WAKA KOTAHI NZ TRANSPORT AGENCY	Downer	Construction Process: **Modified Basecourse Layer**	**Start RP**		**INSPECTION AND TEST PLAN - VERSION CONTROL**		**A**	**B**	**C**	**0 - IFC**
			Finish RP		Prepared by Pavement Designer:	PE name	dd/mm/yy			
		Project Name: **T2W - Tirau to Waiouru - Rehabilitation Works**			Reviewed by Construction Manager:	PM name	dd/mm/yy			
					Reviewed by Surf./ Pavmt Manager:	Surfacing or Pavement Manager	dd/mm/yy			
Client's Rep. : Neil Payne / Deena Tapara (Stellar Projects Ltd. (SPL)	**Contractor's Rep. : Wayne Bowden (CM) / Sid Rudani (PM)**	Specifications **NZTA M32 Specification For High Modulus Asphalt (EME 2); Note: Binder Specification for EME2 is in M/32**			Approved Quality Manager.:	Nominated by Group Quality Manager	dd/mm/yy			
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1.0. Pre-Commencement Activities													
1.1	Approved JMF for Asphalt Base or Wearing Course	JMF reference in here	H	Before Works commence	Confirm requirements are followed	JMF Validated in accordance with NZTA M/32:2021	Mix Design Report	Paving Contractor	JMF expiry date and validation details in here	A	I	R	
1.2	Site Conditions	Weather suitable, Site extents marked, surface suitable for paving (Depths/milling/cleanup complete etc), Environmental Controls in place	H	Before Works commence	Confirm requirements are followed	Weather conditions and Site is suitable for paving	Site Diary	Paving Contractor			I	R	
1.3	Roughness	Previous layer checked for suitability to achieve Specified Ride	H	Before Works commence	Confirm Specified Ride requirements can be met	Site is suitable for paving; The surface to be paved on must have a smooth longitudinal profile, and where a layer of Asphalt is to be placed over a previously constructed pavement layer, the ride quality must be confirmed with the observation of a holdpoint in the previous layer ITP.	NASSRA Report	Paving Contractor	Where FBS & Chipseal has been previously constructed ensure NASSRA is viewed and signed off as acceptable for paving. However, if no previous pavement done, roughness test will not be applicable.		I	R	
1.4	Traffic Loops	Communication with affected parties	H	Minimum of 7 days Before Works commence	Visual	Notify RC at least 7 days before surfacing is programmed	Communication	Paving Contractor	only required where existing traffic loops are present		A	R	
1.5	Paving Plan	Paving Plan to be completed	H	Before Works commence	NZTA M/32:2021 Clause 9.5.1	Paving Plan to be completed for each shift with dimensions, location and type of (hot/cold) joints, areas and tonnages, compaction plant (type/weight/no. of rollers) and established rolling pattern, production and transport plan including mix type (code), binder grade (with product name) to be ordered.	String Sheet Paving Plan Placement Trial Records	Paving Contractor			I	R	

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2.0. MANUFACTURE OF ASPHALT													
2.1	Temperatures	Mixing of aggregates and bitumen	M	Constant monitoring of temperature by calibrated equipment	Plant temperature probes	EME2 binder Mixing range 170 - 190°C NZTA M/32:2021 states max. 190 deg.C	Plant site diary	Asphalt Manufacturer		I	I	R	
2.2	Production Asphalt	Particle Size Distribution	M	1 per 200t at asphalt plant	NZS 4407 Test 3.8.1	NZTA M/32:2021 Refer to Table 5.3	IANZ accredited test cert	Asphalt Manufacturer		I	I	R	
2.3		Binder Content	M	1 per 200t at asphalt plant		NZTA M/32:2021 Individual Test Result: ± 0.5 Mean of Three Test Results: ± 0.3	IANZ accredited test cert	Asphalt Manufacturer		I	I	R	
2.4		Max. Specific Gravity (MSG) of mix	M	1 per 200t at asphalt plant		Report	IANZ accredited test cert	Asphalt Manufacturer		I	I	R	
2.5		Air Voids at lab design compaction	M	1 per 600t at asphalt plant		NZTA M/32:2021 Individual Test Results: +2.0, -1.0 Mean of Three Test Results: +1.2, -0.6	IANZ accredited test cert	Asphalt Manufacturer		I	I	R	
3.0. PLACING AND FINISHING													
3.1	Milling	Surface strung to ensure milling Depth is achieved	M	Before Asphalt placement commences	Confirm requirements are followed	Site is suitable for paving	String Sheet	Paving Contractor			I	R	
3.2	Tack Coat, OR	Application of Tack Coat	M	Per Lot	Dip bitumen emulsion tank before and after	Target Between 0.2l/m2 - 0.6l/m2 +/- 0.1l/m2 From Target Application Rate	Site Diary	Paving Contractor		I	I	R	
3.3	Membrane Seal	Application of Membrane Seal	M	Per Lot	Sealing Records	Application rate, chip type and binder as per membrane seal design	Sealing Records	Paving Contractor		I	I	R	
3.4	Temperature	Pavement Surface	M	Start of shift and every 1 hour until temperature rising	Infrared gauge	≥ 5°C for Structural, or as otherwise agreed with NZTA	Site diary	Paving Contractor	Must get NZTA approval if < 5°C for Structural	I	I	R	
3.5		Asphalt Delivery temperature	M	Every Load on delivery to the Paver Hopper	Temperature Probe	Target ≥ 170 deg.C. in the Paver Min. ≥ 150 deg.C in the Paver <130°C to be Rejected	Site Diary	Paving Contractor		I	I	R	
3.6		Compaction Temperature	M	During compaction	Temperature Probe/Infrared gauge	≥ 135°C at commencement of compaction. < 80°C - Stop Rolling	Site diary	Paving Contractor		I	I	R	

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3.7	Mat	Load Locate	M	Each load	M/32	Each load can be indentified to a location using a diagram. Record includes: - Truck ID/Rego/Driver - Depart Plant Time - Arrive Site Time - AC Temp on Arrival - Tonnage - Run Width - Estimated Run Length - Calculated Area - Calculated Average Depth	Paving Run Sheet	Paving Contractor		I	I	R	
3.8		Thickness Monitoring	M	Continuously	Dipping	Target Loose Thickness -0mm / +10mm		Paving Contractor		I	I	R	
3.9		Compaction - NDM	M	Plateau to be completed on 1st run, thereafter monitor compaction/roller passes to achieve target density.	Insitu density and air voids	NZTA M/32:2021 - section 9.8		Paving Contractor	Use a calibrated NDM with established core correlation. Locate and mark cores, record NDM Bulk density by core location (including any offset used).	I	I	R	
3.10		Compaction	H	Mat: 1 per 300m2/min. 8 per Lot Joint: 1 per 100m/min. 3 per Lot, In the event of a day's production being > 30t but < 2400m2, then it will be permissable to reduce the number of cores to; Mat: 1 per 300m2 with a minimum of 4 per Lot, and Joint: 1/100m with a minimum of 3 per Lot	Insitu density and air voids	NZTA M/32:2021 - section 9.8	IANZ accredited test cert.	Paving Contractor	A pavement lot shall be an essentially homogeneous section of work completed within a shift of production. The lot shall be divided into an appropriate number of approximately equal sub-lots and a core shall be taken randomly within each sub-lot. The Engineer or their delegate shall use a random method for locating each core position, such as ASTM D5361 or a similar process.	A	I	R	
3.11		Thickness	H	Average of 4 measurements per core	Measure Cores	LCV ≥ Specified Depth (Minimum) NZTA M/32:2021 - section 9.7	IANZ accredited test cert.	Paving Contractor		A	I	R	
3.12		Shape	M	Continuously	3m Straight edge	Where the length of the site or the geometry is such that a road roughness-measuring vehicle cannot be used then the straight edge can be used for checking the surface shape. Refer NZTA M/32:2021 - section 10. Not more than 5mm under a 3m Straight Edge.	Straight Edge Record	Paving Contractor		I	I	R	
3.13	Paving Quality	Texture	M	Per Site (If Required)	Sand Circle or HSD	NZTA T/10: 2013	IANZ accredited test cert.	Paving Contractor	Only required if EME will be the final wearing course or final road surface.	I	I	R	
3.14		Level	M	Per Site (If Required)	As Built Survey	The level at the top of each layer of EME 2 shall not be less than or more than 10mm higher than the specified level. NZTA M/32:2021 - section 10.1	Survey As builts	Paving Contractor	Only required if EME will be the final wearing course or final road surface.	I	I	R	
3.15		Alignment	M	Per Site (If Required)	As Built Survey	±50 mm from drawings NZTA M/32:2021 - section 10.2	Survey As builts	Paving Contractor	Only required if EME will be the final wearing course or final road surface.	I	I	R	

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3.16	Post Paving Completion Checks	Site clear and cleanup	W	Each Site/Shift	Visual	Site is cleared of plant (or parked in safe location) cleanup of all waste mix, paper and detritus is complete	Site Diary/Photo	Paving Contractor			I	R	
3.17		Pavement Marking	W	Each Site/Shift	Visual	Roadmarking is complete	Site Diary/Photo	Paving Contractor			I	R	
3.18		Cold Joint Bandaging	W	Each Site/Shift	Visual	Cold joint bandaging is complete	Site Diary/Photo	Paving Contractor			I	R	
3.19		Service Covers Checked	W	Each Site/Shift	Visual	Check that service covers are cleared and level with the pavement	Site Diary/Photo	Paving Contractor			I	R	
3.20		Traffic Loops Reinstated	W	Each Site/Shift	Visual	Check that affected traffic loops have been reinstated	Communication	Paving Contractor			I	R	

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4.0. As Built Records													
4.1	Assessment of all test results for conformity	Review against ITP Requirements	H	For each site on the project	Review	Reporting of any non-conforming results to Engineer via NCR	NCR	Paving Contractor		I	A	R	
4.2	RAMM pavement and surface records	RAMM surfacing pavement data spreadsheet updated	W	For each site on the project	Prepare Data	Over milled and Deep lift extents recorded and verified by Contract Engineer / QA Spray sheets for membrane area received by Contract Engineer from Sealing Team. Surfacing layer extents recorded and verified by Contract Engineer.	RAMM Spreadsheet	Paving Contractor		I	A	R	

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