QUEANBEYAN PALERANG REGIONAL COUNCIL

DEVELOPMENT CONSTRUCTION SPECIFICATION

C242

FLEXIBLE PAVEMENTS

VERSION 1 – JANUARY 2019

Amendment Record for this Specification Part

This Specification is Council's edition of the AUS-SPEC generic specification part and includes Council's primary amendments.

Details are provided below outlining the clauses amended from the Council edition of this AUS-SPEC Specification Part. The clause numbering and context of each clause are preserved. New clauses are added towards the rear of the specification part as special requirements clauses. Project specific additional script is shown in the specification as italic font.

The amendment code indicated below is 'A' for additional script 'M' for modification to script and 'O' for omission of script. An additional code 'P' is included when the amendment is project specific.

Amendment Sequence No.	Key Topic addressed in amendment	Clause No.	Amendment Code	Author Initials	Amendment Date
VERSION 1	Standards and references updated	C242.03.1	M	KD	17/03/10
	Inspection requirements added	C252.05.4	A	KD	17/03/10
	Hold Point added	C242.08.7	A	KD	17/03/10
	Hold Point added	C242.09	A	KD	17/03/10
	Hold Point and Witness Point added	C242.10	A	KD	17/03/10
	Hold Point added	C242.12.1	A	KD	17/03/10
	Hold Point added	C242.13	A	KD	17/03/10
	Hold Point added	C242.14.1	A	KD	17/03/10
	Hold Point added	C242.14.6	A	KD	17/03/10
	Hold Point added	C242.15.3	A	KD	17/03/10
	Hold Point added	C242.15.6	A	KD	17/03/10
	Hold Point added	C242.15.7	A	KD	17/03/10
	Hold Point added	C242.18.2	A	KD	17/03/10
	Hold Point added	C242.20.2	A	KD	17/03/10
	Hold Point added	C242.21.2	A	KD	17/03/10
	Hold Point added	C242.22(b).2	A	KD	17/03/10
	Hold Point added	C242.22(c). 4	A	KD	17/03/10
	Hold Point added	C242.23(a).1	A	KD	17/03/10

	Hold Point added	C242.23(a).2	A	KD	17/03/10
	Hold Point added	C242.23(b).1	A	KD	17/03/10
	Hold Point added	C242.23(b).3(ii)	A	KD	17/03/10
	Hold Point added	C242.23(b).3(iii)	A	KD	17/03/10
	Witness Point added	C242.24.2	A	KD	17/03/10
	Witness Point added	C242.24.3	A	KD	17/03/10
	Hold Point added	C242.24.4	A	KD	17/03/10
	Witness Point and Hold Point added	C242.25	A	KD	17/03/10
	Hold Points added	C242.26	A	KD	17/03/10
	Annexure added	C242 - A	A	KD	17/03/10
	Select Material Zone added to scope	C242.01	A	CS	29/08/17
	Addition of requirement to undertake subgrade CBR testing	C242.05	A	CS	29/08/17
	Select Material Zone added to materials	C242.06	A	CS	29/08/17
	Select Material / Upper Formation zone material requirements added, subsequent section re-numbered	C242.11	A	CS	29/08/17
	Hold points added for compaction testing and test rolling	C242.21	A	HS	29/08/17
	Hold points added	C242.23	A	HS	29/08/17
	Standards and other references updated	C242.02	M	TR	17/12/18

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SPECIFICATION 242 : FLEXIBLE PAVEMENTS – VERSION 1

GENERAL

C242.01 SCOPE

1. The work to be executed under this Specification consists of the supply, spreading, compaction and trimming of base and subbase courses of flexible and semi-rigid (bound) pavements to the specified levels and thicknesses as shown on the Drawings.

2. Requirements for quality control and testing, including maximum lot sizes and minimum test frequencies, are cited in the Specification Part for Quality Requirements. ***Quality***

C242.02 TERMINOLOGY

(a) Materials designated as 'base' require the provision of a wearing surface comprising either a sprayed bituminous seal or asphalt up to 50mm thick. ***Definitions***

(b) Materials designated as 'subbase' require a covering course of 'base'. The subbase may consist of one or more layers.

(c) The upper zone of the formation where a specified higher quality material is required. The material designated as ‘select material zone’ (SZM) will have a specified higher quality and require a covering course of ‘subbase’.

(d) A flexible pavement consists of a base and a subbase constructed of unbound materials. For the purpose of this Specification it also includes "semi-rigid" pavements.

(e) A semi-rigid pavement is one where the base and/or the subbase are constructed of bound materials.

(f) Bound material incorporates a binder to produce structural stiffness.

(g) Modified material incorporates small amounts of stabilising binder to improve the properties of the material without significantly affecting structural stiffness.

C242.03 REFERENCE DOCUMENTS

1. Documents referenced in this Specification are listed in full below whilst being cited in the text in the abbreviated form or code indicated. The Contractor shall possess, or have access to, the documents required to comply with this Specification. ***Documents Standards Test Methods***

(a) Council Specifications

C241	Stabilisation - Version 1
C244	Sprayed Bituminous Surfacing - Version 1

(b) Australian Standards

References in this Specification or on the Drawings to Australian Standards are noted by their prefix AS or AS/NZS. ***Australian Standards***

Where not otherwise specified in this Specification or the Drawings, the ***Currency***

Contractor shall use the latest Australian Standard, including amendments and supplements, available within two weeks of close of tenders.

AS 1141	Methods for sampling and testing aggregates
AS 1141.3:2012	Sampling - aggregates
AS 1141.14:2007	Particle shape, by proportional calliper.
AS 1141.22:2008	Wet/dry strength variation.
AS 1289	Methods of testing soils for engineering purposes.
AS 1289.3.1.1:2009	Soil classification tests - Determination of the liquid limit of a soil - Four point Casagrande method.
AS 1289.3.3.1:2009	Soil classification tests - Calculation of the plasticity index of a soil.
AS 1289.3.6.1:2009	Soil classification tests - Determination of the particle size distribution of a soil - Standard method of analysis by sieving.
AS 1289.3.6.3:2003	Soil classification tests - Determination of the particle size distribution of a soil - Standard method of fine analysis using a hydrometer.
AS 1289.5.2.1:2017	Soil compaction and density tests - Determination of the dry density/moisture content relation of a soil using modified compactive effort.
AS 1289.5.3.1:2004	Soil compaction and density tests - Determination of the field density of a soil - Sand replacement method using a sand-cone pouring apparatus.
AS 1289.5.4.1:2007	Soil compaction and density tests - Compaction control test - Dry density ratio, moisture variation and moisture ratio.
AS 1289.5.8.1:2007	Soil compaction and density tests - Determination of field density and field moisture content of a soil using a nuclear surface moisture – density gauge - Direct transmission mode.
AS 1289.6.1.1:2014	Soil strength and consolidation tests - Determination of the California bearing ratio of a soil - Standard laboratory method for a remoulded specimen.

(c) RMS Test Methods

T114:2012	Maximum Dry Compressive Strength of Road Construction Materials
T116:2012	Unconfined Compressive Strength of Remoulded Road Construction Materials
T130:2012	Dry Density - Moisture Relationship for Mixtures of Road Construction Materials (blended in the laboratory with cementitious binders)
T131:2012	Unconfined Compressive Strength of road construction materials (blended in the laboratory with cementitious binders)
T160:2012	Deflect Measurement (Portable Beam)
T171:2012	Modified Texas Triaxial Compression Test for pavement materials

(d) Other

NSW Department of Environment, Climate Change and Water
Specification for Supply of Recycled Materials for Pavements, Earthworks and Drainage 2010

AUSTROADS
Austroads 2008 - Glossary of Austroads terms
AGPT03 - 2009 Guide to Pavement Technology Part 3 - Pavement surfacings
AGPT04A - 2008 Guide to Pavement Technology Part 4A: Granular base and

subbase materials
AGPT04D - 2006 Guide to Pavement Technology Part 4 D: Stabilised materials

C242.04 PAVEMENT STRUCTURES

1. Flexible or semi-rigid pavement material types and layer thicknesses shall be as shown on the Drawings. ***Material Types and Layer Thickness***

C242.05 INSPECTION, SAMPLING AND TESTING

1. Inspection, sampling and testing of the pavement shall be undertaken by the Contractor in accordance with the requirements of this Specification before, during and after the construction of the pavement. Testing shall be carried out by a NATA registered laboratory with appropriate accreditation and suitably qualified personnel. ***Contractor's Responsibility***

2. Prior to undertaking pavement earthworks the Contractor shall determine the insitu subgrade CBR by AS 1289.6.1.1. Sufficient tests shall be taken to represent all the various materials which may exist in the subgrade, though not less than every 1000m2 or per each lot (for fill material) or as directed by a suitably qualified Geotechnical Consultant. If material has a CBR value less than the value required by approved design drawings, the Superintendent will direct the action to be taken. This is a HOLD POINT. ***CBR Testing (HP)***

3. The Contractor shall provide the Superintendent with written notice when testing is being carried out and copies of all test reports for approval to proceed. ***Written Notice***

4. Field density tests shall be carried out in accordance with AS 1289.5.3.1, or, with the Superintendent's concurrence, with a Nuclear Density Meter in accordance with Clause C242.19. ***Density Tests***

5. The Contractor shall give notice so that inspection may be made of all **HOLD POINTS** and **WITNESS POINTS** documented in this specification and tabulated in Annexure C242-A.. Release of **HOLD POINTS** and **WITNESS POINTS** shall be made by the Superintendent, with the concurrence of the Principal Certifying Authority, where stipulated in Annexure C242-A. ***Inspections***

MATERIALS

C242.06 GENERAL

1. The Contractor shall submit details of all constituents of the proposed base, subbase and select material zone (SZM) materials, including sources of supply and the proposed type and proportion of any binder. These details shall be submitted to the Superintendent, supported with test results from a nominated NATA registered laboratory confirming that the constituents comply with the requirements of this Specification. If the proposed base or subbase is a bound material, the Contractor shall submit a completed Annexure C241-A contained in the Specification for STABILISATION – VERSION 1. ***Details of Proposed Base and Subbase and SZM to be Submitted***

2. No material shall be delivered until the Superintendent has approved the source of supply. ***Source of Supply***

3. If, after the Contractor's proposals have been approved, the Contractor wishes to make changes in any of the material constituents the Contractor shall inform the Superintendent in writing of the proposed changes. No delivery of material produced under the altered proposal shall take place without the approval of the Superintendent. The cost of testing associated with any altered proposal shall be borne by the Contractor. ***Variations by Contractor*** ***Contractor's Cost***

4. At least fourteen days before placement of the material on site, the Contractor shall submit a Certificate from a laboratory with appropriate NATA registration demonstrating and stating that the unbound material or the mix and its constituents comply with the requirements of this Specification. This is a **HOLD POINT**. ***NATA Certificate (HP)***

5. Ongoing testing of materials during delivery and construction shall be undertaken on samples taken from the site. ***Sampling on-site***

Note to Compiler: - Due regard may be taken *of the opportunity to use recycled materials for pavements – (RESOURCE NSW - Specification for Supply of Recycled Materials for Pavements, Earthworks and Drainage*, 2003.). Note - disclaimer in front cover of specification under "important" re liability.

C242.07 TRAFFIC CATEGORY

1. Pavement materials are specified in terms of the Traffic Categories given in Table C242.1 for the calculated design traffic of the pavement. ***Pavement Material Traffic Category***

2. The Traffic Category (or Design Traffic) for the pavement materials shall be as shown on the Drawings. ***Drawings***

Pavement Material Traffic Category	Description
1	Roads with design traffic equal to or exceeding 10^7 equivalent standard axle (ESA) repetitions.
2a	Roads with design traffic exceeding 4 x 10^6 ESAs but less than 10^7 ESAs.
2b	Roads with design traffic exceeding 10^6 ESAs but less than or equal to 4 x 10^6 ESAs.
2c	Roads with design traffic exceeding 10^5 ESAs but less than or equal to 10^6 ESAs.
2d	Roads with design traffic less than or equal to 10^5 ESAs.

Table C242.1 - Pavement Material Traffic Categories

C242.08 UNBOUND BASE AND SUBBASE

1. Unbound materials, including blends of two or more different materials, shall consist of granular material which does not develop significant structural stiffness when compacted. Material produced by blending shall be uniform in grading and physical characteristics. ***Granular Material***

2. Unbound crushed rock materials are designated as follows: ***Crushed Rock***

DGB20	20mm nominal sized densely graded base
DGS20	20mm nominal sized densely graded subbase
DGS40	40mm nominal sized densely graded subbase
GMB20	20mm nominal sized graded macadam base
GMS40	40mm nominal sized graded macadam subbase

3. Unbound natural gravel materials are designated as follows: ***Natural Gravel***

NGB20-2c	20mm nominal sized natural gravel base for Traffic Category 2c
NGB20-2d	20mm nominal sized natural gravel base for Traffic Category 2d
NGS20	20mm nominal sized natural gravel subbase
NGS40	40mm nominal sized natural gravel subbase

4. The acceptable material types for each Traffic Category are given in Table C242.2. ***Material Types***

Traffic Category	Acceptable Base Material	Acceptable Subbase Material
1	DGB20, GMB20	DGS20, DGS40, GMS40
2a	DGB20, GMB20	DGS20, DGS40, GMS40
2b	DGB20, GMB20	DGS20, DGS40, GMSS40
2c	DGB20, GMB20, NGB20-2c	DGS20, DGS40, GMS40, NGS20, NGS40
2d	DGB20, GMB20, NGB20-2c, NGB20-2d	DGS20, DGS40, GMS40, NGS20, NGS40

Table C242.2 - Acceptable Pavement Material Types

5. Base materials shall comply with the requirements of Table C242.3. ***Base***

Test Method	Description	Base Material Requirements			
		DGB20	GMB20	NGB20-2c	NGB20-2d
AS 1289.3.6.1	Coarse Particle Size Distribution				
	% passing 75.0mm sieve	-	-	-	-
	% passing 53.0mm sieve	-	-	-	-
	% passing 37.5mm sieve	-	-	-	-
	% passing 26.5mm sieve	100	100	100	100
	% passing 19.0mm sieve	95-100	95-100	93-100	93-100
	% passing 13.2mm sieve	-	-	-	-
	% passing 9.5mm sieve	-	-	71-87	71-87
	% passing 6.7mm sieve	50-70	30-55	-	-
	% passing 4.75mm sieve	-	-	47-70	47-70
	% passing 2.36mm sieve	35-55	20-30	35-56	35-56
	% passing 0.425mm sieve	-	-	14-32	14-32
	% passing 0.075mm sieve	-	-	6-20	6-20
AS 1289.3.6.3	Fine Particle Size Distribution Ratios expressed as percentages (for that portion of the material passing 2.36mm sieve)				

Test Method	Description	Base Material Requirements			
		DGB20	GMB20	NGB20-2c	NGB20-2d
	A. Pass 425µm sieve %	35-55	30-50	-	-
	B. Pass 75µm sieve % / Pass 425µm sieve	35-55	30-50	-	-
	C. Pass 13.5µm sieve % / Pass 75µm sieve	35-60	-	-	-
AS 1289.3.1.1	Liquid Limit (if non plastic) ⋎	max 20	max 20	max 20	max 20
AS 1289.3.3.1	Plastic Limit (if plastic)	max 20	max 20	max 20	max 20
AS 1289.3.3.1	Plasticity Index ■	max 6	max 6	max 6	max 8
T114	Maximum Dry Compressive Strength on fraction passing 19mm sieve (only applies if Plasticity Index is less than 1)	min 1.7 MPa	min 1.7 MPa	min 1.7 MPa	min 1.7 MPa
AS 1141.14	Particle Shape by Proportional Calliper % mis-shapen (2 : 1)	max 35	max 35	-	-
AS 1141.22	Aggregate Wet Strength ◊				
	For category 1 or 2a	min 80	min 150	-	-
	For category 2b or 2c	min 70	min 130	-	-
	For category 2d	min 60	min 100	-	-
AS 1141.22	Wet/Dry Strength Variation ◊ Dry - Wet % / Dry				
	For category 1 or 2a	max 35	max 30	-	-
	For category 2b or 2c	max 40	max 30	-	-
	For category 2d	max 45	max 30	-	-
AS 1289.6.1.1	4 day Soaked CBR (98% Modified Compaction)	-	-	80	60
AS 1289.D21	Water-soluble sulphate content (% SO_4 by mass)	max 0.1%	max 0.1%	max 0.1%	max 0.1%
AS 1141.36	Total sulphur content (% S by mass)	max 1.5%	max 1.5%	max 1.5%	max 1.5%

Table C242.3 - Unbound Base Material Properties

NOTES ON TABLE C242.3:

Material consisting of rounded river stone shall have a minimum of two fractured faces on at least 75 per cent of the particles larger than 6.70mm.

⋎ The maximum value of the Liquid Limit may be increased to 23 for non-plastic material, provided that the value determined is not influenced by the presence of adverse constituents.

■ For category 2d base materials the maximum Plasticity Index shall be 8.

◊ All fractions of the sample specified by AS 1141.22 must be within specification. The fraction with the highest wet/dry strength variation is the value for determining conformance with the specification. The fractions 19.0mm to 13.2mm and 6.7mm to 4.75mm must be tested.

6. Subbase materials shall comply with the requirements of Table C242.4 ***Subbase***

Test Method	Description	Subbase Material Requirements				
		DGS20	**DGS40**	**GMS40**	**NGS20**	**NGS40**
AS 1289.3.6.1	Coarse Particle Size Distribution % passing 75.0mm sieve % passing 53.0mm sieve % passing 37.5mm sieve % passing 26.5mm sieve % passing 19.0mm sieve % passing 13.2mm sieve % passing 9.5mm sieve % passing 6.7mm sieve % passing 4.75mm sieve % passing 2.36mm sieve % passing 0.425mm sieve % passing 0.075mm sieve	 - - - 100 95-100 - - 50-70 - 35-55 - -	 - 100 - - 50-85 - - 30-55 - 25-50 - -	 - 100 - - 50-75 - - 15-35 - 5-15 - -	 - - - 100 96-100 - 65-89 - 47-80 32-67 14-42 6-26	 - 100 95-100 80-97 - - 48-85 - 35-73 25-58 10-33 3-21
AS 1289.3.6.3	Fine Particle Size Distribution Ratios expressed as percentages (for that portion of the material passing 2.36mm sieve) A. Pass 425µm sieve % B. Pass 75µm sieve % Pass 425µm sieve C. Pass 13.5µm sieve % Pass 75µm sieve	 35-55 35-55 35-60	 35-60 35-60 35-65	 25-50 25-50 -	 - - -	 - - -
AS 1289.3.1.1	Liquid Limit (if non plastic)	max 23	max 23	-	max 23	max 23
AS 1289.3.3.1	Plastic Limit (if plastic)	max 20	max 20	-	max 23	max 23
AS 1289.3.3.1	Plasticity Index	max 12	max 12	max 12	max 12	max 12
T114	Maximum Dry Compressive Strength on fraction passing 19mm sieve (only applies if Plasticity Index is less than 1)	min 1.0 MPa	min 1.0 MPa	-	1.0 MPa	1.0 MPa
AS 1141.14	Particle Shape by Proportional Calliper % mis-shapen (2 : 1)	 max 35	 max 35	 max 35	 -	 -
AS 1141.22	Aggregate Wet Strength ♦	min 50kN	min 50kN	min 130kN	-	-
AS 1141.22	Wet/Dry Strength Variation ♦ $\frac{\text{Dry - Wet}}{\text{Dry}}$ %	 max 60	 max 60	 max 30	 -	 -
AS 1289.6.1.1	4 day Soaked CBR (98% Modified Compaction)	-	-	-	30	30
AS 1289.D21	Water-soluble sulphate content (% SO_4 by mass)	max 0.1%	max 0.1%	max 0.1%	max 0.1%	max 0.1%
AS 1141.36	Total sulphur content (% S by mass)	max 1.5%	max 1.5%	max 1.5%	max 1.5%	max 1.5%

Table C242.4 - Unbound Subbase Material Properties

NOTES ON TABLE C242.4:

Material consisting of rounded river stone shall have a minimum of two fractured faces on at least 75 per cent of the particles larger than 6.70mm.

- All fractions of the sample specified by AS 1141.22 must be within specification. The fraction with the highest wet/dry strength variation is the value for determining conformance with the specification. The fractions 19.0mm to 13.2mm and 6.7mm to 4.75mm must be tested.

7. Where the proposed unbound base or subbase material complies with all of the requirements of Table C242.3 or Table C242.4 as appropriate except gradings (AS 1289.3.6.1 and AS 1289.3.6.3), the Contractor may propose the use of the material, subject to approval, if the material complies with the RMS Modified Texas Triaxial Classification Number (T171) requirements specified in Table C242.5, (T171 tested at not less than 85 per cent of Optimum Moisture Content and 98 per cent of Maximum Dry Density as determined by AS 1289.5.2.1). This is a **HOLD POINT**.

Modified Texas Triaxial Classification

(HP)

Traffic Category	Modified Texas Triaxial Classification Number (Test Method T171)	
	Base	Subbase
1	max 2.0	max 2.5
2a	max 2.2	max 2.5
2b	max 2.5	max 3.0
2c	max 3.0	max 3.0
2d	max 3.0	max 3.0

Table C242.5 - RMS Modified Texas Triaxial Classification Number Requirements

C242.09 LIME MODIFIED BASE AND SUBBASE MATERIALS

1. Modification of unbound base and subbase materials to meet the requirements of Clause C242.08 by the addition of hydrated lime or quicklime shall be subject to approval by the Superintendent and to the additional requirements of this clause. This is a **HOLD POINT**. After modification, the material shall meet the requirements of Clause C242.08.

Lime Modification (HP)

2. Modification of materials for Traffic Categories 1, 2a and 2b shall only be by use of hydrated lime mixed in a stationary mixing plant at the supplier's quarry.

Traffic Categories 1, 2a, 2b

3. Modification of materials for Traffic Categories 2c and 2d may be by the use of either hydrated lime through a stationary mixing plant or by hydrated lime or quicklime utilising in-situ operations.

Traffic Categories 2c, 2d

4. Material requirements of hydrated lime and quicklime shall be in accordance with the Specification for STABILISATION - VERSION 1.

Lime

5. The method of incorporating lime through the stationary mixing plant shall ensure

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that the lime is mixed uniformly through the material.

6. In-situ operations shall be in accordance with the Specification for STABILISATION – VERSION 1. ***In-situ Operations***

7. The proportion of lime shall be not less than 1.5 per cent nor more than 4 per cent by mass. The material prior to lime treatment shall not contain any added pozzolanic material. ***Proportion***

8. The lime treated material shall yield an unconfined compressive strength not exceeding 1.0 MPa, when tested in accordance with Test Method T116 where sampling is undertaken within 24 hours of adding the lime and testing is after 7 days accelerated curing. ***Unconfined Compressive Strength***

9. For DGB20 material, prior to being treated with lime, the material shall comply with the requirements of DGS20 in Table C242.4, except that the aggregate wet strength shall not be less than 80kN and the wet/dry strength variation shall not exceed 60 per cent. ***DGB20***

10. For DGB20, the lime treated material shall yield a CBR value of not less than 100 when tested in accordance with AS 1289.6.1.1, where sampling is undertaken within 24 hours of adding the lime and testing is after 7 days of accelerated curing. ***CBR Value***

C242.10 BOUND BASE AND SUBBASE MATERIALS

1. Bound materials utilised in semi-rigid pavements as a base layer for Traffic Categories 1, 2a and 2b shall be supplied as a crushed rock product with stabilising agent incorporated in a stationary mixing plant (pugmill) at the supplier's quarry unless prior written approval is obtained from the Council. This is a **HOLD POINT.** ***Traffic Categories 1, 2a, 2b (HP)***

2. Bound material to be used as subbase generally or base layer for Traffic Categories 2c and 2d may be supplied as a crushed rock product with stabilising agent incorporated in a pugmill or may be produced by the in-situ stabilisation of natural or blended gravel where stabilisation is undertaken by mobile plant at the site. ***Traffic Categories 2c, 2d***

3. Prior to stabilisation, the base layer material shall meet the requirements of Table C242.4 for subbase material for the appropriate Traffic Category. This is a **WITNESS POINT**. ***Material Requirements Prior to Stabilisation (WP)***

4. Material requirements for the stabilising agent shall be in accordance with the Specification for STABILISATION – VERSION 1. ***Stabilising Agent***

5. The stabilisation process shall meet the requirements of the Specification for STABILISATION – VERSION 1. ***Stabilisation***

C242.11 SELECT MATERIAL ZONE (SZM) / UPPER ZONE FORMATION

1. Material proposed to be used as “Select” material or upper zone formation material shall be subject to RMS Pre-treatment tests T102/103 and have a minimum CBR of 15% (4 day soak) and a plasticity index not greater than 15. The top layer of Selected material Zone shall have a minimum CBR of 30% (4 day soak). This is a **HOLD POINT.** ***Material Requirements (HP)***

DELIVERY, STOCKPILING AND PROCESSING OF PAVEMENT MATERIAL

C242.12 DELIVERY TO SITE

1. Materials shall be supplied sufficiently damp to avoid segregation and loss of fines during transit. ***Damp Condition***

C242.13 STOCKPILING OF UNBOUND MATERIALS

1. Stockpile sites shall be located as shown on the Drawings or as approved by the Superintendent. This is a **WITNESS POINT**. ***Stockpile Sites (WP)***

2. Stockpile sites, which shall be cleared of all vegetation and extraneous matter, shall be shaped to form a crown so as to be free draining and compacted over the whole area to provide a relative compaction, determined by AS 1289.5.4.1 for standard compactive effort, of not less than 95 per cent. ***Compacted and Free Draining***

3. Stockpiles and stockpile sites shall be maintained so as to prevent the stockpiled materials from becoming intermixed or contaminated with foreign material. ***Stockpile Requirements***

4. The total height of any stockpile shall not exceed 3m. ***Height***

5. Stockpiles shall be of uniform shape with side slopes neither steeper than 1.5h to 1v nor flatter than 3h to 1v. ***Shape***

6. The worked face of any stockpile shall be the full face of the stockpile. The stockpiled material shall be maintained at a moisture content sufficiently damp to avoid loss of fines. ***Maintained Damp***

7. At the completion of the works, stockpile sites shall be cleared of all surplus material and left in a clean and tidy condition. ***Completion of Work***

C242.14 DELIVERY OF MODIFIED OR BOUND MATERIALS

1. Modified or bound materials shall be delivered in vehicles fitted with covers of canvas or other suitable material to prevent loss of moisture during transport. ***Vehicle Deliveries***

2. The time between mixing and conveyance by delivery trucks to the site, shall be such as to allow incorporation into the works including trimming and compaction within the nominated field working period. ***Time Limit***

3. Each truck load of bound material shall be identified by delivery dockets, indicating the time and date of mixing and registration or fleet number of the delivery truck, and such dockets shall be made available to the Superintendent at the point of delivery. This is a **HOLD POINT**. ***Delivery Dockets (HP)***

4. Bound materials shall comply with the requirements of the Specification for STABILISATION - VERSION 1.

SPREADING OF PAVEMENT MATERIAL

C242.15 SPREADING PAVEMENT MATERIALS

1. Unbound materials shall not be spread upon an underlying pavement layer which has a moisture content exceeding 90 per cent, the laboratory optimum moisture content as determined by AS 1289.5.2.1 or which has become rutted or mixed with foreign matter. The underlying layer shall be corrected to comply with this Specification before spreading of the next layer of pavement. This is a **HOLD POINT**.

Underlying Layer Quality (HP)

2. Where the underlying layer was constructed by the Contractor, or where the Contractor's activities caused the underlying layer constructed by others to become non-complying with this Specification, the cost of correcting the underlying layer to comply shall be borne by the Contractor.

Contractor's Costs

3. Each layer of material shall be deposited and spread in a concurrent operation and, after compaction, the finished surface levels on the base and subbase courses shall be within the permitted tolerances stated in Clause C242.22(c) without subsequent addition of material. The thickness of each compacted layer shall be neither less than 100mm nor more than 200mm for all pavement layer types, unless otherwise approved by the Superintendent.

Tolerances

4. At all work boundaries in bound materials the Contractor shall provide vertical faces to provide for transverse and longitudinal joints.

Joints

5. When spread for compaction processes the moisture content of the base or subbase materials shall be in the range of 60-90 per cent of laboratory optimum moisture content in accordance with AS 1289.5.2.1.

6. Bound materials shall not be spread when the ambient air temperature in shade is either below 5^{o}C or above 35^{o}C. This is a **HOLD POINT**.

Temperature (HP)

TRIMMING AND COMPACTION

C242.16 GENERAL REQUIREMENTS

1. Each layer of the base, subbase and select material shall be uniformly compacted over its entire area and depth to satisfy the requirements of relative compaction set out in Clauses C242.19 and C242.20.

Uniform Compaction

2. On sections of pavement with one-way crossfall, compaction shall begin at the low side of the pavement and progress to the high side. On crowned sections, compaction shall begin at the sides of the pavement and progress towards the crown. Each pass of the rollers shall be parallel with the centreline of the roadway and uniformly overlap each preceding pass. The outer metre of both sides of the pavement shall receive at least two more passes by the compaction plant than the remainder of the pavement.

Compaction Procedure

3. At locations where it would be impracticable to use self propelled compaction plant, the pavement material shall be compacted by alternative hand-operated plant approved by the Superintendent. This is a **WITNESS POINT**.

Hand Operated Plant (WP)

4. Watering and compaction plant shall not be allowed to stand on the pavement being compacted.

Plant Movement Restrictions

5. If any unstable areas develop during rolling, the unstable material shall be rejected. The rejected material shall be removed for the full depth of the layer, disposed of and replaced with fresh material in accordance with Clause C242.24. This operation will be at cost to the Contractor.

Unstable Areas Contractor's Cost

6. The placement of subsequent layers shall not be allowed until the requisite testing has been completed and the test results for each layer have been accepted by the Superintendent. This is a **HOLD POINT**.

Placing Subsequent Layers (HP)

7. Any unbound material in a layer that has attained the specified relative compaction but subsequently becomes wetted up shall be dried out and, if necessary, uniformly recompacted and trimmed to meet the specified density requirements and level tolerances. This is a **HOLD POINT**.

Excessive Moisture Content (HP)

C242.17 CURING OF BOUND MATERIALS

1. The curing of the surface layer of a lot shall commence after compaction is completed.

Commence-ment Time

2. The stabilised work shall be protected against rapid drying out by keeping it continuously wet or damp during the period prior to the provision of a subsequent layer or the application of a prime or primer-seal.

Water Curing

3. Water curing shall consist of frequent light uniform spraying that will not produce significant run off or flooding on sections of the area. Slurrying of the surface or leaching of the stabilising agent shall be avoided.

Caution

ACCEPTANCE OF COMPACTED LAYERS

C242.18 LOTS FOR ACCEPTANCE

1. Acceptance of work, as far as compaction is concerned, shall be determined according to the elastic rebound deflection, and characteristic elastic rebound deflection of the work in lots. A lot shall be nominated by the Contractor, but shall conform to the following:

Lot Requirements

(a) cover only a single layer of work which has been constructed under uniform conditions in a continuous operation and not crossing any transverse construction joints;

(b) for unbound materials it may equal a day's output using the same material.

2. Measurements shall be taken at maximum spacings of 30 metres in each lane, with a minimum of six measurements per lot. The elastic rebound deflection, and characteristic elastic rebound deflection, for any lot shall not exceed the values given in Table C242.6.

Road Category	Elastic Rebound Deflection (mm)	Characteristic Elastic Rebound Deflection (mm)
Access Street	1.0	0.85
Local Street	1.0	0.85
Collector Street	1.0	0.85
Local Distributor Road	0.8	0.65
Arterial Road	As specified by RMS	As Specified by RMS

Table C242.6 - Limits of Elastic Rebound Deflection and Characteristic Elastic Rebound Deflection

3. The elastic rebound deflection shall be taken as the maximum deflection in accordance with Test Method T160 utilising the Benkelman Beam or equivalent. The characteristic elastic rebound deflection shall be taken as

Elastic Rebound Deflection

$$CD = \mu + Fs$$

where μ = the mean maximum deflection, s = the standard deviation, and F = a confidence limit factor. For Arterial Roads the confidence limit factor shall be 2.00, and for local distributor roads, collector streets, local streets and access streets the confidence limit factor shall be 1.65.

4. Where agreed by the principal and Council, acceptance of work may be based upon density testing of the work in lots. The lots shall be nominated in accordance with Clause C242.17.1.

C242.19 COMPACTION ASSESSMENT

1. The Superintendent shall assess compaction for each lot based on the maximum elastic rebound deflection and characteristic elastic rebound deflection.

Elastic Rebound Deflection

2. The Contractor shall arrange for testing to assess compaction, and present the results to the Superintendent for approval. This is a **HOLD POINT**.

Super-intendent's Approval (HP)

3. The cost of all testing for compaction assessment of any layer in an area of pavement shall be borne by the Contractor.

Contractor's Costs

C242.20 RELATIVE COMPACTION

1. The relative compaction of pavement material at each location tested for in-situ dry density shall be calculated in accordance with AS 1289.5.4.1 as follows:

Calculation

$$\text{Relative Compaction (per cent)} = \frac{\text{In-situ dry density}}{\text{Comparative dry density}} \times 100$$

NOTE: The comparative dry density shall be the maximum dry density determined in the laboratory.

2. The Council may approve some or all of the in-situ dry density testing to be carried out with a single probe Nuclear Density Meter in the direct transmission mode in accordance with AS 1289.5.8.1. ***In-Situ Dry Density Testing***

3. Each day that material is produced for placement in a layer or layers, a sample of the material shall be taken by the Contractor for maximum dry density testing to represent that day's production. ***Daily Samples***

4. For unbound layers, the sample shall be tested in accordance with AS 1289.5.2.1 to determine the maximum dry density (modified compactive effort) for the material. ***Maximum Dry Density***

5. For bound layers the sample shall be tested within two hours after the addition of stabilising agent to the mix in accordance with RMS Test Method T130 to determine the maximum dry density (modified compactive effort) for the material. This test method shall also be used to determine the optimum moisture content. ***Time for Testing***

6. The maximum dry density so determined shall be used as the comparative dry density in relative compaction calculations for all like material from that lot or day's production placed in a single layer of work whichever is the lesser. ***Comparative Dry Density***

C242.21 COMPACTION REQUIREMENTS AND ACCEPTANCE

1. A lot shall be accepted for compaction if:

   (a) The minimum value of all calculated relative compaction for modified compactive effort is not less than 97 per cent within the lot or the area of pavement being assessed.

   (b) In the case of bound layers an area of pavement presented for compaction assessment has within that area a zone or zones with relative compaction less than 97 per cent (modified compactive effort) but equal to or greater than 92 per cent may be accepted by the Superintendent provided such zone or zones shall not comprise more than 5 per cent of the area presented.

   (c) In the case of bound layers of target final depth in excess of 250mm, the top 150mm shall meet the requirements of paragraph 1(b) in this clause whilst the bottom 150mm shall have a relative compaction equal to or greater than 92 per cent.

Compaction test results shall be provided to the Superintendent within 1 working day after the test results are completed. This is a **HOLD POINT**. ***Compaction test results (HP)***

2. Lots or areas of pavement not achieving these specified values shall be rejected. Unbound layers may be reworked as provided by Clause C242.21, but the bound materials in rejected layers/courses shall be removed and replaced with fresh materials in accordance with Clause C242.24. This is a **HOLD POINT**. ***Rejection of Lots (HP)***

3. The Superintendent may request for the finished surface of any pavement layer to be proof rolled with a fully laden water cart. Any section exhibiting signs of deformation, deflection or fatigue are to be removed and replaced as directed by the Superintendent. This is a **HOLD POINT**. ***Proof Roll od completed pavement layer (HP)***

C242.22 REWORKING OF REJECTED UNBOUND LAYERS

1. Lots or areas of pavement that have been rejected in regard to compaction shall be reworked before resubmission for compaction assessment. ***Reworking***

2. Material that has become degraded, segregated or otherwise reduced in quality ***Rejected***

by reworking shall be rejected. The rejected material shall be removed, disposed of and replaced with fresh material complying with this Specification in accordance with Clause C242.24. When a lot or area of pavement is resubmitted for compaction assessment, testing shall be carried out in accordance with Clauses C242.18 and C242.19. This is a **HOLD POINT**.

Material (HP)

3. All costs associated with corrective work carried out before the resubmission of a lot for compaction assessment, including rewatering, rerolling, removal and replacement of material as well as reworking shall be borne by the Contractor.

Contractor's Costs

C242.23 TOLERANCES

a) General

1. The tolerances stated are the acceptable limits of departure from the dimensions shown on the Drawings, which may occur during construction.

Tolerances

2. Areas for assessment of conformity with tolerance requirements shall be divided into lots and presented to the Superintendent together with survey reports covering line and level.

Lots for Assessment of Conformity

b) Width

1. At any cross section without kerb and/or guttering, and for pavement layers extending under the kerb and/or guttering, the horizontal dimension measured from the design centre line to the edge of the constructed pavement surface shall be neither less than 50mm less than the dimension nor more than 300 mm greater than the dimension shown on the Drawings.

Horizontal Dimensions

2. The average width of the layer determined from measurements at three sites selected at random by the Superintendent over any 200 metre road length, or part thereof, shall be not less than the specified width. This is a **HOLD POINT**.

Average Width (HP)

c) Levels and Surface Trim

1. The levels of the finished surface of the top of the unbound subbase course shall not vary from the design levels by more than ± 10mm. Conformance details of the finished surface level of the Subbase layer must be provided to the Superintendent at least 3 working days prior to the placement of any subsequent layers or surfacing. **This is a HOLD POINT**.

Subbase Surface Level (HP)

2. Level tolerances at the top of the unbound base course shall not exceed those stated above for subbase. In addition, where kerb and gutter exists or is being constructed, the level of the top of the base course adjacent to the kerb and gutter shall not vary by more than ± 5mm from the lip level of the gutter minus the design thickness of the wearing surface. Conformance details of the finished surface level of the Base layer must be provided to the Superintendent at least 3 working days prior to the placement of any subsequent layers or surfacing. **This is a HOLD POINT**.

Base Surface Level (HP)

3. The design level of the top of the subbase course shall be determined from the design level of the finished road surface less the thickness of the base course and the wearing course, including an allowance for any flush seal layer in the pavement design.

Subbase Design Level

4. The pavement surface after trimming and immediately prior to sealing shall be of a quality such that the deviation under a 3 metre straight edge placed in any direction does not exceed 12mm. Measurements for conformance shall be taken in accordance with the maximum lot size and minimum test frequencies in the Specification Part for Quality Requirements. This is a **HOLD POINT**.

Straight Edge Deviation (HP)

C242.24 ACTION ON REJECTION

(a) Unbound Materials

1. A lot that has not complied with the requirements for width or level tolerance as set out in Clauses C242.23(b) and C242.23(c) respectively shall be rejected except as otherwise provided in this Clause. Rejected lots shall be removed, disposed of and replaced with fresh material in accordance with Clause C242.25. This is a **WITNESS POINT**.

Rejection Criteria

(WP)

2. Notwithstanding the above, where the rejected lot can be corrected by further trimming, the Superintendent may allow the surface to be corrected without complete removal and replacement with fresh material. Such trimming shall be undertaken in a manner that produces a uniform, hard surface and shall be achieved by cutting only without filling. After any such cutting, the level tolerances in Clause C242.23(c) shall apply. This is a **HOLD POINT**.

Corrective Action

(HP)

3. The cost of surface correction or replacement work ordered in accordance with this Clause including removal of material, disposal and supply and transport of replacement material, shall be borne by the Contractor.

Contractor's Costs

(b) Bound Materials

1. An area of bound material that has not complied with the requirements for width or level tolerance as set out in Clauses C242.23 (b) and C242.23(c) respectively shall be rejected except as otherwise provided for in this Clause. Rejected areas shall be removed, disposed of and replaced with fresh material in accordance with Clause C242.25. This is a **HOLD POINT**.

Rejection Criteria

(HP)

2. The cost of removal and disposal of rejected material and its replacement with fresh material shall be borne by the Contractor.

Contractor's Costs

3. Notwithstanding the above, the Superintendent may allow the Contractor to rectify the area in the following cases:

Corrective Action Circumstances

(i) Where the cause for rejection is under Clause C242.23(c), the course is a subbase course and rejection is due to departures from design level being too far below the design level, the Contractor may increase the thickness of the base course to make up such deficiency in thickness.

(ii) Where the cause for rejection is under Clause C242.23(c), the course is a subbase course and rejection is due to departures from design level being too far above the design level, the Contractor may propose a regrading of the design level of the base course, to allow for its design thickness to be laid, up to a maximum of 20mm above the original design level. Approval by the Superintendent shall be subject to the following requirements:

- The rate of change of grade from the original finished design surface level shall be less than 3 mm per metre.
- The regrading shall not interfere with the proper design functioning of the drainage system.
- The regrading shall not interfere with levels at the property boundary, or increase or decrease footpath or footpath crossover levels or grades beyond Council's allowable design limits.
- The regrading shall not interfere with clearances.

(HP)

This is a **HOLD POINT**.

(iii) Where the cause for rejection is under Clause C242.23(c), the course is a base course and rejection is due to departures from design level being too far above the design level, the Contractor may propose a regrading of the design level of the base course. Approval by the Superintendent shall be subject to the requirements of this Clause in (ii) above. This is a **HOLD POINT**. ***(HP)***

4. The cost associated with surface level corrections required in this Clause shall be borne by the Contractor. ***Contractor's Costs***

C242.25 REMOVAL AND REPLACEMENT OF REJECTED COURSES

1. Sections of the work that have been rejected shall be removed from the work and replaced with fresh material. Rejected material shall be removed from site. ***Rejected Material***

2. In rejected sections the material shall be removed over the full length of the rejected lot, except that a minimum length of 50 m of pavement layer shall be removed and replaced. Any damage to underlying or abutting layers or structures shall be made good by the Contractor using methods approved by the Superintendent. This is a **WITNESS POINT**. ***Length to be Removed*** ***(WP)***

3. The Superintendent may approve removal for less than the full width as constructed if the cause of the rejection of the work can be isolated transversely to the Superintendent's satisfaction. In this case, the new longitudinal cold joint shall be formed and located along the centreline of the road pavement. This is a **WITNESS POINT**. ***Super-intendent's Discretion (WP)***

4. After removal of rejected base or subbase course material, the section shall be presented for inspection by the Superintendent before replacement work is commenced. This is a **HOLD POINT**. ***Inspection Before Replacement (HP)***

5. Materials used as replacement materials, and the subsequent spreading, compaction, trimming, curing and testing of the replacement materials, shall comply with the requirements of this Specification. ***Replacement Material***

6. All costs associated with removals, replacements and corrections of base and subbase courses required under this Clause and the extra costs incurred by the Contractor in respect of delays caused by such removals, replacements and corrections shall be borne by the Contractor. ***Contractor's Costs***

C242.26 MAINTENANCE BEFORE COMPLETION OF WEARING SURFACE

1. Following the Superintendent's acceptance of any section of the work, the Contractor shall maintain the prepared surface of the base in the condition specified for acceptance until the wearing surface is completed. The base course of sections of the accepted work shall be covered with a primerseal over the full width of pavement in accordance with the Specification for SPRAYED BITUMINOUS SURFACING - VERSION 1 within seven days of the date of the acceptance of such sections, unless otherwise approved by the Superintendent. This is a **WITNESS POINT**. ***Primerseal*** ***(WP)***

2. Should the pavement condition deteriorate before the application of the primerseal and consent to proceed with the bitumen surfacing work is withdrawn by the Superintendent, the Contractor shall re-prepare the pavement and re-present the pavement for inspection by the Superintendent. This is a **HOLD POINT**. ***Contractor's Responsibility*** ***(HP)***

3. The cost of re-preparing areas of the deteriorated pavement shall be borne by the Contractor. ***Contractor's Cost***

4. The Contractor shall maintain adequate drainage of the pavement, and remove any ponded water within 12 hours of its creation if free drainage cannot be achieved, prior to the completion of the wearing course.

Surface Drainage

OPENING PAVEMENT TO TRAFFIC

C242.27 GENERAL REQUIREMENTS

1. For unbound pavements, construction plant and vehicles not involved in the current construction or testing of the work shall not be permitted to use the pavement until the primerseal has been applied, unless otherwise approved by the Superintendent. This is a **HOLD POINT**.

Restrictions on Movement (HP)

2. For bound pavements, construction plant and vehicles not involved in the current construction or testing of the work shall not be permitted to use the pavement until the primerseal has been applied and seven days have elapsed since placement of the base. In any case only vehicles registered for legal road usage and loaded within legal limits will be allowed to use the pavement. This is a **HOLD POINT**.

Restrictions on Movement of Construc-tion Traffic (HP)

3. For bound pavements, traffic shall not be allowed to use the constructed pavement until a minimum of seven days after completion of the full pavement depth and the primerseal. This is a **HOLD POINT**.

Open to Traffic - Bound Pavement (HP)

LIMITS AND TOLERANCES

C242.28 SUMMARY OF LIMITS AND TOLERANCES

The limits and tolerances applicable to the various clauses in this Specification are summarised in Table C242.6 below:

Item	Activity	Limits/Tolerances	Spec Clause
1.	**Stockpile Sites**	(i) Relative Compaction >95% (ii) Stockpile height <3m (iii) Stockpile batter <1.5:1 and >3:1	C242.12 C242.12
2.	**Spreading Pavement Materials**		
	(i) Compacted Layer Thickness	≥100mm, ≤200mm	C242.14
3.	**Compaction Acceptance**		
	Minimum value of all calculated relative compaction results	≥97 per cent (modified compactive effort). For bound pavements may accept between 92% and 97% provided it represents less than 5% of the area.	C242.20
4.	**Width of Pavement**		
	(i) Design centre-line to edge of constructed pavement	-50mm to +300mm of dimensions on Drawings	C242.22(b)
	(ii) Average Width	The average width determined from 3 random sites over any 200m road length, or part thereof, shall be not less than the specified width.	C242.22(b)
5.	**Surface Level**		
	(i) Subbase levels	<±10mm from design level	C242.22(c)
	(ii) Base levels	<±10mm from design level	C242.22(c)
	(iii) Base levels adjacent to Kerb and Gutter	<±5mm from the lip levels of adjacent gutter minus design thickness of wearing surface.	C242.22(c)
	(iv) Shape	Deviation from a 3m long straightedge on base surface immediately prior to sealing shall be less than 12mm	C242.22(c)

Table C242.7 - Summary of Limits and Tolerances

SPECIAL REQUIREMENTS

C242.29 RESERVED

C242.30 RESERVED

C242.31 RESERVED

MEASUREMENT AND PAYMENT

C242.32 PAY ITEMS

1. Payment shall be made for the activities associated with completing the work detailed in this Specification in accordance with Pay Items C242(a) to C242(b) inclusive.

2. A lump sum price for any of these items shall not be accepted.

3. If any item for which a quantity of work is listed in the Schedule of Rates has not been priced by the Contractor, it shall be understood that due allowance has been made in the prices of other items for the cost of the activity which has not been priced.

4. Base course primerseal is measured and paid in accordance with the Specification for SPRAYED BITUMINOUS SURFACING - VERSION 1.

Pay Item C242(a) SUPPLY, SPREAD AND COMPACT SUBBASE COURSE

1. The unit of measurement shall be the square metre.

2. The area shall be determined by the length and width of work as specified on the Drawings or as directed by the Superintendent.

3. No account shall be taken of allowable tolerances.

4. The schedule rate under this Pay Item shall include all the activities associated with the supply, spread, compaction, trimming, jointing, and testing of the subbase course, and curing of bound material.

Pay Item C242(b) SUPPLY, SPREAD AND COMPACT BASE COURSE

1. The unit of measurement shall be the square metre.

2. The area shall be determined by the length and width of work as specified on the Drawings or as directed by the Superintendent.

3. No account shall be taken of the allowable tolerances.

4. The schedule rate under this Pay Item shall include all the activities associated with the supply, spread, compaction, trimming, jointing, and testing of the base course, and curing of bound material.

ANNEXURE C242-A

INSPECTIONS

Give notice so inspection may be made of the following:

Summary of HOLD POINTS

Clause title/Item	Requirement	Notice for inspection	Release by
INSPECTION, SAMPLING & TESTING			
C242.05.02 Subgrade Evaluation	Undertake CBR testing of subgrade	Prior to undertaking earthworks	Superintendent – PCA concurrence required
MATERIALS			
C242.06.4 – NATA Certificates	Submit documentation	14 days	Superintendent – PCA concurrence required
Lime modified base and subbase materials			
C242.09.1 - Lime Modification	Submit proposals to modify materials	14 days before placing	Superintendent – PCA concurrence required
Bound Base and Subbase Materials			
C242.10.1 - Traffic Categories 1, 2a, 2b	Obtain approval for alternative mixing plant	14 days before placing	Superintendent – PCA concurrence required
Select Material Zone Materials			
C242.11 -	Proovide material conformance test certificates	Prior to importing or stockpiling on site	Superintendent – PCA concurrence
DELIVERY, STOCKPILING AND PROCESSING OF PAVEMENT MATERIAL			
Delivery of Modified or Bound Materials			
C242.13.2 - Delivery Dockets	Availability of delivery dockets to Superintendent	Upon delivery before placing	Superintendent – PCA concurrence required
SPREADING OF PAVEMENT MATERIALS			
Spreading Pavement Materials			
C242.15.1 - Underlying Layer Quality	Show suitability of previous layer for work to proceed	1 working day before placing next layer	Superintendent
C242.15.6 - Temperature	Approval to exceed allowable conditions	1 working day before placement	Superintendent
TRIMMING AND COMPACTION			
General Requirements			
C242.16.6 – Placing Subsequent Layers	Completion of testing of previous layer	1 working day before next layer	Superintendent
C242.16.7 – Excessive Moisture Content	Dry out wetted material	1 working day before next layer	Superintendent
ACCEPTANCE OF COMPACTED LAYERS			
Compaction Assessment			
C242.19.2 – Superintendent's Approval	Submit results	1 working day before and after testing	Superintendent

Clause title/Item	Requirement	Notice for inspection	Release by
Compaction Requirements and Acceptance			
C242.21.1 - Compaction requirement and acceptance	Acceptance of compaction within the tolerances	1 working day after test results	Superintendent – PCA concurrence required
C242.21.2 - Rejection of Lots	Rejected lots identified and reworked	1 working day after test results	Superintendent
C242.21.3 - Compaction requirement and acceptance	Request/Acceptance of proof roll	Upon completion of each pavement layer (each lot)	Superintendent – PCA concurrence required
Reworking of rejected unbound layers			
C242.22.2 – Rejected Material	Rejected material identified and replaced	Upon reworking	Superintendent
Tolerances			
C242.23.c.1 – Subbase Layer Level	Provision of conformance details	At least 3 working days prior to placing subsequent layer or surfacing	Superintendent – PCA concurrence required
C242.23.c.2 – Base Layer Level	Provision of conformance details	At least 3 working days prior to placing subsequent layer or surfacing	Superintendent – PCA concurrence required
C242.23(c).4 - Straight Edge Deviation	Reject or accept as per tolerances	1 working day before next activity	Superintendent
Action on rejection			
C242.24(a).1 – Corrective Action	Approval of removal and replacement	1 working day before next activity	Superintendent
C242.24(b).1 – Rejection Criteria	Approval of removal and replacement	3 working days before next activity	Superintendent
C242.24(b).3(ii) – Corrective Action Circumstances	Proposal to regrade sub-base and/or base course	1 working day before next activity	Superintendent
C242.24(b).3(iii) - Corrective Action Circumstances	Proposal to regrade base course	1 working day before next activity	Superintendent
Removal and replacement of rejected courses			
C242.25.4 - Inspection Before Replacement	Present for inspection the underlaying material	1 working day before next activity	Superintendent
Maintenance before completion of wearing surface			
C242.26.2 – Contractor's Responsibility	Re-prepare and submit for inspection	3 working days before next activity	Superintendent
OPENING PAVEMENT TO TRAFFIC			
General Requirements			
C242.27.1 – Restrictions on Movement	Unbound pavement not open to traffic until primerseal applied	3 working days before proposed opening	Superintendent – PCA concurrence required

Clause title/Item	Requirement	Notice for inspection	Release by
C242.27.2 – Restrictions on Movement of Construction Traffic	Bound pavement not open to construction traffic for minimum 7 days after completion of primerseal	3 working days before proposed opening	Superintendent – PCA concurrence required
C242.27.1 – Open to Traffic - Bound Pavement	Bound pavement not open to traffic for minimum 7 days after completion of primer seal	3 working days before proposed opening	Superintendent – PCA concurrence required

Summary of WITNESS POINTS

Clause title/Item	Requirement	Notice for inspection
MATERIALS		
Unbound base and subbase material		
C242.08.7 - Modified Texas triaxial classification	Submission of additional test data for approval	14 days before ordering material
Bound Base and Subbase Materials		
C242.10.3 – Material Requirements Prior to Stabilisation	Verify product constituents conform prior to stabilisation	7 days before ordering material
DELIVERY, STOCKPILING AND PROCESSING OF PAVEMENT MATERIAL		
Stockpiling of Unbound Materials		
C242.12.1 – Stockpile Sites	Gain approval for location	7 days before delivery
TRIMMING AND COMPACTION		
General Requirements		
C242.15.3 – Hand Operated Plant	Approval of alternative compaction method	Progressive
ACCEPTANCE OF COMPACTED LAYERS		
Removal and Replacement of Rejected Courses		
C242.24.2 – Length to be Removed	Protect adjacent work and make good any damage	1 working day before removal
C242.24.3 – Superintendent's Discretion	Approval for part width reconstruction	1 working day before removal
Maintenance before completion of Wearing Surface		
Primerseal	Cover base course with primer seal	Within 7 days of acceptance