

SPARK – North East Link – Primary Package

**Inspection and Test Plan (ITP)**

ITP Title: Cement Treated Crushed Rock

ITP Number: NEL-CNT-SDC-2990-PQA-ITP-0040 Rev 1

LOT Number:

Primary Asset Location Code:

Discipline: Pavement

**OFFICIAL: Sensitive**

**Spark NELP Approval Record**

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| --- | --- | --- | --- | --- |
| **Function** | **Position** | **Name** | **Signature** | **Date** |
| Prepared By | Quality Representative | Joe Failla | Joe Failla Date: 2022.10  Digitally signe  +11'00' | d by Joe Failla  .05 09:16:32 |
| Reviewed By | Project Engineer | Domenic Ciccone | Digitally sig DN: C=AU,  Domenic Ciccone E=domenic  O=SPARK,  Date: 2022. | ned by Domenic Ciccone  [.ciccone@sparknel-dc.com.au,](mailto:.ciccone@sparknel-dc.com.au) CN=Domenic Ciccone  10.05 09:42:59+11'00' |
| Approved By | Quality Manager | Greg Iro | Digital Date:  +11'00 | ly signed by Greg Iro 2022.10.05 09:57:10  ' |

*Note:*

Dominic Ciccone

1. *Ensure all Records or Checklist References are attached and that each Inspection Requirement is clearly named, signed, and dated.*
2. *Ensure every Records or Checklist References attached are legible*
3. *This Inspection Test Plan may be generic – ensure the requirement is demographically clear to your scope of work*
4. *Verification Inspections where applicable for the IREA stated as “Witness” or “Hold” shall be formally notified for their engagement and with sufficient advance notice time (i.e. 3 days or as agreed with the Sub-IREA Representative and/or the Nominated Authority)*
5. *All Nominated Authority Hold Points are Witness Points for Sub-IREA*
6. *The Sub-IREA representative is not required to physically sign-off on ITPs*

ITP – Cement Treated Crushed Rock

**Document Number:** NEL-CNT-SDC-2990-PQA-ITP-0040. **Revision:** 1

Spark PMS Doc# MSF28-2-NEL

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**OFFICIAL: Sensitive**

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| **Item No.** | **Resp. Person** | **Inspection and Test Activity** | **Specification Reference** | **Acceptance Criteria** | **Test Method** | **Test Frequency** | **Inspection/Verification (Name, signature & date)** | | | | **Records/ Documents** | **Field Notes / Comments** |
| **Sub- Contractor** | **Spark NEL Engineer** | **Nominated Authority** | **IREA** |  |  |
| **1.0** | **Preliminaries (Include all aspects of Materials, Approvals, IFC Drawings, etc. Ensure all required permits have been raised prior to commencing works)** | | | | | | | | | | | |
| 1.1 | PE | IFC Drawings issued | IFC Drawing Number:  PSDR Part 6 Section 2(h) | IFC Drawings, approved plans, technical specification issued for construction  Construction of any Construction Package must not commence until at least 5 Business days after the later of when:   1. the Construction Documentation has been submitted to the State, the IREA and any Returned Asset Owner (if applicable) in accordance with section 2(f) and 2. Any requirements of the IREA under section 2(g) have been complied with. | V | PW | NR | **HP** | NR | NR | IFC Drawings |  |
| 1.2 | PE | All Equipment calibrated (NATA Approved) | Quality Management Plan | Equipment calibration NATA certificates filed in InEight Document.  Prior performing inspections, measuring and testing tasks, ensure equipment is calibrated, if damaged or out of calibration, the user will immediately tag it  “out of service” and arrange for repairs / calibration. | I | PW | NR | WP | NR | NR | InEight Document References: |  |
| 1.3 | PE | Survey Set Out | Quality Management Plan  IFC Drawings | Confirmation and visually inspect survey set out as per the IFC Drawing | V | PW | **HP** | **HP** | NR | NR | InEight Document References:  Lot Map |  |
| 1.4 | PE | Material Registration | VR (2019)  Section 306.04  VR (2016)  Section 815.04 | The cement treated crushed rock must be a current, registered mix in accordance with VicRoads Code of Practice RC500.02 and conform to specified requirements applicable to that class of product.  The supplied registered mix shall not be changed unless the Nominated Authority has been advised of the change and given written approval. | I | PW | WP | **HP** | **HP** | **HP** | VicRoads Letter of Registration  Material Test Reports / NATA approve |  |

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|  |  |  | VR Code of Practice RC500.02  VR 801, 815  VR 812.04 | Mixes registered as “Conditional” shall not be used unless the Superintendent has been advised of any mix registration conditions and approved the mix for use. |  |  |  |  |  |  |  |  |
| 1.5 | PE | Use of alternative binder | VR 306.09 | If the Contractor proposes to use an alternative cementitious binder to those included in Table 306.091, laboratory test results shall be produced to the Nominated Authority showing that the binder satisfies the required working time determined in accordance with the VicRoads Test Method. In addition, the cementitious  treated material using the alternative binder shall meet specified strength requirements of 500MPa. | R | PW | NR | **HP** | **HP** | WP | InEight Document References: |  |
| 1.6 | SE | Verify Layer Compaction and Surface Level | VR 304  Table 304.061  VR 304.062  IFC Drawings | Previous layer completed. Documentation available and complying.   1. Testing rolling 2. Compaction testing   3.Level conformance - See tables below Lot no. Lot no. Lot no. | V | PW + PL | NR | WP | NR | NR | Signed ITP |  |
| **2.0** | **Operations (Include Work Execution – Installation / Manufacturing Process step-by-step)** | | | | | | | | | | | |
| 2.1 | SE | Material Placement | VR306.05,  306.09 Table  306.091  VR 306.11  IFC Drawings | Place, trimmed to level and fully compacted within max. allowable working time refer to table VR 306.091.  Ensure that width of the pavement course has been constructed as per requirement 306.03(a) where the width of pavement measured on each side of the | V | PL | NR | WP | NR | NR | Material Delivery Dockets  Quarry Batch Records |  |

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|  |  |  | VR 306.03(a) | centreline or design line shall not deviate by more than 50 mm from the designed offset.  Moisture content within +0.5% and -1.0% from the  Optimum Moisture Content from the Modified optimum moisture content. |  |  |  |  |  |  |  |  |
| 2.2 | SE | Transverse and Longitudinal Jointing | VR 306.08  IFC Drawings | The layout of the joints shall conform to the following requirements:   1. material shall be spread in such a manner as to minimise the number of joints 2. in any layer, transverse joints in adjoining paver runs shall be offset by not less than 2m 3. transverse joints shall be offset from one layer to the next by not less than 2m. 4. longitudinal joints shall be offset from one layer to the next by not less than 150mm. 5. longitudinal joints shall be located within 300mm of the planned position of traffic lane lines or within   300mm of the centre of a traffic lane. | V | PL | NR | WP | NR | NR | Signed ITP |  |
| 2.3 | SE | Proof Rolling (If required) | VR 306.091  VR 306.10  VR 173.03 | ▫ If test rolling is chosen to be carried out, then it must be done within the maximum allowable working time for the type of CTCR and time of year as specified in Table 306.091  ▫ Ensure test roll area is prepared for test roll and is in accordance with test roll procedure prior application.  ▫ Ensure no visible deflection or springing.  ▫ The extent of test rolling and a requirement to provide not less than 24 hours’ notice of the location and commencement time for the test rolling to the  Superintendent / Nominated Authority. | I | X1- refer to procedure | NR | **HP** | **HP** | WP | Test Roll Record |  |
| 2.4 | SE | Post compaction density testing | VR 815.141  VR 306.09 | Maximum lot size <5000m2 - Test frequency  compliance to specification table VicRoads 815.141 Scale A: | I | Scale A: 6 tests / lot | NR | WP | NR | NR | NATA Test Report |  |

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|  |  |  | VR 173.04  Design Package | Characteristic value of density ratio ≥ 96% modified  Standard lot 6 tests per lot.  Lot size > 500m2, 6 tests per lot Lot size < 500m2, 3 tests per lot. At 2% greater than a (6-lot Std) 96.0% (6-Lot Std)  98.0% (3-Lot Std)  Minimum compacted thickness on a single layer shall not be less than 100mm  and the maximum compacted thickness shall not be more than 200mm. |  | Scale B: 3 tests / lot |  |  |  |  |  |  |
| 2.5 | SE | Curing and protection of compacted layers  (Pavement Design Modulus of 500MPa or not specified) | VR 306.11(a) | 1. Surface of each compacted layer shall be kept moist for a period of seven days unless covered at an earlier stage. 2. Construction or other traffic shall not use a compacted layer within 24 hours of placement without the approval of the Nominated Authority. 3. Subbase shall be kept in good order and condition and free from contamination. 4. Water can only be added for the purposes of curing to the cementitious treated material. | V | PL | NR | WP | NR | NR | Signed ITP |  |
| 2.6 | SE | Curing and protection of compacted layers  (Pavement Design Modulus of 3500MPa or not specified) –  **If Applicable-** | VR 306.11(c) | **(HP)** Requests by the Contractor to vary the rates of application shall be submitted in writing to the Superintendent for review.  **(HP)** The Contractor’s Environmental Management plan shall include procedures to minimise all risks of damage to the environment associated with priming and primer sealing. | V | PL |  | WP | **HP** | WP | Signed ITP  **(If Applicable)** |  |
| 2.7 | SE | Survey Conformity with Drawings | VR 306.03  (a)(b)(c)  Table VR 306.031 | Surface level of the pavement courses shall be measured in accordance with Table 306.031 & 306.032  Each level measurement shall be taken at random locations over the area of the lot in accordance with | V | PL | NR | WP | NR | NR | InEight Survey Report References: |  |

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|  |  |  | Table VR 306.032 | the VicRoads Test Method and the number of  measurements taken within each lot as specified in Table 306.031 |  |  |  |  |  |  |  |  |
| **3.0** | **Post Operations (Include Inspection and Testing)** | | | | | | | | | | | |
| 3.1 | PE | Red-Line | VR 703.15  IFC Drawings | ▫ Ensure Redline survey is compared within the required tolerance to Design specification.  ▫ Ensure all locations and work area highlighted as per Construction Lot in Work Lot Map. | V | PL | NR | WP | NR | NR | Red-Line Mark- Up Drawings |  |
| 3.2 | PE | Final Inspection Site Walk | CQMP | Ensure at the end of each work conducted that Quality Control conduct an Inspection walk with Engineer to identify potential defects. | I | PL | NR | WP | **HP** | WP | [ ]  Surveillance Report  [ ] Punch List Report |  |
| 3.3 | PE | RFI’s, DRFI’s & DCN’s | CQMP DMP | ▫ Ensure all Design Change(s) are noted within the scope of the Construction Lot.  ▫ Link all relevant RFI’s included only to the specific  Construction Lot.  ▫ Ensure RFI’s are closed out prior to Construction  Lot close out. | V | PL | NR | WP | NR | NR | [ ] RFI’s  InEight Reference Form # |  |
| **4.0** | **Quality** | | | | | | | | | | | |
| 4.1 | QSR | Identification and control of non- conforming products or services  (if applicable) | CQMP | Review and confirm closure of NCR’s and associated RFI’s prior to closing of construction lot | R | PL | NR | **HP** | NR | NR | NCR closed with related documentation |  |
| 4.2 | QSR | Check all quality records for lot closure | CQMP | All applicable quality records are complete | R | PL | NR | **HP** | NR | NR | Compiled documents  (all data reports and records) |  |
| **Legend:** | | | | | | | | | | | | |

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| **Responsibility** | | | | | **Method** | **Inspection / Verification** | | **Test Frequency** | | | | **Other** | | | |
| SS: Site Supervisor SE: Site Engineer PE: Project Engineer  SPE: Senior Project Engineer GE: Geotechnical Engineer PS: Project Surveyor  NA: Nominated Authority IREA: Independent Reviewer (Observer)  EMR: Environmental Management Rep. (Release of HP) | | | PSM: Project Systems Manager QSR: Quality Site Rep.  STR: Structural Engineer  SSR: Site Safety Rep. | | V: Verify  I: Inspection R: Review T: Test | HP: Hold Point WP: Witness Point NR: Not Required | | PW: Prior to Works PL: Per Lot  F: Full or 100% Inspection or Testing X1: Inspect or Test at Specified Frequency  X2: Random Inspection or Test | | | | QP: Quality Plan  RFI: Request for Information NCR: Non-Conformance VC: Verification Checklist  XXXX: Sequential Number from Doc Control | | | |
| **DDD – Types:** B – Building, C – Civil, G – General, M – Mechanical & Electrical, I – Motorway Operations System (ITS), S – Structure, O – Tolling, T – Tunnel, U – Urban Design & Landscape | | | | | | | | | | | | | | | |
| **Supplier/Subcontr actor:**  **(If applicable)** | | **Name** | | **Signature and Date** | | **Spark-NELPP REP** | | | **Name** | | | | | | **Signature and Date** |
|  | |  | |  | | | | | |  |

**Lot closure comments**:

**Spark NELP QA Rep**:

**Name Signature: Date:**