**Inspection and Test Plan – Concrete Form, Reo, Pour** 

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project no.** | | 1 | | | **Project name** | Boral – Plant Foundation Slabs | | | | | **Date** | | **10/07/2023** | | **Approved by** |  |
| **ITP no.** | 1 | | | | **Revision no.** |  | **Revision date** | |  | **Plant and equipment used** | | | |  | | |
| **Lot no.** | **1** | | | | **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)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | | **Monero Constructions** | | | **Boral** | |
| **Item no.** | **Activity** | **Ref docs** | **Acceptance criteria** | **Frequency** | | **Key** | **Resp.** | **Initial/date** | **Key** | **Sign date** |
| **1.0 General** | | | | | | | | | | | |
| **1.1** | Pre-commencement | 610.18 | The Contractor shall submit a detailed work method statement(s) (WMSs), inspection and test plan(s) (ITPs) and quality control checklist(s) for all concrete construction works which explicitly reference the acceptance criteria and all performance requirements of Sections 610, 611, 613 and 614, for review by the Superintendent not less than 4 weeks prior to the placement of concrete. | Ongoing | | H | PE |  | H |  |  |
| 610.23 | The Contractor shall submit to the Superintendent for review, full details of the proposed methods of curing, as part of the concrete mix design submission, not less than four weeks prior to placement of concrete. The Contractor shall not proceed with the placement of concrete until the curing method(s) has been reviewed and approved by the Superintendent. | H | PE |  | H |  |
| 610.17 | The Contractor shall submit to the Superintendent for review, full details of the proposed hot or cold weather concreting procedure, not less than two weeks prior to placement of concrete. The Contractor shall not proceed with the placement of concrete until the hot or cold weather concreting procedure has been reviewed and approved by the Superintendent. | H | PE |  | H |  |
| 610.24 | The Contractor shall submit a crack repair procedure for the Superintendent’s review, prior to any repair works being undertaken. | H | PE |  | H |  |
| **1.2** | Material Classification and Source - Concrete | 610.07 (b) | Concrete mix design details have been sent for review by the Superintendent not less than 4 weeks prior to the placement of concrete.  Concrete shall not be placed until the mix design has been reviewed by the Superintendent, and allocated a registration number on the Register of VicRoads approved concrete mixes. | Ongoing | | H | PE |  | H |  |  |
| **1.4** | Material Classification and Source - Reo | 611.05 (a) | Third Party certification required for all reinforcing members used  Current certificate of approval, issued by the Australian Certification Authority for Reinforcing Steel (ACRS), shall be submitted to the Superintendent within 14 days of award of the Contract.. | Ongoing | | H | PE |  | H |  |  |
| **1.5** | Concrete Trial Mix | 610.07 (c) | Where required by the Superintendent, a trial mix shall be undertaken in accordance with AS1012.2.  The test results of the trial mix and the associated concrete mix design details indicating compliance with the specified requirements shall be submitted for review by the Superintendent**.** | As Required | | H | PE |  | H |  |  |
| **1.6** | Determine lot size |  | Lot Size = | Ongoing | | S | SS |  |  |  |  |
| **2.0 Setout and Base Prep** | | | | | | | | | | | |
| 2.1 | Set out | Civil drawings | Extents and levels correct to relevant drawings | Once | | H | SS |  |  |  |  |
| 2.2 | Base complete and approved | Civil drawings | Base prepared in accordance with the design drawings.  Base free from debris prior to placement of formwork. | Ongoing | | H | SS |  | W |  |  |
| **3.0 Concrete Construction** | | | | | | | | | | | |
| **3.1** | Steel reinforcement | Civil drawings  610.41  611.07 | Steel reinforcement to be placed as per design drawings with the correct amount of cover.  If required, re-bending of steel reinforcement shall not commence until the procedure has been reviewed and approved by the Superintendent, and shall be witnessed by the Superintendent’s representative.  The minimum concrete cover for concrete members cast in standard formwork and compacted with standard compaction as defined in clause 610.03 shall be in accordance with the requirements of Table 4.14.3.2 of AS 5100.5. | Ongoing | | H | SS |  | H |  |  |
| **3.2** | Formwork setout and positioning correct | Civil drawings | Formworks shop drawings approved and correctly installed. | Ongoing | | H | SS |  | H |  |  |
| 3.3 | Concrete jointing | Civil drawings  610.20 | Construction joints to be installed in accordance with Civil Drawings and notes using correct materials.  Construction joints whose location and details are not as shown on the drawings shall be subject to approval by the Superintendent. | Ongoing | | H | SS |  | H |  |  |
| 3.4 | Placement | 610.18 | Concrete shall be transported, handled and placed to prevent segregation, loss or leakage of materials.  Concrete shall not be dropped freely from a height exceeding two metres  Concrete to be tamped/vibrated to increase density and prevent voids, honeycombing or surface defects.  Concrete shall be deposited in horizontal layers not more than 350 mm thick, filling every part of the forms/excavations, forcing the concrete under and around the reinforcement and any other embedded fixtures without displacing them.  Vibration shall be applied to the full depth of each layer and extended into the top 100 mm of the underlying layer. Vibration shall continue at each point until air bubbles cease to emerge from the concrete, then withdrawn slowly to avoid leaving a defect  The temperature of concrete, measured immediately prior to placing, shall not be less than 10°C or greater than 32°C  In continuous concrete pours the maximum time lag between truck loads on site shall not exceed 25 minutes. | Ongoing | | S | SS |  | W |  |  |
| **3.5** | Strength testing | 610.16 | Samples to be taken from chute. Each sample shall consist of three cylinder specimens, with a minimum of 2 cylinders per sample to be tested at 28 days.  Number of samples to be taken from Table 610.161.  Samples to be tested for:   * Compressive Strength * Slump | No. of samples | Volume of concrete (m3) | S | SS |  | W |  | Test report |
| 1 | 0-10 |
| 2 | 10-25 |
| 3 | 25-50 |
| 4 | 50-100 |
| For each additional 50m3, one sample shall be taken | |
| **4.0 Post Pour** | | | | | | | | | | | |
| 4.1 | Period of Curing | 610.23(b) | The period of curing shall be not less than the number of days given in Table 610.231 (Appendix A) | Ongoing | | S | SS |  | W |  |  |
| 4.2 | Formwork Removal | 610.25 (b) | Formwork and formwork support shall not be disturbed or adjusted during the concreting operation and shall remain in position and undisturbed until the minimum removal times given in Table 610.251 (Appendix B) have elapsed, after completion of the placing of concrete. | Ongoing | | S | SS |  | W |  |  |
| 4.3 | Crack Repair & Tolerance | 610.24(b) | Crack inspection undertaken to the satisfaction of the Superintendent.  Acceptable crack widths given in Table 610.241 (Appendix C) | Once | | **H** | **SS** |  | **H** |  |  |
| **5.0 Conformance check** | | | | | | | | | | | |
| **4.1** | **Tolerances** | **610.47** | **All surfaces must be within the dimensional tolerances listed in Appendix D** | **Once** | | **S** | **PE** |  |  |  | Asbuilt Report |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Works complete (sign SS) |  | |  | Date works complete | | |  | |
| Lot conforms (sign PE) |  | |  | Date lot closed | | |  | |
| NCR no. raised |  | |  | Date NCR closed for this lot | | |  | |
| **Lot acceptance:** | | | | | | | | |
| Contractor representative name | |  | | |  | Client representative name | |  |
| Contractor representative signature | |  | | |  | Client 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

**Appendix A**



**APPENDIX B**



**APPENDIX C**



**Appendix D**



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