road may be required.

Note 8: Where a significant proportion of a rural subdivision is horticultural development or the land is zoned or otherwise identified as suitable for horticultural uses, and the number of lots accessing a 500 metre length of road is equal to or exceed 5, the road will be required to be sealed.

Note 9: Pastoral gravel and formed roads shall be constructed from in-situ material that meets the appropriate material characteristics of the Northern Territory Government's *Roadworks Master Specification*.

Verges

The minimum standards for verges include:

1. a minimum verge width of 4.5 metres, measured from the kerb invert to the road reserve boundary in urban areas
2. verge widths are to be increased as required to accommodate bus stops, shared paths and/or landscaping
3. verges are to be designed for easy maintenance (grass cutting, service vehicle access and the like)
4. services are to be located as per standard drawing C(S)1903
5. the slope of cut and fill batters and table drains should not exceed 1 in 4
6. the maximum grade for vehicular access from the road to within the lot is to be 1 in 6
7. all pedestrian access shall meet or exceed the AS1428 *Design for Access and Mobility* and the Department of Infrastructure standard drawings.

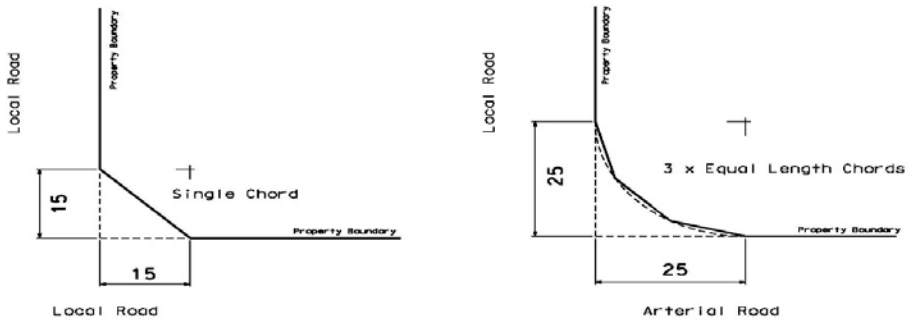
Fully paved verges may be required for commercial developments in urban areas. In such instances, the whole verge shall comply with the requirements of AS 1428 *Design for Access and Mobility*. Access ramps to adjacent properties are to be positioned to be wholly contained within the lot. No part of the access ramp is to be located within the road reserve.

Property Corner Truncations

Truncations of suitable dimensions shall be provided for all boundary corners at all road intersections.

At all intersections involving at least one arterial road, the truncations at each corner shall be a 25 metre three chord truncation. For other intersections a single chord, 15 metre truncation shall be provided. Refer to Figure 1.

Figure 1



Notwithstanding the above, larger truncations may be required where an engineering assessment indicates a need commensurate with traffic safety and the provision of service corridors and trunk drainage.

Extent of Road Construction

Where a through road outside the boundaries of the subject land is required to provide access to a new subdivision from an existing road network, the Developer shall construct the intersection and through road in full at the Developer's expense, including drainage requirements. It is up to the Developer to negotiate a sharing of the road and intersection construction cost with other land owners gaining benefit from this infrastructure.

All roads within a new subdivision development are to be constructed to the full length of all frontages of all lots within the subdivision.

Where provision is made within a subdivision for future road connections to adjacent land, but these road connections are not required to service the current subdivision, construction of these future road connections shall be the responsibility of the Developer gaining the benefit of the road connections. The Department shall not be responsible for constructing road links to future subdivisions.

Pedestrians, Cyclists and Public Transport

All subdivision proposals shall consider and incorporate facilities addressing the needs of pedestrians, cyclists (footpaths, cycle paths or shared paths and associated infrastructure) and public transport (bus stops, bus bays, bus shelters, etc.) as relevant to the local circumstances. All facilities provided shall meet the requirements of relevant Austroads Guides and the *Disability Discrimination Act 1992* (Commonwealth) as amended. Public transport facilities provided shall also be in accordance with the standards and requirements of the Public Transport Division of the Department.

If existing public transport infrastructure is impacted upon by the development, the Developer shall discuss the impact with the Department.

Road and Street Signs

All street name signs are to be provided by the Developer. The Developer shall obtain approval from the Place Names Committee for the Northern Territory for all road and street names in new subdivision developments. One sign post shall be provided on all T-intersections and two sign posts at cross intersections. The street name signs shall be located in accordance with AS1742 *Manual of Uniform Traffic Control Devices*.

GEOMETRIC DESIGN:

All roads shall be designed in accordance with the recommendations of relevant Austroads publications, including the following:

1. Guide to Road Design
2. Guide to Traffic Management
3. Guide to Road Safety
4. Guide to Pavement Technology

Road Design Speeds

The minimum design speed to be adopted for road works and/or new intersections on Territory roads are to be 10km/h above the existing sign posted speed limit on the affected road(s) (refer Table 4). Developments are not to have an adverse impact on existing speed zones.

The Department may consider the adoption of an alternative design speed where justified by the local road environment. Details of any variation should be submitted to and discussed with the Department prior to proceeding with the design.

Design Vehicle

Intersections will be designed to accommodate the maximum vehicle configuration that is likely to utilise the intersection. Where the area usage is other than industrial, and is unlikely to be entered by a road train, the minimum design vehicle will be a 19 metre single articulated vehicle. For industrial intersections and rural intersections to be used by the mining, extractive, agricultural or pastoral industries, the design vehicle shall be a large combination vehicle (triple/quad road train).

Sight Distance Requirements

The provision of adequate sight distance at intersections and/or property accesses is fundamental to road safety. Proposed intersections and/or property accesses shall be located such that it meets safe entering sight distance and approach sight distance requirements in accordance with the above-mentioned Austroads Guides.

Signs and Line Marking

All warning, regulatory and direction signs and line marking installations necessary for effective traffic control are to be designed and undertaken to the warrants set out in:

- Current version of AS 1742 *Manual of Uniform Traffic Control Devices* (all parts)
- Current Australian Road Rules
- Current versions of the Austroads Guides
- Department of Infrastructure's *Roadworks Master Specification*
- Department of Infrastructure's standard drawings
- Other relevant publications and standards.

Intersections for Road Trains and Over Dimensional Vehicles

Intersections and turn lanes required to cater for large combination vehicles (road trains and over-dimensional vehicles) shall incorporate appropriate provision for all necessary turning movements. The required travel path for normal vehicles should be adequately defined by means of low-profile traffic islands, mountable kerbs or different surfacing.

Provision for the turning paths of large vehicles shall make allowance for all other considerations such as the positioning of road furniture, streetlights, drainage pits and any other structures clear of the traffic path.

Adverse Crossfall

Adverse crossfalls on Northern Territory Government controlled roads are not permitted under any circumstances. The consultant is to ensure adverse crossfalls are not used in the design of the works. Refer to Austroads Guidelines for guidance.

Safety Barriers and Other Treatments

All safety barriers and other treatments are to be designed and undertaken in accordance with AS 1742 *Manual of Uniform Traffic Control Devices* (all parts), Austroads *Guide to Road Safety* and Department of Infrastructure's *Roadworks Master Specification*.

Provision for Clear Zone Requirements

Clear zone requirements applicable to the section of road under consideration shall be taken into account for road safety purposes. Refer to the Department for the requirements.

Road Safety Audits

All new roads, new intersections and upgraded intersections are subject to Road Safety Audits in accordance with the Department's Policy "Road Safety Audits"

INTERSECTION TREATMENTS:

General

Intersections will be considered in terms of road function, importance and road class to which they connect and shall be designed in accordance with the relevant Austroads Guidelines.

In general, all new intersections shall be developed as T-intersections. Cross intersections will be considered only in exceptional circumstances after submission of a full traffic study (if required) and a safety assessment.

All intersections will be provided with appropriate traffic control devices in accordance with the various standards and guidelines.

The total surfacing of an intersection shall be of a consistent appearance, free of different coloured aggregates and numerous joints. The Department reserves the right to require resurfacing of the whole intersection zone where new intersections are created or existing intersections are upgraded.

Street lighting will be required on all urban intersections and may be required on rural intersections. Refer to the Street Lighting Policy for more detail.

Intersection Hierarchy and Type

In general, internal subdivision roads shall connect to roads of lower status, equal status, or one level above them in the hierarchy, e.g. a local road will only connect to another local road or a collector road.

Access to major commercial developments such as shopping centres, caravan parks, tourist developments, motels, hotels and other developments which generate significant traffic volumes in their own right will be considered as local roads in terms of intersection requirements.

Selection of the type of intersection to be provided is dependent on various factors (e.g. network performance objectives, traffic volumes and turning movements and feasible type of intersection) and shall be in accordance with relevant Austroads Guides. Different design and traffic management guidelines may apply to urban and rural intersections as driver expectations differ.

Urban Intersection Spacing

The desirable minimum spacing of intersections on urban arterial roads is 500 metres. For urban sub-arterials or industrial distributor roads, the desirable minimum spacing is 350 metres.

Proposed intersection spacing for the urban road network below the desirable minimum will be based on the merits of the proposal, and will be evaluated on road safety, traffic efficiency, and current and future impacts on the existing or planned road network.

Where a new intersection is proposed for a development, the Developer must demonstrate that the proposed new intersection will have no detrimental impact on the capacity and level of service of the existing road network. A Traffic Impact Assessment Report will be required prior to the approval of the intersection layout.

Rural Intersection Spacing

Intersection requirements are directly related to the importance of the roads in the hierarchy and spacing of intersections shall satisfy the requirements detailed in Table 4.

All intersections on the sealed rural road network shall be provided with appropriately delineated concrete kerb radius turn-outs.

Pastoral Road Intersections

In terms of standards and intersection development, pastoral roads are local roads in the hierarchy. These roads may, of necessity, connect directly to roads higher than one level above them in the road hierarchy, and such new proposals will be considered on their merits.

PAVEMENT DESIGN STANDARDS:

Pavements

The minimum life for a pavement is 30 years. Refer to the Department if this pavement life shall be increased to reflect the mature development requirements for the area.

All road pavements shall be designed in accordance with the current version of the Austroads *Guide to Pavement Technology* and Department of Infrastructure's *Roadworks Master Specification*. The pavement design, including design Equivalent Standard Axles (ESA), shall be submitted to the Department for review and approval.

The design consultant is responsible for determining design traffic loadings and the appropriate pavement structure. Assessment of design traffic shall include consideration of subdivision staging and construction vehicles through completed stages to construct infrastructure for further stages.

All urban roads provided in accordance with these Guidelines are to be constructed of a fine crushed rock base pavement, minimum 200 millimetres depth. Natural gravel base pavements for urban roads will not be permitted.

Rural Roads may be constructed of complying natural gravel or fine crushed rock to a minimum depth of 200mm.

Testing of the pavement works must be carried out in accordance with the Northern Territory Government's specifications and copies of the test results must be submitted with the Certificate of Completion.

Surfacing

The surface treatment of an intersection shall be designed and constructed to accommodate all vehicles utilising the intersection and the various levels of impact, both during construction and in its ultimate state.

Asphalt shall be used on all roads in residential and noise-sensitive areas where practicable.

Where significant heavy vehicle/ bus turning movements are expected, i.e. at major lot accesses, intersections and in cul-de-sacs, the pavement surfacing is to be asphalt. The Department may require an asphalt overlay over the whole intersection zone at new/ upgraded intersections to cater for heavy vehicles/ buses.

Where regular road train access is expected in industrial areas, asphalt shall be used for all pavements.

All asphalt mixes shall be in accordance with Department of Infrastructure's *Roadworks Master Specification*. Table 6 summarises the asset type and surfacing product to be used.

Table 6: Surfacing Types

Asset Type and Application	Product	Bitumen	Aggregate Size (mm)	Depth (mm)
Urban Footpaths / Cycle paths	Concrete	NA	NA	NA
Rural or Semi Rural Footpaths / Cycle paths	AC10 - Type 2	320	10	25
Carparks - Light Vehicles only	AC10 - Type 2	320	10	30
Carparks - Light / Some Heavy Vehicles	AC14 - Type 3	S10E	14	35
Urban Roads	AC14 - Type 5	A15E	14	40
Urban Intersections	AC14 - Type 5	A15E	14	50
Urban Roundabouts	AC14 - Type 5	A15E	14	50
Urban Subdivisions	AC14 - Type 5	A15E	14	40
Urban Industrial Subdivisions	AC14 - Type 5	A15E	14	40
Urban Industrial Intersections – Light and Heavy Vehicles	AC14 - Type 5	A15E	14	50
Rural Roads	Seal	S10E	14	N/A
Rural Roads - Intersections with heavy vehicle movements	AC14 - Type 3	S10E	14	40
Rural Roads – Intersections without heavy vehicle movements	Seal	S10E	14/7 Two coat seal	N/A
Rural Roads - Property Intersections / access Light Vehicles Only	Seal	S10E	14	N/A

Asset Type and Application	Product	Bitumen	Aggregate Size (mm)	Depth (mm)
Rural Roads - Property Intersections / access Some Heavy Vehicles	Seal	S10E	14/7 Two coat seal	N/A
Industrial Intersections - Light and Heavy Vehicles Rural	Seal	S10E	20/10 Two coat seal	N/A
Floodway - Rural	Seal	S10E	20/10 Two coat seal	N/A

A prime coat must be applied prior to placing any surfacing.

Testing of the pavement and bitumen works must be carried out in accordance with Department of Infrastructure's specifications and copies of the test results must be submitted with the Certificate of Completion.

All new urban roads for local authorities shall be dense graded asphalt. Confirm with the relevant local authority the specific requirements on local roads.

TRAFFIC MANAGEMENT:

The Developer shall produce a Traffic Management Plan when directed by the Department. A Traffic Management Plan may be required for the construction phase of a development.

The Traffic Management Plan shall detail all appropriate site management measures, access routes, vehicle types and other relevant matters to be included. A risk assessment is to be included, together with a Construction Management Plan.

The Traffic Management Plan, Construction Management Plan and risk assessment are to be prepared by suitably qualified and experienced persons.

ENVIRONMENTAL MANAGEMENT:

Environmental Management Plans

It is the Developer's obligation to design and construct works in an environmentally sensitive manner, and to limit the environmental impact of works within the development and on surrounding areas. In addition to any requirement under legislation or other permits, an Environmental Management Plan that includes an environmental audit system will be required prior to works commencing for development proposals where any adverse impacts on native vegetation, drainage paths, or other potential environmental impacts are possible. This includes construction noise as controlled by the *Waste Management and Pollution Control Act*.

Developers are encouraged to liaise and seek advice from the Department of Lands, Planning and the Environment, Department of Land Resource Management, The Environmental Protection Authority and the Department of Transport.

Clearing in the Road Reserve

Clearing in the road reserve for construction purposes will be restricted to 1 metre beyond the table drain or the top of batter. Work sites should remain vegetated as much as possible in order to retain native flora and fauna and to reduce the effects or erosion.

Clearing is subject to the following conditions:

1. Identification of all significant or heritage listed trees and/or areas and required special protection or treatment (including advice from the Aboriginal Areas Protection Authority).
2. The width of clearing is to be kept the minimum practicable.
3. Large vegetation (a tree trunk or branch greater than 100 millimetre in diameter) shall be either chipped/mulched for future re-use, or removed from the road reserve. Pushing up into surrounding land or disposal by burning on site is not permitted.
4. Removal of ground vegetation shall be avoided where practicable.
5. Individual trees that present a hazard to power lines, are to be removed following consultation with the Department. The extent of clearing shall be limited to that necessary to reduce the hazard.
6. The clearing works shall not impede or alter natural drainage paths or promote erosion within the road reserve.

All cleared/ disturbed areas shall be appropriately rehabilitated/ re-vegetated as part of the development in accordance with the Northern Territory Government's *Roadworks Master Specification*, consistent with its untouched surrounds. This includes seeding, planting, watering or other measures necessary to rehabilitate the area. Any mulch produced from clearing shall be spread over the rehabilitated area, including batters and verges, to a uniform cover of 50 millimetres thickness. In urban areas, a higher standard of landscaping may be required and will be assessed on a case by case basis.

Erosion and Sediment Control Plans

As part of any proposed works within, or impacting upon, Territory road reserves, erosion and sedimentation issues, both on and off the site of the proposed works, shall be considered. All proper precautions are to be taken by the Developer and/or his Contractor to ensure that erosion and sedimentation from any lands or location used, occupied or controlled by the Developer and/or Contractor are kept to an absolute minimum during the course of the works.

Specific Erosion and Sedimentation Control Plans are required if any adverse impacts from the works may occur. Erosion and Sediment Control guidelines and information can be obtained from Department of Land Resource Management and International Erosion Control Association – Australasia (http://www.austieca.com.au/)

Dust and Tracking Of Materials

Adjoining land owners, residents, the general public and adjoining traffic lanes are to be protected against dust, dirt and water nuisance. Dust screens and watering are to be used to reduce dust nuisance where required.

The loads of all trucks entering and leaving the site of works are to be secured/ constrained in such a manner as to prevent the dropping or tracking of materials onto streets. This includes ensuring that all wheels, tracks and body surfaces are free of mud and other contaminants before entering onto the sealed road network.

The use of shaker screens/rubble pads to remove loose material from trucks prior to entering the road network is a requirement for all subdivisions and major developments. Tracked material on the road pavement is a potential safety issue. Should this occur, the Developer and/or his Contractor will be obliged to sweep and clean material off the road.

Weed Management

The successful control of weeds requires the co-operation of all Developers. The Developer and/or his Contractor must ensure that all machinery/equipment and/or vehicles used during the course of works are free from all declared plant material prior to entering the works area or exiting the works area onto any road.

It is the responsibility of the Developer to check the Northern Territory Government Weeds Distribution database (http://lrm.nt.gov.au/weeds2) in order to confirm the presence/ absence of declared weeds in the works area.

Active weed management may be required during the Defects Liability Period where it is found that a developer has introduced a noxious/ declared weed to the works site.