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|  | **Inspection and Test Plan – Control and Supervision of the Works** | | | | **Doc ID:** FH-ZU2-QU-ITP018  **Rev:** 1 |
| **Principal’s:** Melbourne Airport (APAM) | | **Contract No:** CP14038 | | **Prepared By:** Abdul Saad | |
| **Project:** Taxiway Zulu 2.0 | | | **Reviewed By:** Mukaram Mohammad | | **Date:** 02/07/2024 |
| **Construction Process:** Asphalt Placement | | | **Approved By:** Angela Julianto | | **Date:** 09/07/2024 |
| **Specifications:** ZULU-BECA-001-SPC-00002 – Revision C04 (07 June 2024) | | | | | |
| **Structure / Component:** Asphalt Pavement | | | | | |

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

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| **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** | **Principal’s Representative** | **Fulton Hogan** | **Date** |
| **1.0** | **Preliminary Activities** | | | | | | | | | | |
| 1.1 | Check for correct documentation | Prior to commencing works | Current revision of drawings, technical specifications and any other construction documentation is being utilised by Fulton Hogan and subcontractors.  Current revisions of these documents to be obtained via Aconex or ACC. | Current Revisions in Aconex or ACC | Verify | This ITP signed | **HP\*** | Project / Site Engineer |  |  |  |
| 1.2 | Implementation of all measures and controls | Prior to commencing works | All necessary measures and controls are being implemented, that is: PSP, EMP, TMP, SWMS & WMS | PSP, EMP, TMP, SWMS, WMS | Visual Inspection | This ITP signed | **HP\*** | Project / Site Engineer  Site Supervisor |  |  |  |
| 1.3 | Plant & Equipment Check | Prior to commencing works | Asphalt plant & equipment meeting the requirements of Project Specification.  Pre-Start checks completed by operators of plant and equipment. All plant and equipment are acceptable for use. Any faults are reported. Standby equipment in place where required. | AfPA Sec 7.1  Cl 91-100 | Verify | This ITP signed | **HP\*** | Project / Site Engineer  Site Supervisor |  |  |  |
| 1.4 | Tack Coat Material Submission | Prior to commencing works | Details of the proposed tack coat and test certificates shall be submitted to the Contract administrator for review. | Beca Spec 002  9.4.1  9.9.1 | Verify | Aconex Correspond ence | **HP** | Project / Site Engineer  Principal’s Representative |  |  |  |

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| **2.0** | **Tack Coat** | | | | | | | | | | |
| 2.1 | Surface Preparation | Prior to applying tack coat | Immediately before applying the tack coat and following all cold planning activities, all loose and foreign materials shall be removed from the surfaces to approximately 150mm beyond the edge of the area to be coated.  Tack coat must not be applied on a wet surface, or when the surface temperature is below 5 degrees Celsius. | Beca Spec 002  8.5 & 9.5 | Visual Inspection | This ITP signed | **HP** | Project / Site Engineer  Principal’s Representative |  |  |  |
| 2.2 | Weather Limitations | Prior to works | Tack coat shall not be applied on a wet surface, or when the surface temperature is below 5°C, or when the weather conditions would prevent the proper application or adhesion of the tack coat. | Beca Spec 002  9.7 | Verify | This ITP signed | **HP\*** | Project / Site Engineer  Site Supervisor |  |  |  |
| 2.3 | Application of Tack Coat | During Works | Tack coat must be applied to the prepared surface at a rate of 0.2-0.3 L/m2 of residual bituminous material, calculated at 25°C.  Vertical faces of milled and excavated existing pavement must be thoroughly tack coated by hand lance or other method.  Tack coated surfaces must be protected from construction equipment trafficking to the extent reasonably achievable.  Asphalt paving must not commence until emulsified tack coat is substantially broken over more than 80% of the surface of the paving run. | Beca Spec 002  9.9.3, 9.6  AfPA Sec 10.3 Cl153-156 | Verify | Spray Rate Record Sheet  This ITP signed | **WP** | Project / Site Engineer  Principal’s Representative |  |  |  |

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| **Frequency** | **Acceptance Criteria** | **Reference Documents** | **Inspection/ Test Method** | **Record of conformity** | **Principal’s Representative** | **Fulton Hogan** | **Date** |
| 2.4 | Test Certificates | During works | If during the progress of the work the Contractor desires to use other materials or materials from other sources or materials produced from the same source using method of production different from those originally agreed, new samples shall be taken and tested and the results shall be submitted to the Contract Administrator. | Beca Spec 002  9.9.1 | Verify | This ITP signed  Test Reports | **HP** | Project / Site Engineer  Principal’s Representative |  |  |  |
| **3.0** | **Hot Mix Asphalt Placement** | | | | | | | | | | |
| 3.1 | Construction Trial | Prior to commencing works | A construction trial must be completed as per the requirements in the specification. | AfPA Sec  8.3 & 8.4 | Verify | Aconex Reference | **HP** | Project / Site Engineer  Principal’s Representative |  |  |  |
| 3.2 | Ambient Conditions for Placing | Prior to placement | Asphalt must not be produced and constructed during weather, or expected weather, that may be detrimental to the quality of the finished asphalt surface layer(s).  If required, where the existing surface temperature is below 15°C, the Contractor must develop and submit cold weather construction procedures for the Contract Administrator approval. | AfPA Sec  10.1 Cl  145-146 | Infrared Thermometer | This ITP signed | **HP** | Project / Site Engineer  Principal’s Representative |  |  |  |
| 3.3 | Surface Preparation | Prior to placement | The surface on which the asphalt is to be placed has been jointly inspected by the Contract Administrator and the Contractor, and it is agreed to be suitable. | AfPA Sec  10.2 Cl  147 | Visual Inspection | This ITP signed | **HP** | Project / Site Engineer  Principal’s Representative |  |  |  |

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| **Principal’s:** Melbourne Airport (APAM) | | **Contract No:** CP14038 | | **Prepared By:** Abdul Saad | |
| **Project:** Taxiway Zulu 2.0 | | | **Reviewed By:** Mukaram Mohammad | | **Date:** 02/07/2024 |
| **Construction Process:** Asphalt Placement | | | **Approved By:** Angela Julianto | | **Date:** 09/07/2024 |
| **Specifications:** ZULU-BECA-001-SPC-00002 – Revision C04 (07 June 2024) | | | | | |
| **Structure / Component:** Asphalt Pavement | | | | | |

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| **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** | **Principal’s Representative** | **Fulton Hogan** | **Date** |
| 3.4 | Asphalt Placement | During Paving | The following processes to be monitored with the Contract Administrator to confirm consistency with Construction Trial:   * Roller patterns * Surface texture within paving lanes * Surface texture at the joints | AfPA Sec 11.4.1 | Verify | This ITP signed | **WP** | Project / Site Engineer  Principal’s Representative |  |  |  |
| 3.5 | Longitudinal Joints | During Paving | All longitudinal joints shall be constructed as hot joints (exceeding 125°C upon placement of the adjacent paving run) unless restricted by staging constraints or in constrained working areas.  Gas fuelled infrared joint heaters may be used to reheat the joint and create a hot joint where the measured temperature has not fallen below 90°C. | Beca Spec 002  10.5  AfPA Sec 10.4.4 | Verify  Infrared Thermometer | This ITP signed | **HP\*** | Project / Site Engineer  Site Supervisor |  |  |  |
| 3.6 | Surface Finish of Wearing Course | During paving and after final roll | The finished surface of the asphalt must be a tightly bonded, closed textured, surface of uniform appearance, free of dragged areas, cracks, segregation and open textured patches. Joints must be tightly closed. Surface finish must be consistent with the asphalt construction trial. | AfPA Sec  12.4.1 Cl  288-291 | Visual Inspection | This ITP signed | **HP\*** | Project / Site Engineer |  |  |  |

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| **Structure / Component:** Asphalt Pavement | | | | | |

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| **Frequency** | **Acceptance Criteria** | **Reference Documents** | **Inspection/ Test Method** | **Record of conformity** | **Principal’s Representative** | **Fulton Hogan** | **Date** |
| **4.0** | **Compaction Testing** | | | | | | | | | | |
| 4.1 | Compaction Testing **(AfPA Mix)** | See Note 1. | The in-situ air voids content to be determined using calibration between the nuclear density gauge (NDG) and the asphalt cores developed during the Construction Trial.  **For test locations away from joints:**  **Individual Air Voids:** Minimum 2% and Maximum 8%  **Average Air Voids:** Minimum 3% and Maximum 6.5%  **For test locations on longitudinal joints:**  **Individual Air Voids:** Minimum 2% and Maximum 9%  **Average Air Voids:** Minimum 3% and Maximum 7.5% | AfPA Sec 12.4.2  Table 22 | Verify | NATA  accredited test certificate | **TP** | Project / Site Engineer  Laboratory Technician |  |  |  |

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| **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** | **Principal’s Representative** | **Fulton Hogan** | **Date** |
| 4.2 | Compaction Testing **(Type H Shoulder Mix)** | See Note 2. | The in-situ air voids content to be determined using calibration between the nuclear density gauge (NDG) and the asphalt cores developed during the Construction Trial.  **For test locations away from joints:**  **Individual Air Voids:** Minimum 2% and Maximum 8%  **Average Air Voids:** Minimum 3% and Maximum 8%  **For test locations on longitudinal joints:**  **Individual Air Voids:** Minimum 2% and Maximum 9%  **Average Air Voids:** Minimum 3% and Maximum 9% | AfPA Sec 12.4.2  Table 22 | Verify | NATA  accredited test certificate | **TP** | Project / Site Engineer  Laboratory Technician |  |  |  |
| **5.0** | **Completion** | | | | | | | | | | |
| 5.1 | Surface Smoothness Testing | After completion of pneumatic tyred rolling | The finished surface of the surface layer must not deviate from a 3.5 m straight edge by:   * **Full Strength Pavement (AfPa Mix)**   + Longitudinally: Max 4mm   + Transversely: Max 6mm * **Shoulder Pavement (14H Mix)**   + Longitudinally: Max 6mm   + Transversely: Max 7mm | AfPA Sec 12.4.3  Cl 293. | Visual Inspection | This ITP signed | **HP\*** | Project / Site Engineer |  |  |  |

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| **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** | **Principal’s Representative** | **Fulton Hogan** | **Date** |
| 5.2 | Finished Surface Levels | Per Lot & Per Asphalt Layer | Surface level must be as per following:   * **Full Strength Pavement (AfPa Mix)**   + ≥95% of the deviations between design surface level and finished surface level must be maximum 7mm.   + ≥95% of the finished surface deviations between design surface cross fall and finished surface cross fall must be maximum 0.3%. * **Shoulder Pavement (14H Mix) (14H Mix)**   + ≥90% of the deviations between design surface level and finished surface level must be maximum 7mm.   + ≥95% of the finished surface deviations between design surface cross fall and finished surface cross fall must be maximum 0.3%. | AfPA Sec 11.5.1  Sec 12.4.5  Cl 298-  299 | Verify | This ITP signed  Survey Reports | **SCP** | Project / Site Engineer  Principal’s Representative |  |  |  |
| 5.3 | Surveyed Average Layer Thicknesses | Per Lot & Per Asphalt Layer | Average layer thickness must not vary by ± 4mm from nominal thickness. | AfPA Sec  11.4.5 Cl  247-248  Sec 12.4.4  Cl 294-  295 | Verify | This ITP signed  Survey Reports | **SCP** | Project / Site Engineer  Principal’s Representative |  |  |  |

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| **Structure / Component:** Asphalt Pavement | | | | | |

**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:**



**Notes**

**Note 1** Compaction Test Frequency (AfPA mix) is as per AfPA Specifications Section 11.4.2 Clause 234

**Note 2** Compaction Test Frequency (Type H Shoulder Mix)

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| **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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| **Location** | **Minimum Sampling Frequency for Single Lot** |
| Away from joints | 1 core per 250m2 (minimum 2 cores per asphalt lot) |
| Joints | 1 core per 500m2 (minimum 1 cores per asphalt lot) |

