Fulton Hogan	Inspection and Test Plan - Control and Supervision of the Works	Doc ID: FH-ZU2-QU-ITP010 Rev: 0

Client: Melbourne Airport (APAM)	**Contract No: CP14038**	**Prepared By: Marianne Sales**	
Project: Taxiway Zulu 2.0 Project		**Reviewed By: Jonathon Rock**	**28/05/2024**
Construction Process: Cement Treated Base (CTB)		**Approved By: Jonathon Rock**	**28/05/2024**
Specifications: Taxiway Zulu 2.0 Program Works Specification ZULU-BECA-001-SPC-00002[C01]			
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			Principles Rep	Fulton Hogan	Other	Date
1.0	**Preliminary Activities – Permits, Documentation, Approvals, Survey Documentation**											
1.1	The current revision drawings are being used including subcontractors copy.	Prior to works	Current revision drawing is being used including the subcontractors copy. Current Revision to be obtained via Aconex.	Aconex	Visual inspection	This signed ITP	HP*	Project/Site Engineer Superintendent Foreman				
1.2	Implementation of all measures and controls	Prior to works	All necessary measures and controls are being implemented, that is: PSP, EMP, TMP, SWMS & WP	PSP, EMP, TMP, SWMS & WP	Visual inspection	This signed ITP	HP*	Project/Site Engineer				
2.0	**Cement Treated Base Documentation & Trial**											
2.1	Submission of Mix Design	21 days prior to works	CTB material and test results to be submitted to the Principal's Representative for review to ensure that specifications are met and are compliant, prior to the initial placement of the material. Mix design results will include: • Cement sample should include a CTB material within +/-0.5% of the specified cement content. • Aggregates comply with either Section 4.4 or VicRoads Class 2 or 3 material.	Spec cl. 5.4 Spec cl. 5.5 AS 3972 VicRoads Class 2 VicRoads Class 3	Verify	Approved Mix Design Report	**HP**	Project/Site Engineer Principal's Representative	Aconex: BecaCPL-GCOR-000790			

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			• Cement shall be Portland Cement Type GP or Type GB complying with AS 3972. • 3% minimum Portland cement content by weight of the dry un-stabilised material. • Mean seven-day unconfined compressive strength of CTB to be a minimum of 5MPa and a maximum of 15MPa. No single samples are to be below 5MPa. • Water to be pot									
2.2	Supply of Information on Materials Source	Prior to works	Principle Contractor to supply the Principal's Representative with supply information regarding the source of the CTB material via Aconex. Material information will include the material brand, material type, material supply source, and a supporting test certificate from a laboratory registered by NATA to prove material suitability for the Works.	Spec cl. 5.21.1 Spec cl. 5.21.1.1 AS3972	Verify	Approved Supply of Information Material Source	**HP**	Project/Site Engineer Principal's Representative	Aconex: BecaCPL-GCOR-000790			
2.3	Production and Construction Trial	Prior to works	Construction Trial for CTB mix to be undertaken by Contractor and reviewed by the Principal's Representative. Trial of CTB will be based on the first day of placement. Construction procedure to be reviewed and updated if there are any non-conformances associated with the initial trial. The size of the trial area shall be a minimum of 3.5m wide and 50m in length.	Spec cl. 132 Spec cl. 5.6	Verify	Approved Construction trial report	**HP**	Project/Site Engineer Principal's Representative				

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			The CTB trial area may form part of the completed works.									
2.4	Placement of CTB Methodology	Prior to works	Prior to placement of CTB the Principles Representative shall review this Work Method Statement for proposed methods of placement, compaction and curing	Spec cl 5.9	Verify	Aconex Sign off	**HP**	Project/Site Engineer Principal's Representative	Aconex: BecaCPL-GCOR-000810			24/05/2024
2.5	Provision of Material Samples	At Least 5 Days Prior to works	Principal Contractor to physically handover reference samples to Principal's Representative of the approved CTB material. To be truly representative, the reference samples will be taken straight from the supplier of the material. The reference samples shall be divided into two representative portions, with one being held by the Contractor and the second portion by the principal until completion of the Works.	Spec cl. 5.21.1.2	Verify	Handover of Reference Samples and Aconex sign off	**HP**	Project/Site Engineer Principal's Representative				
3.0	**Placement of Cement Treated Base**											
3.1	Subgrade, Basecourse Preparation	Each lot	Existing surface of subbase is maintained in compliance with tolerances on surface smoothness and level. The subbase is clean and clear of any foreign matter before the placing of the CTB. Principal's Representative will be notified 24 hours prior to the placement of CTB to allow the subbase	Spec cl. 5.7 Spec cl 5.9	Visual Inspection	This signed ITP	HP*	Foreman Site Engineer Principal's Representative				

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			to be inspected prior to the placement of the CTB. This will be recorded in ITP009 – Unbound Pavements. Principles Representative to be notified of the intention to place CTB.									
3.2	Layer Placement Parameters	Every Lot	Summary of Parameters for each Lot; • A lot is defined as one layer placed in a single days production of uniform material • Max Layer is 200mm • Min Layer is 100mm • Final Surface Level +0mm, -10mm (excluding intermediate layers) • Shape: every 10m intervals, <7mm deviation over 3.5m straight edge (excluding intermediate layers) • Material is batched within 1% of OMC	Spec Clause 5.9	Visual Inspection	This signed ITP	IP	Foreman Site Engineer Principal's				
3.3	CTB Placement – Weather	Each lot	Weather to be check prior to placement, CTB shall not proceed when; • Ambient temperature is below 5°C • Temperature is over 35°C • Heavy Rain fall is forecasted	Spec cl 5.18	Visual Inspection	This signed ITP	HP*	Foreman Project/Site Engineer				
3.4	CTB Placement – Checks	Each lot	During CTB placement Activities check; • Placement starts on the high side or crown of the layer where practical	Spec cl. 5.9 AS1289.5.2.1	Visual Inspection	This signed ITP	IP	Site Engineer Foreman				

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			• Material is spread in the direction of Taxiway across full width • Underlying layer is not disturbed during deliveries • Inspect Material for any contamination through placement activities • Adjoining layers are a clean face / vertical • Segregation does not occur • Placement to be completed within 120 minutes from time of batching and before concrete has obtained its initial set									
3.5	CTB Compaction – Checks	Each Lot	During Compaction check; • Heavy smooth drum roller of 15t to 20t is used for initial compaction • Pneumatic roller of 27t will compact material for final consolidation. • A heavy smooth drum roller (in static mode) may also be used for final consolidation • Watercart present onsite for conditioning • Materials are trimmed to required shape and level	Cl 4.10	Verify	This ITP signed	IP	Project/Site Engineer				
3.6	Curing & Protection	Each Lot	Curing to commence as soon as CTB has been placed, compacted and trimmed. No plant (other than curing) to track across CTB for minimum 24 hours. Curing to follow one of the below methods;	Spec cl. 5.15	Verify	This ITP signed	HP*	Foreman Project Engineer Site Engineer				

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			1. Wet Method: This will involve a watercart lightly spraying the CTB surface for minimum 7 days. 2. Debonding Coat: The CTB will be covered with a bitumen curing compound. In locations of PCC, will be the C170 seal with 7mm aggregate.									
3.7	Post Placement CTB Inspection	Every Lot	Prior to the application of the succeeding layer or installation of the de-bonding coat, CTB final surface is to be inspected with the Principle Representative	Spec cl. 5.9	Verify	ITP signed	**HP**	Project/Site Engineer Principal's Representative				
4.0	**Acceptance, Compliance, Controls and Quality Assurance**											
4.1	Field Dry Density	Each Lot One test every 500m2 (or 250T) or part thereof Minimum 4 tests for Lots under 800m2 (or 400t) Minimum 6 tests for Lots over 800m2 (or 400t)	Average of Specified Minimum Dry Density Ratio (SMDDR) of 97% of the Maximum Modified Dry Density - Average Equals or Exceeds 96% with no individual result be less than 93%. The lot will be accepted. - Average Equals or exceeds 96% with a result being less than 93% - an additional 4 tests will be taken - Average is less than 94%, the lot will be rejected	Spec cl. 5.10 Spec cl 5.21.2.5	Verify	This ITP signed Test Report Attached	TP	Foreman Project Engineer Site Engineer				

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			- Average is in between 94% and 96% - an additional 4 tests will be taken									
4.2	Moisture Tests	Each Lot One test every 500m2 (or 250T) or part thereof Minimum 4 tests for Lots under 800m2 (or 400t) Minimum 6 tests for Lots over 800m2 (or 400t)	Target Moisture content of +/-1% for information only. Production of CTB to be within 1% of OMC.	Spec cl 5.21.2.5	Verify	This ITP signed Test Report Attached	TP	Foreman Project Engineer Site Engineer				
4.3	Strength Testing	Each Lot, divided into four approx. equal sub-lots	A total of 4 sub-lots will be taken as samples, with 2 being used for the 7-day strength testing, and the remaining being used for the 28-day strength testing. 28 day results are for information only. The mean 7-day unconfined compressive strength of the CTB shall be a minimum of 5.0MPa and a maximum of 15.0MPa. No single sample shall be below 5.0 MPa.	Spec cl 5.11 Spec cl. 5.21.2.6 AS1012.9 AS5101.4	Testing	This ITP signed Test results	TP	Project/Site Engineer				
4.4	Process Control	Each Lot	CTB production and process control test results to be supplied to the Principles Representative	Spec cl. 5.21.2.1	Verify	This ITP signed	IP	Project/Site Engineer				

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4.5	CTB Layer Thickness	Once Every 30m2	CTB layer thickness to be measured, recorded, and included in the Quality Assurance records. No CTB layer thickness to be less than that shown on the drawings other than allowable construction tolerances	Spec cl. 5.21.5 Spec cl. 5.21.7	Testing & verify	Test results & this ITP signed	IP SCP	Project/Site Engineer Site Engineer				
4.6	Quality Assurance Records	Each Lot	Provision of ITP test reports must be submitted within 60 days after the completion of the Works. Principal contractor to supply electronic copy of reports detailing the results of the quality control and testing undertaken. Reports to be transmitted on Aconex and Aconex Reference to be quoted as Hold Point Sign off.	Spec cl. 5.21.3	Submission of ITP reports	This signed ITP	**HP**	Project/Site Engineer Principal's Representative	Aconex Ref:			
4.7	Survey As-Built Report	Each Lot	The surface level at the top of the final CTB layer shall not deviate from design level at the specified points by -10mm or +0mm. Contractor to provide Survey Conformance report of completed CTB surface layers per Lot.	Spec cl. 5.17 Spec cl. 3.14.2	Verify	Completed drawings, survey report, & this ITP signed	IP SCP	Surveyor Project Engineer				
4.8	Surface Smoothness	Every Lot	Surface smoothness to be checked every 10m by placing a 3.5m long straight edged on the ground a checking any deviations over 7mm. Complete within 7 days of completion of each section. Document results.	Cl 5.17	Verify	Report	TP	Project/Site Engineer				

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			Intermediate layers and shoulder pavements are not required to be checked.									
4.9	Correction of Nonconforming Work	Each Lot (if required)	All CTB that do not meet all the specified requirements will be rejected by Contract Administrator. Materials to be removed full depth of the layer and reinstated, unless otherwise approved through the NCR process.	Spec cl. 5.21.4	Verify	This Signed ITP	**HP**	Project/Site Engineer Principal's Representative	(if required)			

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 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			