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|  | **Inspection and Test Plan - Hot Mix Asphalt Placement** | **Document # ITP-0004**  Revision: 1.00 Date : 08/11/2024 |

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| **Client: Fulton Hogan Construction TAS** | **Construction Process:** Hot Mix Asphalt Placement  **Specifications:** *VicRoads Sections 407 Hot Mix Asphalt (2022); Section 404- Stone Mastic Asphalt (2018); Section 417- Open Grade Asphalt (2018) and AS2150 (2020) Hot Mix*  *Asphalt – A Guide to Good Practice*  **Location:** | Prepared by: | Reviewed by : | Approved by : |  |
| **Project: MacQuarrie Davey St** | Name: Darren Rozario | Name: **Andrew Hinkley** | Name: | **Johan Kilian** |
| **Contract: C3741** | Site Engineer | Fulton Hogan | Client |  |
| **Date:** |  |  |  |  |
| **Lot No:** |  |  |  |  |

**Carriageway: Chainage: Layer (circle) : SC WC IC1 IC2 BC Asphalt Type and Quantity:**

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| **Item No.** | **Task/Activity Description** | **Inspection / Controls and Verification Detail** | | | | | **HP/ WP/ AP/ IP/ TP/ SCP** | **Responsibility** | | | | |
| **Frequency** | **Acceptance Criteria** | **Reference Documents** | **Inspection / Test Method** | **Record of conformity** | Project Engineer  Site Engineer Superintendent Surveyor Foreman | **Fulton Hogan Industries** | **Client** | **Date** | **Comments** |
| **1** | **Preliminary Works** | | | | | | | | | | | |
| 1.1 | Mix Design approval | Prior to commencing paving | Mix design to be used has been approved by project superintendent, prior to use | 407.09  Mix Design Registration | Approval Correspondence | Supply of registration certificate | **HP** | Engineer |  |  |  |  |
| 1.2 | Site Inspection and Base Condition | Prior to commencing paving | Surface on which asphalt is to be placed is essentially dry and free from puddles, defects (holes, cracks, unstable material and edge irregularities) and loose materials. | 407.17  AS2150 10.1  AS2150 10.3 | Visual Inspection | Completed ITP Photograph | **WP** | Asphalt Supervisor |  |  |  |  |
| 1.3 | Ambient Conditions for Placing | Prior to commencing paving | The majority of the surface area to be paved has a temperature greater than or equal to the following:  Base & Intermediate Courses: 5°C for conventional binders or 10°C for PMBs & Class 600  Wearing Courses: 10°C for conventional binders or 15°C for PMBs  Where the above temperatures cannot be achieved, asphalt must be laid under the "Fulton Hogan Cold Weather Paving Plan" | 407.17 | Infrared Thermometer | Completed ITP Weather forecast Thermometer reading | **IP** | Asphalt Supervisor or Foreman |  | N/A |  |  |
| 1.4 | Planning of Joints | Prior to commencing paving | Runs to be marked to ensure placement of all Longitudinal Joints satisfy the following unless otherwise approved by the Client: Transverse Joints Offset from layer to layer by at least 2m Longitudinal Joints for the final Wearing Course are located on lane lines  Longitudinal Joints for Intermediate and Base Layers offset from layer to layer by 150mm, and no more than 300mm from lane lines | 407.21 | Measure and mark out runs by tape measure or survey | Preliminary join plan submission & photograph on site | **WP** | Engineer / Supervisor / Asphalt Foreman |  |  |  |  |
| 1.5 | Tack Coat | Prior to Commencing paving | Tack coat to be sprayed in a uniform film over the surface to be  paved at a rate of **0.25-0.50 L/m2 of CRS60.** This rate is to be doubled on joints and chases. Tack coat must be allowed to fully cure .  *NOTE: Tack coat is not required on clean, freshly placed asphalt or primed surfaces*  ***Photographical evidence must be obtained (with an identifiable landmark)***  *\*from 1st July 2023, "trackless Tack Coat" must be used* | 407.19  AS2150 11 | Spray area and inspect | Completed ITP Photograph | **IP** | Asphalt Foreman |  | N/A |  |  |

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| 1.6 | Selection of compaction equipment to satisfy clause 160 | Prior to commencing paving | An oscilating roller will be used if available or static rolling will be conducted on site. Number of rollers and appropriate rolling paterns will be determined prior to the works to achieve the required compaction of the mix. This will be assessed by compaction testing. | 401.04 & 160 | Nuclear Density Test,  DGA Compaction Procedure | Completed ITP,  Compaction reports | **AP** | Fulton Hogan Laboratory Technician, Asphalt Foreman / Engineer |  |  |  |  |
| **2** | **Asphalt Placement works** | | | | | | | | | | | |
| 2.1 | Commencement of Placing | Prior to Commencing paving | The placement of asphalt on the sub-base or granular base for a new pavement or for an overlay of an existing bituminous surfaced pavement shall not commence until the consent to proceed is obtained from the Client's nominated authority. | 407.23 | Visual Inspection | Completed ITP Email corresponance | **HP** | Asphalt Supervisor / Superintendent |  |  |  |  |
| 2.2 | Delivery of Mix | Each lot | Check correct mix design has been supplied, as per pavement design. | Pavement Design Details 407.20 | Check asphalt delivery docket | Traceability sheet | **IP** | Asphalt Foreman |  | N/A |  |  |
| 2.3 | Delivery of Mix | Each load | Asphalt is not segregated, binder is not separated or does not contain uncoated particles and the temperature from mixing plant is not more than 175°C. | 407.11  Table 407.111 | Visual Inspection & Delivery Docket | Traceability sheet | **WP** | Asphalt Foreman |  | N/A |  |  |
| 2.4 | Traceability | Each lot | Ability to locate asphalt test results placed in three dimensions  i.e. start/end chainage, offset/lane and layer | Fulton Hogan Quality Plan | Measure and Record on Daily Lot Record | Traceability sheet | **IP** | Fulton Hogan Foreman/ Engineer |  | N/A |  |  |
| 2.5 | Layer Thickness and Level Control | Regularly during paving | Thickness of asphalt layer conforms to asphalt thickness on drawings or specifications | Pavement  Design Details 407.25(a),(b) | Dips using ruler or dip stick | Level and  stringline record | **WP** | Asphalt Foreman |  |  |  |  |
| 2.6 | Paver Stoppages | If paver stops | A transverse joint shall be constructed if the asphalt in front of the screed cools to below 120°C | 407.25 (c) | Thermometer | Traceability sheet | **WP** | Asphalt Foreman |  | N/A |  |  |
| 2.7 | Surface Finish of Wearing Course | During paving and after final roll | The finished surface of asphalt wearing course shall be of uniform appearance, free of dragged areas, cracks, open textured patches and roller marks | 407.25 (c) | Visual Inspection & straightedge | Completed ITP or photograph | **WP** | Asphalt Foreman |  | N/A |  |  |
| 2.8 | Kerb and Channel | During paving and after final roll | The edge of the wearing course shall be either flush with or not more than 5 mm above the lip of the channel unless otherwise specified | 407.29 (a)(ii) | Visual Inspection & Measurement | Completed ITP or photograph | **WP** | Asphalt Foreman |  | N/A |  |  |
| 2.9 | Trafficking pavement after placement | After final roll | Trafficking or placement of asphalt over type SF asphalt is not  permitted unless the majority of the SF asphalt has a surface temperature of 50°C or less and Falling. Where trafficking of SF asphalt results in deformation, further trafficking shall cease until such time that the type SF asphalt has adequately cooled to allow works to continue without further damage.  For Stone Mastic Asphalt, this must be 40°C | 407.28, 404.14 | Visual Inspection & Thermometer | Completed ITP & thermometer reading | **HP** | Asphalt Foreman |  | N/A |  |  |

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| **3** | **Testing** | | | | | | | | | | | |
| 3.3 | Compaction Testing (Dense Graded Asphalt) | Per Lot | **Test Lots >500m2**, Per lot, the Characteristic Density Ratio must meet the following Minimum Limits:  >50mm layer depth = 96.0%  <50mm layer depth = 95.0%  Additional Test must be undertaken on the longitudinal joints for wearing courses  **Test Lots 50m2-500m2**, may be treated as a small area, in which the mean of 3x test sites must exceed the appropriate compaction requirement by 2.0%  **Test Lots <50m2**, compaction for all lots shall be accepted on a procedural basis  **Mix Types where total contract supply <300t,** compaction for  all lots shall be accepted on a procedural basis | Section 407.27(a),(c.)  407, Section  173, Dense Graded Compaction Procedure | Nuclear Density Test,  DGA Compaction Procedure | Completed ITP,  Compaction reports | **TP** | Fulton Hogan Laboratory Technician, Asphalt Foreman / Engineer |  | N/A |  |  |
| 3.4 | Level Conformance | Each Lot | The mean surface level and the variation in surface level for the base, intermediate and wearing courses within each lot shall meet the requirements as specified in 407.30 (b)  Scale A: +/- 5mm Range, +/- 8mm standard deviation | 407.30, 407.29 | Survey Results | Completed ITP, Survey Conformance Results | **WP** | Surveyor / Superintendent | N/A |  |  |  |

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| **Final Inspection**  The signature below verifies that this ITP has been completed in accordance with the FH’s Quality system Procedures and verifies lot compliance with specifications.  Print Name: Position: Signature: | | | | | | |
| ***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\*** | FH Hold Point | Work shall not proceed past the HP\* until released by FH | **TP** | Test Point Product compliance test to be undertaken and recorded/reported |  |  |
| **WP** | Witness Point | An inspection which may be witnessed by the Superintendent or Client | **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 | **SC** | Surfacing Course **WC** Wearing Course **IC1** Intermediate Course 1 **IC2** Intermediate Course 2 | **BC** | Base Course |

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| ***Revision Register*** | | | | |
| **Revision #** | **Item Revised** | **Discription** | **Date** | **Author** |
| Version 1.00 | Draft | ITP-0004 ammended to meet project specific requriements | 8/11/2024 | Darren Rozario |
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