**Inspection and test plan – structural concrete works**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project no.** | | CC-0388 | | | **Project name** | Shoalhaven Area Remediation of Multiple Slips | | | | | **Date** | |  | | **Approved by** |  |
| **ITP no.** | SYM-0388-ITP-007 | | | | **Revision no.** | B | **Revision date** | | 12/05/23 | **Plant and equipment used** | | | |  | | |
| **Site 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)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **Symal Infrastructure** | | | **Shoalhaven City Council** | |
| **Item no.** | **Activity** | **Ref docs** | **Acceptance criteria** | **Frequency** | **Key** | **Resp.** | **Initial/date** | **Key** | **Sign date** |
| **1.0 – PRELIMINARIES** | | | | | | | | | | |
| 1.1 | Submit details of each concrete mix and proposed curing regime, together with a certificate stating that the nominated mix, its constituents and the proposed curing regime | TfNSW R53  Cl 2.4.3 | Submit at least 5 working days before the concrete mix is proposed to be used for the concrete mix. | Yes  No  N/A | H |  |  | H |  |  |
| 1.2 | Designate concrete truck washout area (s) |  | Designate a washout bay for the cleaning of concrete trucks | Yes  No  N/A | S |  |  |  |  |  |
| **2.0 – CONCRETE WORKS** | | | | | | | | | | |
| 2.1 | SWMS and Induction |  | Ensure Symal SWMS in place for current works and all personal inducted to site | Yes  No  N/A | S |  |  |  |  |  |
| 2.2 | Submit formwork design documentation & certification | TfNSW R53  Cl 3.1  AS 3610.1 | Submission of Formwork design if required, Submit 5 working days before placing of reinforcement | Yes  No  N/A | H |  |  |  |  |  |
| 2.3 | Determine Extent of the Site | IFC Drawings | Survey work is performed by qualified surveyor using appropriate surveying equipment to determine extent of the site. | Yes  No  N/A | H |  |  | H |  |  |
| 2.4 | Set out the structural element | IFC Drawings | Centre and Invert of Pit or Stormwater Line set out by Survey | Yes  No  N/A | S |  |  |  |  |  |
| 2.5 | Weld Testing Results Prior to Delivery | IFC Drawings | Weld testing results are sent to the client prior to delivery. | Yes  No  N/A |  |  |  | W |  |  |
| 2.6 | Reinforcement | TfNSW R53  Cl3.2  IFC Drawings | IFC Drawings  Refer **CC0388 Pre-Pour Checklist**   1. Lapped splices length as per drawings & Specs (400mm) 2. Bar sizes correct 3. Bar spacing correct 4. Chairs adequate & correct type 5. Reinforcement secure   Cover to formwork faces is 50mm unless shown on the drawings | Yes  No  N/A | S |  |  | H |  |  |
| 2.7 | Headed Anchor and Anchor Blocks | IFC Drawings  Manufacturer's Specifications | The anchor is installed in the correct alignment.  The lockshear bolts is tightened appropriately. | Yes  No  N/A | S |  |  | W |  |  |
| 2.8 | Concrete Joints | TfNSW R53  Cl3.3.9 | Joints constructed to prevent loss of mortar.  If it’s an adjoining concrete, roughen the surface of constructions joints to expose coarse aggregate. | Yes  No  N/A | S |  |  | W |  |  |
| 2.9 | Formwork | TfNSW R53  Cl3.1  AS 3610.1 | IFC Drawings   * Formwork in the correct position and level * Embedment in correct position and level * Formwork is clean, oiled and free from grease, adequately supported in place with no movement. | Yes  No  N/A | S |  |  | W |  |  |
| **3.0 – CONCRETE PLACEMENT** | | | | | | | | | | |
| 3.1 | Pre pour planning | TfNSW R53  Cl3.3.1  Cl3.3.2  Cl3.3.3 | Ensure the following:   1. Areas free of water 2. Construction debris removed 3. Concrete temperature at the point of discharge is <32°C except for precast concrete members. 4. Air temperature at the point of discharge is between 5°C and 35°C. 5. Rain not forecasted 6. NATA lab arranged   Concrete pump or crane / kibble arranged (where required) | Yes  No  N/A | S |  |  |  |  |  |
| 3.2 | Intention to place concrete in the Works | TfNSW R53  Cl3.3.1 | Submit checklists for verifying conformity of the following:   * Nominated Concrete Mix * Formwork * Reinforcement * Embedment’s and other relevant details * Intention to place concrete in the Works.   Submit ≥2 working days before commencement. | Yes  No  N/A | H |  |  |  |  |  |
| 3.3 | Pour in Progress Inspections | TfNSW R53 | Ensure the following:   1. Adequate resources are onsite for works 2. Adequate vibrators are available as necessary 3. Record Times   Concrete is being compacted adequately | Yes  No  N/A | S |  |  | W |  |  |
| 3.4 | Concrete Slump/Strength Field Testing | TfNSW R53  Cl4.1  Annex B53/L | * Slump Test 1 per first 3 batches   Strength test, Concrete Cylinder set of 7,28,28 days every 100m3 | Yes  No  N/A | S |  |  | H |  |  |
| **4.0 – AFTER CONCRETE POUR** | | | | | | | | | | |
| 4.1 | Curing | TfNSW R53  Cl2..6  Cl3.4 | Apply approved concrete curing compound in line with specification | Yes  No  N/A | S |  |  |  |  |  |
| 4.2 | Stripping of Formwork | TfNSW R53  Cl3.3.7 | Stripping of Concrete   * External surfaces – 2 days   Permanently Hidden Surface – 1 day | Yes  No  N/A | S |  |  |  |  |  |
| 4.3 | Inspection of Concrete Surface Finish/Class | TfNSW R53  Cl4.2  Cl3.3.8 | Inspect for   1. compliance with specified surface finish; 2. check for extent of any cracking after 21 days (Cracks are less than 0.2 mm)   are repairs required, specify repair methods | Yes  No  N/A | S |  | W |  |  |  |
| 4.4 | Tolerance | TfNSW R53  Cl4.3  AS3610.1 | Within tolerance set out in R53 | Yes  No  N/A | S |  |  |  |  |  |
| 4.5 | Test Results | TfNSW R53 | Test certificates received, reviewed and conforming to requirements. | Yes  No  N/A | S |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Works complete (sign SS) |  | |  | Date works complete | | |  | |
| Site conforms (sign PE) |  | |  | Date Site closed | | |  | |
| NCR no. raised |  | |  | Date NCR closed for this Site | | |  | |
| **Site acceptance:** | | | | | | | | |
| Symal Infrastructure representative name | |  | | |  | Client representative name | |  |
| Symal Infrastructure 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