**Inspection and test plan – Minor Concrete Works**

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| **Project no.** | CC0375 | **Project name** | Hunter Power Project | | | | | | |
| **Symal ITP no.** | CC0375-ITP-015 | **Revision no.** | 1 | **Revision date** | | 14/03/2024 | **Plant and equipment used** | |  |
| **UGL ITP no.** | 3200-0663-HPP-QA-ITP-0127 | | | | | | **SHL ITP no.** | HPP-UGL-QUA-GN-GEN-ITP-0067 | |
| **Symal Lot No.** |  | | | | | | | | |
| **Location (chainages, detailed description or marked up plan)** | | | | |  | | | | |

Attach Dockets, Certificates and QA Documents to ITP

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| Contact Details | | Summary of Requirements | | | Principle Codes / Standards | | Records | |
| **Customer: Hunter Power Project**  **Construction Manager: Mitchell Hogg**  **Project Engineer:**  **Quality Representative: Earl Andrade**  Subcontractors    Surveillance / Inspection Key  **HOLD POINT (H):** Nominated point beyond which work shall not proceed without verified acceptance by nominee.  **WITNESS POINT (W):** Points at which the nominee shall be notified and invited to witness an activity, but further work may proceed without the presence of the nominee.  **REVIEW (R): Verify** by examination of documentary evidence that inspection / tests have been satisfactorily conducted.  **SURVEILLANCE (S): Continuing** evaluation of the status of methods, analysis of records and monitoring of activities on a random basis to ensure quality requirements will be met.  **VISUAL (V): 100**% Visual Inspection of work / item to ensure compliance with code / specification.  **DIMENSIONAL (D): Measurement** of critical dimensions to ensure work / item is within tolerance. | | **Process Qualifications:**  **Traceability:**  Material:  Alloy Verification  Heat Treatment:  Pressure Testing  Consumable:  NDT:  Welder ID:  WPS:  Electrical:  Instruments  **Heat Treatment:**  **Dimensional Control:**  **Testing (NDT):**  **Acceptance Specification:**  **Pressure Testing:**  **Elect. / Instrumentation:**  Notes: | | | **Client Specifications**  HPP-AEC-CIV-GN-GEN-SPT-0161\_0 QUALITY (CONSTRUCTION)  HPP-AEC-CIV-DD-SWS-SPT-1351\_0 STORMWATER DRAINAGE (CONSTRUCTION)  HPP-AEC-CIV-DD-SWS-SPT-1353\_0 PRECAST BOX CULVERTS  HPP-AEC-CIV-GN-GEN-SPT-0319\_0 MINOR CONCRETE WORKS  **Engineering Procedures / WI** | | **(MDR Insert as marked 3 )**   * Inspect Release Certs. * Deviations/Concessions * Material Certificates * Conformance Certificate * Welding Records * Welder Qual. Register * NDT Reports * Report on Repairs * Heat Treatment Records * Dimensional Records * Non-Conformance Rpts * Pressure Test Records * Drawings & Data Sheets * Misc Verification Records * Electrical Test Sheets | |
| Prepared by: | Earl Andrade | | Date : 14/03/2024 | Approved By: | | Date : | |  |

|  | |  | |  |  |  | **Verification of acceptance by** | | | | | | **Remarks / record (eg. test frequency, reports, certificates, checklist etc)** | |
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|  | |  | |  |  |  | **Symal** | | **HPP Con** | | **HPP QA** | |
| **Item no.** | | **Activity** | | **Ref docs** | **Acceptance criteria** | **Acceptance** | **Key** | **Sign date** | **Key** | **Sign date** | **Key** | **Sign date** |
| **1.0 Preliminaries** | | | | | | | | | | | | | | |
| **1.1** | | Documentation | | Issued drawings / Site copy drawings | Check that you have the latest site and engineering drawings BEFORE starting each task/set of tasks. | Yes  No  N/A | S |  | S |  | S |  |  | |
| **1.2** | | Lot Traceability | | Spec. 0161 Quality [Cl 7.3] | Prepare a lot map for traceability of the work area | Yes  No  N/A | S |  | S |  | S |  | Lot map | |
| **1.3** | | Set out | | Drawings | Setout structure to the location and levels on the drawings. This shall be presented for inspection by the superintendent. | Yes  No  N/A | S |  | S |  | S |  |  | |
| **2.0 Formworks and Rebar Reinforcements** | | | | | | | | | | | | | | |
| **2.1** | | Blinding  (if applicable) | | Drawings | Blinding (15MPa) for Reinforced Concrete Bases to be a 50mm thick mass concrete layer.  Unreinforced bases can be poured directly on the earth | Yes  No  N/A | S |  | S |  | S |  |  | |
| **2.2** | | Formwork | | Spec. 0319  Minor Concrete Works [Cl 4.3]  Drawings | Formwork installed as per drawings and adequately supported.  Completed formwork to be inspected by the Superintendent prior to concrete placement  **Before Placing Concrete** | Yes  No  N/A | **H** |  | **S** |  | **S** |  | Pre-pour inspection | |
| **2.3** | | Steel reinforcement | | Spec. 0319  Minor Concrete Works [Cl 4.5]  Drawings | Reinforcement installed as per drawings, ensuring sufficient lap length and cover is achieved on all bars.  Concrete pre-pour inspection complete.  **Before Placing Concrete** | Yes  No  N/A | **H** |  | **S** |  | **S** |  | Pre-pour inspection | |
| **3.0 Concrete placement** | | | | | | | | | | | | | | |
| **3.1** | | Concrete supply and placement | | Spec. 0319  Minor Concrete Works [Cl 4.8, 4.9, 4.10, 4.11]  Drawings | Concrete strength of cast in-situ units shall be min. Grade **N32** or as otherwise stated on drawings.  Ensure the temperature of freshly mixed concrete is maintained in between 5°C and 35°C. Ensure elapsed time between batching and discharge of the mix complies with the below table.    Concrete placed in layers ≤ 300mm thick and adequately vibrated avoiding over-vibration.  Design slump shall not exceed 75mm unless shown otherwise on the drawings. | Yes  No  N/A | S |  | S |  | S |  | Delivery dockets | |
| **3.2** | | Concrete sampling | | Spec. 0319  Minor Concrete Works [Cl 4.2] | The nominal rate of sampling shall be taken:   1. Compressive strength: One set per pour or as otherwise directed by the Superintendent; 2. Slump: One per batch of concrete   Slump within tolerances specified in AS 1379   |  |  | | --- | --- | | **Specified Slump (mm)** | **Tolerance (mm)** | | <60 | ± 10 | | ≥60 ≤80 | ± 15 | | >80 ≤110 | ± 20 | | >110 ≤150 | ± 30 | | >150 | ± 40 |   *Testing to be in a NATA accredited test facility* | Yes  No  N/A | S |  | S |  | S |  | Concrete pour record | |
| **3.3** | | Curing | | Spec. 0319  Minor Concrete Works [Cl 4.13] | From completion of finishing; cure continuously with either curing compound, wet curing or form retention until 15MPa is achieved unless directed otherwise by the superintendent | Yes  No  N/A | S |  | S |  | S |  |  | |
| **3.4** | | Concrete testing | | Spec. 0002 [Cl 8.2] | Certificates received, reviewed, and conforming to requirements for each pour. Average compressive strength at 28 days meets minimum design requirements | Yes  No  N/A | R |  | R |  | R |  | Test reports | |
| **4.0 Conformance check** | | | | | | | | | | | | | | |
| **4.1** | | Survey Report | | Spec. 0161 Quality [Cl 3.13] | An as-built survey completed to ensure all structures are within construction tolerances.  Plan: +/- 30mm  Level: +/ 10mm | ☐ Yes ☐ No ☐ N/A | R |  | R |  | R |  | Survey report | |
| **4.2** | | Acceptance and closure of non-conforming items | | Spec. 0161 Quality [Cl 3.8] | NCRs to be opened for non-conforming items and closed prior to closing construction lot. **HOLD POINT** | ☐ Yes ☐ No ☐ N/A | **H** |  | **H** |  | **H** |  |  | |
|  |  | | **Comments**: | | | | | | | | | | |  |
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| **Acceptance of works:** | | | | |  | |
| Symal Infrastructure representative name |  |  | Symal Infrastructure representative signature |  | Date |  |
| HPP Construction representative name |  |  | HPP Construction representative signature |  | Date |  |
| HPP Quality representative name |  |  | HPP Quality representative signature |  | Date |  |

**Inspection Checklist Report**

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| **Project no.** | CC0375 | **Project name** | Hunter Power Project | | **Date** |  |
| **Symal ITP no.** | CC0375-ITP-25 | | | | | |
| **UGL ITP no.** | 3200-0663-HPP-QA-ITP-127 | | **SHL ITP no.** | | HPP-UGL-QUA-GN-GEN-ITP-0067 | |
| **Symal Lot no.** |  | | | | **Symal Sub Lot no.** |  |
| **Location (chainages, detailed description or marked up plan)** | | | |  | | |

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|  | | **Verify of acceptance by** | | | | | | **Remarks / records** |
|  | | **Symal** | | **HPP Con** | | **HPP QA** | |
| **ID No.** | **Activity to be verified** | **ITP Step No.** | **Items conforms?** | | | **NCR / Test Report No.** | | **Key** | | **Sign Date** | **Key** | **Sign Date** | **Key** | **Sign Date** |  |
| Yes | No | NA |
| **Preliminaries** | | | | | | | | | | | | | | | |
| 1. | Documentation | 1.1 |  |  |  |  | | S | |  | S |  | S |  |  |
| 2. | Lot Traceability | 1.2 |  |  |  |  | | S | |  | S |  | S |  | Lot map |
| 3. | Set Out | 1.3 |  |  |  |  | | S | |  | S |  | S |  |  |
| **Formworks and Rebar Reinforcements** | | | | | | | | | | | | | | | |
| 4. | Blinding  (if applicable) | 2.1 |  |  |  |  | | S | |  | S |  | S |  |  |
| 5. | Formwork | 2.2 |  |  |  |  | | **H** | |  | S |  | S |  | Pre-pour inspection |
| 6. | Steel reinforcement | 2.3 |  |  |  |  | | **H** | |  | S |  | S |  |  |
| **Cast In-situ Structures** | | | | | | | | | | | | | | | |
| 7. | Concrete supply and placement | 3.1 |  |  |  |  | | S | |  | S |  | S |  | Delivery dockets |
| 8. | Concrete sampling | 3.2 |  |  |  |  | | S | |  | S |  | S |  | Pre-pour inspection |
| 9. | Curing | 3.3 |  |  |  |  | | S | |  | S |  | S |  |  |
| 10. | Concrete testing | 3.4 |  |  |  |  | | R | |  | R |  | R |  | Test reports |
| **Conformance Check** | | | | | | | | | | | | | | | |
| 11. | Survey Report | 4.1 |  |  |  |  | | R | |  | R |  | R |  | Survey reports |
| 12. | Acceptance and closure of non-conforming items  **HOLD POINT** | 4.2 |  |  |  |  | | **H** | |  | **H** |  | **H** |  |  |

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| I certify that this Lot conforms to the requirements of the design and specifications; that all associated NCRs have been closed out: and all survey, conformance testing and inspections have been undertaken in accordance with the specified requirements. | | | | |
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| **Symal Representative** |  | **Signature** |  | **Date** |
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|  |  |  |  |  |
| **HPP Construction Representative** |  | **Signature** |  | **Date** |
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|  |  |  |  |  |
| **HPP Quality Representative** |  | **Signature** |  | **Date** |
| **Comments:** | | | | |
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