**Inspection and test plan – Concrete pavement**

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| **Project no.** | CC0375 | | | | **Project name** | Hunter Power Project | | | | | | | | **Date** |  |
| **Symal ITP no.** | | CC0375-ITP-012 | | | **Revision no.** | 3 | **Revision date** | | 19/12/2023 | | **Plant and equipment used** | |  | | |
| **UGL ITP no.** | | 3200-0663-HPP-QA-ITP-013 | | | | | | | | **SHL ITP no.** | | HPP-UGL-QUA-GN-GEN-ITP-0013 | | | |
| **Lot no.** | |  | | | **Location (chainages, detailed description or marked up plan)** | | | | | | |  | | | |
| **Layer thickness** | | |  | **Estimated qty** | |  | |

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: Duncan Lambart**  **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.  **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-GN-GEN-SPT-0319\_0 MINOR CONCRETE WORKS  **Engineering Procedures / WI** | | **(MDR Insert as marked )**   * 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: | Steven Lee | | Date: 19/12/2023 | Approved By: Mitchell Hogg | | Date: 19/12/2023 | |  |

|  | |  | |  | |  |  |  | **Verification or test by** | | | | | | **Remarks / record (eg. test frequency, reports, certificates, checklist etc)** | |
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|  | |  | |  | |  |  |  | **Symal Infrastructure** | | **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** | | Determine lot size | |  | | Spec. 0161 Quality [Cl 7.15] | Lots to be broken up accordingly and outlined on a lot map | Yes  No  N/A | S |  | S |  | S |  | Lot map | |
| **1.2** | | Material classification and source | |  | | Drawings | Mix design to be approved prior to placement.  Material properties meet project specification.   * Minimum Concrete strength 32 MPa or as specified in Drawings * Lean-mix concrete subbase (5MPa) | Yes  No  N/A | S |  | S |  | S |  | Mix design | |
| **2.0 Concrete placement** | | | | | | | | | | | | | | | | |
| **2.1** | | Set out | |  | | Drawings | Extents and levels correct to relevant drawings | Yes  No  N/A | S |  | S |  | S |  | Survey report | |
| **2.2** | | Bedding preparation | |  | | Drawings | Loose material to be removed from the surface prior to pouring.  Waterproof membrane installed on subgrade prior to placement of lean-mix concrete.  **Notice: 1 working day prior to covering** | Yes  No  N/A | S |  | S |  | S |  |  | |
| **2.3** | | Conduit installation | |  | | Drawings | Correct size electrical conduit as per drawings, to be installed before blinding layer | Yes  No  N/A | S |  | S |  | S |  |  | |
| **2.4** | | Formwork set out and positioning correct | |  | | Drawings | Ensure drawings have been checked and the set out is correct  **Notice: 1 working day prior to covering** | Yes  No  N/A | S |  | S |  | S |  |  | |
| **2.5** | | Steel reinforcement | |  | | Drawings | Steel reinforcement to be placed as per design drawings with the correct amount of cover.  Concrete pre-pour inspection complete.  **Notice: 2 working days prior to covering** | Yes  No  N/A | **H** |  | **H** |  | **W** |  | Pre-pour inspection | |
| **2.6** | | Concrete placement | |  | | Spec. 0319  Minor Concrete Works [Cl 4.8, 4.9, 4.10, 4.11]  Drawings | As per drawings concrete strength of cast in-situ units shall be min. Grade **N32** or otherwise stated on drawings.  Placing of concrete ambient shade temperatures:  Cold: < 10°C  Hot: > 32°C  Cold weather:      Concrete placed in layers ≤ 300mm thick and adequately vibrated avoiding over-vibration.  Slump shall not exceed 75mm unless shown otherwise on the drawings. | Yes  No  N/A | S |  | S |  | S |  | Delivery dockets | |
| **2.7** | | Surface finish | |  | | As per drawings | Concrete surfaces shall be true and even, free from honeycombed surface depressions or rejections. | Yes  No  N/A | S |  | S |  | S |  |  | |
| **2.8** | | Joints | |  | | As per drawings | As per design drawings. Sawn joints to commence as soon as the concrete has hardened sufficiently. | Yes  No  N/A | S |  | S |  | S |  |  | |
| **2.9** | | Curing | |  | | Spec. 0319  Minor Concrete Works [Cl 4.13] | From completion of finishing cure continuously with an approved method for a min period of 7 days or as directed by the Superintendent. | Yes  No  N/A | S |  | S |  | S |  |  | |
| **2.10** | | Compressive strength | |  | | Drawings | Average strength of all samples must exceed required value.  Strength of any one sample must be 0.85 the required value. | Yes  No  N/A | S |  | S |  | S |  | Test reports | |
| **3.0 Conformance check** | | | | | | | | | | | | | | | | |
| **3.1** | | Survey pick-up | |  | | Spec. 0161 Quality (Construction) [Cl 3.13] | An as-built survey completed to ensure all structures are within construction tolerances.  Plan: +/- 30mm  Level: +/ 10mm | Yes  No  N/A | S |  | S |  | S |  | Surveyor:  Date  picked up: | |
|  | **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-12 | | | | | |
| **UGL ITP no.** |  | | **SHL ITP no.** | |  | |
| **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** | | | **UGL** | | | **SHL** | | |
| **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 |
| 1. | Determine lot size | 1.1 |  |  |  |  | | S | |  | S | |  |  | |  | Lot map | |
| 2. | Material classification and source | 1.2 |  |  |  |  | | S | |  | S | |  |  | |  | Mix design | |
| 3. | Set out | 2.1 |  |  |  |  | | S | |  | S | |  |  | |  | Survey report | |
| 4. | Bedding preparation | 2.2 |  |  |  |  | | S | |  | S | |  |  | |  |  | |
| 5. | Conduit installation | 2.3 |  |  |  |  | | **S** | |  | S | |  |  | |  |  | |
| 6. | Formwork set out and positioning correct | 2.4 |  |  |  |  | | S | |  | S | |  |  | |  |  | |
| 7. | Steel reinforcement  **HOLD POINT** | 2.5 |  |  |  |  | | **H** | |  | **H** | |  |  | |  | Pre-pour inspection | |
| 8. | Concrete placement | 2.6 |  |  |  |  | | S | |  | S | |  |  | |  |  | |
| 9. | Surface finish | 2.7 |  |  |  |  | | S | |  | S | |  |  | |  |  | |
| 10. | Joints | 2.8 |  |  |  |  | | S | |  | **S** | |  |  | |  |  | |
| 11. | Curing | 2.9 |  |  |  |  | | S | |  | S | |  |  | |  |  | |
| 12. | Compressive strength | 2.10 |  |  |  |  | | S | |  | S | |  |  | |  | Test reports | |
| 13. | Survey pick-up | 3.1 |  |  |  |  | | S | |  | S | |  |  | |  | Surveyor:  Date  picked up: | |

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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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