

Memorial Avenue Upgrade, Kellyville Client: Transport for New South Wales (TfNSW) Principal's Authorised Person: Mark Jajou	Job No. 1680	Area No.	1
		Activity Type	Pavement Marking

INSPECTION AND TEST PLAN	Pavement Marking <i>Ed 7 / Rev 0 (February 2016)</i>	Checklist No.	1680-CHK-R141-001
---------------------------------	--	---------------	-------------------

Item	Activity	Reference		Acceptance Criteria	Frequency	Acceptance By			Record / Comments
		Spec	Method			DG	TfNSW	Other	
	In work sequence	OHSR, Environment, Quality aspect Specification, standard or			Inspection/testing frequency	See key on final page.			Identify relevant records Add notes to assist.

1. PRELIMINARIES

1.1	SWMS, EWMS and EPL	G22 CI 3.4 G36 G38	-Ensure SWMS & EWMS are in place, understood and signed off by all personnel involved in completing the task -Ensure EPL criteria are conformed with	Prior to commencement	PE	✓			Refer to checklist 1680-CHK-R141-001
1.2	Erosion and Sedimentation Control Plan	G38 CI 2.1.2 G38 CI 3.1.1	Ensure ERSED plan has been developed and communicated to site team.	Prior to commencement	ENM	✓			Refer to checklist 1680-CHK-R141-001
1.3	Traffic Control	G10 CI 2	-Traffic control is in place. -Relevant TCP and VMP are approved	Prior to commencement	TM	✓			Refer to checklist 1680-CHK-R141-001
1.4	Construction Lot Identification, Traceability and Frequency of Testing	Q6 CI 7.5.3 Annexure L1 Annexure L3	-Set the bounds for each construction lot as per Q6 requirements -Lot Number assigned -Lot size as per specification -This lot number as an identifier on all quality records -Lot map is prepared for traceability -Frequency of testing as per Q6/L3 and specification requirements	Prior to commencement	PQR	✓			Refer to checklist 1680-CHK-R141-001

Memorial Avenue Upgrade, Kellyville Client: Transport for New South Wales (TfNSW) Principal's Authorised Person: Mark Jajou	Job No. 1680	Area No.	1
		Activity Type	Pavement Marking

INSPECTION AND TEST PLAN	Pavement Marking <i>Ed 7 / Rev 0 (February 2016)</i>	Checklist No.	1680-CHK-R141-001
---------------------------------	--	---------------	-------------------

Item	Activity	Reference		Acceptance Criteria	Frequency	Acceptance By			Record / Comments
		Spec	Method			DG	TfNSW	Other	
	In work sequence	OHSR, Environment, Quality aspect Specification, standard or			Inspection/testing frequency	See key on final page.			Identify relevant records Add notes to assist.

2. MATERIAL

2.1	Accreditation to painting contractors certification program	G1, CI 8.1.5 R141, CI 1.4	Pavement marking organisations accredited to the "Painting Contractors Certification Program" (PCCP), administered by CSIRO, under the appropriate classes from Category B – pavement markings Provide evidence to the Principal that the work is carried out by a pavement marking organisation holding PCCP accreditation		Prior to commencement	ENG	✓		PCCP accreditation
2.2	Material requirements	R141, CI 2.2	<ul style="list-style-type: none"> - <u>Waterborne paint</u>: Comply with RMS 3356. - <u>Non-profile thermoplastic pavement marking materials</u>: Comply with RMS 3357 - <u>Profile thermoplastic road marking material</u>: Comply with RMS 3359 - <u>Two Part Cold Applied Pavement Marking Material</u>: Comply with RMS 3360 - <u>Pavement Marking Tape</u>: Temp must be strippable. Permanent must be approved by principal - <u>Reflective marking type</u>: Reflective glass beads must comply with RMS 3353, AS/NZS 2009 & APAS 0042. - <u>Anti-skid material</u>: Anti-skid material must be angular, polishing particles added to provide characteristics of skid resistance. Particles must be of colour compatible to marking colour. 		Prior to commencement	ENG	✓		CoC

Memorial Avenue Upgrade, Kellyville Client: Transport for New South Wales (TfNSW) Principal's Authorised Person: Mark Jajou	Job No. 1680	Area No.	1
		Activity Type	Pavement Marking

INSPECTION AND TEST PLAN	Pavement Marking <i>Ed 7 / Rev 0 (February 2016)</i>	Checklist No.	1680-CHK-R141-001
---------------------------------	--	---------------	-------------------

Item	Activity	Reference		Acceptance Criteria	Frequency	Acceptance By			Record / Comments
		Spec	Method			DG	TfNSW	Other	
	In work sequence	OHSR, Environment, Quality aspect Specification, standard or			Inspection/testing frequency	See key on final page.			Identify relevant records Add notes to assist.

2.3	Colour	R141, CI 2.3	All pavement markings must be in white colour, unless otherwise detailed in the dwgs or relevant RMS specifications or directed by the Principal		Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001
2.4	Certification	R141, CI 2.4	Submit to the Principal a signed statement verifying that materials meet requirements of clause 2. Statement must include test results from NATA accredited facility which is < 36months old at the time of submission		7 days prior to commencement	ENG	✓		Certificate Test report / Refer to checklist 1680-CHK-R141-001
2.5	Handling, storage, and mixing	R141, CI 2.5	In accordance with each individual manufacturer's recommendations		Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001

3. Construction

3.1	Surface Preparation	R141, CI 3.1	The surface area to be marked & the area around the marking must be dry and free of dirt, gravel and other loose or foreign material Where a curing compound has been applied to a new rigid concrete pavement surface, remove the curing, where pavement marking material to be applied.		Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001
3.2	Application of pavement marking	R141, CI 3.2	Apply all pavement marking materials strictly in accordance with the manufacturers' instructions and guidelines Apply all longitudinal lines using a self-propelled machine. Refer to Ann /G for dispensing rates of glass beads to achieve a specified application rate of 400 g/m2		Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001

Memorial Avenue Upgrade, Kellyville Client: Transport for New South Wales (TfNSW) Principal's Authorised Person: Mark Jajou	Job No. 1680	Area No.	1
		Activity Type	Pavement Marking

INSPECTION AND TEST PLAN	Pavement Marking <i>Ed 7 / Rev 0 (February 2016)</i>	Checklist No.	1680-CHK-R141-001
---------------------------------	--	---------------	-------------------

Item	Activity	Reference		Acceptance Criteria	Frequency	Acceptance By			Record / Comments
		Spec	Method			DG	TfNSW	Other	
	In work sequence	OHSR, Environment, Quality aspect Specification, standard or			Inspection/testing frequency	See key on final page.			Identify relevant records Add notes to assist.
3.3	Application of waterborne paint	R141, CI 3.3		Apply the glass beads uniformly to the wet paint, prior to its surface skin forming, to produce a uniform, bonded coverage over the whole marking. Apply anti-skid material uniformly to all transverse lines & other markings Application of waterborne paints with large glass beads (Type D-HR) are given in Ann. R141/E1 The application rates must be as specified in Table R141.1	Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001
3.4	Application of non-profile thermoplastic pavement marking material	R141, CI 3.4		Apply a tack/primer coat in accordance with the manufacturer's recommendations Recommended conditions for application of sprayed or extruded thermoplastic with large glass beads to produce markings with optimum long-term performance are given in Annexure R141/E2 The application rates must be as specified in Table R141.2	Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001
3.5	Application of two-part cold applied pavement marking material	R141, CI 3.5		Apply a tack/primer coat in accordance with the manufacturer's recommendations The application rates must be as specified in Table R141.3	Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001

Memorial Avenue Upgrade, Kellyville Client: Transport for New South Wales (TfNSW) Principal's Authorised Person: Mark Jajou	Job No. 1680	Area No.	1
		Activity Type	Pavement Marking

INSPECTION AND TEST PLAN	Pavement Marking Ed 7 / Rev 0 (February 2016)	Checklist No.	1680-CHK-R141-001
---------------------------------	--	---------------	-------------------

Item	Activity	Reference		Acceptance Criteria	Frequency	Acceptance By			Record / Comments
		Spec	Method			DG	TfNSW	Other	
	In work sequence	OHSR, Environment, Quality aspect Specification, standard or			Inspection/testing frequency	See key on final page.			Identify relevant records Add notes to assist.
3.6	Application of profile (or audio tactile) longitudinal pavement marking	R141, CI 3.6		apply a tack/primer coat in accordance with the manufacturer's recommendations prior to the application of the profile marking material The glass beads must be precoated with a compatible coupling agent The application rates and dimensions must be as specified in Table R141.4	Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001
3.7	Application of pavement marking tape	R141, CI 3.7		Apply pavement marking tape in accordance with the manufacturer's recommendations, including surface preparation. Remove pavement marking tape, in accordance with the manufacturer's recommendations.	Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001
3.8	Application of pavement markings HOLD POINT	R141, CI 3.8		Notification that set out is complete	Per Lot	ENG	HP		Refer to checklist 1680-CHK-R141-001
3.9	Position of markings	R141, CI 3.8.1 R141, CI 3.8.2		Apply marking for new installation, reinstatement after road works and maintenance, within the tolerances listed in Table R141.5	Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001
3.10	Reinstatement of pavement markings after roadworks	R141, CI 3.9.1 R141, CI 3.9.2		Reinstatement the pavement markings as soon as possible after road works where the pavement markings have been removed or damaged Temporary raised pavement markers for delineation may be used for up to 10 days after opening to traffic, after which the pavement markings must be reinstated	Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001

Memorial Avenue Upgrade, Kellyville Client: Transport for New South Wales (TfNSW) Principal's Authorised Person: Mark Jajou	Job No. 1680	Area No.	1
		Activity Type	Pavement Marking

INSPECTION AND TEST PLAN	Pavement Marking <i>Ed 7 / Rev 0 (February 2016)</i>	Checklist No.	1680-CHK-R141-001
---------------------------------	--	---------------	-------------------

Item	Activity	Reference		Acceptance Criteria	Frequency	Acceptance By			Record / Comments
		Spec	Method			DG	TfNSW	Other	
	In work sequence	OHSR, Environment, Quality aspect Specification, standard or			Inspection/testing frequency	See key on final page.			Identify relevant records Add notes to assist.

3.11	Redundant pavement markings	R141, CI 3.10		-Remove or mask redundant markings leaving behind clean/ undamaged pavement. - Removal or masking to take form of rectangle around markings. Line masking to cover ≥ 200% of total area of existing lines. - Remove any temp blackout or overlay within 48 hrs& temp masking measure within 6 months	Per Lot	SS	✓		Refer to checklist 1680-CHK-R141-001
3.12	Sampling and testing	R141, CI 4.1 R141, CI 4.2		The min. frequency of field testing is specified in Ann R141/L. keep records of all testing carried out for a minimum of 12 calendar months -Paint: Calculate thickness of unbeaded dry film applied to wearing surface as % volume solids of paint used (Test Method RMS T841). Confirm with dry film thickness gauge of metal test plate. Take mean of 6 readings distributed over test area. - Non-Profile Thermoplastic: Verify thickness of cold film. Measure thickness of thermoplastic material applied to metal test plate. Take mean of 6 readings distributed over test area. - Two-Part Cold Applied Pavement Marking Material: Verify thickness of unbeaded material (Test Method RMS T841). - Profile Thermoplastic: Verify thickness of cold film. Measure thickness of both peak of profile & line joining profile sections. - Glass Beads: Verify width applied, each vehicle application rate & loss of beads during application.	Ann R141/L	ENG	✓		Test report / Refer to checklist 1680-CHK-R141-001

Memorial Avenue Upgrade, Kellyville Client: Transport for New South Wales (TfNSW) Principal's Authorised Person: Mark Jajou		Job No. 1680	Area No.	1
			Activity Type	Pavement Marking

INSPECTION AND TEST PLAN	Pavement Marking <i>Ed 7 / Rev 0 (February 2016)</i>	Checklist No.	1680-CHK-R141-001
---------------------------------	--	---------------	-------------------

Item	Activity	Reference		Acceptance Criteria	Frequency	Acceptance By			Record / Comments
		Spec	Method			DG	TfNSW	Other	
	In work sequence	OHSR, Environment, Quality aspect Specification, standard or			Inspection/testing frequency	See key on final page.			Identify relevant records Add notes to assist.

3.13	Verification of quantities	R141, CI 4.3	Record the quantities of materials used for longitudinal linemarking, as a min for each Lot The quantity for each Lot must not be less than the area of marking applied multiplied by the specified minimum application rate	Per Lot	ENG	✓			Line-marking application record
3.14	Conformity – shape and appearance	R141, CI 5.1	Completed markings must be uniform in appearance, texture, width and thickness and the surface must be free from unbeaded areas, traffic damage or other defects. Markings must be straight or with smooth even curves where intended. All edges must have a clean sharp cut off.	Per Lot	SS	✓			Refer to checklist 1680-CHK-R141-001
3.15	Pavement marking removal	R141, CI 5.2	Ensure redundant markings have been completely removed and pavement area has been cleaned up	Per Lot	SS	✓			Refer to checklist 1680-CHK-R141-001

4. CONFORMANCE

4.1	Identification and Control of Non-conforming Products or Services	Q6 CI 8.3	NCR to be opened & closed prior to closing of construction Lot	After work completion	PQR	✓			Non-Conformance Report
4.2	Verification that Rectified Work Conforms HOLD POINT	Q6 CI 8.3	Verification that rectified works conform to accepted rectification method and specifications within the NCR	Prior to covering up the works	PQR	HP			NCR # Refer to checklist 1680-CHK-R141-001

Memorial Avenue Upgrade, Kellyville Client: Transport for New South Wales (TfNSW) Principal's Authorised Person: Mark Jajou	Job No. 1680	Area No.	1
		Activity Type	Pavement Marking

INSPECTION AND TEST PLAN	Pavement Marking <i>Ed 7 / Rev 0 (February 2016)</i>	Checklist No.	1680-CHK-R141-001
---------------------------------	--	---------------	-------------------

Item	Activity	Reference		Acceptance Criteria	Frequency	Acceptance By			Record / Comments
		Spec	Method			DG	TfNSW	Other	
	In work sequence	OHSR, Environment, Quality aspect Specification, standard or			Inspection/testing frequency	See key on final page.			Identify relevant records Add notes to assist.
4.3	Final Verification of Construction Lot Records	Q6 CI 8.2.3.3		To confirm that all inspections and tests have been carried out to completely verify conformity.	Prior to closing out each lot	PQR	✓		Refer to checklist 1680-CHK-R141-001

KEY	CoC	Certificate of Conformance	ENG	Engineer Responsible
	HP	Hold point	ENM	Environmental Manager
	IR	Identified Record	PE	Project Engineer
	S	Surveillance	PQR	Project Quality Representative
	T	Test	SS	Site Supervisor
	WP	Witness point	SA	Site Administrator
			SU	Surveyor
			TM	Traffic Manager

Prepared by: Tamer Mohamed	Authorised for Use: Andrew Rigby	Date: 06/04/2022
----------------------------	----------------------------------	------------------