Fulton Hogan	**Inspection and Test Plan - Control and Supervision of the Works**	**Doc ID:** FH-SAT10-PM-ITP002 **Rev:** 01

Client: Melbourne Airport (APAM)	**Contract No:** CP18104	**Prepared By:** Cristin Swar
Project: MAPMP SAT10	**Reviewed By:** Jordan Nicolaou	**Date:** 02/05/2022
Construction Process: Sub-Base Preparation and Replacement	**Approved By:** Kevin Gatt	**Date:** 02/05/2022
Specifications: Technical Specification - MAP MP - PCC Works, Stages 1, 2, 4 and 5 - Revision 0 - 08-Mar-2022		
Structure / Component:		

Lot No:	Lot Details:	Lot size/Quantity:	Date:

Item No.	Task/Activity Description	Inspection/Test					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility	Checked by:		
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity			AECOM	Fulton Hogan	Date
1.0	**Preliminary Activities**										
1.1	Current Drawings being utilised	Prior to commencing works	Current revision drawing is being used including the subcontractors copy. Current Revision to be obtained via Aconex	Aconex	Visual Inspection	This ITP signed	**HP***	Project Engineer			
1.2	Exclusion Zones marked out on site	Prior to commencing works	Area has been surveyed, highlighting any areas where excavations should not occur (e.g. exclusion zone)	Drawings, Permits	Visual Inspection	This ITP signed	**HP***	Project Engineer			
1.3	Implementation of all measures and controls	Prior to commencing works	All necessary measures and controls are being implemented, that is: PSP, EMP, TMP, SWMS and WP	PSP, EMP, TMP, SWMS, WP	Visual Inspection	This ITP signed	**HP***	Project Engineer			
1.4	Current excavation and Isolation permit has been issued.	Prior to commencing works	An Excavation Permit and an Isolation permit issued by Melbourne Airport. A permit to work must be obtained from JUHI when working on or near their assets. Fulton Hogan Excavation permit issued to plant operators.	Excavation Permit/ Work Permit	Visual Inspection	Permits	**HP***	Project Engineer			
2.0	**Sub-Base Preparation**										
2.1	Removal of Existing Sub-Base Materials	Each Lot	FH to remove existing sub-base materials to the required depth and shape as outlined in the design documentation. This will be the underside of the new PCC pavement, and is to allow for thickenings.	Design Drawings	Visual Inspection	This signed ITP	**HP***	Project Engineer			

2.2	Existing Sub-Base Material Preparation	Each Lot	Where existing sub-base material is deemed to remain, the material will be trimmed and sealed off with nominated rollers, as detailed below, to achieve a dense, compacted and level surface. PCC1 & PCC2: Compact with 12T Smooth Drum Roller & 24T-28T Multi Wheel Roller. Proof Roll with Watercart. PCC4 & PCC5: Compact and Proof Roll with Heavy Hand Held Compactor Plates (DPU's).	FH-SAT10-PM-WP002	Visual Inspection	This ITP Signed	**HP***	Project Engineer			
2.3	Sub-Base Preparation - Testing	Each Lot	All existing sub-basecourse material shall be inspected, tested and approved by the Contract Administrator prior to placing concrete. This will include: • Nuclear densitometer on the prepared surface material (for information only but may be used to assess if additional work is required); • Dynamic cone penetrometer (DCP) test: o PCC1 & PCC2: Frequency of 1 per 200m2. o PCC4 & PCC5: Frequency of 1 per PCC slab. • Measurement of the depth of remaining basecourse/ sub basecourse material from the prepared surface to the natural subgrade. Frequency to align with DCP testing discussed above. All values obtained are to be tabulated by the Contractor and reported to the Contract Administrator.	AECOM – MAPMP Spec. Cl 7.9.2.1	Testing	This ITP Signed, and/or Test Results	**WP**	Project Engineer / AECOM			

2.4	Proof Rolling	Each Lot	Commencement of Proof Rolling in any area must be a designated **Hold Point**. Proof rolling with the roller/watercart will commence at one edge of the area being rolled and will be executed in a systematic manner such that the entire area being rolled is uniformly subjected to the required proof rolling, such that not more than four (4) passes of a roller/watercart tyre are applied on any line before it is moved to the next line. If the Proof Roll fails, the extent of the failed area is to be determined on site, and the scope of works agreed between FH and Contract Administrator.	AECOM – MAPMP Spec. Cl 5.6.3	Visual Inspection	This ITP Signed	**HP**	Project Engineer / AECOM			
2.5	Visual Assessment of Sub-Base Material (where Proof Rolling cannot be completed)	Each Lot	If FH considers that proof rolling is impractical in any area, FH will notify the Contract Administrator so that a visual assessment of the existing sub-base condition can be undertaken in lieu of a Proof Roll.	AECOM – MAPMP Spec. Cl 5.6.3	Visual Inspection	This ITP Signed	**HP**	Project Engineer / AECOM			
2.6	Undercutting Unsuitable Material	Each Lot	FH will draw the Contract Administrator's attention to any suspected unsuitable material. FH and the Contract Administrator will determine whether the material is unsuitable, and agree the extent of the unsuitable material. Any subgrade material which exhibits a DCP less than 2 blows/100mm shall be deemed unsuitable as sub-grade by the Contract Administrator. However, the depth to the subgrade is also an important consideration and will be assessed by the Contract Administrator before instructing a	AECOM – MAPMP Spec. Cl 7.9.2.2	Verify	This ITP Signed	**HP***	Project Engineer			

			nominal increase in thickness Wet Lean Mix Base Course. FH will excavate unsuitable materials from such areas and depths directed by the Contract Administrator. The resulting excavation to be filled with additional Wet Lean Mix Base Course.								
2.7	Survey As-Built Report	Each Lot	FH to provide a detailed and accurate survey report of a grid spacing no greater than 5m x 5m to prove the shape and level of the basecourse/sub-basecourse/ subgrade. The surface tolerance at any given point of the existing sub-basecourse material is: +0, -25mm.	AECOM – MAPMP Spec. Cl 6.6.6.5	Verify	This ITP Signed, and/or Survey Report	**HP***	Project Engineer			
3.0	**Sub-Base Replacement with FCR**										
3.1	Provision of Material Sources Report	Each Lot	Submission of the Class 1 Crushed Rock and Class 2 Crushed Rock material sources report shall be a designated **Hold Point.**	AECOM – MAPMP Spec. Cl 6.5.2.2	Verify	This ITP Signed, and/or Test Results	**HP**	Project Engineer / AECOM			
3.2	Provision of Material Production Test Data	Each Lot	Production Sampling and Testing Data of the FCR to conform to requirements of the specification (as set out in the material sources reports), and submitted to the Contract Administrator. Results will be submitted following the delivery of the FCR products to site.	AECOM – MAPMP Spec. Cl 6.5.2.3	Verify	This ITP Signed, and/or Test Results	**HP**	Project Engineer / AECOM			
3.3	Preparation of Underlying Layer	Each Lot	Prior to the construction of any FCR layer, the previously constructed underlying layer shall be cleaned of all debris and the surface shall be inspected for compliance	AECOM – MAPMP Spec. Cl 6.6.2	Visual Inspection	This ITP Signed	**HP**	Project Engineer / AECOM			

			with the specified requirements for that layer. Construction of any pavement layer shall not commence until the underlying layer has been completed in accordance with the Specification. This shall be a designated Hold Point.								
3.4	Placement of FCR	Each Lot	FCR Layers to be placed such that: • the moisture content of the materials is within 1% of the optimum moisture content for the material; • the compacted layer thickness is between 100 mm and 200 mm or other thicknesses approved by the Contract Administrator. • the underlying layers are not disturbed during placing, compacting and trimming; • the least possible surface disturbance is necessary to obtain the design shape, grade and levels within the tolerances specified; • placement commences at the crown or high side of the pavement with each lane spread adjacent to previously placed lanes; • the layer is at the finished level or it can be trimmed to level, shaped and smoothed by cutting off excessive material; and • the completed layer meets the specified compaction, thickness, surface level and surface shape requirements for that layer.	AECOM – MAPMP Spec. Cl 6.6.3	Visual Inspection	This ITP Signed	**HP***	Project Engineer			
3.5	Completion of FCR Basecourse and/or Sub-basecourse	Each Lot	At the completion of each layer of FCR, the Contract Administrator must be satisfied the Contractor has achieved the requirements of the Specification. If	AECOM – MAPMP	Visual Inspection	This ITP Signed	**HP**	Project Engineer / AECOM			

			satisfactory, the Contract Administrator shall approve the Contractor to place the next layer. This shall be a designated Hold Point.	Spec. Cl 6.6.3							
3.6	Proof Rolling	Each Lot	Commencement of Proof Rolling in any area must be a designated **Hold Point**. Proof rolling with the roller/watercart will commence at one edge of the area being rolled and will be executed in a systematic manner such that the entire area being rolled is uniformly subjected to the required proof rolling, such that not more than four (4) passes of a roller/watercart tyre are applied on any line before it is moved to the next line. If the Proof Roll fails, the extent of the failed area is to be determined on site, and the scope of works agreed between FH and Contract Administrator.	AECOM – MAPMP Spec. Cl 5.6.3	Visual Inspection	This ITP Signed	**HP**	Project Engineer / AECOM			
3.7	Survey As-Built Report	Each Lot	FH to provide a detailed and accurate survey report of a grid spacing no greater than 5m x 5m to prove the shape and level of the basecourse/sub-basecourse/ subgrade. The surface tolerance at any given point of the new sub-basecourse material is: +0, -25mm.	AECOM – MAPMP Spec. Cl 6.6.6.5	Verify	This ITP Signed, and/or Survey Report	**HP***	Project Engineer			
3.8	Smoothness Testing	Each Lot	FH to conduct smoothness testing to ensure FCR will have a surface smoothness such that, in any direction, the surface of the FCR does not deviate from a 3.5 m long straight edge, placed on the surface, by more than 10 mm when the FCR is to be surfaced with bituminous	AECOM – MAPMP Spec. Cl 6.6.6.2	Verify	This ITP Signed	**HP**	Project Engineer			

			concrete and 7 mm when the surface is to receive a bituminous seal except in directions where a change of grade occurs and the requirements of the grading design make it impossible to achieve the surface smoothness requirement. Smoothness testing shall be carried out by the Contractor on completion of each section of FCR and the documented results submitted to the Contract Administrator.								
3.9	Testing	Each Lot	**Compaction**: For subgrade repairs, Class 1 Crushed Rock shall be compacted to a Mean Modified Dry Density Ratio ≥98% (modified compactive effort), and the Class 2 Crushed Rock shall be compacted to a Mean Modified Dry Density Ratio ≥95% (modified compactive effort). Compaction MMDD tested at frequency of one 3-lot test per lot. **Post-Compaction PSD**: At the completion of compaction and proof rolling, the crushed rock material must comply with the particle size distribution requirement of the specification. The particle size distribution shall be determined in accordance with the requirements of AS 1289 3.6.1. The minimum number of tests is three (3) per lot with a maximum lot size of 1000 m².	AECOM – MAPMP Spec. Cl 6.1.1, 6.1.2 & 6.6.4.2	Verify	This ITP Signed, and/or Test Results	**TP**	Project Engineer			
3.10	Rejected Materials	Each Lot	Any fine crushed rock material which does not meet all the requirements of the Specification shall be rejected. The	AECOM – MAPMP	Verify	This ITP Signed	**HP**	Project Engineer / AECOM			

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			outcome of rejected material or works may be requested to be removed, or may otherwise be agreed to leave as is, which will be determined through the NCR process. Any materials or works that do not conform to the project specification will be raised as a Hold Point.	Spec. Cl 6.7.3							

Final Inspection

On behalf of Fulton Hogan it is hereby certified that the Works represented by the items of work listed have been tested in accordance with the Project Quality Plan and conform in all respects with the requirements of the Contract.

Print Name: **Position:** **Signature:** **Date:** / /

Legend:

HP	Hold Point	Work shall not proceed past the HP until released by the Principal's Representative	**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 Principal's Representative	**SCP**	Survey conformance point	A qualified surveyor to check product/section/structure and report
AP	Approval Point	Written or verbal approval given by the Principal's Representative			

Notes