| ITP ITEM No. | INSPECTION / CONSTRUCTION ACTIVITY | INSPECTION / TEST / METHOD / STANDARD / SPECIFICATION | STAGE OR FREQUENCY OF SAMPLING | ACCEPTANCE CRITERIA | RECORD OF CONFORMITY | TYPE | RESPONSIBILITY | CHECKED / VERIFIED BY (INITIAL & DATE) | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GC CIVIL | | TfNSW | | OTHER |
| **PRELIMINARIES & PRE-START** | | | | | | | | | | | | |
|  | Submit two copies of Executed Contract | Desktop review  As per Conditions of Contract, & Tender | Per contract | Return of 2 copies of Executed Contract | Document - Contract | IP | GC Project Manager |  |  | |  | |
|  | Provision of Security | Desktop review  1x5% of Contract as per Conditions of Contract | Per contract | Cash, bank cheque or unconditional undertaking (bank guarantee) | Document – Bank G’tee | IP | GC Project Manager |  |  | |  | |
|  | Proof of Worker’s Compensation Policy | Desktop review  As per Conditions of Contract | Prior to commencing works on site | Copy of Certificate of Currency from Workers Compensation Provider | Document – Cert. of Currency | IP | GC Project Manager |  |  | |  | |
|  | Proof of Motor Vehicle & Mobile, Plant Insurance Policy | Desktop review  As per Conditions of Contract | Prior to commencing works on site | Copy of Certificate of Currency from Insurer | Document – Cert. of Currency | IP | GC Project Manager |  |  | |  | |
|  | Quality Management – Inspection & Test Plan | Desktop review  TFNSW Q6 Cl 4.2.6  TFNSW Q4 Cl 1.1 | Staged Submission 14 days prior to commencement of staged works | Submission and approval of controlled copy of Inspection & Test Plan | Document – ITP | IP | GC Project Manager |  |  | |  | |
|  | WHS Documentation - SWMS | Desktop review  TFNSW G22 Cl 3.8.3 | 10 days prior to commencement of work at the Site | Submit WHS Plan and documentation | Document – WHS Plan and SWMS | HP | GC Project Manager |  |  | |  | |
|  | HV CoR Documentation | Desktop review  TFNSW G22 Cl 4.3.2 | 10 days prior to commencement of work at the Site | Submit HV CoR Plan and documentation | Document – HV CoR Plan and SWMS | HP | GC Project Manager |  |  | |  | |
|  | Environmental Documentation | Desktop review  TFNSW G36 Cl 3.1 | 10 days prior to commencement of work at the Site | Submit Environmental Plan and documentation | Document – Environmental Plan | HP | GC Project Manager |  |  | |  | |
|  | Traffic Control Plan | Desktop review  TFNSW G10 Cl 2.4.1 | 3 days prior to commencement of work at the Site | Submit TCP, and any ROL, SZA obtained | Document – TCP, ROL, SZA | HP | GC Project Manager |  |  | |  | |
| **MATERIALS PROCUREMENT** | | | | | | | | | | | | |
|  | Production of Concrete | Desktop review  TFNSW B80 Cl 3.9  TFNSW R53 Cl 1.4  TFNSW approval required | Before initial production of each strength grade of concrete for the project | Submission of Production Assessment Reports and mix design  AS 1379 The specification and manufacture of concrete  AS 1012 Methods of testing concrete | Document – Concrete mix design | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Precast Panel manufacture | Shop Drawings  TfNSW approval required | Prior to commencing panel manufacture | Provide shop drawings for review | Workshop Drawings | IP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Procurement of Panels | Visual  TFNSW R271 Cl 7.6.2  TFNSW approval required | Prior to procurement of panels | Approval of sample panel demonstrating reparability | Sample Panel | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Manufacture of Panels | Visual  TFNSW R271 Cl 7.6.3  TFNSW approval required | Prior to manufacture of panels | Approval of specimen panel that is representative of noise wall panels | Specimen Panel | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Casting of Panels | TFNSW B80 Cl 7.5.1 | Commencement of production of precast members for the Works. | At least two working days prior, submit to the Principal checklists for  verifying conformity of the nominated concrete mix, formwork,  reinforcement, embedments and other relevant details. | Document - Checklists | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Supply of Bolts, Nuts & Washer Components | Visual  Structural Drawings  TFNSW B240 Cl 2  TFNSW approval required | Each delivery | Submit information to evidence conformance with B240 Cl2 Cl6 | Document – Test Certificates | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Steelwork Fabrication | Shop Drawings  TFNSW approval required | Prior to commencing fabrication | Provide shop drawings for review | Workshop Drawings | IP | GC Project Manager  TFNSW  Project Rep |  |  | |  | |
|  | Certification of  materials | TFNSW R271 Cl 6.5  TFNSW approval required | 5 days before delivery of materials | At least 5 working days before the supply of a noise wall  material, submit to the TFNSW Representative  (a) Certification that the material supplied conforms to this  Specification.  (b) Test reports and a copy of the verification checklist on  the suitability of the noise wall material *(only applies if we design the wall)* | Document – Material Certificates | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
| **SITE ESTABLISHMENT & START-UP** | | | | | | | | | | | | |
|  | Service & Utilities Search | TFNSW R271 Cl 8.2  Site inspection  DBYD services plans | Each Wall, prior to commencing any groundwork’s, excavation or drilling of test pit / holes  All personnel involved in excavation works must be signed onto SWMS prior to commencing groundworks.  DBYD information is to be renewed every 6 months | As per TFNSW R271 Cl 8.2:  Dial Before You Dig search on underground services drawings  Locate all underground and overhead utilities or services that are present near the proposed noise wall. | DBYD,  Verification Checklist | IP | GC Project Manager |  |  | |  | |
|  | Set-up of Site Compound | Desktop review | Prior to On-site establishment of Contractor’s compound. | Submit documented location, size and relevant approvals for Contractor’s compound. | Document – layout plan | IP | GC Project Manager |  |  | |  | |
|  | Induction Training | Desktop review | Commencement of initial construction work | Verification that the site personnel have been inducted | Document – induction records | IP | GC Project Manager |  |  | |  | |
|  | Dilapidation Records | Photographic record  TFNSW R271 Cl 8.3 | Prior to Commencement of construction activities. | Take photographs prior to commencement of construction activities to record the conditions of all existing structures, areas, adjoining properties, etc.  Liaise with the owners before commencing construction of noise walls | Document – Dilapidation Records  R271 Cl 8.3 | IP | GC Project Manager |  |  | |  | |
| **EXCAVATION - PILING** | | | | | | | | | | | | |
|  | Set-out Survey | Drawings, survey, field set-out  TFNSW R271 Cl 8.1  TFNSW G71  TFNSW approval required | Each Lot, prior to commencement of pier drilling/excavation | Location, level and offset reference points  Use adequate recovery pegs and survey markers to accurately set up location and alignment for each wall and pile.  Centre of pile positions to be pegged at least one day prior to drilling rig being set up.  Datum levels for top / bottom of pile to be provided.  At least two (2) working days’ notice of the date the set-out will be completed. TFNSW Representative will examine the set-out for compliance with the design drawings and advise within one (1) working day of the inspection whether the Hold Point is released. | Survey Records, Verification Checklist | HP | GC Project Manager  Surveyor |  |  | |  | |
|  | Prior to excavation | Desktop review  TFNSW R271 Cl 8.5.4  TFNSW approval required | 5 working days prior to commencing any Construction | Report from the Geotechnical Engineer verifying that the site and foundation meet the design requirements, Drawings detailing all underground and overhead utilities or services in the area | DBYD,  Document – Geotech certificate | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Prior to excavation | Site inspection  DBYD services plans  TFNSW R271 Cl 8.5.4 | Each Wall, prior to commencing any groundwork’s, excavation or drilling of piles  DBYD information is to be renewed every 6 months | Dial Before You Dig search on underground services  with drawings showing underground & overhead utilities in vicinity of noise wall | DBYD, | IP | GC Project Manager |  |  | |  | |
|  | Excavation/Pile Drilling | Structural Drawings  TFNSW B59 Cl 4.5.3 | Per lot / pile | Notify TFNSW that pile excavation is complete & pile hole/s inspection required prior to reinforcement placement.  Provide construction documentation verifying that the plan position, size and alignment is within tolerance  Notification is done after the cleaning the pile hole/s  Dimensions and depth as per drawings, base clean All loose material removed from the pile hole. | Verification Checklist | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
| **FOOTING CONSTRUCTION** | | | | | | | | | | | | |
|  | Concrete Placement methodology statement | TFNSW B80 Cl 7.5.2 | Prior to first Concrete pour & placement on this project | At least two working days prior to first pour, submit to TFNSW a concrete placement Method Statement detailing:   * Delivery rate * Placement method and rate * Equipment | Hold Point notification | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Concrete Placement | TFNSW B80 Cl 7.2.3  TfNSW Bridgeworks Concreting Grey Card required | Prior to first Concrete pour & placement on this project | At least two weeks prior to the first concrete pour, submit to the Principal the names of the personnel who will be involved in bridgeworks concreting operations; which of these persons hold a TfNSW Bridgeworks Concreting Grey Card; and corresponding evidence of this.  At least four working hours prior to pouring concrete, submit to the Principal a statement stating that at least half of the personnel who will be involved in bridgeworks concreting operations hold a TfNSW Bridgeworks Concreting Grey Card. | Hold Point notification | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Pre-Pour planning activities | Weather forecast | Each concrete pour | Ensure the following are in place:  Weather forecast considered  NATA lab tester arranged  Concrete pump arranged (where required)  Concrete type & volume established & coordinated with the supplier | Verification Checklist | IP | GC Project Manager |  |  | |  | |
|  | Pre-Pour Check | Visual  Structural Drawings | Every lot before placement of concrete to pier | Level, alignment, clearance and member designation as per Drawings  Do not place concrete during rain  Check delivery dockets to identify correct mix is being used, time quantity & slump recorded. | Verification Checklist | IP | GC Project Manager |  |  | |  | |
|  | Inspect the progress of concrete pour; placement of Concrete to footing | Inspect delivery and compaction  TFNSW B80 Cl 4.4  TFNSW B80 4.5  TFNSW B80 4.6  TFNSW B80 Cl 7  TFNSW B59 Cl 6 | Every delivery | Check addition of water to a batch  Temperature at point of delivery to be 5C min 35C max.  Placement of concrete – not in water, one continuous operation  Maintain placement records | Verification Checklist | IP | GC Project Manager |  |  | |  | |
|  | Test Concrete for Slump & Strength | TFNSW B80 Cl 4.4 Cl 4.5  TFNSW B80 Cl 8.2 Annex B80/L  AS 1379  AS 1012.3.1  AS 1012.9 | Slump: Each batch  Comp: 1pair/25 m³ | Check frequency of field testing & sampling correct.  Check and record the slump of the concrete within 45 minutes of batch time  Slump within ±20mm for 100mm slump (or ±40mm if using a tremie mix with nominated slump ≥ 220mm).  Compressive Strength @ 28 days one pair of cylinders per 25m3 or part thereof | Document - Tester Field Sheet | TP | GC Project Manager |  |  | |  | |
|  | Obtain and check test results | TFNSW B80 Cl 4.4  TFNSW B80 Cl 8.2 Annex B80/L | Per lot | NATA test certificates received, reviewed and conforming to requirements | Document – Test Report | IP | GC Project Manager |  |  | |  | |
| **STEELWORK POST ERECTION** | | | | | | | | | | | | |
|  | Delivery of Steelwork | Visual  Structural Drawings | Each delivery | Submit the relevant documents from the Fabricator’s Data Report for any fabricated steelwork and procedures required for its transport, 10 working days prior to transport  Check for qty  Check for length  B220 - Protective Treatment of Steelwork - all steelwork to be hot dip galvanised | Verification Checklist | IP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Installation of Steel Posts | Visual  Structural Drawings | Every post | Check Post member, length, R.L Level, alignment, vertically, spacing, clearance and member designation as per Drawings. | Verification Checklist | IP | GC Project Manager |  |  | |  | |
| **PRECAST / ACRYLIC PANEL INSTALLATION** | | | | | | | | | | | | |
|  | Install Steel Fixing/Fitting Components | Visual  Structural Drawings | Each lot | As per Drawings, bolt in all holes, +0, -20 from top of post  B220 - Protective Treatment of Steelwork - all steelwork to be hot dip galvanised | Verification Checklist | IP | GC Project Manager |  |  | |  | |
|  | Installation of Noise Wall Panels | Visual  Structural Drawings | Every panel | check for level and correct R.L  Check panels close butted together and sufficient panel encapsulation in flange of UB post (minimum 40mm panel bearing on post) | Verification Checklist | IP | GC Project Manager |  |  | |  | |
|  | Tolerances of erection | TFNSW R271 Cl 8.6.2 | Each lot before painting | * Any clearances required from the face of the noise wall must not be infringed upon at any point; * No point on the face of the noise wall must deviate from the design position by more than 50 mm; * The inclination of the face of the completed wall must not deviate from the specified inclination by more than 5mm/m height towards the back of the noise wall and nil towards the front; * The flatness of the wall must be such that the max. deviation from a 4.5 m straight edge must not exceed 20 mm. * The level of any point on the wall must not deviate from the specified level by more than100 mm. Where no other tolerance is given, a value (dimension, level, position) that is within 6 mm of the required value will be accepted as conforming. | Verification Checklist | IP | GC Project Manager |  |  | |  | |
|  | Repair of damaged Noise Wall Panels (before installation) | Desktop review  TFNSW R271 Cl 8.7  TFNSW approval required | Prior to undertaking repairs | Do not install damaged panels.  Submit details of the damage and the proposed method of repair, and gain approval of repair methodology  The TFNSW Representative will consider the submitted details and advise within three working days of the submission as to whether the Hold Point is released. | Verification Checklist | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Installation of repaired Noise Wall Panels | Visual Inspection  TFNSW R271 Cl 8.7  TFNSW approval required | Each repaired panel prior to installing | The TFNSW Representative will inspect the repaired panel/s and advise within two working days of the inspection as to whether the Hold Point is released. | Verification Checklist | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Repair of cracked Noise Wall Panels (after installation) | Desktop review  TFNSW R271 Cl 8.7  TFNSW approval required | Prior to undertaking repairs | Submit details of the cracks and the proposed method of repair, and gain approval of repair methodology  The TFNSW Representative will consider the submitted details and advise within three working days of the submission as to whether the Hold Point is released. | Verification Checklist | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | After Installation of Noise Wall Panels | Visual  Structural Drawings | Each lot before painting | No visible air gap between panels, cleats firmly clamped against panels and posts, bolts snug tight + 1/3 turn | Verification Checklist | IP | GC Project Manager |  |  | |  | |
| **PAINTING OF PRECAST PANELS & POSTS** | | | | | | | | | | | | |
|  | Painting Preparation | Urban & Landscape Drawings and Visual Inspection | Each lot before Painting | Check panels clean, colours and areas | Verification Checklist | IP | GC Project Manager |  |  | |  | |
|  | Paint Sample | TFNSW R271 Cl 7.3.2  Selected Colour: Colorbond Woodland Grey | Once | Prepare a site reference sample to establish colour, texture and workmanship prior to commencing | Sample | IP | GC Project Manager |  |  | |  | |
|  | Painting of Precast Panels and Posts | Drawings  TFNSW R271 Cl 7.3.2  Visual Inspections | Each lot | * Apply acrylic primer coat of Wattyl Granoprime or equivalent, to both faces * Apply water based acrylic coloured matt finish coating of Wattyl Solaguard or equivalent, to both faces. Colour: Colorbond Woodland Grey * Conforms to TFNSW Urban Design & Landscape Drawings for appearance and Manufacturers Specification for coverage | Verification Checklist | IP | GC Project Manager |  |  | |  | |
|  | Anti-graffiti coating of Precast Panels and Posts | Drawings  TFNSW R271 Cl 7.3.2 & R271 Cl 6.3.12  Visual Inspections | Each lot | * Apply anti-graffiti coatings to road face of precast panels & posts * Supply and application of anti-graffiti (A&I coatings Envirothane E8075 or equivalent) coating system, in accordance with the coating manufacturer’s specification. Colour: Satin Clear * Conforms to Manufacturers Specification for coverage | Verification Checklist | IP | GC Project Manager |  |  | |  | |
| **DISESTABLISHMENT & PROJECT CLOSE-OUT** | | | | | | | | | | | | |
|  | Disestablishment | Visual | Prior to disestablishment of plant from site | * All rubbish & excess materials removed off site * Areas graded with appropriate falls for natural drainage without undulation * Landscaping – by TfNSW | Verification Checklist | IP | GC Project Manager |  |  | |  | |
|  | Certification of Construction of completed Noise Wall | Structural Design Report, Structural Drawings and TFNSW R271 Cl 8.10 | Completion of each Wall | Submission of Certificate of Construction verifying that the materials used, and the construction conform to TFNSW R271 Specification. | Document – Certificate of Construction | HP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Practical Completion | Visual Inspection  TFNSW inspection required | Completion of Works | Conformance to Drawings and Contract Documents including close out of any non-conformance  Conduct a joint inspection, to be undertaken with TFNSW to confirm asset completion and handover  Any defects raised must be actioned prior to Final Completion item | Document – Certificate of PC | IP | GC Project Manager  TFNSW Project Rep |  |  | |  | |
|  | Work-As-Executed Survey | Survey  Measurement | Each Noise Wall | Survey of noise wall location & level | Work-as-executed survey file | IP | GC Project Manager  Surveyor |  |  | |  | |
|  | Work-As-Executed Drawings | Drawings  Site Records  Measurement  TFNSW R271 Cl 8.11 | Each Noise Wall | Mark up any changes to Design Drawings  On completion of construction, provide the TFNSW Representative with a set of “Work-as-Executed” drawings,  incorporating approved modifications made to any details during construction | Work-as-executed drawings | IP | GC Project Manager |  |  | |  | |
|  | Maintenance Manual | TFNSW R271 Cl 8.12  TFNSW R271 Cl 6.3.12 | Completion of Works | On completion of construction, provide a Maintenance Manual that contains the maintenance requirements and procedures for each different material in the noise wall.  Include procedures for the removal of graffiti and reapplication of the anti-graffiti treatment in the Maintenance Manual. | Document – Maintenance Manual | IP | GC Project Manager |  |  | |  | |
|  | Final Completion | Drawings and Contract Document | Completion of Contract | Conformance to Drawings and Contract Documents including close out of any non-conformance | Document – Final Completion Certificate | IP | GC Project Manager |  |  | |  | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **LEGEND AND SIGN-OFF** | | | | | | | |
|  | | | | | | | |
| **INSPECTION REQUIREMENT** | | **RESPONSIBILITY** | | **RECORDS** | | **RECORDS** | |
|  |  | GC CIVIL | |  |  |  |  |
| AP | Approval Point (Written or verbal approval must be given) | PM | Project Manager | CC | Contract Correspondence | HR | Hold Point Release |
| HP | Hold Point (work shall not proceed until the HP is released) | PQR | Project Quality Representative | CD | Contract Documents | MR | Maintenance Report |
| CM | Construction Manager | COC | Certificate of Currency of Insurance | NCR | Non-Conformance Report |
| WP | Witness Point (give notice to allow inspect) | SM | Site Manager | CPC | Certificate of Practical Completion | PER | Permit |
| TL | Team Leader | CR | Construction Records | PC | Proof Engineer’s Certificate |
| IP | Inspection point (Formal Inspection to be done and recorded) | CLIENT | | DD | Delivery Documents | QCC | Quality Control Checklists |
| CPR | Client’s Project Representative | DR | Structural Design report | QMP | Quality Management Plan |
| TP | Test point (Product compliance test to be undertaken and recorded/reported) | CSR | Client’s Site Representative | DWG | Drawings | ROL | Road Occupancy License |
| SR | Superintendent’s Project Representative | DWR | Daily Works Record | SI | Site Instruction |
|  |  | SO | Surveillance Officer | EC | Engineer’s Certificate | SV | Survey Record |
| PROJECT CONSULTANTS | | EMP | Environmental Management Plan | SZA | Speed Zone Authorization |
|  |  | RS | Registered Surveyor | ESCP | Erosion & Sedimentation Control Plan | TR | Laboratory Test Report |
|  |  | GE | Geotechnical Engineer | FC | Final Certificate | TCP | Traffic Control Plan |
|  |  | SD | Structural Design Engineer | GR | Geotechnical Report | TMP | Traffic Management Plan |
|  |  | PE | Proof Engineer | BR | Building Report | VMP | Vehicle Movement Plan |
|  |  | OTHER | |  |  | WAE | Work-As-Executed Drawings |
|  |  | SUB | Subcontractor |  |  |  |  |
|  |  | SUP | Supplier |  |  |  |  |
|  |  | NL | NATA Certified Testing Laboratory |  |  |  |  |
|  |  | TMC | TFNSW Traffic Management Centre |  |  |  |  |
|  |  | PR | Project Rep |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Amendment | Date: | Reviewed: | Validation | Acceptance |
|  |  |  |  | I certify that the works have been constructed in accordance with this Inspection & Test Plan | I have inspected and accept the completed works have been constructed in accordance with this Inspection & Test Plan |
|  |  |  |  | GC Civil Representative: | Client Representative: |
|  |  |  |  | Signed: | Signed: |
|  |  |  |  | Date: | Date: |