ITP Inspection and Test Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project Title: WDC Fluoridation** | **Project No: CON23011 (internal #J2028)** | | | **Procedure No:** |
| **Description of Activity: Ruddell’s WTP Chemical storage bund (Civil Works)** | | | **ITP No.: 001** | |
| **Location of Inspection / Testing: Ruddells WTP** | | **ITP Approved by (BCL) Name: Stephen Abercrombie Date: 11/01//24** | | |
| **ITP Prepared by: Stephen Abercrombie Date: 11/01/2024** | | **ITP Approved by (Client) Name: WDC Date:** | | |

| **ID No** | **Sequence of Activity** | **Type of inspect / Test and Frequency** | **Acceptance Criteria** | **Inspection Responsibility** | | | | **Verification Records of Inspection(s) / Test(s)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BCL** |  | **Client** | **Date** |
| **1.0** | **Documentation** | | | | | | | |
| 1.1 | Construction Drawings | All drawings are for construction and latest revision. | Latest IFC Drawings | I |  | S |  | Drawing Register |
| 1.2 | Concrete mix design | Submitted to Beca for approval | Approved RFI | H |  | A |  | RFI |
| **2.0** | **Fence Relocation/Swale works** | | | | | | | |
| 2.1 | Set Out, as per latest “For Construction” revision | Survey and mark the correct locations  Check Boundary location | IFC Drawings  Survey data check by PM and Beca Engineer | D |  | A |  | Survey Record, Redline Drawings  Approved RFI |
| 2.2 | Install new relocated fence to match existing | New fence matches existing | Witness by engineer | I |  | R |  | Photos |
| 2.3 | Place rock riprap | 75-200mm size rock, 1m wide at top side to 1.5m wide at bottom end  (inspected once at end of works) | Witness by Engineer | I |  | R |  | Photos |
| **3.0** | **Excavation** | | | | | | | |
| 3.1 | Set Out, as per latest “For Construction” revision | Survey and mark the bund location | IFC Drawings  Survey data check by PM | T |  | I |  | Survey Record, Redline Drawings |
| 3.2 | Subgrade inspection | Scala testing to confirm subgrade is of sufficient strength  Witness by engineer  Minimum of 2 tests per bund pour | Minimum of 5 blows per 150mm | H |  | A |  | Scala Test Results |
| 3.3 | Ground Contaminants | Soil testing to confirm no contaminants | Test results clear for clean fill | T |  | R |  | Lab test report |
| **5.0** | **Post Excavation** | | | | | | | |
| 5.1 | >150mm compacted hard fill under bund (GAP20) | Clegg hammer testing, 5x5 grid, minimum of 4no per bund pour | Clegg CIV>10 | T |  | R |  | Clegg results |
| **6.0** | **Concrete works** | | | | | | | |
| 6.1 | Site concrete | Visual inspection and record of site concrete install, completed for each slab pour | 50mm site concrete poured to base level of foundation +0mm -10mm tolerance | D |  | W |  | Photos  Concrete pour record |
| 6.2 | DPM | Visual inspection and record of DPM installed, completed prior to each pour | Polythene laid on site concrete prior to reinforcing | D |  | W |  | Photos  Concrete pour record |
| 6.3 | Reinforcing (material) | Review documentation for each pour | Reinforcing to be Grade 500E to ASS/NZS4671 | D |  | W |  | Mill certificates  Detail sheet |
| 6.4 | Sump Construction | Reinforcing check, dimension check, Formwork check | As per IFC drawings | D |  | W |  | Concrete pour record |
| 6.5 | Reinforcing install | Measure to check cover, bar size and arrangement, lap length and type.  Complete prior to pouring concrete | Reinforcing matches IFC drawings, any deviations recorded and acceptance agreed with engineer prior to pour | D |  | W |  | Concrete pour record  Photos |
| 6.6 | Reinforcing install | Starter bars for tank plinth  Starter bars for blockwork | Matches IFC drawing | D |  | W |  | Concrete pour record  Photos |
| 6.7 | Tank plinth | Size of plinth, height of plinth  Reinforcing checked, Formwork checked | Matches IFC drawing and response of RFI017 | D |  | W |  | Concrete pour record  Photos |
| 6.8 | Concrete pour | Embedded items located in slab   * Ducting * Pits | Matches IFC drawings | D |  | W |  | Concrete pour record  photos |
| 6.9 | Concrete pour | Level check, formwork check, cover check.  Inspections prior to every pour | Matches IFC drawing dimensions and notes | D |  | W |  | Concrete pour record |
| 6.10 | Pour inspection/Approval to pour | Pre pour inspection by Beca Engineer (hold Point) | Approval from Engineer to pour | H |  | A |  |  |
| 6.10 | Concrete strength | Test certificate  7 and 2no 28day tests required for each pour day or per 70m3 | 28 day compressive strength >40mPa | D |  | R |  | Test certificate |
| **7.0** | **Blockwork** | | | | | | | |
| 7.1 | Blockwork (material) | Manufacturer documentation.  Required once prior to commencement of works | Masonry units meet AS/NZS4455 | D |  | R |  | Supplier documentation |
| 7.2 | Blockwork (reinforcing) | Inspect bar size, placement, lap length and number  (once per pour) | Install matches IFC drawings and notes. Deviations agreed with engineer via approved RFI | D |  | R |  | Concrete pour record |
| 7.3 | Blockwork (pour) | Inspection prior to pour, check washout location, dimensions, line and level  (once per pour) | Install matches IFC drawings and notes. Deviations agreed with engineer via approved RFI | W |  | A |  | Concrete pour record |
| 7.4 | Concrete strength | Test certificate  7 and 2no 28day tests required for each pour day | 28 day compressive strength >17.5mPa | R |  | R |  | Test certificate |
| **8.0** | **Bund Liner** | | | | | | | |
| 8.1 | Pre lining check (post pour) | Square edges on all corners  Concrete surface cleaned – all excess grout/splatters removed | Placon check | W |  |  |  | Photos |
| 8.2 | Watertightness of bund | Flood test of bund | No leak, Water stable over 3 days (taking into account for evaporation, wind) | I | I | W |  | Photos, drop in water height measurement |
| **9.0** | **As-builts** | | | | | | | |
| 9.1 | Redline Drawings | Redline Civil Drawings Sets post construction | N/A | D |  | R |  | As built drawings |
|  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Revision Status of ITP** | | | | | **Inspection Responsibility Legend** | | | | | | | **Records Legend** | |
| **Rev. No:**  Rev. (ID No’s)  Date:  Approved by: | **Revision 1:** | **Revision 2:** | | **Revision 3:** | A:  D:  I:  S.Con: | | Approve  Document  Inspection  Subcontractor | H:  R:  S: | Hold Point  Review  Submit | T:  V:  W:  Cons: | Test  Visual  Witness  Consultant | ITR: Inspection and Test Report  HPR: Hold Point Release form | |
| Signature Verification Record | | |
| **Sign** | | | **Name** | | | **Position / Title** | | | | | | | **Company** | |
|  | | |  | | |  | | | | | | |  | |
|  | | |  | | |  | | | | | | |  | |
|  | | |  | | |  | | | | | | |  | |
|  | | |  | | |  | | | | | | |  | |
|  | | |  | | |  | | | | | | |  | |
|  | | |  | | |  | | | | | | |  | |
|  | | |  | | |  | | | | | | |  | |
|  | | |  | | |  | | | | | | |  | |
|  | | |  | | |  | | | | | | |  | |