

	Inspection and Test Plan - Template - AU		Doc ID: FH-927-QU-ITP005
			Rev: C
Client: Australia Pacific Airports Melbourne		Contract No: CP1024	Prepared By: J.Kremers
Project: Runway 09/27 Overlay		Reviewed By:	Date:
Construction Process: Asphalt Construction		Approved By:	Date:
Specifications: Standard Specification for Airside Works (Rev0.1)			
Structure / Component: Pavements			

Lot No:	Lot Details:	Lot size/Quantity:	Date:
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		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity			Client	Fulton Hogan	GHD	Date
1	Paving Plant, Tools and Equipment											
1.1	Commencement of any work period	Prior to commencement of any work period	Prior to movement of any plant on to site of works, submission of daily plant inspection verification checklist	Volume 1: HP-5113-1	Submission	Plant Inspection verification Checklist	HP	Construction Manager				
1.2	Asphalt Haul Trucks	Each Lot	All asphalt haul trucks must be suitably equipped to avoid spilling the mix in front of the asphalt spreaders. The internal surfaces of the truck bodies must be smooth, clean and uniformly coated with a suitable release agent (nonpetroleum based material) to prevent adhesion of the mixture to the bodies.	Volume 1: Clause 5113 (e)	Verify	This ITP signed by Contractor	IP	Construction Manager				
1.3	Asphalt Spreaders	Each Lot	The spreaders must be a self-propelled mechanical device designed for spreading, screeding and compacting hot asphalt and having a capacity to complete the planned works within the time available in a paving shift. Specific details are shown in clause 5113 (f)	Volume 1: Clause 5113 (f)	Verify	This ITP signed by Contractor	IP	Construction Manager				

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1.4	Steel Wheel Rollers	Each Lot	Steel wheel rollers must have an all up mass between 6 and 11 t.Vibrating steel wheel rollers must have two (2) vibrating drums each of which must have a roll diameter and width of not less than 1.00 m and 1.37 m respectively, a static mass of at least 2.8 t per lineal m of width of drum, and a dynamic loading intensity under operating conditions of between 4.2 t and 6.8 t per lineal metre of width of drum. When operating in the vibrating mode the amplitude must not exceed 0.5 mm and the frequency of vibration must not be less than 2700 cycles per minute	Volume 1: Clause 5113 (h)	Verify	This ITP signed by Contractor	IP	Construction Manager				
1.5	Pneumatic Tyre Rollers	Each Lot	Medium pneumatic tyred rollers must be rollers having an all up mass of not less than 18 t and wheel loads of not less than 2.5 t. The tyre pressure must not be less than 850 kPa. The application of water, soaps or propriety additives to the tyres must be the minimum necessary to prevent adhesion /pick-up of the mix.	Volume 1: Clause 5113 (i)	Verify	This ITP signed by Contractor	IP	Construction Manager				

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1.6	Edge Compactor	Each Lot	At least one steel wheel roller must be fitted with an edge compactor capable of compacting joints and edges of newly placed asphalt between vertical and 45° to the vertical, without dislodging or disturbing the material forming the joint or edge.	Volume 1: Clause 5113 (j)	Verify	This ITP signed by Contractor	IP	Construction Manager				
1.7	Mechanical Brooms	Each Lot	Mechanical brooms may be skid steer loaders capable of being fitted with both a bucket and a broom/bucket combination. All brooms/broom stocks must have non-metallic bristles.	Volume 1: Clause 5113 (l)(ii)	Verify	This ITP signed by Contractor	IP	Construction Manager				
1.10	Vacuum Sweepers	Each Lot	At least one (1) vacuum sweeper must be a machine purpose built to vacuum clean a width of pavement of at least two metres per pass with no reliance on brooming for lateral collection of material. Airfield Schwarze sweepers manufactured by Schwarze Industries Australia, or similar approved, are suitable.	Volume 1: Clause 5113 (l)(iii)	Verify	This ITP signed by Contractor	IP	Construction Manager				

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1.11	Coring machine	Each Lot	The coring machine must be easily portable and capable of rapidly cutting clean 100 mm or 150 mm diameter cores from the finished courses of asphalt in accordance with the requirements of AS 2891.1.2. The core drills fitted to the machine must be either diamond tipped or carborundum types.	Volume 1: Clause 5113 (n)	Verify	This ITP signed by Contractor	IP	Construction Manager				
1.12	Manual Straight Edge	Each Lot	Not less than 1 hand held straight edge must be provided for each operating paver to facilitate the location of defects in the smoothness of the finished surface. Straight edges must be constructed of a material and in a manner that ensures rigidity and accuracy, and must be 3.5m long and must be placed directly onto the mat.	Volume 1: Clause 5113 (o)(i)	Verify	This ITP signed by Contractor	IP	Construction Manager				
1.13	Hand tools	Each Lot	Hand tools must consist of wooden spreaders, shovels, steel lutes and tampers, hand brooms, a portable heater for heating tampers, hand held blowers and any other hand tools as may be required.	Volume 1: Clause 5113 (p)	Verify	This ITP signed by Contractor	IP	Construction Manager				

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1.14	Thermometers	Each Lot	The Contractor must provide one calibrated immersion stem thermometer (0 - 200 °C) and one calibrated pavement surface thermometer (bi-metal or infra-red), (0 - 200 °C), with each operating spreader. The thermometers must be held on site at all times when asphalt is being placed.	Volume 1: Clause 5113 (q)	Verify	This ITP signed by Contractor	IP	Quality Engineer				
2	Weather Restrictions											
2.1	Weather Restrictions	Each Lot	The surface on which the asphalt is to be placed must be essentially dry and free of any surface water. Asphalt must not be placed during periods of rain or when rain is imminent. Any asphalt placed during rain must be removed from the Works and replaced, unless otherwise determined by the Contract Administrator. Asphalt must not be placed if the surface temperature falls below the minimum surface temperature as specified in Table 5115-1	Volume 1: Clause 5115 Table 5115-1	Verify	This ITP signed by Contractor	IP	Quality Engineer				
3.0	Transport and Delivery of Asphalt											

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3.1	General	Each Lot	Asphalt delivery must adhere to AS 2150 standards, ensuring completion of spreading and compaction by the work period's end. Each truckload requires a docket with details such as truck number, dispatch time, temperature, and mix specifications. Delivery vehicles cannot access freshly laid asphalt, and loads must be covered with heavy canvas and insulated to maintain temperature.	Volume 1: Clause 5117 (a)	Verify	This ITP signed by Contractor	IP	Quality Engineer				
3.2	Delivery Temperature	Each Lot	The asphalt mix must be delivered at the minimum temperature specified in Table 5117-1 for the bitumen and must allow for initial compaction before cooling. Loads below this temperature, with cold crusts, wet from rain, or contaminated, must be rejected. Minimum asphalt temperature for compaction are indicated in Table 5121-1	Volume 1: Clause 5117 (c), Table 5117-1 and Table 5121-1	Verify	This ITP signed by Contractor	IP	Quality Engineer				
4.0	Surface Preparation and Tack Coat											

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4.1	Surface Preparation	Each Lot	Before applying the tack coat, remove loose materials within a 300 mm buffer, using power brooms or hand sweeping if needed. Clean oil spills with detergent and let the area dry. Ensure the surface is dry, debris-free, and mostly dust-free.	Volume 1: Clause 5118	Verify	This ITP signed by Contractor	IP	Quality Engineer				
4.2	Application of Tack Coat	Each Lot	Tack coat must be applied to the prepared surfaces such that a uniform cover at the specified application rate over the full surface is achieved. The residual bitumen application rate of emulsion tack coat must be between 0.15 l/m2 and 0.25 l/m2.	Volume 1: Clause 5119	Verify	This ITP signed by Contractor	HP *	Quality Engineer				
5.0	Placing Asphalt											
5.1	Placing of Asphalt	Each Lot	Asphalt placing must not commence until all of the treatments within the paving lane and adjacent paving lane are completed and inspected by the Contract Administrator.	Volume 1: HP 5120-1	Submission	This ITP signed by Contract Administrator	HP	Quality Engineer				
5.2	Layer Thickness	Each Lot	The minimum and maximum layer thicknesses for different nominal asphalt sizes must be in accordance with Table 5120-1.	Volume 1: Clause 5120 (b)(i)	Verify	This ITP signed by Contractor	IP	Quality Engineer				

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6.0	Compaction of Asphalt											
6.1	Compaction temperature Requirements	Each Lot	The asphalt must be compacted while the mix temperature is above the respective minimum values specified in Table 5121-1 for the relevant bitumen used in the production of the mix and roller type, unless otherwise determined and approved during the construction trials. The asphalt must be compacted with rollers meeting the requirements of Technical Specs, Volume 1	Volume 1: Clause 5121 (b), Table 5121-1	Verify	This ITP signed by Contractor	IP	Quality Engineer				
6.2	Compaction temperature Requirements	Each Lot	The contractor must maintain detailed records of the temperatures of the asphalt mix during delivery, placement and compaction and must submit these records as part of the lot submission	Volume 1: Clause 5121 (b)	Submission	Asphalt Temperature Records (Delivery, placement and Compaction)	IP	Quality Engineer				
6.3	Compaction Requirements	Each Lot	All of the rolling must be performed in a definite pattern previously determined by the Contractor and must be supervised continuously by	Volume 1: Clause 5121 (c)	Verify	This ITP signed by Contractor	IP	Quality Engineer				

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			the Contractor for the duration of the work. The in-situ voids requirements for the asphalt must comply with the requirements of Table 5121-2.									
6.4	Breakdown rolling	Each Lot	Breakdown rolling requires a non-vibrating steel wheel roller with up to two passes. Start at the lower edge, overlap the lane edges by 200 mm, and progress across, overlapping previous tracks by 100 mm to 200 mm and extending 6 m beyond. For subsequent lanes, start at the free edge and overlap about 100 mm onto the previous lane.	Volume 1: Clause 5121 (d)	Verify	This ITP signed by Contractor	IP	Quality Engineer				
6.5	Vibrating rolling	Each Lot	Vibrating rolling follows breakdown rolling. For vibrating steel-wheeled rollers, keep vibration amplitude at or below 0.5 mm, unless the layer thickness exceeds 50 mm, allowing for greater amplitude at the Contractor's discretion.	Volume 1: Clause 5121 (e)	Verify	This ITP signed by Contractor	IP	Quality Engineer				
6.6	Pneumatic Tyre Rolling	Each Lot	Pneumatic tyred rolling must follow vibrating rolling, requiring at least six passes before the asphalt cools below the specified temperature	Volume 1: Clause 5121 (f)	Verify	This ITP signed by Contractor	IP	Quality Engineer				

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			showed in Table 5121-1 to ensure a tightly bonded surface.									
7.0	Joints											
7.1	General	Each Lot	All paving joints must match the surrounding surface's texture, density and smoothness. Longitudinal joints between lanes need to ensure a continuous bond and minimized cold joints. If the surface finish is below standard, a non-conformance report must be issued. Longitudinal joints in overlays must be offset by at least 200 mm.	Volume 1: Clause 5122 (a)	Verify	This ITP signed by Contractor	IP	Quality Engineer				
7.2	Longitudinal Joints – Warm Joints	Each Lot	To treat the joint between asphalt lanes as a warm joint, place the adjoining lane within 1 hour while maintaining the required compaction temperature specified in Table 5121-1. Procedure is detailed in Clause 5122 (b)(ii)	Volume 1: Clause 5122 (b)(ii)	Verify	This ITP signed by Contractor	IP	Quality Engineer				
7.3	Transverse Joints	Each Lot	Transverse joints must be at right angles to the direction of placing and must be cut to a straight face between vertical and 45° to the vertical to the full depth of the	Volume 1: Clause 5122 (c)	Verify	This ITP signed by Contractor	IP	Quality Engineer				

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			course. Procedure is detailed in Clause 5122 (c)									
8.0	Finished Surface Level, Surface Smoothnes and Finish											
8.1	Thickness and Surface Level Tolerances	Within one working day of completion of the survey	The Contractor must provide the Contract Administrator with a record of the finished surface levels together with a summary indicating the magnitude of the departures from the specified finished surface levels shown on the drawings within one(1) working day of completion of the survey	Volume 1: HP 5124-1 & Clause 5124 (b)	Submissio n	Survey Report	HP/ SC P	Quality Engineer				
8.2	Surface Smoothness Tolerances	Each Lot	The finished surface of all asphalt surfacing courses must not deviate from the testing edge of an approved 3.5 m straight edge by more the requirements in Table 5124-1	Volume 1: Clause 5124 (c)	Verify	This ITP signed by Contractor	HP *					
8.3	Pavement Cleanliness	Each Lot	Inspection of completed pavement with the Contract Administrator	Volume 1: WP 5126-1 & Clause 5126	Notificatio n	This ITP signed by Contractor	WP	Quality Engineer				
9.0	Quality Assurance – Construction											

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9.1	Assigned Maximum Density of a lot of Asphalt	Each Lot	The assigned maximum density for use in the determination of the in-situ voids of an asphalt must be the as defined in Clause 5132(a) of this specification, using cores cut as per Clause 5132(b)	Volume 1: Clause 5132 (a)-(c)	Verify	This ITP signed by Contractor	IP	Quality Engineer				
9.2	Thickness Determination	Within one working day of completion of the asphalt work	Copy of the thickness determinations indicating the magnitude of the departure from the specified thickness, immediately on completion of the determination or within one-working day of completion of the asphalt work and statement of conformance (or non-conformance report and proposed disposition if applicable)	Volume 1: HP 5132-1 & Clause 5132 (e) Volume 2: Clause SP5132 (e)(iv)	Submission	Core Thickness	HP/ TP	Quality Engineer				
9.3	Compacted Asphalt - Finished Surface Levels	Within one (1) working day of conformance	Record of the finished surface levels together with a summary indicating the magnitude of the departures from the specified finished surface levels shown on the drawings within one (1) working day of conformance (or non-conformance report and proposed disposition if applicable)	Volume 1: HP 5132-2 & Clause 5132 (f)	Submission	Survey Report	HP/ SC P	Quality Engineer				


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9.4	Compacted Asphalt - Surface Smoothness	Within one (1) working day of completion of testing	Statement of conformance or record and plan of location and extend of surface irregularities that depart from testing edge by more than the tolerances specified within one (1) working day of completion of the surface smoothness testing and non-conformance report and proposed disposition as applicable.	Volume 1: HP 5132-3 & Clause 5132 (g)	Submission	Straight Edge Testing	HP/ TP	Quality Engineer				

Final Inspection The signature below verifies that this ITP has been completed in accordance with the Fulton Hogan's Quality system Procedures and verifies lot compliance with specifications.			
Print Name:	Position:	Signature:	Date: / /
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Legend:

HP	Hold Point	Work shall not proceed past the HP until released by the Superintendent	IP	Inspection point	Formal Inspection to be done and recorded
HP*	Fulton Hogan Hold Point	Work shall not proceed past the HP* until released by Fulton Hogan	TP	Test Point	Product compliance test to be undertaken and recorded/reported
WP	Witness Point	An inspection which must be witnessed by the Superintendent	SCP	Survey conformance point	A qualified surveyor to check product/section/structure and report
AP	Approval Point	Written or verbal approval given by the Superintendent			

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