## Site Preparation and Earthworks Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| SE1 | 1.6, 1.9.2.2 | Contractor to provide WHS Plan and SEDMP | Once | At least 10 days prior to commencing the works | Meeting specification requirements | Documents:  WHS Plan  SEDMP |  |
| SE2 | 2.4.4 | Superintendent to review WHS Plan and SEDMP  **HOLD POINT H-SE1** | Once | Prior to commencing works | Superintendent’s acceptance | Written confirmation of acceptance |  |
| SE3 | 2.2.2, 2.4.4 | GTA’s approval of Subgrade Fill materials proposed to be used in the works  **HOLD POINT H-SE2** | As required | Prior to placement | Meeting GTA’s approval | Document  Written Approval |  |
| SE4 | 2.2.3 | Environmental Consultant to approve of imported subgrade fill materials (if applicable) | As required | Prior to subgrade filling works | Meeting Environmental Consultants approval | Document  Written Approval |  |
| SE5 | 2.4.3, 2.4.4 | Proof rolling of existing subgrade surface areas  **HOLD POINT H-SE3** | As required | Prior to commencement of filling | Meeting GTA’s approval | Written confirmation of acceptance |  |
| SE6 | 2.4.3 | All subgrade testing shall be performed at a rate determined by the GTA in accordance with the Specification. | Testing as required | Throughout the works | Meeting GTA’s approval | GTA test and inspection documentation |  |
| SE7 | 2.4.5 | Survey of subgrade levels | After placement and compaction | Meeting specification requirements | Meeting specification requirements | As constructed documentation |  |
| SE8 | 2.4.4 | CQA Engineer to review and approve as constructed information  **HOLD POINT H-SE4** | Once | Prior to placement of subsequent layers | CQA Engineer’s acceptance | Written confirmation of acceptance |  |

## Groundwater Relief System Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| GR1 | 3.4.2, CQA Plan Clause 10 and 12 | CQA Engineer to approve gravel for backfill and separation geotextile materials in accordance with the requirements of Clause 10 and 12 of this CQA Plan.  **HOLD POINT H-GR1** | As required | Prior to delivery of materials to site | CQA Engineer’s acceptance | Required quality documents;  Written confirmation of acceptance |  |
| GR2 | 3.2.1, 3.2.2, 3.2.3, 3.4.2, Drawings | CQA Engineer to inspect pipe materials and perforations in accordance with the requirements of the Drawings  **HOLD POINT H-GR2** | As required | Prior to installation | CQA Engineer’s acceptance | Written confirmation of acceptance |  |
| GR3 | 3.3 | Contractor to provide the proposed construction methodology | Once | Prior to commencing works | CQA Engineer’s review | Written confirmation of acceptance |  |
| GR4 | 3.3, 3.4.2 | CQA Engineer to review the proposed construction methodology  **HOLD POINT H-GR3** | Once | Prior to commencing works | CQA Engineer’s acceptance | Written confirmation of acceptance |  |
| GR5 | 3.4.2 | CQA Engineer to inspect the full extent of the drainage trenches  **HOLD POINT H-GR4** | As required | Immediately prior to separation geotextile placement | CQA Engineer to confirm the drainage trench meets Drawings requirements | Site records and photos;  Written approval |  |
| GR6 | 3.3.1, 3.4.2 | CQA Engineer to confirm separation geotextile deployment, overlaps, repairs and bonding  **HOLD POINT H-GR5** | Periodically prior to coverage | Progressively | CQA Engineer’s acceptance | Site records and photos;  Written approval |  |
| GR7 | 3.3.2, 3.4.2 | CQA Engineer to confirm pipework placement, condition, jointing/welding and perforation orientation  **HOLD POINT H-GR6** | Periodically prior to coverage | Progressively | CQA Engineer’s acceptance | Site records and photos;  Written approval |  |
| GR8 | 3.3.3 | Superintendent to confirm the dimensions of the constructed concrete extraction riser spill pad | Once | After the construction of concrete extraction riser spill pad | Superintendent’s acceptance | Site records and photos;  Written approval |  |
| GR9 | 3.3.4, 3.4.2 | CQA Engineer to inspect backfilled trenches and separation geotextiles lapping  **HOLD POINT H-GR7** | Periodically prior to coverage | Progressively | CQA Engineer’s acceptance | Site records and photos;  Written approval |  |
| GR10 | 3.4.2, 3.4.3, 3.4.4 | CQA Engineer to review and approve as-constructed information  **HOLD POINT H-GR8** | Once | Prior to placement of subsequent layers | CQA Engineer’s acceptance | Written approval |  |

## Engineered Fill Layer Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| EL1 | 4.2.2, 4.4.2, 4.4.4 | Prequalification testing of engineered fill layer materials  GITA’s approval of engineered fill layer materials proposed to be used in the works  **HOLD POINT H-EL1** | As required | Prior to placement | Meeting GITA’s approval | Site records |  |
| EL2 | 4.3.1, 4.4.4 | Surface inspection and proof rolling by GITA to confirm subgrade bearing capacity  **HOLD POINT H-EL2** | As required | Following subgrade excavation, filling and compaction | GITA to confirm surface meets Specification  GITA’s approval | Document  Written Approval |  |
| EL3 | 4.3 | GITA to assess that the surface of each layer is suitably prepared for subsequent engineered fill layers including construction joints and method of enhanced bonding between lifts. Final surface to be smooth, required grade and free of cracking | Full time inspection | Throughout the works | Meeting GITA’s approval | GITA test and inspection documentation |  |
| EL4 | 4.3.1, 4.4.2 | Engineered fill layer placement undertaken in accordance with the Specification under the full time ‘Level 1’ geotechnical supervision as defined in AS 3798 | Full time inspection | Throughout the works | Meeting GITA’s approval | GITA test and inspection documentation |  |
| EL5 | 4.3.1, 4.4.2, 4.4.3 | GITA to review and approve all engineered fill layer compliance tests | After placement and compaction | Frequency as specified | GITA to confirm test results meets Specification | GITA test and inspection documentation |  |
| EL6 | 4.4.5 | Survey of engineered fill layer levels | After placement and compaction | Prior to placement of subsequent layers | Superintendent’s acceptance | As constructed documentation |  |
| EL7 | 4.4.4 | CQA Engineer to review and approve as-constructed information  **HOLD POINT H-EL3** | Once | Prior to placement of subsequent layers | CQA Engineer’s acceptance | Written confirmation of acceptance |  |

## Anchor Trenches Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| AT1 | 5.2, 5.4.1 | CQA Engineer’s approval of backfill materials  **HOLD POINT H-AT1** | As required | Prior to placement | Meeting CQA Engineer’s approval | Site records  Written approval of acceptance |  |
| AT2 | 5.3 | Contractor to provide anchor trench construction methodology | As required | Prior to anchor trench works | Meeting Superintendent’s approval | Document  Written approval |  |
| AT3 | 5.3, 5.4.1 | CQA Engineer to review construction methodology  **HOLD POINT H-AT2** | Once | Prior to commencing works | CQA Engineer’s acceptance | Written confirmation of acceptance |  |
| AT4 | 5.4.3 | Inside edge of the anchor trench surveyed by a Licensed Surveyor | As required | Prior to back filling works | Documentation to demonstrate construction meeting Specification | Documentation |  |
| AT5 | 5.4.2 | CQA Engineer to inspect the location, depth and width of the anchor trench. | As required | Prior to back filling works | CQA Engineer to confirm anchor trench dimensions | Site records and photos  Written approval |  |
| AT6 | 5.4.1 | CQA Engineer’s inspection of the full extent of the anchor trenches  **HOLD POINT H-AT3** | As required | Prior to geosynthetic liner placement | Meeting CQA Engineer’s approval | Site records and photos  Written approval |  |
| AT7 | 5.3, 5.4.1 | GITA’s approval of anchor trench backfill compaction  **HOLD POINT H-AT4** | As required | During backfilling works | Meeting GITA’s approval | Site records and photos  Written approval |  |
| AT8 | 5.4.1, 5.4.2 | CQA Engineer to visually assess placement of the anchor trench backfill  **HOLD POINT H-AT5** | As required | During backfilling works | Meeting CQA Engineer’s approval | Site records and photos  Written approval |  |
| AT9 | 5.4.1, 5.4.3 | CQA Engineer’s review and acceptance of as-constructed information  **HOLD POINT H-AT6** | Once | As-constructed documentation to be submitted within 14 days of practical completion of the works | Meeting CQA Engineer’s approval | Written confirmation of acceptance |  |

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## GCL Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| GCL1 | 6.4.1 | The Principal shall arrange for a suitably qualified and experienced CQA Engineer to monitor the works and maintain a daily log including construction activities, weather conditions and conformance of the works to the Specification | Once | Prior to works | Inspection and daily reporting in accordance with the Specification | Site records |  |
| GCL2 | 6.2.1 | Contractor to confirm manufacturer is ISO 9001 certified | Once | Prior to delivery | Tender submission  Evidence of certification approved by Superintendent | Manufacturer QA / QC documentation |  |
| GCL3 | 6.3.2 | Contractor to prepare GCL placement panel layout plan and work method statement | Once | At least 10 days prior to scheduled installation | CQA Engineer to approve | Document |  |
| GCL4 | 6.3.2, 6.4.3 | CQA Engineer to review and approve panel layout plan and work method statement  **HOLD POINT H-GCL1** | Once | Prior to scheduled installation | CQA Engineer’s review and approval | Document  Written approval to proceed |  |
| GCL5 | 6.3.7 | The Contractor to confirm with the Superintendent (or liner integrity survey contractor) the test method that will be adopted and the GCL hydration requirements prior to installation of the GCL. | Once | Prior to scheduled installation | CQA Engineer to approve | Document |  |
| GCL6 | 6.4.2.1 | Contractor to provide CQA Engineer with the MQA test data confirming that the GCL meets the properties presented in the Specification | MQA frequencies per Specification Table 5.1 | Prior to delivery | Manufacturer roll testing documentation  CQA Engineer’s approval | Manufacturer QA / QC documentation |  |
| GCL7 | 6.4.2.2 | Contractor to provide CQA Engineer with GCL samples for independent testing. CQA Engineer to arrange testing. | Number and size of samples meeting specification requirements | Once delivered to site, prior to deployment | Number and size of samples meeting lab requirements | Confirmation to CQA Engineer of receipt by lab |  |
| GCL8 | 6.4.2, 6.4.3 | CQA Engineer to review and approve proposed materials  **HOLD POINT H-GCL2**  **HOLD POINT H-GCL3** | On receiving MQA and IQA test reports | Prior to deployment | MQA and independent material test frequency and properties in accordance with Specification  CQA Engineer’s approval | Document  Written approval |  |
| GCL9 | 6.2.2 | Contractor to confirm rolls packaged and labelled as per specification requirements | Each roll | Once delivered to site, prior to deployment | Labelled as per Specification | Site records and photos |  |
| GCL10 | 6.3.3 | Superintendent to provide confirmation that the GCL handled and stored in accordance with Specification requirements:  Standard Guide (ASTM D5888) in a location on site approved by the CQA Engineer | As required | Prior to GCL placement | Superintendent’s acceptance | Document |  |
| GCL11 | 6.3.4, 6.4.3 | CQA Engineer to inspect and approve engineered fill layer surface  **HOLD POINT H-GCL4** | At start of each deployment campaign | Immediately prior to GCL placement | CQA Engineer to confirm surface meets Specification | Site record and photos  Written approval |  |
| GCL12 | 6.3.5, 6.3.6, 6.4.3 | CQA Engineer to inspect construction of GCL to confirm materials and installation procedure is in accordance with the specification including laps, joins, pasting and anchoring of GCL material  **HOLD POINT H-GCL5** | Progressively depending on construction methodology | Prior to coverage | CQA Engineer to confirm placement meets the work method statement and Specification | Site records and photos |  |
| GCL13 | 6.4.3 | Contractor to provide CQA Engineer with as-constructed information including:   * Panel arrangement * Roll numbers for each panel * Location and description of patches/ repairs * Certification of completion in accordance with the specification | Once | Within 14 days of practical completion of the GCL works | Documentation to demonstrate construction meeting Specification  CQA Engineer’s acceptance | Documentation  Panel layout and roll numbers  Written approval |  |

## HDPE Geomembrane Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| HDPE1 | 7.4.1 | The Principal shall arrange for a suitably qualified and experienced CQA Engineer to monitor the works and maintain a daily log including construction activities, weather conditions, testing results and conformance of the works to the Specification | Once | Prior to works | Experienced and qualified  Inspection and daily reporting in accordance with the Specification | Site records |  |
| HDPE2 | 7.2.2 | The location and method of storage of HDPE rolls is to be approved by the CQA Engineer | Once | Prior to onsite storage | Meeting CQA Engineers approval | Document |  |
| HDPE3 | 7.4.4 | Contractor to provide:   * Quality Control Procedures Manual * Wrinkle Management Plan, and   Stormwater Management and Erosion Protection plan | Once | At least 14 days prior to supply of materials | Meeting specification requirements  CQA Engineer and Superintendent’s approval | Document |  |
| HDPE4 | 7.3.1, 7.4.4 | Contractor to submit proposed work method statement to CQA Engineer for approval in accordance with the Specification:   * Panel layout * Location/details of primary and secondary welds * Location/details of corner arrangements * Location/details of weld cross-overs * Anchor trench arrangement * Location/details of offsets and base to embankment welds * Placement and protection methodology * Wrinkle management   **HOLD POINT H-GM1** | Once | 10 days prior to use in the works | Meeting CQA Engineer’s approval | Document  Written approval |  |
| HDPE5 | 7.2.4, 7.4.2.1 | Manufacturer to provide the CQA Engineer with all MQA testing data (including HDPE sheets, resin, and welding granulate) in accordance with the requirements in the Specification | As per Table 6.1 of the Specification | Prior to delivery | Manufacturer roll testing documentation  Properties as per Specification  Approval by CQA Engineer | Manufacturer QA / QC documentation |  |
| HDPE6 | 7.4.2.2 | Contractor to provide CQA Engineer with HDPE samples for IQA testing.  CQA Engineer to arrange testing. | Number and size of samples meeting specification requirements | Once delivered to site, prior to deployment | Number and size of samples meeting lab requirements | Confirmation to CQA Engineer of receipt by lab |  |
| HDPE7 | 7.2.4, 7.4.1 | CQA Engineer’s review and approval of MQA and IQA data and approval of geomembrane materials proposed for use in the works  **HOLD POINT H-GM2** | Once | Prior to delivery (MQA)  Prior to placement (IQA) | Properties and test frequency as per the Specification  CQA Engineer Approval of Results | MQA documentation  Independent lab test reports  CQA Engineer written approval of materials to be used in the works |  |
| HDPE8 | 7.2.5 | CQA Engineer to confirm that HDPE rolls supplied to site are labelled in accordance with the Specification | As required | Upon delivery to site | Labelled as per Specification  Free of damage | Site records and photos |  |
| HDPE9 | 7.3.2 | Contractor to submit evidence of staff experience | Once or for new staff arriving to the works | Prior to installation works | Meeting CQA Engineers approval | Document  Written approval |  |
| HDPE10 | 7.3.4, 7.4.4 | CQA Engineer to inspect GCL surface and provide written advice of acceptance.  **HOLD POINT H-GM3** | As required | Prior to geomembrane installation | With CQA Engineer to confirm surface meets Specification. | Site records and photos  Written approval to proceed |  |
| HDPE11 | 7.3.5 | The CQA Engineer and Installer shall inspect and approve the geomembrane panels for damage or defects prior to and during placement. | Progressively | Prior to and during placement | Meeting CQA Engineers approval | Site records and photos |  |
| HDPE12 | 7.3.5 | CQA Engineer is to witness placement of geomembrane panels and ensure that the geomembrane is adequately secured and placed in accordance with the specified methodology. | Progressively | During placement | Meeting CQA Engineers approval | Site records and photos |  |
| HDPE13 | 7.3.7 | Installer to complete trial welds | Progressively | Prior to starting each day. After breaks / before re-commencement | In accordance with the GRI-GM19 Guideline Visual inspection and approval by CQA Engineer | Site records  Test results |  |
| HDPE14 | 7.3.6 | CQA Engineer to ensure that geomembrane is welded in accordance with the specified methodology. | Progressively | During welding | Meeting CQA Engineers approval  (representative weld samples) | Site records and photos |  |
| HDPE15 | 7.3.7.3 | Installer to provide confirmation of split hot-wedge fusion weld destructive testing. | Progressively | Beginning of each welding period and random locations | In accordance with the GRI-GM19 Guideline Visual inspection and approval by CQA Engineer | Installer to provide confirmation of split hot-wedge fusion weld destructive testing. |  |
| HDPE16 | 7.3.7.4 | Installer to provide confirmation of split hot-wedge fusion weld non-destructive testing. | Progressively | As per Specification | Documentation to demonstrate testing meeting Specification to the approval of the CQA Engineer | Site records and documentation compiled into Report |  |
| HDPE17 | 7.3.7.5 | Installer to provide confirmation of surface extrusion weld destructive testing. | Progressively | Beginning of each welding period and random locations | In accordance with the GRI-GM19 Guideline Visual inspection and approval by CQA Engineer | Installer to provide confirmation of surface extrusion weld destructive testing. |  |
| HDPE18 | 7.3.7.6 | Installer to provide confirmation of surface extrusion welds non-destructive testing. | Progressively | As per Specification | Documentation to demonstrate testing meeting Specification to the approval of the CQA Engineer | Site records and documentation compiled into Report |  |
| HDPE19 | 7.3.6, 7.3.7 | Installer to record date, time, panel numbers, welding machine, welding operator, destructive and non-destructive tests on HDPE and quality control sheets. | Progressively | As required | Documentation to demonstrate construction meeting Specification | Site records and documentation compiled into Report |  |
| HDPE20 | 7.3.8.1 | Detailed walkover by Installer and CQA Engineer to inspect all seams and sheets for any defects/repairs required. | Once | Following completion of HDPE liner | Acceptable to CQA Engineer in accordance with the Specification | Site records and photos |  |
| HDPE21 | 7.3.8.2, 7.3.8.4 | Installer and CQA Engineer to confirm repairs are non-destructively tested, marked on the HDPE, recorded on forms and in as built drawings | Once | Following repairs on HDPE liner | Documentation to demonstrate testing meeting Specification to the approval of the CQA Engineer | Site records and documentation compiled into Report |  |
| HDPE22 | 7.4.3 | The GMTA to conduct a liner integrity survey in accordance with ASTM D6747 - Standard Guide for Selection of Techniques for Electrical Detection of Potential Leak Paths in Geomembranes and ASTM D7953 – Standard Practices for Electrical Leak Location on Exposed Geomembranes Using the Arc Testing Method if liner and weather conditions allow effective testing by this method. The test method must be approved by the Designer after the installation of the HDPE geomembrane. | Once | After the placement of the HDPE geomembrane | Documentation to demonstrate testing meeting Specification to the approval of the CQA Engineer | Site records and documentation |  |
| HDPE23 | 7.4.5 | Contractor to provide CQA Engineer with as constructed information as per the specification | Progressively | As per specification | Documentation to demonstrate construction meeting the Specification to the approval of the CQA Engineer | Site records and documentation compiled into Report |  |

## Cushion Geotextile Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CG1 | 8.4.1 | The Principal shall arrange for a suitably qualified and experienced CQA Engineer to monitor the works and maintain a daily log including construction activities, weather conditions and conformance of the works to the Specification | Once | Prior to works | Inspection and daily reporting in accordance with the Specification | Site records |  |
| CG2 | 8.2.1 | Contractor to confirm manufacturer is ISO 9001 certified | Once | Prior to delivery | Tender submission;  Evidence of certification approved by the Superintendent | Manufacturing QA/QC documentation |  |
| CG3 | 8.3.1 | Contractor to prepare WMS and panel layout plan for cushion geotextile | Once | 10 working days prior to scheduled deployment | CQA Engineer’s review and acceptance | Documents |  |
| CG4 | 8.3.1, 8.4.3 | CQA Engineer to approve WMS and panel layout plan  **HOLD POINT H-CG1** | Once | Prior to scheduled installation | CQA Engineer’s approval | Documents;  Written approval to proceed |  |
| CG5 | 8.2.5, 8.4.2.1 | Contractor to provide MQA test data confirming that the cushion geotextile meets the properties presented in the Specification | MQA frequencies per Table 8.1 of the Specification | Prior to delivery | CQA Engineer’s review and acceptance | MQA documentation |  |
| CG6 | 8.2.5 | Contractor to undertake a Geomembrane Protection Efficiency Test on the cushion geotextile in accordance with test method ASTM D5514-06 (Mod) – Large Scale Hydrostatic Puncture Testing of Geosynthetics – Procedure C to demonstrate the suitability of the geotextile | Once | Prior to delivery | Strain in the geomembrane as a result of the Geomembrane Protection Efficiency Test should not exceed 4% at a pressure of 410 kPa when tested for a minimum 24 hour period. | Testing report;  Written approval |  |
| CG7 | 8.4.2.2 | Contractor to provide CQA Engineer with cushion geotextile samples for independent testing.  CQA Engineer to arrange testing. | Number and size of samples meeting requirements of the Specification | Once delivered to site, prior to deployment | Number and size of samples meeting requirements of laboratory | Confirmation to CQA Engineer of receipt by laboratory |  |
| CG8 | 8.4.2, 8.4.3 | CQA Engineer to review and approve proposed materials  **HOLD POINT H-CG2** | On receiving MQA and IQA test reports | Prior to deployment | MQA and IQA test frequency and properties in accordance with the Specification;  CQA Engineer’s approval | Documents;  Written approval |  |
| CG9 | 8.2.2, 8.2.4 | Contractor to confirm rolls packaged and labelled as per the Specification requirements | Each roll | Once delivered to site, prior to deployment | Labelled as per the Specification | Site records and photos |  |
| CG10 | 8.2.3 | Superintendent to confirm that geotextiles have been appropriately stored and protected from UV light, rain or inundation, mud, dust, puncture, cutting or other damaging conditions | Once | Prior to installation | Superintendent’s acceptance | Site records and photos |  |
| CG11 | 8.3.1, 8.4.3 | CQA Engineer to inspect and approve HDPE geomembrane surface  **HOLD POINT H-CG3** | At start of each deployment campaign | Prior to installation | CQA Engineer’s acceptance | Site records and photos;  Written approval to process |  |
| CG13 | 8.3.2 | Contractor to undertake repairs at identified locations | As required | Progressively | CQA Engineer’s approval | Documents |  |
| CG14 | 8.4.3 | CQA Engineer to confirm deployment, overlaps and repairs lap width and bonding  **HOLD POINT H-CG4** | Periodically prior to coverage | Progressively | CQA Engineer to confirm deployment, overlaps and repairs lap width and bonding meeting requirements of the Specification | Site records and photos;  Written acceptance |  |
| CG15 | 8.4.4 | Contractor to supply as-constructed information as required in the Specification | within 14 days of completion of the cushion geotextile layer | Prior to completion of all works | Documentation to demonstrate construction meeting requirements of the Specification | Documents;  As-constructed panel layout |  |

## Leachate Collection System Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| LCS1 | 9.2.2, 9.4.1 | Principal to approve valves, pumps and controls proposed to be used in the works  **HOLD POINT H-LCS1** | As required | Prior to bring materials to site | Principal’s acceptance | Documents;  Written acceptance |  |
| LCS2 | 9.2.2, 9.2.3, 9.2.4, 9.4.1 | CQA Engineer to inspect pipe materials and perforations prior to installation  **HOLD POINT H-LCS2** | Once | Prior to installation | CQA Engineer’s acceptance | Site records and photos;  Written acceptance |  |
| LCS3 | 9.4.1 | CQA Engineer to inspect and approve cushion geotextile surface  **HOLD POINT H-LCS3** | At start of each deployment campaign | Immediately prior to pipework placement | CQA Engineer to confirm surface meets Specification | Site records and photos;  Written approval to proceed |  |
| LCS4 | 9.3.1 | Contractor to provide documentation confirming evidence of the HDPE pipe welders experience and that weld procedures have been undertaken in accordance with AS 2566 | As required | Prior to pipe welding | Superintendent’s acceptance | Documents;  Written approval to proceed |  |
| LCS5 | 9.4.1 | CQA to inspect and confirm pipework placement, condition, jointing/welding and perforation orientation.  **HOLD POINT H-LCS4** | As required | Prior to coverage | CQA Engineer’s acceptance | Site records and photos;  Written acceptance |  |
| LCS6 | 9.2.6 | Superintendent to confirm the construction of the concrete extraction riser spill pad | As required | Prior to practical completion | Superintendent’s acceptance | Site records and photos;  Written acceptance |  |
| LCS7 | 9.3.1, 9.4.2 | Contractor to provide as-constructed survey documentation to CQA Engineer for acceptance | Within 14 days of completion of Leachate Collection System works | Prior to placement of subsequent layers | CQA Engineer’s acceptance | As-constructed survey documentation;  Written acceptance |  |

## Drainage Gravel Layer Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| DG1 | 10.2.2 | CQA Engineer to review the results of prequalification testing of drainage gravel | As required | At least 10 working days prior to using the materials in the works | CQA Engineer’s acceptance | Documents;  Written approval |  |
| DG2 | 10.2.2, 10.4.4 | CQA Engineer to approve drainage gravel materials proposed to be used in the works  **HOLD POINT H-DG1** | Once | Prior to commencement of delivery and placement of material within the cell | CQA Engineer’s acceptance | Documents;  Written approval |  |
| DG3 | 10.3.1, 10.3.2 | Contractor to provide WMP and WMS | Once | 10 working days prior to scheduled commencement of the work | CQA Engineer’s acceptance | WMP;  WMS |  |
| DG4 | 10.3.1, 10.3.2, 10.4.4 | CQA Engineer to approve WMP and WMS  **HOLD POINT H-DG2** | Once | Prior to installation | CQA Engineer’s approval | WMP;  WMS;  Written approval to proceed |  |
| DG5 | 10.4.2 | GTA to undertake PSD testing in-situ compliance testing | As per **Error! Reference source not found.** above | Progressively | GTA’s approval | Test reports;  Written approval |  |
| DG6 | 10.3.3 | CQA Engineer or GITA to inspect and report on gravel drainage layer placement works including, extent of placement and thickness. | Full time | Full time | In accordance with the Specification | Site records and documentation |  |
| DG7 | 10.4.3 | The GMTA shall conduct a liner integrity survey in accordance with ASTM D6747 - Standard Guide for Selection of Techniques for Electrical Detection of Potential Leak Paths in Geomembranes and ASTM D7007 – Standard Practices for Electrical Methods for Locating Leaks in Geomembranes Covered with Water or Earth Materials | Once | After the placement of the leachate drainage gravel layer | Documentation to demonstrate testing meeting Specification to the approval of the CQA Engineer | Site records and documentation |  |
| DG8 | 10.4.5 | Contractor to provide as-constructed information of final gravel drainage layer to CQA Engineer | Once | Within 14 days of practical completion of the gravel placement works | Documentation to demonstrate construction meeting Specification | Documentation |  |
| DG9 | 10.4.4, 10.4.5 | CQA Engineer to review and approve as-constructed information  **HOLD POINT H-DG3** | Once | Prior to the placement of subsequent layers | Documentation to demonstrate construction meeting Specification,  CQA Engineer’s acceptance | Written approval to proceed |  |

## Drainage Geocomposite Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DGC1 | 11.4.1 | The Principal shall arrange for a suitably qualified and experienced CQA Engineer to monitor the works and maintain a daily log including construction activities, weather conditions and conformance of the works to the Specification | Once | | Prior to works | Inspection and daily reporting in accordance with the Specification | Site records |  |
| DGC2 | 11.3.2 | Contractor to prepare and submit WMS and panel layout plan for drainage geocomposite | Once | | At least 10 working days prior to scheduled deployment | CQA Engineer’s review and acceptance | WMS;  Panel layout plan |  |
| DGC3 | 11.2.1, 11.2.5, 11.4.2.1 | Contractor to provide MQA test data confirming that the drainage geocomposite meets the properties presented in the Specification | Once | | Prior to delivery | Manufacturer roll testing documentation meeting the Specification | Manufacturer’s QA/QC documentation |  |
| DGC4 | 11.4.2.2 | Contractor to provide CQA Engineer with drainage geocomposite samples for independent testing.  CQA Engineer to arrange testing. | Number and size of samples meeting requirements of the Specification | | Once delivered to site, prior to deployment | Number and size of samples meeting requirements of laboratory | Confirmation to CQA Engineer of receipt by laboratory |  |
| DGC5 | 11.2.2, 11.2.3, 11.2.4 | Contractor to confirm rolls packaged and labelled as per specification requirements. Superintendent or CQA Engineer to inspect rolls. | Each roll | | Upon delivery to site | Labelled, packaged, storage as per Specification;  Superintendent or CQA Engineer’s acceptance | Site records and photos;  Written acceptance |  |
| DGC6 | 11.3.2, 11.4.3 | CQA Engineer to approve WMS, panel layout plan and drainage geocomposite materials proposed to be used in the works  **HOLD POINT H-DGC1** | Once | | Prior to scheduled installation | WMS, panel layout plan and IQA test frequency and properties in accordance with the Specification;  CQA Engineer’s approval | Documents;  Written approval to proceed |  |
| DGC7 | 11.4.3 | CQA Engineer to inspect and approve cushion geotextile deployment and surface  **HOLD POINT H-DGC2** | At start of each deployment campaign | | Prior to drainage geocomposite installation | CQA Engineer to confirm surface meeting the Specification | Site records and photos;  Written approval to proceed |  |
| DGC8 | 11.3, 11.4.3 | CQA Engineer to inspect and approve drainage geocomposite material rolls  **HOLD POINT H-DGC3** | Progressively depending on construction methodology | | Prior to joining of geotextile laps | CQA Engineer to confirm the materials meeting the Specification | Site records and photos;  Written approval to proceed |  |
| DGC9 | 11.3.3 | Contractor to undertake repairs at identified locations | As required | | Progressively | CQA Engineer’s approval | Documents |  |
| DGC10 | 11.3, 11.4.3 | CQA Engineer to undertake final walkover of drainage geocomposite surface, inspect repairs to ensure in accordance with requirements of specification. | Periodically prior to coverage | | Progressively | CQA Engineer to confirm layout, repairs and bonding meeting the Specification | Site records and photos |  |
| DGC11 | 11.4.4 | Contractor to provide as-constructed information of drainage geocomposite layer to CQA Engineer | Once | within 14 days of completion of the drainage geocomposite layer | | Documentation to demonstrate construction meeting Specification | Documentation |  |
| DGC12 | 11.4.3, 11.4.4 | CQA Engineer to review and approve as-constructed information  **HOLD POINT H-DGC4** | Once | Prior to the placement of subsequent layers | | Documentation to demonstrate construction meeting Specification,  CQA Engineer’s acceptance | Written approval to proceed |  |

## Separation Geotextile Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| SG1 | 12.2.1 | Contractor to confirm manufacturer is ISO 9001 certified | Once | Prior to delivery | Tender submission  Evidence of certification approved by Superintendent | Manufacturer QA / QC documentation |  |
| SG2 | 12.3.1 | Contractor to prepare and submit WMS and panel layout plan for separation geotextile | Once | At least 10 working days prior to scheduled deployment | CQA Engineer’s review and acceptance | WMS;  Panel layout plan |  |
| SG3 | 12.2.5, 12.4.1.1 | Contractor to provide MQA test data confirming that the separation geotextile meets the properties presented in the Specification | Once | Prior to delivery | Manufacturer roll testing documentation meeting the Specification | Manufacturer’s QA/QC documentation |  |
| SG4 | 12.4.1.2 | Contractor to provide CQA Engineer with separation geotextile samples for independent testing.  CQA Engineer to arrange testing. | Number and size of samples meeting requirements of the Specification | Once delivered to site, prior to deployment | Number and size of samples meeting requirements of laboratory | Confirmation to CQA Engineer of receipt by laboratory |  |
| SG5 | 12.2.2, 12.2.3, 12.2.4 | Contractor to confirm rolls packaged and labelled as per specification requirements. Superintendent or CQA Engineer to inspect rolls. | Each roll | Upon delivery to site | Labelled, packaged, storage as per Specification;  Superintendent or CQA Engineer’s acceptance | Site records and photos;  Written acceptance |  |
| SG6 | 12.3.1, 12.4.1, 12.4.2 | CQA Engineer to approve WMS, panel layout plan and separation geotextile materials proposed to be used in the works  **HOLD POINT H-SG1** | Once | Prior to scheduled installation | WMS, panel layout plan and IQA test frequency and properties in accordance with the Specification;  CQA Engineer’s approval | Documents;  Written approval to proceed |  |
| SG7 | 12.4.2 | CQA Engineer to inspect and approve gravel surface  **HOLD POINT H-SG2** | At start of each deployment campaign | Immediately prior to separation geotextile placement | CQA Engineer to confirm surface meets the Specification | Site records and photos;  Written approval to proceed |  |
| SG8 | 12.3.2 | Contractor to undertake repairs at identified locations | As required | Progressively | CQA Engineer’s approval | Documents |  |
| SG9 | 12.3.2, 12.4.2 | CQA Engineer to confirm deployment, overlaps and repairs lap width and bonding  **HOLD POINT H-SG3** | Progressively depending on construction methodology | Progressively | CQA Engineer to confirm deployment, overlaps and repairs lap width and bonding meeting the Specification | Site records and photos |  |
| SG10 | 12.4.3 | Contractor to provide as-constructed information of separation geotextile layer to CQA Engineer | Once | Within 14 days of practical completion | Documentation to demonstrate construction meeting Specification | Documentation |  |
| SG11 | 12.4.3 | CQA Engineer to review and approve as-constructed information | Once | Prior to completion of all works | Documentation to demonstrate construction meeting Specification,  CQA Engineer’s acceptance | Written approval |  |

## Woven Geotextile Inspection and Test Plan Checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| WG1 | 13.2.1 | Contractor to confirm manufacturer is ISO 9001 certified | Once | Prior to delivery | Tender submission  Evidence of certification approved by Superintendent | Manufacturer QA / QC documentation |  |
| WG2 | 13.3.2 | Contractor to prepare and submit WMS and panel layout plan for woven geotextile | Once | At least 10 working days prior to scheduled deployment | CQA Engineer’s review and acceptance | WMS;  Panel layout plan |  |
| WG3 | 13.2.5, 13.4.1.1 | Contractor to provide MQA test data confirming that the woven geotextile meets the properties presented in the Specification | Once | Prior to delivery | Manufacturer roll testing documentation meeting the Specification | Manufacturer’s QA/QC documentation |  |
| WG4 | 13.4.1.2 | Contractor to provide CQA Engineer with woven geotextile samples for independent testing.  CQA Engineer to arrange testing. | Number and size of samples meeting requirements of the Specification | Once delivered to site, prior to deployment | Number and size of samples meeting requirements of laboratory | Confirmation to CQA Engineer of receipt by laboratory |  |
| WG5 | 13.2.2, 13.2.3, 13.2.4 | Contractor to confirm rolls packaged and labelled as per specification requirements. Superintendent or CQA Engineer to inspect rolls. | Each roll | Upon delivery to site | Labelled, packaged, storage as per Specification;  Superintendent or CQA Engineer’s acceptance | Site records and photos;  Written acceptance |  |
| WG6 | 13.3.1, 13.3.2, 13.4.1, 13.4.2 | CQA Engineer to approve WMS, panel layout plan and woven geotextile materials proposed to be used in the works  **HOLD POINT H-WG1** | Once | Prior to scheduled installation | WMS, panel layout plan and IQA test frequency and properties in accordance with the Specification;  CQA Engineer’s approval | Documents;  Written approval to proceed |  |
| WG7 | 13.4.2 | CQA Engineer to inspect and approve drainage geocomposite surface  **HOLD POINT H-WG2** | At start of each deployment campaign | Immediately prior to installation of the woven geotextile | CQA Engineer to confirm surface meets the Specification | Site records and photos;  Written approval to proceed |  |
| WG8 | 13.3.3 | Contractor to undertake repairs at identified locations | As required | Progressively | CQA Engineer’s approval | Documents |  |
| WG9 | 13.3.3, 13.4.2 | CQA Engineer to inspect and approve finished construction including laps and joining  **HOLD POINT H-WG3** | Progressively depending on construction methodology | Progressively | CQA Engineer to inspect and approve finished construction including laps and joining meeting the Specification | Site records and photos |  |
| WG10 | 13.4.3 | Contractor to provide as-constructed information of woven geotextile layer to CQA Engineer | Once | Within 14 days of practical completion | Documentation to demonstrate construction meeting Specification | Documentation |  |
| WG11 | 13.4.3 | CQA Engineer to review and approve as-constructed information | Once | Prior to completion of all works | Documentation to demonstrate construction meeting Specification,  CQA Engineer’s acceptance | Written approval to proceed |  |

## Concrete Tipping Pad inspection and test plan checklist

This worksheet provides a list of the information required to confirm that the CQA requirements are met for the component of work described above. This worksheet does not detail the information to be provided by other parties to the Contract, in terms of the Construction Quality Assurance requirements. The Contractor should at all times refer to the Specification and Drawings for the complete CQA and construction work requirements.

| Item | Specification Clause | Activity | Frequency | Timing | Acceptance Criteria | Reporting Form | Superintendent/CQA Engineer  Date / Initial |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CTP1 | 14.3.1 | A copy of the quality control test results shall be submitted to the Superintendent. | When testing is undertaken | Within 5 days from the test being carried out | Superintendent to confirm all test results received | Document |  |
| CTP2 | 14.3.2 | The contractor shall notify the superintendent prior to any concrete being placed, to enable inspection of excavation, formwork and reinforcement.  **HOLD POINT H-CTP 1**  **HOLD POINT H-CTP 2**  **HOLD POINT H-CTP 3** | For all concrete poured | 24 hours prior to any concrete being placed | Superintendent’s approval of excavation, formwork and reinforcement. | Written approval  Site records and photos |  |
| CTP3 | 14.3.5, 14.3.6 | Concrete sampling, to be carried out in accordance with AS 1012. | 1 for 1 batch per day  2 for 2-5 batches per day  3 for 6-10 batches per day  4 for 11-20 batches per day  1 additional sample for each additional 10 batches per day | Each day concrete is placed | Sample rate and collection in accordance with AS 1012 | Confirmation by Superintendent / testing laboratory |  |
| CTP4 | 14.3.7 | Test specimens shall be taken in accordance with AS 1012 | At least 2 specimens | As per frequency | Specimens taken in accordance with AS 1012 | Confirmation by Superintendent / testing laboratory |  |
| CTP5 | 14.3.8 | Characteristic compressive strength and characteristic flexural strength. Specimens to be 200 mm high and 100 mm diameter, in accordance with AS 1012 | At least 2 specimens | As per frequency | Results meeting the requirements of the specification. | Laboratory Reports  Written approval |  |
| CTP6 | 14.3.10 | Drying shrinkage specimens shall be taken, in accordance with AS 1012 | At least every 3 months during the course of the project, or for every 3,000 m2 placed. | As per frequency | Results meeting the requirements of the specification. | Laboratory Reports  Written approval |  |
| CTP7 | 14.3.10 | Where drying shrinkage results are not available, samples of trial mixes should be taken. | At least 2 samples. | As per frequency | Results meeting the requirements of the specification. | Laboratory Reports  Written approval |  |