**Inspection and test plan – concrete pavement**

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| **Project no.** | | CC0398 | | | **Project name** | VIVA ULSG | | | | | | **Date** | **27/05/2024** | | **Approved by** | Ari Birch |
| **ITP no.** | ITP-PAV-021 | | | | **Revision no.** | 0 | **Revision date** | | 27/05/2024 | **Plant and equipment used** | | | |  | | |
| **Lot no.** |  | | | | **Location (chainages, detailed description or marked up plan)** | | | | | |  | | | | | |
| **Layer thickness** | | |  | **Estimated qty** | |  | |

Attach Dockets, Certificates and QA Documents to ITP

|  | |  |  |  |  | | **Verification or test by** | | | | **Remarks / record (eg. test frequency, reports, certificates, checklist etc)** | |
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|  | |  |  |  |  | | **Symal Infrastructure** | | **MDR/VIVA** | |
| **Item no.** | | **Activity** | **Ref docs** | **Acceptance criteria** | **Acceptance** | | **Key** | **Sign Date** | **Key** | **Sign date** |
| **1.0 Preliminaries** | | | | | | | | | | | | |
| **1.1** | | Determine Lot Size | IFC DRAWINGS | Lot size Lot Size = Each pour section per day (location or m2) | Marked Plan | | S |  | S |  | Lot Map | |
| **1.2** | | Survey set-out | IFC DRAWINGS | Has the work area been set out for line and level? | Yes  No  N/A | | S |  | S |  | As Per IFC Drawings | |
| **1.3** | | Material Submission /  Approval | AS 3600    235929-000-CV-SP-00007 | Has the mix design to be approved prior to  placement. Material properties meet project specification, AS 3600, AS 1379?   * Minimum Concrete strength 25MPa or as specified in Drawings? * Steel Reinforcement certificates of conformance provided? * Do admixtures shall conform with AS 1478.1 and are permitted if used in accordance with manufacturer’s instructions? * Are all admixtures free of calcium chloride? * Has jointing materials & Sealants been approved? * Has vapour barrier material been approved | Yes  No  N/A | | H |  | H |  | Mix Design Number  \_\_\_\_\_\_\_\_\_\_\_\_  Material Compliance Certificates  Idocs Approval Reference  \_\_\_\_\_\_\_\_\_\_\_\_ | |
| **2.0 Form Work** | | | | | | | | | | | | |
| **2.1** | | Vapour Barrier Installed | 235929-000-CV-SP-00007 Section 6.2 | Approved vapour barrier installed on surface of crushed rock base?  Are all lap joints minimum 300 mm and sealed with duct tape?  Are major punctures in the vapour barrier patched of taped? | Yes  No  N/A | | W |  | W |  |  | |
| **2.2** | | Formwork Setout and  positioning correct | IFC DRAWINGS  235929-000-CV-SP 00008 | Is formwork checked for potential loose sections,  ensuring no movement upon placement of  concrete?    Is formwork in line with survey markings?  Have chamfers (if required) been attached to  formwork in level manner? | Yes  No  N/A | | W |  | W |  |  | |
| **2.3** | | Concrete jointing | IFC DRAWINGS | Have construction joints to be installed as detailed and in locations nominated on IFC Drawings and notes using approved materials? | Yes  No  N/A | | W |  | W |  | Delivery Dockets | |
| **3.0 Reinforcement** | | | | | | | | | | | | |
| **3.1** | | Steel reinforcement Supply | IFC DRAWINGS | Has correct reinforcement been delivered?  Is reinforcement free from rust and other  contaminates that may affect bonding? | Yes  No  N/A | | S |  | S |  | Incoming  material checklist  Delivery Dockets | |
| **3.2** | | Steel reinforcement  installation | AS3600 17.5.3  235929-000-CV-SP-00009  IFC Drawing 235929-000-CV-01-92002-010002 | Is steel installed as per the latest IFC drawings?  Does steel reinforcement conform with AS 3600:17.5.3?    Does cover to unformed surfaces comply with IFC drawings? | Yes  No  N/A | | W |  | S |  |  | |
| **4.0 Concrete Pavement Placement** | | | | | | | | | | | | |
| **4.1** | | Pre-pour Inspection | 235929-000-CV-SP-00007  Appendix 7.1  Pre-Concrete  Placement  Checklist | Has a pre-pour inspection checklist completed prior  to placement? | Yes  No  N/A | | H |  | H |  | Pre-Pour Checklist Attached?  Yes  No  N/A | |
| **4.2** | | Placement | 235929-000-CV-SP-00007  Appendix 7.3  Concrete  Truck Record | Concrete shall not be placed when temperature is  less the 5°C or greater than 36°C. Between 32°C  and 36°C admixtures and placing requirements  must be met.    Concrete shall be transported, handled and placed  to prevent segregation, loss or leakage of  materials.    Concrete shall not be dropped from a height  greater than 2m.    Concrete shall be discharge within 90 minutes of  dispatch from plant.    For continuous pours, the maximum time lag  between truck loads shall not exceed 25 minutes.    Concrete shall be thoroughly vibrated to ensure no  honey combing, voids or surface defects occurs and  compaction is achieve throughout structure.  Water shall not be added to achieve slump greater  than specified. If additional water is added, slump test to be performed after water is added. | Yes  No  N/A | | S |  | S |  | Concrete Truck Pour  Record  Concrete Delivery Dockets | |
| **4.3** | | Slump Test | Section 5.1.1    235929-000-CV-SP-00007 | Slump must be within tolerance of designed slump.  Testing shall be +- 15% of stated approved mix design slump. | Yes  No  N/A | | W |  | S |  | Concrete Test Report | |
| **4.4** | | Strength Testing | 235929-000-CV-SP-00007  Section 6.8 | Samples to be taken from chute. 5 cylinders  collected per sample – 1x 7day, 3x 28day, 1x  reserve.    1 test for the first 20m3  1 test per 40n3 thereafter  Frequency reduce to 1 test per 80m3 for pours over  400m3 | No. of Samples | Vol. of Pour (m^3) | H |  | S |  | Concrete Test Report | |
| 1 | <20 |
| 2 | 20-60 |
| 3 | 60-100 |
| 4 | 100-140 |
| 5 | 140-180 |
| 6 | 180-220 |
| 7 | 220-260 |
| 8 | 260-300 |
| 9 | 300-340 |
| 10 | 340-380 |
| **4.5** | | Curing of Concrete | 235929-000-CV-SP-00007  Section 6.5 | As per the approved Curing Methodology.  - Applied once bleed water has gone  - Continuous uniform film achieved  - Rate of 5m  2/L  Has curing been conducted as per approved curing  methodology? | Yes  No  N/A | | H |  | W |  | Approved  Curing  Technical Data  Sheet | |
| **4.6** | | Colouring of Concrete | 235929-000-CV-01-92002-010015 Note 9 | Concrete paving above conduit, shall be pigmented:  - Red for electrical;  - Green for instrumentation.  The method to be used is the dry shake, with oxide minerals after bleeding.  Pigments shall be used in accordance with the material manufacturer's specifications | Yes  No  N/A | | H |  | W |  | Material Approval  Delivery Dockets | |
| **4.7** | | Concrete Finishing | 235929-000-CV-SP-00007  Section 6.4 | Finish concrete per schedule below:   * Exterior slabs (i.e. foot traffic): broom finish. * Other approved non slip finish (i.e. stipple finish) | Yes  No  N/A | | S |  | S |  | Material Approval  Delivery Dockets | |
| **4.8** | | Formwork Stripping | AS 3600 Table 4.4 | Minimum Initial curing requirement for 25MPa concrete:  Cure continuously for at least 3 days or minimum average compressive strength of 15MPa  Has the formwork been removed in the same sequence as concrete placement to achieve similar concrete surface coloration? | Yes  No  N/A | | H |  | W |  |  | |
| **4.9** | | Saw Cutting of contraction joints | IFC Drawings  235929-000-CV-SP-00007 6.4.4 | ***Should the joint detail differ from design this shall be changed only with written approval by the Client.***  Saw cut joints shown on the Construction Drawings within 12 hours after placement.  The cut depth shall be 25% of the slab thickness. | Yes  No  N/A | | H |  | W |  | RFI (if applicable) | |
| **4.10** | | Post Pour inspection | 235929-000-CV-SP-00007 | All abovementioned works have been completed in-line with the drawings and specification and backfilling around structure can be completed (if applicable) | Yes  No  N/A | | H |  | H |  | Post-pour Checklist | |
| **5.0 Completion** | | | | | | | | | | | | |
| **5.1** | | As Built | YJRP-SPE-CC-M-0001 | As built to be submitted after pour, showing set out,  RLs, grades and any cast-in elements | Yes  No  N/A | | S |  | H |  | Survey  Conformance  report | |
| **5.2** | | Concrete Test Results | 235929-000-CV-SP-00007  AS3600  AS1379  AS3610 | Submission of 28 days results.    Results meet requirements of 25MPa. | Yes  No  N/A | | H |  | S |  | NATA endorsed  test report | |
| **6.0 Crack Repairs (if applicable)** | | | | | | | | | | | | |
| **6.1** | | Cracking repair methodology approval |  | Contractor to submit a concrete crack repair methodology to MDR prior to commencing any crack repair.  Has this been approved? | Yes  No  N/A | | H |  | H |  | Concrete Repair  Method  Document | |
| **6.2** | | Crack Repair |  | Has concrete crack repair been undertaken as per  the approved method? | Yes  No  N/A | | H |  | H |  |  | |
|  | **Additional Comments:** | | | | | | | | | | |  |
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| Works Completed (Signed SS) |  |  | Date Works Completed |  |
| Lot Conforms (Signed PE) |  |  | Date Lot Closed |  |
| NCR no. (if applicable) |  |  | Date NCR Closed |  |

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| **Lot acceptance:** | | | | |
| Symal Infrastructure representative name |  |  | MDR/VIVA representative name |  |
| Symal Infrastructure representative signature |  |  | MDR/VIVA representative signature |  |

**Responsibility (resp.) key: PM – Project Manager, PE – Project Engineer, SE – Site Engineer, SS – Site Supervisor**

**Inspection key: W – Witness, H – Hold Point, S - Surveillance**