



## **ALICE SPRINGS TOWN COUNCIL**

**CONTRACT No. 2018-02ST**

### **ROAD RESEAL PROGRAM 2017-2018**

- VOL 1. INFORMATION FOR TENDERERS**
- VOL 2. CONDITIONS OF TENDERING GENERAL**
- VOL 3. CONDITIONS OF CONTRACT**
- VOL 4. TENDER SUBMISSION DOCUMENTS**

**PREPARED BY: ASTC**

**DATE: March 2018**

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**ALICE SPRINGS TOWN COUNCIL**

**CONTRACT No. 2018-02ST**

**ROAD RESEAL PROGRAM 2017-2018**

**VOLUME 1 of 4**

**INFORMATION FOR TENDERERS**

**PREPARED BY: ASTC**

**DATE: March 2018**

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## VOLUME 1: INFORMATION FOR TENDERERS

**CONTRACT No: 2018-02ST**

**FOR: ROAD RESEAL PROGRAM 2017-2018**

**Tenders shall close at 3.00pm on Tuesday 10TH APRIL 2018 at the Public Office of the Principal at Alice Springs.**

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### 1. AVAILABILITY OF TENDER DOCUMENTS

The Tender documents may be obtained from the Civic Centre, corner of Gregory Terrace and Todd Street.

**OR**

From the Principal's website at – [www.alicesprings.nt.gov.au](http://www.alicesprings.nt.gov.au)

### 2. RELEVANT DOCUMENTS

(a) The contract documents for this project are:

- VOLUME 1 – Information for Tenderers
- VOLUME 2 – Conditions of Tendering
- VOLUME 3 – Conditions of Contract
- VOLUME 4 – Tender Submission Documents

(b) Additional Information

### 3. COUNCIL'S CONTACT PERSON

Enquiries regarding this tender may be directed to:

Name: Opat Innuan

Phone: (08) 8950 0520

Fax: (08) 8953 0558

Position: Project officer Coordinator

Email: [oinnuan@astc.nt.gov.au](mailto:oinnuan@astc.nt.gov.au)

Or alternatively

Name: Steve Baloban

Phone: (08) 8950 0536

Fax: (08) 8953 0558

Position: Manager Infrastructure

Email: [sbaloban@astc.nt.gov.au](mailto:sbaloban@astc.nt.gov.au)

### 4. INSPECTIONS

Should it be necessary for Tenderers to inspect sites to ascertain the extent of works and verify and check all measurements and quantities or in the case of plant purchases to inspect a trade-in, this may be arranged by contacting:

Name: Opat Innuan Phone: (08) 8950 0520  
Position: Project officer Coordinator Fax: (08) 8953 0558  
Email: oinnuan@astc.nt.gov.au

Or alternatively

Name: Steve Baloban Phone: (08) 8950 0536  
Position: Manager Infrastructure Fax: (08) 8953 0558  
Email: sbaloban@astc.nt.gov.au

## 6. TENDER LODGEMENT REQUIREMENTS

Tenders addressed to the Chief Executive Officer shall be submitted on the forms provided by the principal in Volume 4, Tender Submission Documents, and are to be enclosed in a sealed envelope and the envelope marked legibly as follows:

Contract No: **2018-02ST**

Tender For: **ROAD RESEAL PROGRAM 2018 - 2019**

And either:

Delivered by hand or by courier and placed in the Tender Box in the reception area at the Civic Centre, corner of Gregory Terrace and Todd Street, Alice Springs.

Or

\*Sent by Facsimile to the Chief Executive Officer: Fax number 08 8953 0558

Or

\*\*mailed to the Tender Box addressed as follows: PO Box 1071, ALICE SPRINGS NT 0871

Or

Lodged by tenderlink

So as to be received **before the closing time and date for tenders.**

Time: 3.00pm

Date: **Tuesday 10TH APRIL**

**2018**

### \* Electronic Lodgement

A tender received by telephonic or telegraphic advice will not be considered. A tender submitted by facsimile will be considered provided that a formal tender is posted to the Principal within 24 hours of transmission of the facsimile.

### \*\* Late Tenders

A posted tender which is received after the closing time and date will only be considered if the Tenderer can satisfy Council that:

- The formal tender documents and all other requisite essential information were posted or lodged at a Post Office or other recognised delivery agency within a reasonable time to ensure delivery before the deadline for closing of tenders, and the Tenderer has taken all possible action to expedite delivery when notified of a late arrival.

“Essential information” shall mean all information in the Tender Form and all information which is required by the Conditions of Tendering to be submitted with the Tender Form.

## **7. TENDERS**

Tenders are to comply with requirements contained in Volume 2, “Conditions of Tendering”.

A reference to ‘Tenderer’ or ‘Contractor’ in these documents shall have similar import.



**ALICE SPRINGS TOWN COUNCIL**

**CONTRACT No. 2018-02ST**

**ROAD RESEAL PROGRAM 2017-2018**

**VOLUME 2 of 4**

**CONDITIONS OF TENDERING**

**PREPARED BY: ASTC**

**DATE: March 2018**



## VOLUME 2: CONDITIONS OF TENDERING

### GENERAL

#### 1. PREAMBLE

The Conditions of Tendering have been prepared in accordance with the obligations of the Principal contained in the Australian Standard 4120, Code of Tendering, which sets out the ethics and obligations of the Principal and Tenderers in tendering in the construction industry.

Tenderers and Principal shall comply with the requirements of this AS 4120. In particular attention is drawn to the obligations of Tenderers, in the preparation and submission of their tender for this project.

Without limiting the above obligations:-

- Tenderers shall not submit tenders without a firm intention to proceed.
- Tenderers must not engage in any form of collusive practice.
- Any Tenderer who directly or indirectly canvasses support from an elected member or servant of the Council will be disqualified.

It should be noted that in all contract documentation words importing a gender include every gender.

#### 2. TENDERING METHOD

“The Procedures of Open Tendering” in accordance with AS 4120-1994 Clause 6.2.3(b) - The Principal invites the public advertisement without restriction on the numbers of tenders sought.

#### 3. TENDER EVALUATION AND SELECTION

Evaluation, negotiation and selection of tenders shall be in accordance with the requirements of AS4120, Code of Tendering.

The selection of the successful Tenderer will be based on, but not necessarily limited to, assessment of tenders against the following criteria:-

- a) Compliance with the tender documents
- b) Price – value for money
- c) Support for local businesses
- d) Open and effective competition
- e) Tenderers technical, financial and managerial capacity
- f) Industry record / experience
- g) Equipment support backup
- h) Tenderers past performance with the Council including:
  - a. Compliance with timeframes
  - b. Quality of service
  - c. Contractual relations/administration
- i) Tenderers current commitments
- j) Environmental protection

Tenderers may provide on the Schedules of Tenderers Information any relevant factors addressing the selection criteria which may assist the Council in making an assessment of the tender. Tenderers are advised that each of the selection criteria may not be given equal weight in relation to any individual tender.

#### **4. CONTRACTOR'S RESPONSIBILITY**

It shall be the responsibility of the Contractor to ascertain all information relating to the services, the works and site conditions that may affect the progress or method of performing all services and works as specified within the scope of this contract and to prepare for every contingency that may arise. It is further understood that just provision for these contingencies have been accounted for, implicitly or explicitly within the lump sum price submitted.

A sales brochure provided by a product supplier/manufacturer, and inserted into a supply contract, is not necessarily an adequate technical specification for the product.

#### **5. PREPARATION OF TENDERS**

##### **5.1 Relevant documents**

The contract documents for this project are:

AS 4120 – 1994 Code of Tendering  
AS 2124 - 1992 General Conditions of Contract

AS 4120 and AS 2124 are not included as part of the contract documentation however information is available from Council. Copies are available from Standards Australia. Matters raised in AS 2124 - Annexure A and B are included in these documents.

A copy of AS 2124 will be included for signing with the successful Tenderer and a pre signing of contracts meeting will be held to discuss pertinent aspects of AS 2124.

##### **5.2 Tender Forms**

Tenders must be submitted on the forms provided, each of which shall be signed by the Tenderer. All information called for in the forms shall be inserted by the Tenderer in the respective places provided.

##### **5.3 Company Details**

Every tender shall set forth the full Christian names, Surname, and address of the registered office of the Tenderer. When the tender is by a Company the tender shall set forth the name of the Company and the registered office of the company.

##### **5.4 Time for Completion**

Each Tenderer is to indicate their capacity to complete the works by end of March 2018.

##### **5.5 Site Conditions**

Where the tender is for execution of any work, Tenderers are required to visit the site of the work and satisfy themselves of local conditions and facilities. The Principal will not be liable for any claim on the grounds of insufficient information.

##### **5.6 Verbal Advice**

The Principal shall not be bound by any verbal advice given or information furnished by any Officer of the Principal in respect of the Contract but shall be bound only by written advice or information furnished by the Principal.

##### **5.7 Advice to Tenderers**

Every notice to be given to a Tenderer shall be posted to the Tenderers address given in the tender, such posting shall be deemed to be good service of such notice, and the time mentioned in such notice or in these conditions for doing any act shall be reckoned from the time of posting of notice.

##### **5.8 Lowest or any Tender**

The Principal shall not be bound to accept the lowest of any tender, nor will the Principal be responsible for or pay for the expenses or losses which may be incurred by any Tenderer in the preparation of his Tender.

**5.9 Tenders Rejected**

Any tender which does not comply in every respect with any requirements of the tender documents may be rejected.

**5.10 Alternate Proposals**

Alternative proposals, which satisfy the Principal's basic commercial and performance objectives, technical and legal requirements, may be submitted as options but only in addition to a conforming tender. All costs associated with the design and documentation of any alternative proposal shall be borne by the Tenderer.

**6. AS 2124 – 1992 INSURANCES**

Tenders shall comply with tender requirements of AS 2124 and in particular:

- (a) CL 19 - Public Liability Insurance for the amount indicated in Annexure A in joint names of the Contractor and Principal is to be taken out by the Contractor and is to remain in force for the period of the contract.
- (b) CI 20 – Workers Compensation Insurance shall be taken out by the contractor and remain in force for the period of the contract.

Details are to be provided on the Form 'Tenderers Particulars – Insurance' in tender submission documents and evidence of policies produced to Council.

**7. OCCUPATIONAL HEALTH AND SAFETY (O H & S)**

The Contractor shall:

- (a) Comply with all requirements of the contract and all statutory requirements for Occupational Health and Safety.
- (b) Ensure that each of its Subcontractors and Consultants comply in like manner.
- (c) Demonstrate to the Principal whenever requested that requirements of the contract and statutory requirements for Occupational Health and Safety are being met.

The Tenderer shall certify on the form provided that safety requirements of the works undertaken in the contract and statutory requirements for Occupational Health and Safety are capable of being met.

Where inappropriate or inadequate provision of Occupational Health and Safety Management by the Contractor or Contractor's subcontractor results in costs, losses or damages incurred by the principal or claims by third parties against the Principal for either direct or consequential costs, losses or damages, the Contractor shall be liable for costs, losses or damages associated with any claim including, but not limited to, administration and legal costs incurred by the Principal in resolving such claim.

**8. PROTECTION OF THE ENVIRONMENT**

The Contractor shall;

- (a) Comply with all statutory requirements and accepted current practices for Environmental management.
- (b) Comply in every respect with the Erosion and Sedimentation Plan pertaining to this contract.
- (c) Ensure that each of its subcontractors and Consultants comply in like manner.

The contractor shall certify on the form provided that all work shall be carried out in such a manner as to avoid nuisance and/or damage to the environment. The Contractor shall comply with the requirements of the conditions of approval imposed by the Local

Government Act, Environmental Offences and Penalties Act and the Water Act. No variation in costs or extensions of time will be considered due to these requirements.

The Contractor shall plan and carry out the Works to avoid erosion, contamination and sedimentation of the site and its surroundings.

Herbicides and other toxic chemicals shall not be used on the site without the prior written approval of the Principle.

No noise or smoke or other nuisance, which in the opinion of the Principle is unnecessary or excessive shall be permitted by the Contractor in the performance of the works under this Contract. Should work outside customary working hours be approved, the Contractor shall not use, during such period, any plant, machinery or equipment which in the opinion of the Principle is causing or is likely to cause a nuisance to the public. No noisy works and/or works likely to disturb nearby residents shall be undertaken during the hours precluding such activity as specified by Council in accordance with the requirements for development consent and building approval made under the Local Government Act appropriate Noise Legislation.

The Contractor shall ensure that fugitive dust from disturbed areas is minimised by a method approved by the Principle.

## **9. PUBLIC SAFETY AND TRAFFIC CONTROL**

The Contractor shall provide and erect all necessary fences, barricades, warning lights as may be necessary for the protection of the works and the safety of the public and vehicles all to conform to Australian Standard AS 1742.3 - 1996. Road notices, speed restriction signs, flagman etc., shall be provided and maintained to the satisfaction of the relevant Traffic Authority.

If the Contractor fails after notification in writing to carry out the requirements of this clause, the Superintendent shall have the power to have the work carried out at the Contractor's expense. The cost thereof will be deducted from any moneys owing to the Contractor under this Contract.

## **10. POST TENDER SUBMISSIONS**

The Principal may call for post tender submissions from some or all Tenderers in order to assist with the evaluation.

Such submissions will be confidential between the Principal and Tenderer.

The call for such submissions will not bind the Principal to proceed to accept a tender.

## **11. POST TENDER NEGOTIATIONS**

The Principal may enter into negotiation with a preferred Tenderer or a number of candidate Tenderers.

Such negotiations will be confidential between the Principal and Tenderer and will be conducted in accordance with guidelines set out in AS 4120 (1994).

The undertaking of negotiations will not bind the Principal to proceed to accept a tender.

## **12. CONTRACT COMMENCEMENT DATE**

The commencement of the contract is nominated as the date of dispatch of the letter of acceptance of tender to the successful Tenderer. There shall be no Contract prior to the issue of a letter of acceptance.

## **13. VALIDITY PERIOD**

Tenders shall remain valid for a period of thirty (30) days from the closing of tenders.



**ALICE SPRINGS TOWN COUNCIL**

**CONTRACT No. 2018-02ST**

**ROAD RESEAL PROGRAM 2018 - 2019**

**VOLUME 3 of 4**

**CONDITIONS OF CONTRACT**

**PREPARED BY: ASTC**

**DATE: March 2018**

**VOLUME 3: CONDITIONS OF CONTRACT**

**1. EXTENT OF WORK**

The work to be carried out under the Contract comprises:

The Works comprises the supply of all plant, labour and materials necessary for traffic management, surface preparation and bituminous resealing of nominated roads in Alice Springs, all in accordance with the specification and the Conditions of Contract.

The time for completion shall be determined as the period between the acceptance date and **the 31<sup>th</sup> May 2018.**

Two weeks' notice shall be given to the superintendent prior to the commencement of works.

Tenderers are to note that the Superintendent reserves the right to carry out certain works of the types and classifications covered by this Contract by other means.

**2. LOCALITY**

The site of the works is the Alice Springs Town Council area, and adjacent area under control of Alice Springs Town Council.

**3 PROGRAM OF WORKS**

All work shall be completed by the end of **May 2018**

**4 TENDER ENQUIRIES**

Any enquiries of a technical nature regarding the work required by the specification should be referred to the

Project Manager: Opat Innuan 89500 520 0428 759 521

NAME OF TENDERER: \_\_\_\_\_

SIGNATURE \_\_\_\_\_ OF TENDERER: \_\_\_\_\_

DATE: \_\_\_\_\_

**PRELIMINARY CLAUSES**

## **TYPE OF CONTRACT**

The Contract shall be a Schedule of Rates Contract. The General Conditions of Contract known as General Conditions of Contract (AS 2124 – 1992) shall apply to the contract.

A copy of AS 2124 - 1992 is not supplied with this contract, but can be obtained from Standards Australia.

## **SUPERINTENDENT**

For the purpose of this Contract the Superintendent shall be the person who is for the time being performing the duties of the Director of Technical Services

## **HOURS OF WORK**

The hours of work under the Contract will be limited to:

7.00 am to 5.00 pm	Mondays to Fridays
8.00 am to 4.30 pm	Saturdays
No Work	Sundays or Public Holidays

If, at the request of the Contractor, the Superintendent approves adjustment to the specified working hours or working days, the Superintendent may attach conditions to such approval. If, in the interests of the safety or to protect life or property the Contractor finds it necessary to carry out, without the prior approval of the Superintendent, work outside the defined hours of work, the Contractor shall inform the Superintendent in writing of the circumstances within 24 hours of such work being carried out.

## **WORK INCLUDED**

The work included in this Specification includes:

Resealing a number of roads within the Alice Springs Town Council area, including:

- provision for traffic
- protection of existing fixtures
- surface preparation
- supply and application of temporary pavement markers (TPM's)
- supply and application of aggregate and polymer modified binder
- sweeping and removal of excess aggregate

## **ACCESS TO ADJACENT PROPERTY**

Operations shall be carried out in such a manner as to cause a minimum of inconvenience to adjoining property owners.

Unless written permission is given, to the contrary, by the Superintendent, the work shall be so conducted as to leave the site open and free for pedestrian traffic.

All fire hydrants, water valves and Telecom pits shall be kept accessible for use.

## **ENVIRONMENTAL PROTECTION**

### **GENERAL**

The Contractor shall take all practicable precautions to minimise noise resulting from his activities. All equipment shall be fitted with noise suppressors and used so that noise is minimised. Loud hailers shall not be used.

### **ENVIRONMENTAL CONTROL**

The Contractor shall be responsible for ensuring that the provisions of this clause and any other environment protection provision in the Contract are complied with and that the requirements of any statute by-law, standards and the like related to environmental protection are observed.

### **DISPOSAL OF REFUSE**

Refuse from operations shall be removed from the site.

### **TRUCKING**

- (a) All trucks leaving the site of works with earth or gravel materials or loose debris shall be loaded in a manner that will prevent dropping of materials on streets and shall have suitable tarpaulins fastened over the load before leaving the site.
- (b) The Contractor shall ensure that the wheels, tracks and body surface of all vehicles and plant are free of mud and that mud is not carried on to adjacent paved streets or other areas.

### **DUST AND WATER**

Adjoining owners, residents and the public are to be protected against dust, dirt and water nuisance. Dust screens and watering shall be used to reduce dust nuisance.

### **PRESERVATION OF FLORA**

The Contractor shall refrain from destroying, removing or clearing trees and shrubs to an extent greater than is necessary for the execution of the work under the Contract.

### **LOADING AND SIZE OF VEHICLES**

Vehicle size and loading must comply with relevant Australian and Northern Territory standards and regulations.

### **COMPLIANCE WITH STANDARDS & CODES**

Where the Contract requires the Contractor to comply with any standard or code, that standard or code shall, unless otherwise specified, be that which is current at the closing date for tenders.

If, subsequent to the award of the Contract, any such standard or code is amended, the Superintendent may direct that the Contractor comply with such amendments and the cost to the Contractor of such compliance will be dealt with under Clause 40 of the General Conditions of Contract.

### **PRECAUTIONS IN CARRYING OUT WORKS**

Unless otherwise specified in the Contract, the Contractor shall observe the appropriate current Australian Standard published by Standards Australia in respect of storage, transport and use of materials, explosives, plant and equipment and for work processes and for safety precautions, except where such standard conflicts with any statutory requirements in which case the latter shall apply.



**PROTECTION AND PROVISION FOR TRAFFIC – refer also section 1A of this Specification.**

The Contractor shall provide a Traffic & Pedestrian Management Plan and obtain a Public Places Permit prior to commencement of works in a public place.

The Contractor shall provide all necessary lights, barriers, flags and the like at all times during the Contract period to ensure the safety of all persons, vehicles and animals. Failure to provide such barriers, lights and the like may render the Contractor liable to having these installed by others at his expense, after reasonable notice has been forwarded.

Warning signage shall remain in place until all loose aggregate from the carriageway has been removed.

All provisions for traffic to be in accordance with AS 1742.3 - 2002.

**NOTIFICATION OF AFFECTED RESIDENTS AND CLEARANCE OF VEHICLES**

Contractor shall notify all residents in any street where works are to be done, at least 7 days prior to any works commencing. The notification shall state start date and anticipated completion date.

Contractor shall notify all residents in adjacent streets that are affected by the works, at least 7 days prior to any works commencing. The notification shall state the name of the street where works are to be done, the start date and anticipated completion date.

Wherever works involve the need for clearance of parked vehicles within the work site or adjacent to the work site in public streets the Contractor shall arrange for their prior removal by owners by placement of appropriate signage or other means providing at least 24 hours' notice in advance.

Where inadequate or inappropriate action by the Contractor results in costs, losses or damages incurred by the Principal or claims by third parties against the Principal for either direct or consequential costs, losses or damages, the Contractor shall be liable for costs, losses or damages associated with any claim including but not limited to administration costs incurred by the Principal in resolving such claim.

**MEASUREMENT AND PAYMENT**

The Contractor shall be paid according to the rates as tendered in the Schedule of Rates.

**PROGRESS PAYMENTS**

Progress payments (other than the Final Progress Payment) will be made on a monthly basis.

**ANNEXURE TO GENERAL CONDITIONS OF CONTRACT**

The Contract shall be  
Governed by and construed  
with reference to the laws  
for the time being in force  
in that State or Territory of:  
(Clause 1)

NORTHERN TERRITORY

All payments made under the  
Contract shall be made at:  
(Clause 42.1)

ALICE SPRINGS  
NORTHERN TERRITORY

The Superintendent shall be:  
(Clause 23 )

DIRECTOR OF TECHNICAL  
SERVICES  
OR HIS/HER NOMINEE

The Basis of payment shall be:  
(Clause 3.1)

PROGRESS PAYMENTS

The time for lodgement of the  
priced copy of the Bill of  
Quantities is:  
(Clause 3.2)

WITH TENDER

The amount of security is:  
(Clause 5.2)

NOT APPLICABLE

The Address of the Principal  
for service of documents is:  
(Clause 7)

ALICE SPRINGS TOWN COUNCIL  
PO BOX 1071  
ALICE SPRINGS NT 0871

The address of the Superintendent  
for service of documents is:

AS ABOVE

The value of materials to be supplied  
by the Principal is:

NIL

The assessment for insurance  
purposes of architects' engineers'  
and surveyors' fees is:  
(Clause 17)

NIL

<p>The assessment for insurance purposes of the costs of demolition and removal of debris is: (Clause 18.2)</p>	<p>NIL</p>
<p>The amount of Public Liability Insurance shall be not less than: (Clause 19.1)</p>	<p>\$20,000,000.00</p>
<p>The time for giving possession of the site is: FOR (Clause 27.1)</p>	<p>WITHIN TWENTY ONE (21) DAYS OF OFFICIAL COUNCIL ORDER  EACH YEAR'S WORK</p>
<p>The time for Practical Completion Of the Works shall be: (Clause 35.2)</p>	<p>BY THE END OF MAY 2018</p>
<p>The time for Practical Completion of each separable part of the Works shall be the time specified for that separable part of the Works in the: (Clause 35.2)</p>	<p>NOT APPLICABLE</p>
<p>Liquidation Damages (Clause 35.6) for the Works shall be:</p>	<p>NOT APPLICABLE</p>
<p>for each separable part of the works shall be:</p>	<p>NOT APPLICABLE</p>
<p>The Defects Liability Period for the Works shall be: (Clause 37)</p>	<p>FIFTY TWO (52) WEEKS)</p>
<p>The Defects Liability Period for each separable part of the Works shall be the Defects Liability Period specified in respect of that separable part in the: (Clause 37)</p>	<p>NOT APPLICABLE</p>
<p>The amount of retention money is:</p>	<p>2.5% OF CONTRACT VALUE</p>

**SECTION 1 – SPECIFICATION FOR CIVIL WORKS**

## 1 MISCELLANEOUS PROVISIONS

### Standards

Conform to the following Standards, Acts and Publications unless specified otherwise:

AS 1348	Road and traffic engineering - Glossary of terms
AS 1742	Manual of uniform traffic control devices set
AS 2187.1	Explosives - Storage, transport and use - Storage
AS 2187.2	Explosives - Storage, transport and use - Use of explosives
NTMTM	Materials Testing Manual including NTCP (Northern Territory Codes of Practice)
	Aboriginal Land Rights (NT) Act
	Mining Act and Mine Safety Control Act (MSCA)
	Workplace Health and Safety Act and Regulations
	Dangerous Goods Act and Regulations
	Railways of Australia (ROA) Code - Installation of Other Parties Services and Pipelines Within Railway Boundaries
	The Water Act
	The Energy Pipelines Act (NT Gas)
ACMA	Australian Communications Media Authority - any Standards, Acts, controls specifically required. Refer to ACMA directly.

### Standards in Conflict

Where conflict arises between a referenced standard and particular clauses of this specification the specification prevails.

### Overseas Standards

Where no Australian Standard exists standards published by the British Standards Institute (BSI) or the American Society for Testing Materials is referenced.

### Definitions

The terms used in this specification are in accordance with the definitions laid down in AS 1348 unless specified otherwise in the Definitions clauses.

WITNESS POINT:	Give the Superintendent sufficient prior notice, in writing, of an action so that that part of the works may be inspected.
HOLD POINT:	Obtain the Superintendent's written approval for that particular part of the works.

### Establishment

#### General

Allow in the tender for establishment on site, including, but not necessarily limited to, the following:

MOBILISATION:	Transportation and establishment on site, of all the requirements to complete the work.
DEMOBILISATION:	Removal and transportation from site of all temporary and construction facilities and equipment. Restoration of the site, on Practical Completion of the works, compatible with environs.
ONGOING COSTS:	All indirect costs associated with the contract. Provide, on request, details substantiating the amount shown in the Schedule of Rates.

#### Camp Site/Compound/Workshop – Hold point

**Hold Point** - Obtain written permission from the owner or lessee of the land.

Pay all costs associated with the use of the site(s).

Maintain all facilities in good condition.

Remove all facilities, unless otherwise agreed in writing with owner or lessee of land, and restore the site to a clean and tidy condition upon completion of the works.

Assume all responsibility for any current and consequential damage caused to the site as a result of occupation.

## **AGGREGATE and Water Sources**

### **Aggregate Quarry Locations**

Aggregate shall only be sourced from established operating hard rock quarries.

### **Administration**

Take responsibility for locating, selecting, operating and rehabilitating all aggregate pits and water sources.

### **Crushing or Screening – Hold point**

Submit the nomination of a Mine Manager to the Department of Resources and allow 14 days for assessment of the nomination and assessment of the proposed crushing or screening plant.

**Hold Point** - Commence crushing or screening operations only after a Department of Resources, Mines Inspector has certified that the plant is in safe working order.

### **Operation of Aggregate Pits**

#### **ACCESS**

Construct only one access road to each pit.

Confine all transport operations to the access road.

Provide and maintain adequate road drainage.

#### **EXTRACTION**

Stockpile stripped material clear of drainage courses to a maximum height of 2 m.

Ensure that side slopes of sand or gravel are not steeper than one vertical to two horizontal at any time when the excavation is unattended.

Remove or bury by-products of the excavation operations unless otherwise required.

#### **LIMIT OF EXCAVATION**

- Not within 6 m of any fence line or utility service.
- Not within sight of road traffic.
- Not within 125 m of any road or railway centre line.
- Not within 25 m of a water course.

Stockpile cleared vegetation and subsequently spread over the surface of the extraction area.

### **Rehabilitation of Aggregate Pits**

Progressively rehabilitate new pits.

- Backfill all test pits.
- Respread unused material and rip 0.5 m deep at 3 m spacing along the contours.
- Remove or bury all rubbish and debris.
- Replace stockpiled topsoil and cleared vegetation uniformly over the extraction area.
- Batter walls at three horizontal to one vertical where excavation is less than 1 m depth, and six horizontal to one vertical where depth exceeds 1 m.
- Rehabilitate the access road.

### **Stream Sites**

Contact NRETA Natural Resource Management prior to conducting any work in a stream site.

#### **EXCAVATION LIMITS**

- Not within 200 m upstream or downstream of any road structure, pipeline or gauging station.
- Not in a manner liable to cause erosion or further disturbance to the watercourse.
- Not within 15 m of the trunk of a tree and not under the branches of any tree.

#### **CONDITIONS**

- Leave sizeable islands to ensure groupings of trees that will withstand stream bed erosion.

- Maximum batter slope: Two horizontal to one vertical.

**Inspection**

Allow authorised personnel from the Department of Natural resources, Environment the Arts and Sport (NRETAS) to enter the site at any time.

**Records**

Provide the following details on completion:

- List of areas used.
- Chainages of area along the public road.
- Direction and length of haul road.
- Approximate volume of material removed from each site.

Provide suitable forms for such records to the Superintendent.

**Explosives – hold point**

Provide evidence of the following requirements of NT Worksafe:

- Licence to carry and store explosives.
- Vehicle licensed to carry explosives.
- Shot Firer's Certificate.

Inspect and record the condition of all structures and services subject to possible effect by use of explosives before and after blasting operations.

**Hold Point** - Obtain approval from Superintendent before commencing blasting operations.

**Safety****Safety Officer – Witness Point**

**Witness Point** - Appoint a Safety Officer and notify the Superintendent of the officer's name.

Ensure the Safety Officer is capable and available at all times as required by the Standards.

The Superintendent retains the right to revoke the appointment of the Safety Officer at any time, and direct that another person be appointed.

**Safety Practice**

Provide safety equipment, protective clothing and devices and first aid facilities.

Ensure that employees are instructed concerning hazards and how to avoid injury.

Observe good safety practices throughout the Contract.

**Safety Helmets**

Adhere to the requirements of the Construction Safety Act.

**Fencing and Shoring Of Open Excavations**

Design, construct and maintain the excavation and shoring in a safe and satisfactory condition.

Support trenches in saturated or unstable ground with close timbered shoring or similar.

**Work On Railway Sites – hold point**

Carry out work within railway sites to the approval of the owner / operator of the rail system, Genesee and Wyoming.

Comply with the ASTC / Genesee & Wyoming interface agreement for work within the railway sites.

Give 14 days written notice to the owner / operator of intent to commence work and provide a work plan showing safe working conditions for the site.

**Hold Point** - Do not commence work until the work plan has been approved by the owner / operator of the rail system.

If work is required to be carried out within 3 metres of the actual rail line, this work must be coordinated through the Superintendent.

**WORK IN THE VICINITY OF TRAFFIC COUNTING STATIONS – hold point**

Prior To commencing any excavation, boring of holes, blasting, rock breaking, soil compaction or similar activity in the vicinity of traffic counter station detector loops, obtain the location of the cables from the ASTC Technical Services Division and pay all fees.

Follow all directions and instructions issued by the ASTC in relation to work in the vicinity of such cables.



## 2 PROVISION FOR TRAFFIC

### GENERAL

Minimise obstruction and inconvenience to the public.

Ensure public safety is accommodated at all work sites.

Assume responsibility for the safe conduct of traffic through, past or around the works, 24 hours a day, from possession of the site to completion of all works, defects liability period (if any) and handover.

### STANDARDS

Conform to the following Standards and Publications unless specified otherwise:

AS/NZS 1906.1	Retroreflective materials
AS 1742.3	Manual of uniform traffic control devices - Traffic control devices for works on roads.
AS 1742.9	Manual of uniform traffic control devices – Bicycle facilities
AS 1742.10	Manual of uniform traffic control devices – Pedestrian control and Protection
AS/NZS 3845	Road safety barrier systems
AS 4191	Portable traffic signals
AS/NZS 4360	Risk management
NTCD	A Policy for the Control of Traffic at Road Works.
NTTM	Materials Testing Manual.
AUSTROADS	Guide to Road Design
AUSTROADS	Guide to Bridge Technology
NT Worksafe	All Relevant Bulletins

### DEFINITIONS

Long term:	applies when traffic guidance is required to operate for more than one shift irrespective of whether it is day or night,
Short term:	applies when work is started and completed in one shift and the road is returned to normal conditions by the end of that shift.
Traffic Controller:	person responsible for the control of traffic on public roads utilising a stop-slow bat.

### Workzone Traffic Management

#### Traffic Management Personnel

All personnel engaged in the works must have a current valid NT Construction Induction White Card, or equivalent qualification recognised by Worksafe NT.

Only persons qualified in nationally accredited units of competency in Workzone Traffic Management can be utilised for traffic management at worksites. The four levels of accreditation are:

- Workzone Traffic Supervisor (WZ3)
- Workzone Traffic Controller (WZ2)
- Workzone Traffic Management Plan Designer (WZ1)
- Escort mobile road marking operations (WZ 4)

The Superintendent may grant approval for the use of a “Trainee Traffic Controller” within the work site. Such approval will only be considered after submission of a written request. A Trainee Traffic Controller cannot commence work until such approval has been granted and received in writing.

#### Trainee Traffic Controller

A Trainee Traffic Controller must meet all of the following criteria:

- Be an employee of the Traffic Control Provider,

- hold a valid current Australian motor vehicle driver's licence,
- be registered with a Northern Territory Registered Training Organisation (NT RTO) to undertake the RII09 Resources and Infrastructure Industry Training Package unit of competency "RIIOHS205A Control Traffic with a STOP/SLOW Bat",
- only work under the direct supervision of a Controller (WZ2) ,
- have commenced training to become a qualified Controller (WZ2) and complete all assessments of competency within 8 weeks of registration.

The direct supervision of a Trainee Traffic Controller is defined as the constant personal oversight of the work by a Workzone Traffic Controller (WZ2).

### **Workzone Traffic Supervisor (WZ3)**

The following prerequisites must be met to enable NT accreditation as a Traffic Supervisor (WZ3):

- hold a valid current Australian motor vehicle driver's licence, and,
- successful completion of the RII09 Resources and Infrastructure Industry Training Package unit of competency "RIIOHS302A Implement Traffic Management Plan" with an NT RTO, or equivalent training course through an approved RTO from another State or Territory,
- AND successfully completed a refresher course through a NT RTO in the above unit of competency, if the certificate is over 3 years old.

### **Workzone Traffic Controller (WZ2)**

The following prerequisites must be met to enable NT accreditation as a Traffic Controller (WZ2):

- hold a valid current Australian motor vehicle driver's licence, and,
- successful completion of the RII09 Resources and Infrastructure Industry Training Package unit of competency "RIIOHS205A Control Traffic with a STOP/SLOW Bat" with an NT RTO, or equivalent training course through an approved RTO from another State or Territory,
- AND successfully completed a refresher course through a NT RTO in the above unit of competency, if the certificate is over 3 years old.

### **Workzone Traffic Management Plan Designer (WZ1)**

The following prerequisites must be met to enable NT accreditation as a Traffic Management Plan Designer (WZ1):

- hold a valid current Australian motor vehicle driver's licence, and,
- successful completion of RII09 Resources and Infrastructure Industry Training Package unit of competency "RIICWD503A Prepare Workzone Traffic Management Plans", with an NT RTO or equivalent training course through an approved RTO from another State or Territory,
- AND successful completion of a refresher course through a NT RTO in the above unit of competency, if the certificate is over 3 years old.

### **NT Accreditation in Workzone Traffic Management**

NT accreditation is provided by the following process:

- Completion of training course (or courses) as outlined above,
- Obtain Workzone Traffic Management ID card from NT Motor Vehicle Registry.

## **TRAFFIC MANAGEMENT PLAN**

### **Submission of Traffic Control Diagrams**

Provide specific or generic Traffic Control Diagrams (TCD) per activity as required and/or as specified.

Where a traffic management situation is not covered by a generic TCD, submit the specific TCD to the Superintendent at least 2 working days prior to undertaking the required works.

For Urgent Works, advise of the generic TCD or submit the specific TCD within 2 working days.

The Traffic Management Plan (TMP) is required to be designed by a Northern Territory accredited Traffic Management Plan Designer. Include the details of the TMP Designer's name, accreditation number and date of expiry of accreditation on the TMP.

Design the TMP in conformance with the requirements of AS 1742 – 'Manual of uniform traffic control devices Part 3: Traffic control devices for works on roads'. Produce the plan by electronic means and submit electronically to the Superintendent.

Include sufficient details on the TMP to explain the potential hazards, the assessed risks and the proposed treatments for the proposed work activities and work site which may include some or all of the following:

### **Project Information**

- Purpose and Scope
- Project Location
- Site Constraints/Impacts
- Traffic Management Objectives and Strategies
- Principal for the Works; Principal Contractor/Design Consultant including contact details
- Responsibilities including role responsibility and authority of key personnel, management hierarchy including site representatives and contact details of the responsible personnel
- Prior approvals (if any) granted by the Road Authority with relevant reference number

### **Works on Roads**

- Project scope inclusive of works to be undertaken, staging of works, duration of works (work hours)
- Existing Traffic and Speed environment
- Roles and Responsibilities
- Traffic Management Responsibility Hierarchy
- Project Representatives
- Traffic Management Administration

### **Statutory Requirements**

- Occupational Health and Safety
- Provide details on the TMP of responsibilities and authorities of all key personnel on the project including project manager, line managers (site engineers, supervisors etc), contractors and workers, safety personnel and traffic management personnel
- Requirements of personal protective equipment, plant and equipment
- Procedures for incidents or accidents

### **Monitoring and Measurement**

- Site Inspections and Record Keeping
- TMP Auditing
- Public Feedback
- References

### **Management Review**

- TMP Review and Improvement
- Variations to Standards and Plans
- Attention to hazards for non-motorised road users

### **Planning**

- Risk Identification and Assessment – Critical element to identify and assess foreseeable potential hazards associated with the work activities and work site
- Legal and Other Requirements – Confirmation of use of up-to-date information and legislation
- Traffic Assessment (Vehicular Traffic)
  - Volume and Composition
  - Existing and Proposed Speed Zones

- Intersection Capacity
- Existing Parking Facilities
- High Wide Loads
- Public Transport
- Special Events and Other Works
- Non-motorised Road Users
  - Cyclists and Pedestrians
  - People with Disabilities
  - School Crossings
- Site Assessment
  - Access to Adjoining Properties
  - Environmental Conditions
  - Impact on Adjoining Road Network
- Works Programming
  - Work Sequence
  - Night Works
  - Emergency Planning
- Consultation and Communication
  - Approvals – Road, Utility and Service Authorities
  - Public Notification
  - Notification to Other Agencies

### **Implementation**

- Hazard Identification, Risk Assessment and Control
- Traffic Control Diagrams
- Traffic Control Devices
  - Signs
  - Pavement Markings
  - Variable Message Signs
  - Delineation
  - Temporary Speed Zones
  - Emergency Arrangements
  - Site Access
  - Communicating TMP Requirements

### **AUDITS OF WORK SITE TRAFFIC MANAGEMENT**

Appropriately qualified and experienced Auditing Officers from ASTC may perform random audits of traffic management at work sites as part of their daily routine duties. The Auditing Officer will hold current NT accreditation as a Traffic Management Plan Designer.

Audits undertaken will include verification of:

- The Traffic Management Plan (TMP) held on site,
- The Traffic Control Diagram(s) (TCD) held on site,
- Traffic control devices established in accordance with the Traffic Control Diagram,
- The correctness and currency of accreditation of all personnel associated with traffic management at the work site.

Where the Auditing Officer deems modifications to Traffic Management are required for reasons of public safety or safety on the work site, an Instruction to Contractor (ITC) will be issued requesting immediate correction. If modifications are deemed necessary but not urgent, corrections are to be made at the earliest practicable opportunity.

## Non Compliance

Where personnel associated with traffic management at work sites are found not to have current accreditation to an appropriate level in Workzone Traffic Management, the Superintendent may direct the Contractor to cease work, make the site safe, and withdraw plant, equipment and personnel from the road reserve.

## WORK IN BUILT UP AREAS

### Working Times

Program work, provide and install traffic management devices/controllers, equipment, materials etc accordingly so that traffic flows are not impeded during the following hours, from Monday to Friday, excluding Public Holidays:

0700 hours	To 0900 hours.
1530 hours	To 1730 hours.

Remove or cover signs or devices as appropriate to stop confusion during these hours. Further restrictions may apply should the ASTC deem it appropriate to do so. Concessions to work within these hours may be approved by the Superintendent, should the need arise and the officer deems it necessary.

Do not operate construction vehicles used in conjunction with the proposed works, either SV plated or vehicles in excess of 19 metres on public roads during peak traffic times (see above, working times) or in any way impede peak traffic flow during these times. Vehicles in excess of 19 metres in length are only permitted to travel on roads designated for road trains unless an appropriate permit from the Motor Vehicle Registry has been obtained in advance of using such routes.

### Traffic Lanes

Maintain at least 2 lanes (one in each direction) open to traffic at all times unless permitted otherwise on duplicated roads and maintain at least one lane open on two lane roads with appropriate traffic control in place accordingly. Obtain the written permission of the Superintendent if it is necessary to fully close a road.

Program works so that the closure of turning lanes is minimised.

Obtain prior written approval from the relevant NT Government Dept. or Council if traffic is to be detoured onto their road network or the proposed works affects their network/assets accordingly.

Provide a copy of all relevant approvals with the traffic management plan.

## WARNING DEVICES

Take care when placing warning signs, work signs, traffic management devices, or plant and equipment within the road reserve to ensure that these do not interfere with or restrict sight lines, particularly at intersections and ensure that the devices are not obscured by trees or other objects.

Ensure that road work signs reflect the current conditions of the site. Remove or cover signs such as T1-5 (worker symbolic), temporary speed reductions and the like, when not appropriate, such as when no persons are on site. Refer to AS/NZS 1742 for guidance on the appropriate use of these signs.

### Works in Progress Signs

For proposed works which are expected to be in progress for greater than 14 days, display signs, sized 1200 x 900mm with 100mm high black Helvetica medium lettering on a white background displaying the following details:

- The nature of the works.
- The start and end date of the works.
- The Contractor's business name.
- The Contractor's business phone number.
- The Contractor's after hours phone number.
- The name of the Traffic Management Plan supervisor.

Display these signs prominently at the extremities of all works in progress and in addition to the work signs requirement. The signs remain the property of the Contractor.

**NT SPECIFIC DIRECTIONS FOR ROAD WORK SIGNS**

**Sign Erection**

Refer to the DEFINITIONS clause.

Long term rural areas:	Place all signs a minimum 1m lateral clearance from the travelled path and a minimum of 1.5m from the lower edge of the sign to the ground.
Long term urban areas:	Place all signs a minimum of 2.2m from the lower edge of the sign to the ground in locations where they could be obscured by parked vehicles, vegetation or trees or may interfere with pedestrian routes. On traffic islands or medians the heights for signs shall conform to the “short term all areas” where it is deemed appropriate and only if they are not obscured by parked vehicles and if they do not interfere with pedestrian routes.
Short term all areas:	Display all signs prominently and place a minimum of 200mm from the lower edge of the sign to the ground, except regulatory signs such as speed, no parking signs etc, which shall be mounted a minimum of 1.5m from the lower edge of the sign to the ground. Place all signs a minimum of 2.2m from the lower edge of the sign to the ground where they could be obscured by parked vehicles, vegetation or trees or may interfere with pedestrian routes.

Mount signs on Oz Spike posts or similar, or set in concrete in accordance with the requirement for permanent speed sign installations.

Ensure that signs are clean, free of damage and comprise of a minimum of Class 1 retroreflective material in accordance with AS/NZS1906.1.

Duplicate all temporary work signs (place on both sides of roads within the work site) on all multilane work sites, irrespective of the duration of the works, unless there is insufficient room available to do so, such as the median width being not sufficient to accommodate the signs. Where necessary, seek direction from the Superintendent where this condition cannot be complied with.

**Advance Warning Signs**

In urban areas T1-1 (road work ahead) signs and T2-16/17 (end road work) signs at short term work sites are not mandatory, however, they may be used if deemed appropriate. Use these signs at all long term or rural work sites.

Only use T1-25 (road work on side road) signs on major or arterial roads or highways where works are being conducted on a lower hierarchy road i.e. roads with lower volume or speeds that intersect with such a major or arterial road or highway. Do not use these signs on lower hierarchy roads that intersect with a major or arterial road or highway.

**Star Pickets & Fence Droppers**

Do not use star pickets for support of road work signs, bunting, flagging, fencing, etc within 9 metres of the trafficked path. Issues of sign, bunting, flagging, fencing, etc. stability can be addressed by prudent use of properly manufactured sign legs, sand bags, Oz spike posts and or fence droppers.

Do not use star pickets or any other non-frangible items such as steel drums, for delineation or any other purposes within 9 metres of the edge of the trafficked lanes. Bollards, cones and flagging are appropriate alternatives.

Fence droppers may be used as sign supports or legs and bunting or flagging supports on the condition that that the droppers are securely embedded into the ground and the sign, bunting or flagging is sufficiently secured to the droppers. Maintain a prudent use of end caps to ensure the minimisation of any hazards to workers and the public and the specified sign heights can be achieved.

Star pickets may be used for fencing support within the work site, provided appropriate action is taken to reduce any associated hazard for workers within the site and they are not within 9 metres of the travelled path of motorists.

**Non Standard Signs – Hold Point**

Hold Point - Obtain specific approval from the Superintendent before using signs not included in AS 1742.3.

**Variable Message Signs (VMS)**

Provide electronic variable message signs in the following situations a minimum of 2 days before any changes occur, where changed conditions and or delays are to be experienced by the general public, particularly peak hour traffic;

- At all approaches to intersections
- At approaches to detours and / or
- At approaches to major works alterations

Erect variable message signs on all approaches 7 days before “turn on” of new traffic signals.

Assume full responsibility for the safe location of the variable message signs.

Use electronic variable message signs capable of displaying a minimum text size as specified in AS1742.3 and containing at least 3 lines with a minimum of 8 characters per line.

The Superintendent may provide details of the messages to be displayed and the locations of the variable message signs.

Do not, under any circumstances, use variable message signs for private advertising, within the NT Government road reserve or visible from the NT Government road reserve without the written approval of the Superintendent.

**Work Zone Speed Limits**

Where work zone speed limits are being proposed to be changed, the proposed temporary speed limits shall be approved by the Superintendent.

Erect speed limit signs in accordance with clause SIGN ERECTION.

Submit temporary speed limit authorisation applications to alter speed limits to the Superintendent, 2 working days prior to the implementation of temporary speed limits, for approval under the Control of Roads Act.

Place repeater speed limit signs along the road, which has a temporary speed limit imposed, after all intersections with other roads within the speed limited area.

Design the Traffic Management Plans so that speed limits lower than the following absolute minimums are not required;

Urban or built up areas.	40 km/h
Bridge works, when restricting traffic to one lane and only in conjunction with a stop-traffic situation. A safety barrier complying with the relevant Test Level in accordance with AS/NZS 3845 shall also be used.	40 km/h
All other rural works.	60 km/h

**Road Safety Barriers**

Design, install and maintain all road safety barriers used within the NT Government’s road reserve in accordance with AS/NZS 1742 part 3, AS/NZS 3845 and any other relevant and current Australian Standard associated with the works being proposed.

Failure to meet the requirements of the relevant and current standards may result in the project being suspended by DCI or other relevant authorities, such as NT Worksafe, without cost to that authority until the project meets the required safety standards.

**Excavations, Stockpiles and Gradients within work zones and clear zones**

**NT Worksafe Guideline in Relation to Excavations;**

Provide shoring to all trenching or excavations which are deeper than 1.5 metres and where a person is required to enter unless an engineer certifies that shoring is not required. Provide a copy of the Engineer’s certification on request.

### **ASTC Requirements for Excavations, Stockpiles or other Gradients**

This clause refers to the ASTC requirements for excavations, stockpiles or other gradients greater than 150mm in addition to Appendix E of AS/NZS 1742.3.

Implement the minimum protection requirements in accordance with AS/NZS1742.3 during each work day, however, if any excavations, stockpiles or other steps in gradient greater than 150mm are to be left in place longer than one work shift or are left unattended for any period of time, during any day, overnight or weekend and adequate clearance in accordance with AS/NZS 1742.3 is not available, protect them by prudent use of approved road safety barriers, backfilling, covering and or removing from site accordingly.

### **Temporary Pavement Marking**

Where new pavement surfacing or existing pavement resurfacing is being undertaken, install temporary raised reflective pavement markers at the end of each day and prior to the loss of daylight at 24 metres maximum spacing.

If so instructed by the Superintendent, temporary line marking at the end of each day may also be required until completion of the works when the permanent line marking is reinstated.

Only use temporary raised reflective pavement markers that comply with AS 1742.3, Section 3.9 and Appendix C.

For long term road construction works where sealed detours merge into existing sealed pavements or where sealed side roads merge into sealed detours, line mark transition areas in accordance with the standard drawing for LINE MARKING, CS 1520 and in accordance with AS 1742 including the setting out of arrows, letters, numerals and chevrons.

### **Removal of Temporary Linemarking**

Remove temporary line marking on completion of the works by sand blasting or other method approved by the Superintendent.

All line removal works must be carried out in such a manner as to not endanger the health, safety or amenity of employees, road users or the general public.

Carry out removal of marking in such a manner as to minimise damage to pavement surfaces.

Obliterate markings so as they are no longer recognisable as marking. When arrows, letters or figures are to be removed, the removal pattern must be in the shape of a rectangle or square to minimise confusion to the motorist, particularly in wet weather and poor lighting conditions.

The removed marking and the material used to remove the marking must be contained, collected and disposed of in an environmentally acceptable manner.

### **TRAFFIC CONTROL – Witness Point**

Modify the Traffic Management Plan during the works to suit site conditions if required or requested by the nominated ASTC Contact Officer.

Witness Point - The Superintendent must appraise all changes to the TMPs and TCDs prior to implementation of any changes, unless there is an urgent need for amendments to mitigate any foreseen or unforeseen hazards. In such a case, the changes may be implemented and the Superintendent advised of the changes as soon as practicable thereafter.

If an incident occurs within, adjacent to, on approach to or departure from the work site, make a photographic record of the traffic control devices, site conditions, placement of plant and equipment etc, as soon as practical after the event. Advise the Superintendent of the incident as soon as possible.

Only permit single lane operation of two way traffic when traffic is directed by accredited WZTM controllers and signs or portable traffic signals etc. are employed, dependant on the site conditions and obtaining the appropriate approvals.

Organise Police control as required, or as requested by the Northern Territory Police should the need arise.

### **ACCESS TO ADJACENT PROPERTIES AND SIDE ROADS**

Maintain access to adjacent properties and side roads at all times to a level appropriate for the type and frequency of traffic.



Special attention shall be taken not to interrupt Commercial Properties activities. Negotiation shall be undertaken to allow them and their customers access during the Works.

Provide and erect proposed and approved signs detailing alternative access, only after approval from the Superintendent is obtained.

Ensure adequate access is maintained for pedestrians and cyclists as required, including delineated access if existing paths are being closed as part of the works.

### **Temporary Pedestrian Access**

Conform to: AS 1742.9, AS 1742.10.

Maintain access for pedestrians, cyclists and persons with disabilities passing through and around the work site. Where existing paths have been demolished or are inaccessible or modified due to construction works, provide temporary access to a standard not less than the pre-existing or preconstruction standard. Temporary access must;

- be clearly delineated and have adequate width and height clearance,
- be smooth, free draining and free of obstructions and loose material,
- provide clear guidance where paths change direction,
- provide temporary lighting in urban areas to assist path users where existing street lighting has been removed or affected by the works,
- ensure path users are clearly visible at road crossing points to approaching traffic and plant operators on the work site,

### **TEMPORARY BRIDGING – Hold Point**

Design and construct any temporary bridging in accordance with the "AUSTROADS" Bridge Design Code.

Hold Point - Obtain written approval from the Superintendent prior to commencement of any such works.

Provide and erect signage, fencing, road safety barriers and or guard railing etc to prevent accidental access to the feature being bridged.

### **CONTRACTOR'S PLANT AND EQUIPMENT**

Provide public traffic right of way at all times unless traffic control is in use.

Keep parking and materials storage clear of trafficked areas and clear zones in accordance with the AUSTROADS "Urban Design Guide".

Do not leave equipment or tools unattended as a hazard to the public.

### **Rotating Beacons on Plant**

Provide beacons or other vehicle mounted warning devices on the highest point of the cabin roof or superstructure of all plant and equipment and in accordance with clause 3.12 of AS/NZS 1742.3 where these are being used within the road reserve. Fit beacons with a minimum of 75 watt globes or equivalent strobe lights.

Ensure that the light is operational whenever the plant or equipment is working on or within 9 metres the roadway.

Ensure that the light is visible from all approaches and not obscured by exhaust stacks, back hoe arms etc, or are covered in dust.

Protect the lights from damage by scrub etc.

### **Road Work Zone Length**

Comply with the requirements of AS 1742.3.

**Traffic Signal and Count Stations**

**Traffic Signals**

Prior to commencement of the works and for the duration of the works clear the work and co-ordinate with the ASTC Technical Services Section.

This includes all works within the trafficked lanes;

150 meters prior to the stop line

- 50 meters past the stop line
- that affects the normal daily traffic flow at the intersection or for road reserve or median excavations greater than 150mm
- within the area defined by the traffic signal poles and associated pits
- between the traffic signal poles and associated traffic signal control cabinet

**Traffic Count Stations**

Count Stations have in-pavement detection systems installed and cutting off or closing traffic lanes can have an impact on their operation.

Prior to the commencement of work within the trafficked lanes and within 50 metres of traffic signals or within 20 metres of a count station controller, clear the work and co-ordinate for the duration of the works with the ASTC Technical Services Section.

**PORTABLE TRAFFIC SIGNALS**

Use portable traffic signals complying with the requirements of AS 1742.3 and AS 4191. Portable traffic signals are for short-term traffic control applications only. Where traffic signal control is being proposed for periods greater than 2 months in a single location, consider the installation of temporary traffic signals.

For the area under the control of portable traffic signals, limit the lengths to no more than 1150 metres. Use the time settings in the TIME SETTINGS clause as a guide for red time clearance and maximum green times. Frequently observe the prevailing traffic conditions and vehicle speeds and amend the times for the site as appropriate. Submit the changes to the Superintendent as soon as practicable thereafter.

**Temporary Speed Limits – Hold Point**

Impose a controlled area speed limit not exceeding 80 km/h if the portable traffic signals would otherwise be in a higher speed limit zone.

Hold Point - Work zone speed limits require approval from to the Superintendent prior to implementation.

**Sight Distance**

Maintain a sight distance on the approach to portable traffic signals of not less than 150 metres. If this cannot be achieved, use appropriate advance warning signage to advise road users in advance of the sight line obstruction of the impending traffic signals ahead.

In cases where queuing traffic is extending past the advance warning signage, install further advance warning signs and speed zone signs further in advance, to prevent collisions at the end of the queue awaiting a green light. Avoid excessive traffic queuing by use of and adjustment of, appropriate time settings on the portable traffic signals whenever possible.

**Time Settings**

Table – General Time Settings

Mode	All red	Minimum Green	Maximum Green	Yellow
Manual	M	F	M	S
Fixed time	S	F	S	S
Vehicle Actuated	S	F	S	S
F Fixed at 15 seconds				
M Set the manual control switch each cycle				

S Needs to be selected and pre-set by operator for each site

Table – Yellow Time

Approach Speed	Yellow Time
Below 70 km/h	4 seconds
Above 70 km/h	5 seconds

Table - Red and Green Times

All Red Period (Seconds)	Max Green Period (Seconds)	Distance Between Stop Lines at traffic Signals (m) – Clearance speed 20 km/h	Distance Between Stop Lines at traffic Signals (m) – Clearance speed 40 km/h
2	30	0-30	0-50
5	35	34-45	50-90
10	35	45-75	90-150
15	40	75-105	150-210
20	40	105-135	210-270
25	45	135-165	270-330
30	45	165-195	330-390
40	50	195-250	390-500
50	50	250-310	500-620
60	60	310-365	620-730
70	70	365-415	730-830
80	80	415-465	830-930
90	90	465-525	930-1050
100	100	525-575	1050-1150

**RESTORATION**

Upon completion of works:

- Remove all temporary warning signage and other traffic control devices.
- Remove all temporary works and reinstate the areas to their original state.
- Comply with the requirements of the Environmental Clearances issued by the Department of Natural Resources, Environment and the Arts (NRETA), Office of Environment and Heritage, Environmental Assessment Branch, for the project.

Reinstate permanent traffic control devices temporarily removed during the works

## 3 CONFORMANCE TESTING

### General

The Contractor will be responsible for process control testing.

The Contractor will be responsible for ordering the conformance tests.

### Definitions

PROCESS TESTING	The testing required to be carried out by the Contractor to ensure that the work is in accordance with the contract documents.
CONFORMANCE TESTING	The testing to be carried out by the Contractor to ensure that the work complies with the contract documents.

### Standards

Northern Territory Test Methods (NTTM) and Codes of Practice (NTCP) for materials testing are given in the Northern Territory DCI Road Projects Materials Testing Manual (NTTM). The methods contained in the Materials Testing Manual shall take precedence over all other test methods and procedures, and are used in conjunction with relevant Australian Standards.

When testing cannot be performed to the test methods stated below, these methods may be substituted with State Road Authority test methods so testing can be performed.

The following standards are referred to in this section;

AS 1141	Methods for testing and sampling aggregates.
AS1141.3.1	Sampling aggregates.
AS 1141.11	Particle size distribution by sieving.
AS 1141.14	Particle shape, by proportional calliper.
AS 1141.15	Flakiness index.
AS1141.18	Crushed particles.
AS 1141.20	Average least dimension of aggregate by direct measurement.
AS 1141.23	Los Angeles value.
AS 1141.24	Sodium sulphate soundness.
AS 1141.40	Polished aggregate friction value-Vertical road-wheel machine.
AS/NZS 2341	Methods of testing bitumen and related roadmaking products.
AS 2341.2	Dynamic viscosity (coefficient of shear) by flow through a capillary tube.
AS2157	Cutback bitumen.
AS2157 App. B	Sampling of bitumen.
AS 2891	Methods of sampling and testing asphalt.
AS 2891.1	Sampling of asphalt.
AS 2891.3	Bitumen content and aggregate grading.
AS 2891.5	Determination of stability and flow – Marshall procedure
AS 2891.7	Determination of maximum density of asphalt.
AS 2891.8	Voids and density relationships for compacted asphalt mixes.
AS 2891.9	Determination of bulk density of compacted asphalt.
MRWATM	Main Roads Western Australia, Test Methods.
WA 730.1	Bitumen Content and Aggregate Grading.
Austrroads	Guide to Pavement Technology – Part 4
Austrroads	Catalogue of Test Methods
NTTM	Materials Testing Manual including NTCP (Northern Territory Codes of Practice).

QLD TM Queensland Test Methods

### **Specific Tests**

Where tests are required that is not included in the manual use the appropriate Australian Standard.

### **Testing Contractors**

Use NATA accredited testing companies.

Ordering testing when required, in accordance with the contract documents, order the conformance testing in writing directly from the Testing Contractors. Order all testing using a Test Request Form. Include on the order the following information:

- Lot boundaries including start and finish chainages, length and width
- Type of layer
- Type of tests required
- Date and time when lot will be ready for testing

### **Conformance Testing**

The Contractor will pay for all conformance testing directly to the Testing Contractor.

Failures in bitumen tests refer to NTTM 500.2.

### **Process Testing**

The Contractor is responsible for the ordering up and payment for all process tests carried out.

### **Notice of Testing – Witness Point**

Give the Testing Contractor written notice in advance of each stage of the works requiring conformance testing, including re-testing.

Witness point - Provide the Superintendent with a copy of the order for testing simultaneously with the order being sent to the Testing Contractor.

Provide the Superintendent with the results of process control testing as identified in the relevant ITP with all requests for conformance testing.

Witness point - Notify the Superintendent prior to any rework of failed lots.

### **Table - Test Frequencies, Compliance Testing**

Test frequencies as per table – Test Frequencies for Bitumen Spray Sealing.

**Table – Test Frequencies for Bitumen Spray Sealing**

Test No.	Property	Cutback Bitumen/ Emulsions	Straight Run Binder Initial Seal on New Works	Polymer Modified Bitumen Initial Seals on New Works	Polymer Modified Bitumen Reseal Works
AS2341.2 or AS2341.3 or AS2341.4	Dynamic Viscosity (60°C)	1 per 15,000L	1 per 15,000L	-	-
AS2341.2 or AS2341.3 or AS2341.4	Dynamic Viscosity (135°C)	-	1 per 15,000L	-	-
AS2341.12	Penetration (25°C)	-	1 per 15,000L	-	-
AG:PT/T1 21	Consistency (60°C)	-	-	1 per 15,000L	1 per 20,000L
AG:PT/T1 21	Stiffness at 15 <sup>0</sup> C (kPa)	-	-	1 per 15,000L	1 per 20,000L
AG:PT/T1 11	Dynamic Viscosity (165°C)	-	-	1 per 15,000L	1 per 20,000L
AG:PT/T1 22	Torsional Recovery at 25°C, 30s (%)	-	-	1 per 15,000L	1 per 20,000L
AG:PT/T1 31	Softening Point (°C)	-	1 per 15,000L	1 per 15,000L	1 per 20,000L
AS 2341.13	Durability of base binder	1 per project	1 per project		
AG:PT/T1 12	Flash Point (°C) min.	1 per project	1 per project	1 per project	1 per project
AG:PT/T1 03	Loss on Heating (%mass) max.	1 per project	1 per project	1 per project	1 per project
AG:PT/T1 24	Toughness at 4°C, 100mm(Nm) min.	1 per project	1 per project	1 per project	1 per project

**Table – Asphalt Testing Frequencies - During Works**

TEST METHOD NO.	TEST METHOD	MINIMUM TEST FREQUENCY	
		DAILY PRODUCTION <100 tonnes	DAILY PRODUCTION >100 tonnes
-	Mixing temperature	Every mix	Every mix
-	Laying temperature	Every 30 minutes	Every 30 minutes
-	Asphalt surface temperature at commencement of compaction	Every Mix	Every mix
AS 2891.3, WA730.1	Bitumen content	1 No.	1 per 100 t *
AS 2891.3, WA730.1	Particle size distribution	1 No.	1 per 100 t *
AS 2891.5	Stability	1 No.	1 per 250 t *
AS 2891.5	Flow	1 No.	1 per 250 t *
AS 1289.7	Maximum Density	1 No.	1 per 100 t *
AS 2341.3	Viscosity of Binder	1 per 5,000 L	1 per 10,000 L

\* One test per nominated tonnage or part thereof.

**Table – Asphalt Testing Frequencies - After Works Completed**

TEST METHOD NO.	TEST METHOD	
AS 2891	Thickness of layer	1 per core
AS 2891.8	Air Voids of compacted asphalt layer	1 per core
AS 2891.9	Insitu Density	1 per core
APRG18	Wheel track testing (composite sample)	1 per Type or 1 per 1000 t

Carry out density testing as soon as practicable after completion of works. Conform to the following number of cores per lot:

Area (m <sup>2</sup> )	>5000	1000 – 5000	500 – 1000	50 – 500	<50
No. of Cores	1 per 1000m <sup>2</sup> or minimum 10	1 per 500m <sup>2</sup> or minimum 5	4	3	1

**TABLE - TEST FREQUENCIES FOR AGGREGATES AND PAVEMENT SURFACES**

TYPE OF TEST	AGGREGATE	PAVEMENT MARKING	PAVEMENT SURFACE
Particle Size Distribution by AS 1141.11	1 in 250 t (Minimum of 3)	-	-
Los Angeles Abrasion Value by AS 1141.23	1 in 250 t	-	-
Particle Shape by AS 1141.14 at 2:1 ratio	1 in 250 t	-	-
Flakiness Index by AS 1141.15	1 in 250 t (Minimum of 3)	-	-
Average Least Dimension by AS 1141.20.1, .2 *	1 in 250 t (Minimum of 3)	-	-
Sulphate Soundness by AS 1141.24	1 in 1,000 t	-	-
Percentage of Crushed Faces by AS 1141.18	1 in 250 t	-	-
Polished Aggregate Friction Value by AS 1141.40 or AS 1141.41	-	-	1 in 20,000 m <sup>2</sup>
Surface Texture Depth by NTTM 305.1	-	-	1 in 5,000 m <sup>2</sup>
Skid Resistance by NTTM 304.1	-	-	As nominated by Superintendent
Roughness	-	-	As nominated by Superintendent
Retroreflectivity of Pavement Marking by NTTM 404.1, .3	-	1 per 1,000 lin. m	-
Wear Assessment of Road Marking Paints – Image Analysis by TSA-MAT-TP904	-	As nominated by Superintendent	-

\*Take Average Least Dimension samples only from the stockpile on the project site.

**Conformance Testing Results**

The Testing Contractor will provide interim and NATA endorsed test results to the Contractor within the following scheduled times (in working days – Monday to Friday) from the time of ordering the tests. The interim test results will comprise of final, completed test results and are not preliminary estimates. Interim test results may not be NATA endorsed.

For work in remote areas increase the testing and reporting completion times by a minimum of 2 days.

**Table – Testing and Reporting Completion times**

AGGREGATE	Time Allowed for Interim Report in Working Days (Monday to Friday)	Time Allowed for NATA Endorsed Report in Working Days (Monday to Friday)



Specific Gravity	2	4
Particle Size Distribution	2	
Particle Shape, by Proportional Calliper	2	
Flakiness Index	2	
Average Least Dimension (Direct Measurement)	2	
Clay and Fine Silt (Settling Method)	2	
Particle Density and Water Absorption of Fine Aggregate	3	5
Particle Density and Water Absorption of Coarse Aggregate	3	
Los Angeles Value	2	4
Pavement Surface Texture Depth	2	
Crushed Particles	2	
Sulphate Soundness	8	10
<b>ASPHALT</b>		
Bitumen Content and Aggregate Grading	3	5
Stability and Flow of Mix	3	
Air Voids and Density Relationship	4	6
Density of Thin Lift Asphalt by Nuclear Gauge	2	4
Bulk Density of Asphalt	4	6
Kinematic Viscosity of Bitumen	3	5
<b>BITUMEN</b>		
Dynamic Viscosity (60°C)	1	3

\*\*\* From Date of Sampling.

### Conformance of Compaction for Asphalt

Relative compaction (R) is the percentage ratio of the insitu density of the compacted asphalt and the reference density of the asphalt for a particular lot. The reference density will be the mean of the maximum density measurements determined from the asphalt testing for a particular lot.

The Characteristic Value of Relative Compaction (R<sub>c</sub>) is calculated as follows:

$$R_c = R - k * s$$

where:

R = the mean dry density ratio for the lot

k = the multiplier in table MULTIPLIER VALUES FOR ASPHALT.

s = the standard deviation.

The Standard Deviation (s) is calculated as follows:

$$s = \sqrt{\frac{\sum (x_i - R)^2}{(n - 1)}}$$

where:

x<sub>i</sub> = an individual test result

R = the mean of n results

$n$  = the number of test results in the lot.

**Table – Multiplier Values for Asphalt**

Values of the Multiplier  $k$  for Characteristic Mean Dry Density Ratio ( $R_c$ )

Number of tests per lot ( $n$ )	K
5 or less	0.0
6	0.719
7	0.755
8	0.783
9	0.808
10	0.828

The work represented by a lot will be assessed as the characteristic value of insitu air voids where:

- Characteristic Value of Air Voids (%) =  $100 - R_c$

## 4 SPRAY SEALING

### Standards

Conform to the following Standards and Publications unless specified otherwise:

AS 1141	Methods for sampling and testing aggregates
AS 1160	Bitumen emulsions for construction and maintenance of pavements
AS 2008	Residual bitumen for pavements
AS 2157	Cutback bitumen
AS/NZS 2341	Methods of testing bitumen and related roadmaking products
AS 2758.2	Aggregates and rock for engineering purposes - Aggregate for sprayed bituminous surfacing
AS 2809.5	Road tank vehicles for dangerous goods - Tankers for bitumen based products
AS 3568	Oils for reducing the viscosity of residual bitumen for pavements
AS 3706	Geotextiles – Methods of Test
AUSTROADS	AGPT04H/08 Austroads Guide to Pavement Technology – Part 4H: Test Methods
AUSTROADS	AP-G41/08 Bitumen Material Safety Guide
AUSTROADS	AP-G76/04 Sprayed Sealing Guide
AUSTROADS	AP-T41/06 Specification Framework for Polymer Modified Binders and Multigrade Bitumens
AUSTROADS	AP-T42/06 Guide to the Selection and Use of Polymer Modified Binders and Multigrade Bitumens
NT	Weed Management Act
NTMTM	NT Materials Testing Manual

### Definitions

ADHESION AGENT:	A substance used for the purpose of promoting the adhesion between binder and aggregate.
ASTC:	Alice Springs Town Council
COARSE GRAINED AGGREGATE:	Where the average grain size of the constituent minerals is greater than 1mm. The average grain size is determined optically under a petrographic microscope or by calibrated hand lens.
CUTTER:	A light petroleum distillate added to bitumen to temporarily reduce its viscosity.
DOI	Department of Infrastructure.
FINE GRAINED AGGREGATE:	Where the average grain size of the constituent minerals is less than 1mm. The average grain size is determined optically under a petrographic microscope or by calibrated hand lens.
FLUXING:	A petroleum distillate used to produce a long term reduction in viscosity of a binder.
NATA	National Association of Testing Authorities
PMB	Polymer Modified Binder
PRECOATING MATERIAL:	A material used for Precoating aggregate to promote adhesion of bitumen.
PRIME:	A bituminous material of low viscosity and low surface tension sprayed on a prepared base, in preparation for seal or asphalt work.
PRIMERSEAL:	Applications of primerbinder with a fine cover aggregate to a prepared base. The primerbinder is a material, more viscous than a primer, and required to act as both primer and binder.

RESEAL: A seal applied to an existing sealed, asphalt or concrete surface.

SEAL: A sprayed application of bituminous binder into which aggregate is incorporated. May include more than one application of binder and aggregate, and may include geotextile fabric.

## Scope

Spray sealing treatments include:

- Prime
- Primerseal
- Enrichments
- Initial Seal or Reseal:
  - With conventional bitumen, cutback bitumen or bitumen emulsion binder
  - With modified binder
  - Incorporating geotextile fabric reinforcement.

Spray sealing work consists of:

- Supply and delivery of materials.
- Storage and handling of raw materials.
- Precoating of aggregate.
- Preparation of pavement surfaces.
- Preparation of bituminous materials.
- Recording of spray sealing works.
- Application of primer and/or primerbinder and/or binder.
- Spreading and rolling of aggregate.
- Removal of loose aggregate.
- Traffic Control
- Installation of temporary pavement markers
- Installation of aftercare signage

## Material Requirements

### Aggregates

Aggregates must be clean, hard, durable, skid resistant, dry crushed stone, or gravel of uniform quality free from noxious weeds and other deleterious material, and conform to the properties specified.

Nominate source of aggregate supply. Submit to the Superintendent current NATA endorsed test result certificates providing evidence that the nominated aggregate supply conforms to specified properties.

Aggregate used for testing must be sampled from project site.

Conform to the table - AGGREGATE GRADING and AVERAGE LEAST DIMENSION, and to the table - AGGREGATE PROPERTIES

**Table - Aggregate Grading and Average Least Dimension**

Sieve Size (mm)	% PASSING (DRY MASS)					
	Nominal Size of Aggregate					
	20 mm	16 mm	14 mm	10 mm	7 mm	5 mm
26.5	100					
19.0	85 - 100	100				
16.0	-	80 - 100	100			
13.2	0 - 15	0 - 20	85 - 100	100		
9.5	0 - 5	0 - 2	0 - 15	85 - 100	100	
6.7	0 - 2		0 - 5	0 - 15	85 - 100	100
4.75			0 - 2	0 - 5	0 - 15	85 - 100
2.36				0 - 2	0 - 5	0 - 15
1.18					0 - 2	0 - 5
Min. ALD (1)	12.0mm	9.5mm	8.0mm	5.5mm	3.5mm	2.5mm

Notes: 1. Test Method AS1141.20.1, 20.2 - Direct Measurement.

**Table - Aggregate Properties**

Aggregate Property	TRAFFIC COUNT (AADT: TWO LANES)		
	LESS THAN 300 VPD	300 TO 6,000 VPD	MORE THAN 6,000 VPD
AS 1141.14 Misshapen Particles: Calliper Ratio 2:1	25% maximum	15% maximum	12% maximum
AS 1141.15 Flakiness Index	35 maximum	30 maximum	25 maximum
AS 1141.23 Los Angeles Abrasion (LAA):			
- Fine Grained Aggregate	30% maximum	25% maximum	20% maximum
- Coarse Grained Aggregate	40% maximum	35% maximum	30% maximum
AS 1141.24 Sulphate Soundness	15% maximum	12% maximum	10% maximum
AS 1141.40/41 Polished Aggregate Friction Value	40 minimum	40 minimum	45 minimum

- AS 1141.18: Crushed particles in coarse aggregate derived from gravel. Ensure 80% minimum by mass is classified as crushed particles.
- AS 1141.25.1 Degradation factor – Source rock (Washington Degradation Test). Igneous rocks shall have a minimum value of 50.
- AS 1141.26 Secondary minerals content in igneous rocks shall not exceed 25%.
- AS 1141.29 Accelerated soundness index by reflux. Igneous rocks shall have a minimum value of 94.
- AS 1141.50 Resistance to stripping of cover aggregates from binders. The maximum stripping value of precoat aggregate (Precoat shall contain 1% adhesion agent.) shall be 10%.

**Cutter and Flux**

Cutter to be Kerosene.

Flux to be Distillate.

**Precoat and Adhesion Agents**

Precoat all aggregates to conform to the following:

Bitumen residue (by mass): minimum 50%.

Adhesion agent (by volume): minimum 1%

**Bitumen**

Standard Classes of bitumen to conform to the requirements of AS 2008.

Manufacture all AS2008 bitumen's in a refinery and have NATA endorsed certificates of manufacture.

Durability Value in accordance with AS 2341.13 – Long-term exposure of bitumen to heat and air shall be a minimum of 7 days with no maximum value.

Multigrade bitumen to comply with Austroads Provisional Specification for Multigrade Bitumen.

### Cut Back Bitumen

Conform to the requirements of AS 2157 and table - CUT BACK BITUMEN PROPERTIES.

Designation is by AMC class.

**Table - Cut Back Bitumen Properties**

CLASS	VISCOSITY (DYNAMIC) AT 60 deg. C PA.S	APPROXIMATE PARTS BITUMEN TO CUTTER	SPRAYING TEMPERATURE (deg. C)
Light			
AMC 00	0.008 - 0.016	100 - 100	Ambient
AMC 0	0.025 - 0.05	100 - 80	35 - 55
AMC 1	0.06 - 0.12	100 - 50	60 - 80
Medium			
AMC 2	0.22 - 0.44	100 - 40	75 - 100
AMC 3	0.55 - 1.10	100 - 30	95 - 115
AMC 4	2.0 - 4.0	100 - 20	110 - 135
Heavy			
AMC 5	5.5 - 11.0	100 - 12	120 - 150
AMC 6	13.0 - 26.0	100 - 7	135 - 160
AMC 7	43.0 - 86.0	100 - 3	150 - 175

### Bitumen Emulsion

Conform to the requirements of AS 1160.

Bitumen emulsion to be;

Type; CMS

Binder Grade; 320

%Binder; 60

Utilise within 90 days of manufacture.

Spraying temperature: 60% bitumen content 30 to 60 deg. C.

### Polymer Modified Binder

A mixture of Standard Class bitumen and elastomeric polymer or crumb rubber additive.

All conformance testing to be carried out in accordance with Australian Standard Test Methods.

Base binders for the production of PMB must meet the specification limits outlined in Table- Base Binder for Polymer Modified Bitumen, from the refinery. All base binders must be tested for conformance to ensure compliance before manufacture into PMB's.

**Table – Base Binder for Polymer Modified Bitumen**

Property	Specification limit minimum	Specification limit maximum
Viscosity @ 60°C, Pa.s	140	380
Viscosity @ 135°C, Pa.s	0.25	0.65
Penetration at 25°C (100g,5s) ,pu (pu unit is 0.1mm)	40	
Flashpoint °C	250	N/A
Matter Insoluble in toluene, percent mass	N/A	1.0

Short Term effect of heat and air (Rolling Thin film Oven Test) Viscosity of residue at 60°C as a percentage of original	N/A	300
Long term effect of Heat and air, days	7	
Density at 15°C, t/m <sup>3</sup>	TBR	

Polymer Modified Binders must conform to the requirements outlined in Table – Polymer Modified Binders for Sprayed Sealing Applications.

Manufacture of Polymer Modified Binders must meet the requirements of the “Code of Practice: Manufacture, Storage and Handling of Polymer Modified Binders, First Edition, Australian Asphalt Pavement Association, June 2004”.

Conform to the table - POLYMER MODIFIED BINDERS FOR SPRAYED SEALING APPLICATIONS.

**Table – Polymer Modified Binders for Sprayed Sealing Applications**

Test Method	Binder Property	PMB CLASS					
		S10E	S15E	S20E	S25E	S35E	S45R
AG:PT/T1 21	Consistency at 60 deg. C (Pa.s) min.	250	700	700	5000	300	1000
AGPT/T121	Underlying Viscosity at 60 deg. C (Pa.s)	TBR	TBR	TBR	TBR	TBR	TBR
AG:PT/T1 21	Stiffness at 15 deg. C (kPa) max.	140	140	140	95	180	180
AGPT/T142	Rubber Content by analysis (%) min	NA	NA	NA	NA	NA	10
AG:PT/T1 32	Compression Limit at 70 deg. C, 2kg (mm) min.	NA	NA	NA	NA	NA	0.2
AG:PT/T1 21	Elastic Recovery at 60 deg. C, 100s (%) min.	NA	NA	NA	85	NA	25
AG:PT/T1 11	Viscosity at 165 deg. C (Pa.s) max.	0.55	0.55	0.55	0.8	0.55	4.5
AG:PT/T1 12	Flash Point (deg. C) min.	250	250	250	250	250	250
AG:PT/T1 03	Loss on Heating (% mass) max.	0.6	0.6	0.6	0.6	0.6	0.6
AG:PT/T1 22	Torsional Recovery at 25 deg. C, 30s (%).	22 - 50	32 - 62	45 - 74	54 - 85	16 - 32	25 - 55
AG:PT/T1 31	Softening Point (deg. C).	48 - 64	55 - 75	62 - 88	82 - 100	48 - 56	55 - 65
AGPT/T108	Segregation value (%) max.	8	8	8	8	8	8
AGPT/T109	Ease of remixing (%) max	2	2	2	2	2	2

Notes:

1. Class of PMB: S=Sealing, E=Elastomeric Polymer, R=Granulated Crumbed Rubber
2. NA means not applicable for that PMB class, TBR = To be reported
3. AG:PT Test Methods are available from Austroads Guide to Pavement Technology Part 4H: Test Methods
4. S35E must be manufactured with Polybutadiene (PBD) polymers.



## Geofabric

Use non-woven, polyester, isotropic, needle punched fabric for geotextile reinforced seals.

Conform to the table – GEOFABRIC PROPERTIES.

**Table – Geofabric Properties**

Property	Test Method	Units	Value
Mass per unit area	AS 3706.1-90	g/m <sup>2</sup>	140 min
Wide strip tensile strength in both directions.	AS 3706.2-90	kN/m	8.0 min
Elongation range in both directions.	AS3706.2-90	%	40 – 60
5% Secant modulus in both directions.	AS3706.2-90	kN/m	5.0 min
Trapezoidal tear strength in both directions.	AS3706.3-90	N	240 min
Melt temperature	-	deg. C	250 min

Supply certificate of compliance with the respective AE Lot data. Include Traceability of Batch Numbers with the respective AE Lot data.

## Sprayers and Personnel

Sprayers must have current calibration accredited by a tester nominated on the Australian Asphalt Pavement Association (AAPA) website. All calibrated sprayers must be listed on the AAPA website. A copy of the calibration certificate must be with the vehicle at all times.

Calibrate sprayers yearly.

Ensure sprayer driver and operator are skilled and trained with an understanding of sprayer calibration and an appreciation of the requirements of the work.

Ensure relevant personnel understand the types and quantities of the various materials and mixtures to be used.

Bitumen Spraying plant and equipment must be in good working condition at all times.

## Preparation of Pavement

Remove raised reflective pavement markers. Repair any damage to the pavement surface caused by the removal of raised reflective markers with an emulsion/sand mixture before sealing.

Sweep the pavement surface to remove loose stones, dust, dirt and foreign matter immediately before spraying.

Maintain the prepared surface.

Extend sweeping clear of the area to be sealed.

Remove adherent patches of foreign material with a steel scraper.

Dampen the prepared surface lightly immediately before spraying.

Remove water from the surface of primed or sealed pavements before applying binder.

Do not allow traffic on the prepared surface.

## Setting Out

Mark out by string line or paint.

Include pavement widening.

## Binder Coat Requirements

### General

Binder application rates varying more than 0.05L/m<sup>2</sup> of the designated spray rate will result in work being rejected. Rectification will be at the Contractor's expense by respraying or by other methods approved by the Superintendent.

The Contractor must rectify bleeding or flushing seals during the defined defects period where binder application rates were applied at > than 105% of the designated volume.

### **Prime, Primer Seals and Enrichment Coats**

Provide bitumen complying with; Table – Base Binder for Polymer Modified Bitumen

Cut back as follows:

Prime: AMC 0 to AMC 00

Primer Seal: AMC 4 to AMC 5

Enrichment Coat: AMC 6 to AMC 7

Cutback bitumen mixed on site:

Heat bitumen to a temperature appropriate for achieving final spraying temperature making allowance for incorporation of the unheated cutter.

Add unheated cutter to heated bitumen and circulate until a homogeneous mixture is achieved.

Spray immediately circulation is complete.

Allow at least three days to elapse after priming before applying the binder coat.

Keep traffic off the primed surface for this period.

### **Straight Run Binder Coats**

Provide bitumen class 320 complying to AS2008 as follows:

- Initial seal coat
- Seal coat for geotextile seal or re-seal
- Re-seal coat

Heat to spraying temperature but do not exceed the maximum. Avoid heating bitumen in quantities excess to requirements

Prevent foaming.

Ensure product meets the requirements of the specification at point of delivery.

### **Polymer Modified Binder Coats**

Provide bitumen in conformance with **Table 8.4.11 – Base Binder for Polymer Modified Bitumen** blended with the required polymer as follows:

Prepare the product in a manufacturing or blending plant that complies with the “Code of Practice: Manufacture, Storage and Handling of Polymer Modified Binders, First Edition, Australian Asphalt Pavement Association, June 2004”.

- Initial seal coat: Class C320

– Reseal coat: Class S35E

Ensure product meets the requirements of the specification at point of delivery.

Store, mix, heat and spray the polymer modified binder as recommended by the polymer manufacturer.

Both coats of two coat seals shall contain polymer.

### **Binder Coats, Tender Quantities**

Spray rates used as a basis for calculating tender quantities are as follows:

Reseal

(10mm aggregate): 1.6 litres/m<sup>2</sup>

### **Sampling of Binder**

#### **Supply of Sampling Containers**

Supply all sampling containers as required for sampling purposes.

- Sample containers are to be leak proof and having a capacity of not less than two litres.

- Sample containers must be clean, rust free and capable of receiving a product at high temperatures.

–

### **Definition of Sampling**

- A “Sample” is defined as containing two containers of product collected in unison.
- One sample is for the Contractors analysis.
- One Sample is for the ASTC to analyse.
- Note: Refer NTTM 500.2 for non-conforming samples.

–

### **Frequency of Samples**

Refer to CONFORMANCE TESTING section.

### **Collection of Samples – WITNESS POINT**

Take samples prior to addition of adhesion agents.

Conformance test sampling is to be collected at point of delivery.

Ensure bulker has adequate sampling cocks installed so as samples can be taken on transfer from the bulker to the sprayer. Do not take samples from the spray wagon.

**Witness Point** – Take samples from the point of delivery on transfer from the bulker to the sprayer or as directed. Where transfer is for works in the urban area or for small works ensures that conformance testing is ordered and samples are taken at the point of transfer from bulker to sprayer.

All sampling must be in accordance with Australian or Austroads standards. The supplier is to perform the sampling. Ensure staff carrying out sampling is competent in sampling methods.

Ensure sampling techniques do not allow contamination of the samples.

Where samples are not collected, Level 1 adjustments (Table – Pavement Adjustments, MEASUREMENT AND PAYMENT Section) will apply to the total materials represented.

### **Sample Identification**

Samples must be clearly identified with permanent marker on adhesive labels on each tin.

Mark samples with the following information on the container at the time of collection.

- Container number.
- Sample number.
- Date and time of sample taken.
- Designation or Classification of Materials.
- Sample Temperature.
- Tanker/Sprayer Identification Number.
- Name of Supplier.
- Road Name and number.
- Site Identification.
- Location and Chainage.

–

### **Storage and Delivery of Samples**

Store all samples taken to prevent accidental damage or contamination. Submit sample containers at the completion of each days spraying.

### **Supply of Aggregate**

Supply and deliver aggregate into stockpiles at the following locations:

ASTC materials storage area West end of Smith St – Alice Springs.

**Stockpile Sites**

Existing stockpile sites – clean to suit.

Provide a separate site for each aggregate size. Allow 15 metres between adjacent sites.

Ensure sites are well drained and on hard ground. Avoid contamination by dust.

Maintain access roads and stockpile sites.

Do not allow stockpiled aggregates to become wet due to rain. Cover stockpiles with sheet plastic or similar material.

Avoid sites under trees, telephone lines, overhead transmission lines or where overhead clearance is less than 6 metres.

Remove from site any non-conforming aggregate.

For work in or close to regional centres, towns and urban areas, remove all unused aggregate from stockpile sites at conclusion of work.

For rural work, prepare unused aggregate into one neat and tidy stockpile, per aggregate size. Aggregate remaining in stockpiled areas becomes property of the ASTC at Practical Completion stage.

**Precoating Aggregate**

All aggregates used must be precoated.

Aggregate which has been excessively precoated will be rejected.

Precoating is to take place at the Smith St Stockpile location unless otherwise approved by the Superintendent.

All precoating must be performed with a powered shaking screen deck precoater which removes dust, dirt and oversize materials and evenly applies Precoat to the aggregate.

**Adhesion Agent**

Adhesion agent must be used.

Use 1% adhesion agent in the binder. Written Superintendent Approval must be obtained for variation of this rate.

Circulate in binder for 20 minutes before spraying.

Provide the Superintendent a copy of the Material Safety Data Sheet information of the adhesion agent prior to its intended use.

**Spraying – Witness Point**

**Witness Point** - Give the Superintendent 48 hours’ notice of intention to spray bitumen.

Store bitumen at lowest practical temperature and for the shortest possible duration.

Comply with the following temperature control requirements for polymer modified binders:

Property	Straight Run Binder	Polymer Modified Binder
Temperature at point of spraying	175 to 185 Deg C	180 to 200deg C
Holding time at spraying temperature	7 days maximum	2 days maximum
Temperature for medium term storage	130 to 150 deg. C	140 to 160 deg. C
Holding time for medium term storage	30 days	7 to 10 days

Seek approval to vary these requirements.

Remove bitumen from the site when temperature limits are exceeded.

**Atmospheric Conditions**

Commence spraying only when pavement temperature

- is in excess of 20 deg. C, or
- has been in excess of 15 deg. C for at least one hour.

For cutback work, commence spraying when pavement temperature is in excess of 10 deg. C.

For emulsion work, commence spraying when pavement temperature is in excess of 5 deg. C.

Cease spraying if rain threatens, or in windy or dusty conditions.

Protect the work in the event of a sudden change in weather by closing the affected section of road or by rigidly controlling traffic speed.

### **Preparing the Sprayer**

Circulate the mixture.

Check the horizontal and vertical alignment and the cleanliness of the spraybar and its extensions.

Determine the appropriate number of nozzles for the width to be sprayed. Ensure the end nozzles fitted are the correct type.

Check that the nozzles in use are symmetrical about the sprayer.

Check the alignment and setting of the nozzle to ensure that the fans of material from intermediate nozzles are parallel and at an angle of 30 deg. to the centre line of the spraybar. Ensure that the fans from the end nozzles are parallel to each other and at an angle of 45 degrees to the centre line of the spraybar.

Set the height of the spraybar so that the lower faces of the nozzles are 250 mm (or that specified on the calibration certificate) above the pavement when the sprayer is full.

Fit an end shield to the spraybar when necessary to prevent spraying material on the kerb, or to counter any wind effects which would compromise uniform spraying.

Position the guide rod to conform to the setting out and edges of spray. Check by making a dummy run.

### **Application Spray Rates – Hold Point**

Application spray rates shall be determined by the Contractor, using appropriate Austroads design methods.

For new seals and reseals, supply the following to the Superintendent, 3 working days prior to the planned commencement of sealing, to allow checking of the spray rates to be calculated:

- Particle Size Distribution (1 per 250 tonne - minimum 3 tests) for all seal work
- Average Least Dimension (ALD) (1 per 250 tonne - minimum 3 tests) for all seal work
- Flakiness Index (FI) of the aggregate, (1 per 250 tonne - minimum 3 tests) for all seal work

Refer to Conformance Testing for sampling requirements of aggregates.

**Hold Point** – Do not commence spraying until the spray rates are advised by the Superintendent.

Spray rates to be at 15 deg. C adjusted in accordance with the table - BITUMEN EQUIVALENT VOLUMES.

For primers, primer seals and polymer modified binders, the rate of application refers to the whole of the mixture, including all modifiers, cutback materials, combining oils and adhesion agents. For enrichments and emulsion seals, the rate of application refers to the whole of the mixture.

### **Preparation for Sprayer Run**

Record the volume and temperature of the sprayer contents while it is on level ground.

Supply ASTC representative with dips before and after each sprayer run. Allow visual inspection when requested.

Determine the length of sprayer run from the available quantity in the sprayer and the application rate. Ensure the area to be sprayed is not greater than the area that can be covered by aggregate in the loaded trucks.

Start and finish each spray run on a protective strip of paper placed on the pavement. The paper to be wide enough to ensure the sprayed material is being discharged correctly over the full width of spray. Place sufficient protective paper to protect road fixtures.

Place paper on the pavement and masking around areas to be sprayed or wherever the sprayer is stationary on the road pavement.

Seal joints are only allowed where Linemarking is to be placed. No joints are allowed in wheel paths. Excess overspray and spills must be removed before sealing works proceed.

### **Installation of Temporary Pavement Markers**

Temporary Pavement Markers to conform to AS1906.3

Spacing's of temporary pavement markers to be in accordance with AS1742.

### **Sprayer Run**

Attain uniform spraying speed before spraying commences.

Avoid an excess or deficiency of material due to faulty overlap at longitudinal joints when spraying a road in half-widths.

Overlap to be 300 mm with an intermediate nozzle.

Do not use end nozzles on an overlap.

Make allowances for "Fog Spraying" when joining to existing seals.

Cease spraying before the level of material in the tank falls to a level which reduces the full discharge of the pump.

Remove and dispose of all paper as per the EMP.

Clean off any sprayed material from road fixtures.

### **Hand Spraying**

Plan work to minimise the requirement for the use of a hand sprayer.

Any strips of pavement not adequately covered with sprayed material to be sprayed later with the hand attachment.

### **Application of Geofabric – Hold Point**

**Hold Point** - Submit details of proposed machinery and method of application.

Overlap longitudinal and transverse joints 150mm minimum.

Place longitudinal joints in the fabric along lane boundaries within 100mm of lane marker. Trim the fabric as required to achieve this.

Bond the fabric to the pavement with a tack coat sprayed 100mm wider than the fabric and in accordance with the Superintendent's directions for location. Use Standard Bitumen class C320 for the tack coat.

Place the fabric under tension when laying, using suitable machinery, ensuring that folds or creases do not occur. Use equipment to place fabric that does not cause undue migration of the underlying tack coat into the fabric.

Upon completion of placing of fabric and prior to application of the second/top binder coat, roll the fabric with minimum 4 passes of a pneumatic multi-wheel roller. Carry out rolling of the Geofabric at a constant roller velocity with no acceleration or deceleration.

Use Standard Class C320 binder for the second / top binder coats.

### **Application of Aggregate – Witness point**

**Witness Point** - Load aggregate into appropriate aggregate spreading trucks using a loader which does not contaminate the aggregate with dust, dirt and oversize stone.

Apply aggregate to sprayed binder within:

- 10 minutes where the pavement temperature is 20 deg. C or greater.
- 5 minutes where the pavement temperature is between 15 and 20 deg. C.

Polymer Modified Binders: Apply aggregate within 5 minutes irrespective of pavement temperature.

Apply aggregate to emulsion coat before the emulsion breaks.

## Aggregate Spread Rates

Spread the aggregate evenly and uniformly over the sprayed surface at a rate complying with TABLE – AGGREGATE SPREAD RATES

Use a mechanical spreader.

Rerun or hand cover bare or insufficiently covered areas after the first spreading.

Remove all excess aggregate.

**Table – Aggregate Spread Rates**

<b>Straight Run Binder Coats</b>		
Aggregate Size	Traffic Volume	Application Rate
10mm and greater	>200 vehicles/day	900/ALD m <sup>2</sup> /m <sup>3</sup>
10mm and greater	< 200 vehicles/day	850/ALD m <sup>2</sup> /m <sup>3</sup>
7mm and less		900/ALD m <sup>2</sup> /m <sup>3</sup>
<b>Polymer Modified Binder Coats</b>		
Aggregate Size	Traffic Volume	Application Rate
10mm and greater	>300 vehicles/day	750/ALD m <sup>2</sup> /m <sup>3</sup>
10mm and greater	< 300 vehicles/day	800/ALD m <sup>2</sup> /m <sup>3</sup>
7mm and less		160 – 200 m <sup>2</sup> /m <sup>3</sup>

## Rolling Rate

Roll the treated surface with self-propelled rubber tyred rollers with a minimum tyre pressure of 600 kPa and a minimum wheel load of 1 tonne.

Roller speed on the first pass to be between 5 and 10km/h, with subsequent passes between 15 and 25 km/h.

Conform to the following:

- Entire area to receive one roller pass immediately after covering.
- 75% of rolling within 1 hour of covering.
- 100% of rolling within 2 hours of covering.

**Minimum Rolling Rate: 1 roller hour per 2,000 litres of binder.**

Ensure a uniform distribution of aggregate. Drag broom to distribute surplus aggregate but do not dislodge embedded aggregate. Drag broom before 50% of rolling is complete. Drag brooms are not to be rotary brooms.

For two coat treatments, double the specified rolling rate if the second coat is to be applied immediately or the surface is not to be trafficked.

Roll in daylight hours only.

Sweep all loose aggregate from the carriageway at completion of rolling.

Ensure aggregate on the final surface is uniformly distributed and firmly held by the binder.

Adjust drag broom to distribute surplus aggregate, but not to dislodge embedded aggregate. Ensure aggregate on the final surface is uniformly distributed, and firmly held by binder.

Re-roll the surface after sweeping to ensure uniform bedding of aggregate in binder.

## Traffic on Reseals

Co-ordinate work to minimise traffic delays.

Prohibit traffic

- until at least 3 passes of a roller has taken place or until sufficient rolling has taken place to prevent damage to the applied seal, whichever is greater; and

- from adjacent strip of roadway during spraying.

## **Waste Material**

In urban areas, remove all excess aggregate by suction broom. Ensure no aggregates are distributed onto the verge.

Remove from the site and dispose of all waste material.

Clean and remove all aggregate from the shoulders and verges in urban areas.

Sweep all aggregate from shoulders in rural areas.

## **REPORTING**

### **Spraysheets**

Supply to the Superintendent at the end of each days production Spraysheets that record the following information for all spray runs conducted.

- Contractors Name
- Project Details
- Contract Number
- Specification schedule number
- Road Name
- Product Type Sprayed
- Precoat type used, Precoat litres / m<sup>3</sup>
- Aggregate supplier, Aggregate Type, Aggregate size
- Run number, Start Time of spray run
- Pavement Temperature, Ambient Temperature
- Start Chainage of spray run – actual km of road
- End chainage of spray run – actual km of road
- Total Length, Width of spray run
- Total area of spray run
- Temperature of product at spraying
- Start Dip, End Dip
- Total sprayed hot, Correction factor, Total sprayed cold
- Application rate cold
- Ordered application rate
- Percent of application rate ordered
- Number of rollers used
- Bitumen sample number
- Signature of contractor representative
- Signature section for client representative

## **Conformance**

### **Tolerances**

Final surfaces shall conform to the following:

Aggregates are to conform to “Table – Aggregate Properties”

Skid Resistance (by NTMTM 304.1): Not less than that specified in NTMTM 304.1, Table 2.

Skid resistance testing may be carried out by the Superintendent.

Final surfaces with non-conforming skid resistance will be rejected.

Rectify non-conforming work by methods approved by the Superintendent. Rectification work is at the Contractor’s expense, including the cost of testing.



Remove from the site binder which has been overheated or has deteriorated or become contaminated prior to its application to the road.

Spray rates applied at less than 95% or more than 105% of the rate indicated in the procedure will be rectified by resurfacing at the contractor's expense inclusive of all materials.

## INFORMATION FOR TENDERERS – PROPOSED SCOPE OF WORKS

The following table shows the location of Alice Springs Town Area streets proposed for resealing works: **Extent of works is subject to Tender submission price.**

ASTC ROAD ASSETS - PAVEMENT AND SURFACE ASSESSMENT 2018					
ROADLOC INFORMATION				TREATMENT PROPOSAL	AREA
AREA	ROAD	FROM	TO	PROP	m2
	NAME			AGG MM	
BRAITLING	Bee Crt	Abrahams Cres	End	10	515
	Harvey St	Babbage St	Priest St	10	1610
	Head St	Woods Tce	Stuart Hwy	10	6762
	Angguna Ave	Head St	Dixon Rd	10	6555
	Babbage St	Tietkens Ave	Knuckey Ave	10	2191
	Lackman Tce	Tucker St	Head St	10	4837
	Rose Crt	Head St	End	10	336
	Dixon Rd	Seal Change	End	10	6468
	Ballingall St	Speed St	Allchurch St	10	2380
	Breaden St	Gap Rd	South Tce	10	1274
GAP	Brookes St	Telegraph Tce	Gap Rd	10	1169
	Gap Sce (West) Rd	Hospital Cas. Ent.	Traeger Ave	10	754
	Gap Sce (West) Rd	Hospital Lp		10	909
	Stuart Tce	Stuart Hwy	Gap Rd	10	7574
	Sunset Crt	South Tce	End	10	1004
	Walker St	Mahomed St	South Tce	10	2464
GILLEN	Grundy St	Pedler Ave	Gason St	10	693
G'COURSE	Cromwell Dve	Higgins Ct road narrows ch1.510	End ch 1.830	10	2048
	Higgins Crt	Cromwell Dve	End	10	678
ILPARPA	Greatorex Rd	Buck Rd ch3280	Webb Rd ch3780	10	3000
	Greatorex Rd	Change seal ch 3133	Buck Rd ch3280	10	882
LARAPINTA	Griffiths Pce	Tmara Mara Cirt	End	10	1644
	Lyndavale Dve	Albrecht Dve	Saltwell St	10	6434
OLD E'SIDE	Gall St	Winnecke Ave	Raggatt St	10	1568
	Goyder St	Sturt Tce	Lindsay Ave	10	1718
	Winnecke Ave	McKay St	Undoolya Rd	10	4400
	Winnecke Ave	McKay St	Giles St	10	2760
	Brunonia Rd	Heffernan Rd	End	10	1739
	Fuschia Rd	Heffernan Rd	End	10	1872
	Heath Rd	Stuart Hwy	End	10	9086
	Heenan Rd	Ross Hwy	Isolated point ch730	10	2774
	Heenan Rd	Isolated point ch730	ch930	10	760
	Heffernan Rd	Mulla Mulla Rd ch1385	End ch 1915	10	3286
Heffernan Rd	Brunonia Rd ch175	Mulla Mulla Rd ch1385	10	7502	

<b>SADADEEN</b>	Grevillea Dve	Mistletoe St	Spearwood Rd	10	5200
	Kilgariff Cres	Spearwood Rd East	Spearwood Rd West	10	5576
					<b>110422</b>

The following table is a summary of the proposed works in area per aggregate size and litres of S35E binder:

<b>Area 7mm Aggregate</b>	<b>Area 10mm Aggregate</b>	<b>Estimated Litres S35E Polymer Modified Binder (Cold)</b>
<b>0 m2</b>	<b>110,422 m2</b>	<b>176,675 L</b>

**TENDERERS SHOULD NOTE THAT THE QUANTITIES OUTLINED IN THE ABOVE TABLES ARE ESTIMATED ONLY. TENDERERS SHOULD MAKE THEIR OWN ESTIMATIONS OF THE AGGREGATE AREAS AND VOLUMES OF S35E BINDER.**

**TENDERERS ARE REMINDED THAT PAYMENT IS MADE ON SQUARE METRES OF COMPLETED WORK, INCLUSIVE OF ALL MATERIALS AND LABOUR REQUIRED FOR THE WORKS.**

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**ALICE SPRINGS TOWN COUNCIL**

**ROAD RESEAL PROGRAM 2017-2018**

**Volume 4 of 4**

**TENDER SUBMISSION DOCUMENTS**

**CONTRACT No. 2018-02ST**

**PREPARED BY: ASTC**

**DATE: March 2018**

**SECTION 4 – TENDER FORM**

<b>CONTRACT NO.:</b>	2018-02ST
<b>CONTRACT:</b>	2017-2018 ROAD RESEAL PROGRAM
<b>CLOSE DATE:</b>	<b>10TH APRIL 2018</b>

Tenders are to be lodged in the Tender Box located at:

**Deliver to:**

Alice Springs Town Council  
Todd Street  
Alice Springs NT 0870

**Post to:**

PO Box 1071 Alice Springs NT 0871

**Or Fax to:** (08) 89530558

Tenders shall remain valid for acceptance for a period of 30 days from the closing date.

**THIS SECTION TO BE COMPLETED BY THE TENDERER**

I/We, the undersigned, having examined and acquired an actual knowledge of the whole of this contract document do hereby tender to perform the whole of the Works described in, and in accordance with, the document in the amount of

	\$	
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(Amount in Words – include GST and any provisional sums specified in this figure)

<b>Signature</b>		<b>Date</b>	
------------------	--	-------------	--

<b>Name</b>	
-------------	--

(Print Name)

<b>On behalf of</b>	
---------------------	--

(Full Name of Firm/Individual)

<b>ABN/BN/ACN</b>		<b>CAL Registration No</b>	N/A
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<b>Postal Address</b>	
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<b>Telephone</b>		<b>Facsimile</b>	
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<b>Witnessed</b>		<b>Date</b>	
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If applicable, I/We confirm receipt and inclusion in the Tender of addenda numbered:	
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**STATUTORY DECLARATION ON  
NON-COLLUSIVE TENDER DECLARATION**

The Tenderer must complete and submit with tender.

All Submitted information will be treated as confidential.

I, \_\_\_\_\_ *(Print name)*,  
of \_\_\_\_\_ *(Tendering Organisation)*,

do hereby solemnly declare and affirm the following ;

4. I hold the position of \_\_\_\_\_ , and am duly authorised by the tendering organisation to lawfully proclaim the following and, after having made due inquiry believe the following to be completely accurate to the best of my knowledge.
2. Neither the Tenderer nor the Tenderers Agents or Servants have entered into any contract or agreement to offer payment of any kind to a trade association, representative of the Superintendent or representative of the Principal in the event of a winning tender by this Organisation.
3. Neither the Tenderer nor the Tenderers Agents or Servants have had any knowledge of the price of tenders submitted by its competitors nor did the Tenderer furnish the price of the enclosed tender to any source external to the Tendering Organisation prior to the close of the tender date as specified within this Contract.
4. Neither the Tenderer nor the Tenderers Agents or Servants have entered into any contract or agreement to offer payment of any kind to an unsuccessful Tenderer in the event of a winning tender.
5. The Tenderer is not aware of any facts which would affect the decision of the Principal in accepting the tender nor has the Tenderer attempted to acquire information relevant to the tender award process by soliciting the Principal, the Superintendent or their Representative's Agents or Servants.
6. Neither the Tenderer nor the Tenderer's Agents or Servants have entered into any agreement with other Tenderers or third party which results in a payment of unsuccessful Tenderer's fees.
7. The contents of this document are true and correct to the best of my knowledge and in no way have been written under duress of any form.

I make this solemn declaration as to the matter aforesaid, according to the law in this behalf made, and subject to the punishment by law provided for any wilfully false statement in any such declaration.

**Signature of Tenderer:** \_\_\_\_\_

**Subscribed and declared at :** \_\_\_\_\_

**This:** \_\_\_\_\_ **Day of** \_\_\_\_\_ **(Year)** \_\_\_\_\_

**Before me:** \_\_\_\_\_ *(Print name)*

**Witness:** \_\_\_\_\_ *(Signature)*

(Justice of the Peace or authorised person)

**DECLARATION OF BUSINESS STATUS**

(Complete all details and lodge with Tender)

**NOTE:** Full disclosure is mandatory irrespective of the year, State or Territory in which the appointment of a liquidator or dissolution or discharge from bankruptcy occurred. Failure to disclose may result in an adverse determination.

Complete and provide details as applicable to the persons or company submitting the tender.

<b>4. Sole Trader</b>		
Full name and address of proprietor and spouse:		
Business Name (if applicable):		
	ABN/BN	

<b>2. Partnership</b>		
Full name and address of each partner and spouse:		
Business Name (if applicable):		
	ABN/BN	

<b>3. Company (Pty Ltd or Ltd)</b>		
Company Name (in full):		
	ABN/ACN	
Full names and addresses of all Directors, Managers and respective spouses:		
Name of Holding or Subsidiary Companies (if applicable):		
	ABN/ACN	
	ABN/ACN	
Business Name (if applicable):		
	ABN/BN	

**DECLARATION OF BUSINESS STATUS- CONT'D**

**CERTIFICATION**

I certify on behalf of \_\_\_\_\_ (the Tenderer),  
that to the best of my knowledge:

- (a) none of the Proprietors, Directors, Managers or their spouses is or has ever been bankrupt or a Director, Manager or Secretary of a Company that is being or has been wound up (whether voluntary or otherwise), and;
- (b) the business is not trading under:
  - an arrangement and/or reconstruction (i.e. restructuring a public company)
  - receiver and management
  - official management
  - an arrangement with creditors without sequestration (i.e. without the proprietors being made bankrupt)

<b>SIGNED:</b>		<b>DATED:</b>	
<b>FOR:</b>	(The Tenderer)		
<b>POSITION HELD:</b>			

**ALTERNATIVELY**

The Tenderer must provide details of each instance of the Tenderer, his or her spouse, every partner and his or her spouse, every Director, Manager and their spouses being or having been bankrupt (if discharged state the date of discharge) or having entered into an arrangement with his or her creditors without proceeding to bankruptcy or of having been a Director, Manager or Secretary of a company which is being or has been wound up or is trading under an arrangement with creditors.

**Details**

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<b>SIGNED:</b>		<b>DATED:</b>	
<b>FOR:</b>	(The Tenderer)		
<b>POSITION HELD:</b>			

**BANK GUARANTEE REQUIREMENT  
ONLY APPLICAPABLE TO SUCCEFUL TENDERER**

The Tenderer may choose to provide a cash retention amount to be held in Trust by the Principal  
 OR

The Tenderer may provide a Bank Guarantee and if so, the Tenderer must complete and submit with tender the following information.

All Submitted information will be treated as confidential

**Under the General Conditions of Contract for this Project, the progress payments issued by the Principal to the Tenderer will be made on a monthly basis.**

**PARTICULARS OF TENDERER**

<b>Name of Tenderer:</b>	
<b>Address:</b>	
<b>Phone Number :</b>	
<b>Name of Principal(Council):</b>	ALICE SPRINGS TOWN COUNCIL
<b>Contract Description :</b>	
<b>Project Duration (months):</b>	2017-2018 FINANCIAL YEAR
<b>Tender Price:</b>	
<b>Monthly Expenditure (\$):</b>	

**FINANCIAL INSTITUTION TO COMPLETE INFORMATION BELOW LINE**

**PARTICULARS OF FINANCIAL INSTITUTION**

<b>Name of Financial Institution:</b>	
<b>Branch and BSB:</b>	
<b>Account:</b>	
<b>Phone Number :</b>	

*I, \_\_\_\_\_, based upon the information given above in addition to that information available to the financial institution, believe the Tenderer is capable of meeting the financial requirements of this project.*

**Signature:** \_\_\_\_\_

**Witness:** \_\_\_\_\_ **Date:** \_\_\_\_\_



**TENDERER’S PARTICULARS – INSURANCE**

The Tenderer must complete and submit with tender.

All Submitted information will be treated as confidential.

**1. INSURANCE**

<b>1.1 Workers Compensation</b> <i>(refer clause 3.2.3 – Conditions of Contract – Period Contract)</i>	
(i) For Contractors employing workers (as defined in “Work Health Act” (1986) as amended).	(ii) For Contractors <u>not</u> employing workers (as defined in “Work Health Act” (1986) as amended).
<b>Policy Number</b>	I/We certify that I/we am/are not employing nor intending to employ workers (as defined in “Work Health Act” (1986) as amended) on the Contract during the currency of the Contract..
<b>Name of Insurer</b>	
<b>Date of Expiry</b>	

**NOTE: Tenderers are to delete (i) or (ii) as appropriate**

<b>1.2 Public Liability</b> <i>(refer Item 12 of the Annexure)</i>			
<b>Policy Number</b>		<b>Name of Insurer</b>	
<b>Date of Expiry</b>		<b>Sum Insured</b>	

(minimum \$20 M any one occurrence)

<b>SIGNED:</b>		<b>DATED:</b>	
<b>FOR:</b>	(The Tenderer)		

## DECLARATION – OCCUPATIONAL, HEALTH AND SAFETY

The Tenderer must complete and submit with tender.  
All submitted information will be treated as confidential.

I, \_\_\_\_\_ (Print name),

Of \_\_\_\_\_ (Tendering Organisation),

Have read and understood 'Conditions of Tendering' clause 5 in tender documents Viz –

### 5. OCCUPATIONAL HEALTH AND SAFETY (O H & S)

The Contractor shall:

- (a) Comply with all requirements of the contract and all statutory requirements for Occupational Health and Safety.
  - (b) Ensure that each of its Subcontractors and Consultants comply in like manner.
4. Demonstrate to the Principal whenever requested that requirements of the contract and statutory requirements for Occupational Health and Safety are being met.

The Tenderer shall certify on the form provided that safety requirements of the works undertaken in the contract and statutory requirements for Occupational Health and Safety are capable of being met.

Where inappropriate or inadequate provision of Occupational Health and Safety Management by the Contractor or Contractor's subcontractor results in costs, losses or damages incurred by the principal or claims by third parties against the Principal for either direct or consequential costs, losses or damages, the Contractor shall be liable for costs, losses or damages associated with any claim including but not limited to administration and legal costs incurred by the Principal in resolving such claim.

I declare and affirm that the Contractor shall fully comply with 'Conditions of Tendering' clause 5.

**Signature of Tenderer:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## DECLARATION – PROTECTION OF THE ENVIRONMENT

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The Tenderer must complete and submit with tender.  
All submitted information will be treated as confidential.

I, \_\_\_\_\_ (Print name),

Of \_\_\_\_\_ (Tendering Organisation),

Have read and understood 'Conditions of Tendering' clause 8 in tender documents Viz –

## 8. PROTECTION OF THE ENVIRONMENT

The Contractor shall;

- a) Comply with all statutory requirements and accepted current practices for Environmental management.
- b) Comply in every respect with the Erosion and Sedimentation Plan pertaining to this contract.
- c) Ensure that each of its subcontractors and Consultants comply in like manner.

All work shall be carried out in such a manner as to avoid nuisance and/or damage to the environment. The Contractor shall comply with the requirements of the conditions of approval imposed by the Local Government Act, Environmental Offences and Penalties Act and the Water Act. No variation in costs or extensions of time will be considered due to these requirements.

The Contractor shall plan and carry out the Works to avoid erosion, contamination and sedimentation of the site and its surroundings.

Herbicides and other toxic chemicals shall not be used on the site without the prior written approval of the Principle.

No noise or smoke or other nuisance, which in the opinion of the Principle is unnecessary or excessive shall be permitted by the Contractor in the performance of the works under this Contract. Should work outside customary working hours be approved, the Contractor shall not use, during such period, any plant, machinery or equipment which in the opinion of the Principle is causing or is likely to cause a nuisance to the public. No noisy works and/or works likely to disturb nearby residents shall be undertaken during the hours precluding such activity as specified by Council in accordance with the requirements for development consent and building approval made under the Local Government Act and appropriate Noise Legislation.

The Contractor shall ensure that fugitive dust from disturbed areas is minimised by a method approved by the Principle.

I declare and affirm that the Contractor shall fully comply with 'Conditions of Tendering' clause 8.

**Signature of Tenderer:** \_\_\_\_\_

**Date:** \_\_\_\_\_



**TENDERER’S PARTICULARS – CURRENT COMMITMENTS**

The Tenderer must complete and submit with tender.

All Submitted information will be treated as confidential.

All Works within this Tender shall be completed by end of May 2018.

List the current projects your organisation is engaged in or committed to:

4. Project name: \_\_\_\_\_

Client	Contact	Phone number	Contract amount	Estimated Completion (Month/Yr)

**Description of works**


4. Project name: \_\_\_\_\_

Client	Contact	Phone number	Contract amount	Estimated Completion (Month/Yr.)

**Description of works**


4. Project name: \_\_\_\_\_

Client	Contact	Phone number	Contract amount	Estimated Completion (Month/Yr)

**Description of works**


**TENDERER’S PARTICULARS – PROJECT HISTORY**

The Tenderer must complete and submit with tender  
 All Submitted information will be treated as confidential

List the similar projects your organisation has completed in the last 10 years

4. Project name: \_\_\_\_\_

Client	Contact	Phone	Contract	Duration

Description of works


4. Project name: \_\_\_\_\_

Client	Contact	Phone	Contract	Duration

Description of works


4. Project name: \_\_\_\_\_

Client	Contact	Phone	Contract	Duration

Description of works




**REGISTER OF TENDERER’S SUBCONTRACTORS AND SUPPLIERS**

The Tenderer must complete and submit with tender  
 All Submitted information will be treated as confidential

The Tenderer is instructed to compile a listing below of all Selected Subcontractors and Suppliers which the Tenderer expects to use to execute the Works under the terms of this Contract.

<b>Supplier or Subcontractor</b>	<b>Appropriate Telephone No.</b>	<b>Description of Work or Materials</b>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		



**MAJOR MACHINERY AND EQUIPMENT**

The Tenderer must complete and submit with tender

All Submitted information will be treated as confidential

**The Tenderer is instructed to compile a listing below of all Major Equipment and Machinery proposed to execute the Works under the terms of this Contract.**

Make/Model	Description	Year of Manufacture	Owned or Leased
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			

