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| **1. Whatukooru Drive Barriers - INSPECTION AND TEST PLAN** |

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| S - Subcontractor | C - Constructor | D – Designer |  |  |
| 1 – Concrete Supplier | 2 – Concrete Supplier Audit Engineer | 3 – Laboratory | 4 – Reinforcing Supplier |  |

| **Item No.** | **Task Description**  *(Operation or Task to be Inspected or Tested)* | **Controlling Documents**  *(e.g list specifications & clause, drawing)* | **Acceptance Criteria**  *(clear pass/fail required e.g 28 day cylinder strength, > 50Mpa, etc.* | **Inspection or Test** | | | **Verifying Document**  *(e.g test result, pour record, material approval)* | *Records required for handover package: Yes/No* | **Inspection / Test Authority** | | | | **Hold Point** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Method  *e.g visual inspection, slump test* | Freq. | Responsible Person | S, C or D | | | | Y/N |
| Conduct | Witness | Produce Record | Approval |
| **1.0** | **Pre Construction Tests** | | | | | | | | | | | | |
| 1.1 | Concrete Mix Desisgn Approval |  | - 50 MPa at 28 days (S5019MS8) | Review | Once per Mix design / per supplier | PRECO | Confirmation of Approval | **Y** | 1 | D | 1 | C | **Y** |
| 1.2 | Reinforcement Supply – Certificate of Origin | Approved Drawings | Provide certificate of origin for all steel reinforcing supplied. | Review | Per Size, Per Supplier | PRECO | Supplier Mill Certificates | **Y** | 4 | D | 4 | C | **Y** |
| 1.3 | Shop Drawing Approval | IFC Drawings | - Shop drawings including, concrete strengths, surface finishes, location of cast in items and set-out information | Review | Once Prior to Casting | PRECO | Approved Shop Drawings, Issued for Construction | **Y** | C | C | C | D | **Y** |
| 1.4 | Form Release Agent |  | - Not detrimental to the application of any subsequent finishes | Review | Once | PRECO | Material Data Sheet | **Y** | C | - | S | C | **N** |
| 1.5 | Cast-in Items | . | Provide certificate of origin for cast-in-items | Review | Per batch delivered | PRECO | Suppliers Mill Certificate | **Y** | 4 | C | 4 | C | **N** |
| 2.0 | **In Process Testing** | | | | | | | | | | | | |
| 2.1 | Inspection of The Reinforcing |  | - 40 mm min. clear cover to all reinforcing including stirrups and ties  - Steel to be securely tied and fixed with no movement | Inspect | Per Unit | PRECO | Pre pour checksheet, photos | **Y** | C | D | C | C | **N** |
| 2.2 | Checking Formwork |  | Dimension including edge details and rebates as per drawing | Inspect | Per Unit | PRECO | Pre pour checksheet, photos | ***Y*** | C | C | C | C | **Y** |
| 2.3 | Pre Pour Inspection Prior to concrete placement |  | - Completed pre-pour inspection, permission to commence concrete placement | Inspect | Per Unit | PRECO | Pre-Pour Check Sheet/ photos | ***Y*** | C | D | C | C | **Y** |
| 3.0 | **Concrete Testing and Inspection** | | | | | | | | | | | | |
| 3.1 | Concrete Delivery |  | Approved Mix Design  (S5019MS8) | Inspect | Per Concrete Delivery | PRECO | Delivery Dockets | ***Y*** | C | C | C | C | **Y** |
| 3.2 | Concrete Placement | NZ 3109 | - Vibration of concrete to ensure suitable compaction  - Slump within target 100+/-40 | inspect | Per unit | PRECO | Witness inspection | ***N*** | C | C |  |  | **N** |
| 4.0 | **Post Concrete Testing and Inspection** | | | | | | | | | | | | |
| 4.1 | Concrete smpling / testing |  | - 1 x 7d and 3 x 28d - 50 MPa at 28 days | Concrete Sampling | Per 75 m3 (not part thereof) | Subcontractor | Concrete Sample Test Results (IANZ Accredited Laboratory) | **Y** | C | C | 3 | C | **Y**  Designer to be notified immediately if specimen fails |
| 4.2 | Surface Finish Requirements | IFC Drawings | F5 / Type B construction joint to NZ 3109 | Inspect | Per Unit | PRECO | Post Pour Checksheet | ***Y*** | C | C | C | D | **Y**  Designer to be notified if finish requirement not meant |
| 4.3 | Concrete Curing |  | - Curing with curing compound (e-cure) | Inspect | Per Unit | PRECO | Post Pour Checksheet | **Y** | C | C | C | C | **Y** |
| **5.0** | **Final Documentation** | | | | | | | | | | | | |
| 5.1 | Producer Statement (PS3) |  | - Signed PS3 | Report Production |  | PRECO | Signed PS3 | **Y** | C | - | C | D | **N** |

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| **3. CLOSEOUT** | | |
| **Comments by Designer** (List any significant or important issues relating to this ITP, where objectives (Quality) achieved?) | | |
|  | **Date** |  |
|  | **Name** |  |
|  | **Signature** |  |
|  |
| **Comments by Engineer** (List any significant or important issues relating to this ITP, where objectives (Quality) achieved?) | | |
|  | **Date** |  |
|  | **Name** |  |
|  | **Signature** |  |
|  |
| **Comments by Construction Manager** (List any significant or important issues relating to this ITP, where objectives (Quality) achieved?) | | |
|  | **Date** |  |
|  | **Name** |  |
|  | **Signature** |  |
|  |
| **Comments by Quality Manager** (List any significant or important issues relating to this ITP, where objectives (Quality) achieved?) | | |
|  | **Date** |  |
|  | **Name** |  |
|  | **Signature** |  |
|  |