



Quality Management Plan

Deception Bay Road Interchange Upgrade
Department Of Transport And Main Roads
4239

Job Name: Deception Bay Road Interchange Upgrade

Job No.: 4239

Principal: DEPARTMENT OF TRANSPORT AND MAIN ROADS

Document Version Control

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Quality Management Plan (QMP)

Business Management Systems (BMS) Plan

Document No.: HEQ-TPE-00355

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1. Introduction

1.1. Purpose

The purpose of this Quality Management Plan (QMP) is to provide a complete management document for onsite project staff to use on a day-to-day basis. The QMP is part of BMD's [Integrated Project Management Plan](#) (IPMP), which is a dynamic, working document that is subject to ongoing reviews due to potential changes to the contract, management practices, legislation, industry best practice, international standards and internal review. The IPMP is a working document to ensure changes are implemented as necessary to improve the efficiency and quality of the project as it progresses. The BMD Group (BMD) is committed to meeting the needs and expectations of its clients, legal and regulatory bodies. This commitment to quality and continual improvement is documented in the BMD [Quality Policy](#) and [Management Systems Policy](#).

This QMP has been developed to provide a framework for the management of all quality aspects and impacts associated with the construction of Deception Bay Road Interchange Upgrade.

1.2. Scope

BMD adopts an integrated management approach with the aim to produce work to a high quality, in an environmentally conscientious manner and with the health and safety of all staff and public considered.

1.3. Management System

BMD Constructions Pty Ltd has a documented management system meeting the requirements of:

- AS/NZS ISO 9001:2015 (Quality Management Systems);
- AS/NZS ISO 14001:2015 (Environmental Management Systems); and,
- ISO 45001 "Occupational Health and Safety Management Systems – Specification with guidance for use"

The BMD integrated management system has been designed in accordance with HB 139: 2003 "Guidance on Integrating the Requirements of Quality, Environment and Health and Safety Management System Standards".

BMD has third party certification to AS/NZS ISO 9001:2015, AS/NZS ISO 14001:2015, ISO 45001 and accreditation with State and Territory authorities, including the Office of the Federal Safety Commissioner (OFSC). Details of BMD's accreditations are documented on the [BMD Certifications Register](#).

This QMP should be read in conjunction with the following documents:

- [Business Management Systems Framework](#)
- Integrated Project Management Plan (IPMP)
- [Environmental Management Plan](#) (EMP)
- [Safety Management Plan](#) (SMP)

2. Project Overview

2.1. Project Overview

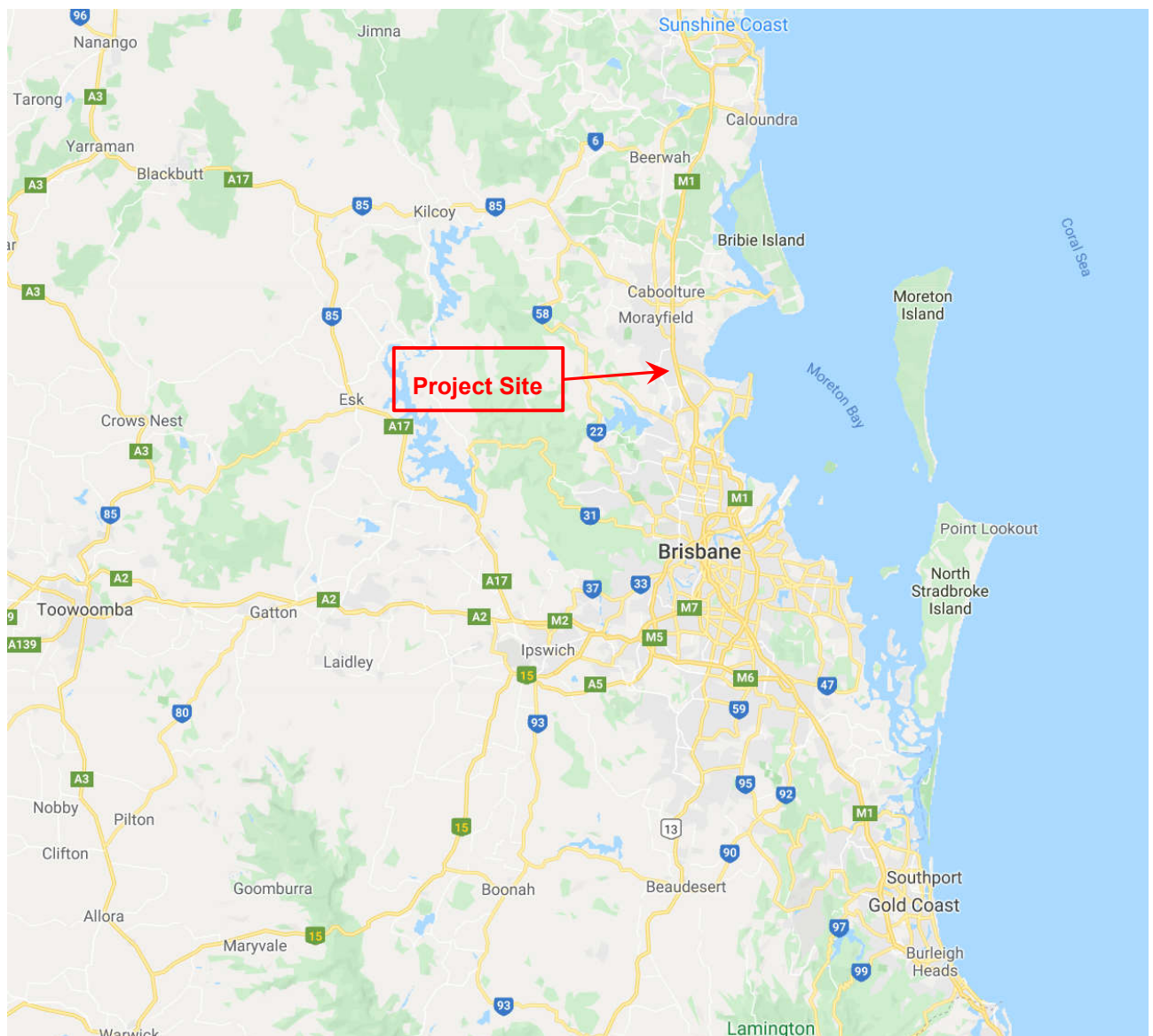
This document has been prepared for contract number CN12858 Deception Bay Road Interchange Upgrade

Project Start Date: 25/08/2020

Project Completion Date: 25/08/2022

1.1. Project Location

The Deception Bay Road Interchange is located approximately 35-kilometres north of the Brisbane CBD and 12-kilometres south of Caboolture. The Deception Bay Road Interchange is located approximately 35-kilometres north of the Brisbane CBD and 12-kilometres south of Caboolture. The BHDBRIU project proposes new parallel bridges over the Bruce Highway; upgrading signalised intersections on Deception Bay Road; and, increasing the length and capacity, relative to existing, of entry and exit ramps.



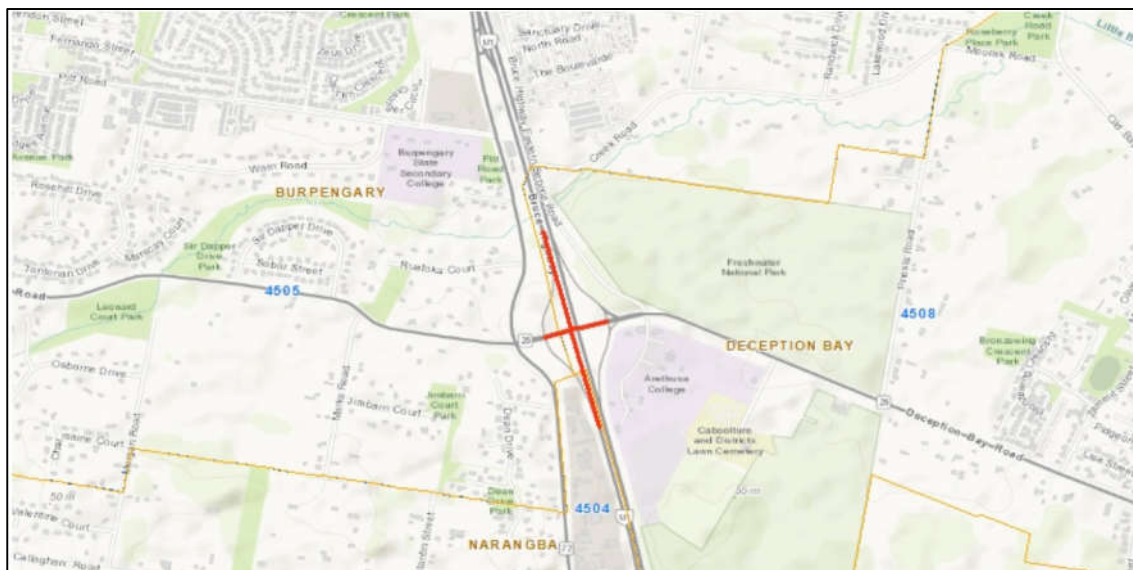
The main project office is located at:

- 1 Arthur Drewett Drive, Burpengary East, Qld, 4031

The project postal address is:

- PO Box 197 Wynnum Qld 4178

This document has been prepared for contract number CN-12858, Bruce Highway – Deception Bay Road Interchange Upgrade (BHDBRIU), located within the Moreton Bay Regional Council, Queensland.



. Figure 2 : Deception Bay Interchange with Bruce Highway

2.2. Description of Works

The Work required to be carried-out by under the contract includes, however, is not limited to the following elements:

- Increasing entry and exit ramp capacity
- Protection and relocation of Public Utility Plant (PUP) assets
- Provision of new shared user path including a bridge over the future Southbound entry ramp; inclusion with the new overpass of the Bruce Highway; and, a culvert structure under the future Northbound entry loop ramp
- Relocation of Heavy Vehicle Inspection Site (HVIS) facility with the upgraded interchange
- Upgrade of the existing Deception Bay Road interchange including two new parallel bridges over the Bruce Highway and removal of the existing bridge
- Upgrade of two intersections on Deception Bay Road immediately west of the intersection with Old Gympie Road and immediately east of the intersection with Eastern Service Road

2.3. Major Issues

Major issues during the construction of the project are, but not limited to:

- Management of traffic throughout construction
- Stakeholder and Community Engagement
- Environmental Requirements and Monitoring

3. Management

3.1. Quality objectives

The quality objectives for the project are to set a high standard to ensure we exceed expectations in providing services in a timely manner, and to the highest quality. This can be summarised by '*do it once, do it properly*'

The below table summarises lead and lag indicators that will be utilised on the project.

Target	Measures		
	Good	Average	Unacceptable
Lead Indicators: • Audits are programmed, resourced and completed as scheduled. • Percentage of Lots closed to open to active.	100% ≥80%	≥75% to <100% ≥60% to <80%	<75% <60%
Lag indicators: • Timely close-out of both improvement and corrective actions from audits, complaints, feedback and/or investigations	Ontime	1 to 5 days past date	>5 days past date

3.2. Project Management Team

The project manager for this project is Matthew Richardson. Quality responsibilities of staff are described in the following section.

Position	Name	Contact Number	Qualification	Experience
Project Manager	Matthew Richardson	+61 402 898 623	Bachelor of Engineering (Civil)(Hons) RPEQ CPEng	25 years
Project Engineer	Natasha Roy	+61 427 158 582	Bachelor of Engineering (Civil)(Hons) Diploma of Project Management RPEQ CPEng	21 years
Project Engineer	Shawn Davis	+61 439 791 073	Bachelor of Engineering (Civil)(Hons) Diploma of Project Management Traffic Management Design	15 years

Position	Name	Contact Number	Qualification	Experience
			RPEQ CPEng	
Quality Representative	Katie O'Donoghue	+61 414 521 627	Bachelor of Engineering Higher Degree in Civil Engineering Bachelor of Engineering Ordinary Degree in Civil Engineering	7 years
Safety Representative / Advisor	Garth Bennie	+61 407 494 591	Bachelor of Applied Science (Environmental Management) [In Progress] Diploma of Safety Completed 2020 Certificate IV Workplace Health and Safety ICAM Lead Investigator Return to Work Coordinator Workplace Drug Testing course Spotters – Identify, Locate & Protect Underground Services Certified Professional in Erosion and Sediment Control course	9 years
Environmental Manager	Jenny Butler	+61 424 139 609	Bachelor of Applied Science (Environmental Science) (Hons)	18 years
Landscape Representative/Service Advisor	Elliott Stanton	+61 409 474 102	Bachelor of Civil Engineering	5 years
Surveyor	Michael Wolf	+61 421 585 730	Bachelor of Surveying	19 years
Superintendent/ Work Supervisor	Gary Grant	+61 419 782 367	Certificate IV in Supervision Certificate III in Road Construction and Maintenance Various Plant tickets Certificate IV in Safety Dimensions Senior First Aid	15 years
Work Supervisor	Greg Calder	+61 414 706 586	Certificate IV Frontline Management Certificate IV Civil Construction Supervision Confined Space Training Health and Safety Representative First Aid Working at Heights	14 years

3.3. Communication

Project communication is addressed in the project Integrated Project Management Plan (IPMP) Section 8 – Communication. A combination of SharePoint and Email communication will be the primary method utilised for correspondence to the Administrator in relation to the everyday running of the Quality Management System, including the following:

- Notification of Lots commenced (MRTS50 Clause 7.4)
- Notification of Lots Completed (MRTS50 Clause 7.4)
- Notification of upcoming Hold/Witness Points and Milestones (MRTS50 Clause 8.3)
- Submission of Test Results (MRTS50 Clause 8.4)

- Other notification requirements

3.4. Staff Responsibilities

Quality responsibilities for all key site-based project staff are defined as follows. Day and night shifts will have a changeover period where quality issues will be discussed and coordinated to ensure continuity of work and quality is maintained throughout the entire length of the project.

Management procedures that are relevant for the contract are highlighted in blue text throughout the Contract Plans.

3.4.1. Project Manager

The responsibilities of the Project Manager are as follows:

- Successful completion of the project, including the exercise of contract management and cost control functions.
- Formal communication with the principal and the administrator for the contract.
- Obtaining the principal's agreement for all nominated activities or actions.
- Detailed project planning.
- Communication to all staff, suppliers, subcontractors, adjoining landholders and the general public of the relevant aspects of project management arrangements.
- Review of the [Integrated Project Management Plan](#) (IPMP) and supporting management plans, and seek approval from the Regional Business Management Systems Coordinator / Construction Manager.
- Ensure the project team perform to the quality set and monitor the quality of that performance.
- Ensuring that adequate resources are available to each project discipline, including appropriately qualified and experienced staff.
- Assessments of training needs for all project staff and to ensure adequate training is provided.
- Ensuring documents and records are stored and managed as per the [Documents and Records Management](#) standard.
- Review of all project related non-conformances and subsequent remedial actions and the corrective and preventive actions initiated by (or instigated by) the non-conformance.
- Negotiation of contract variations with the Administrator Phil Henderson.
- Review of all project related non-conformances and subsequent remedial actions and, the corrective and preventive actions initiated by (or instigated by) the non-conformance.

3.4.2. Project Engineer / Site Engineer

The responsibilities of the project engineer / site engineer are as follows:

- Responsible to the project manager for all site operations and management.
- Undertakes all the functions and responsibilities of the Project Quality Representative (PQR).
- Establishment and maintenance of the IPMP.

- Document and drawing control, as per the [Document and Records Management Standard](#).
- Establishment and maintenance of project identification and traceability procedures including the Lots Management System and other controls to be implemented by project staff, subcontractors and testing service providers.
- Establishment and maintenance of [Inspection and Test Plans](#) (ITPs) including the management of inspection and test functions.
- Supply notification to the Principal's Representative of upcoming Hold Point's required for the project.
- Monitoring performance of all suppliers of products and services including Subcontractors.
- Prepare recommendations for project variations including work processes, cost estimates and contract variation negotiations.
- Be the point of contact for any internal or external audits and to ensure that any issues found as a result of the audit are dealt with in an appropriate and timely manner.
- Assessment of project non-conformances including recommendations for corrective and preventative actions and the review of these actions.
- Verify implementation of solutions.
- Control further processing/delivery/installation of non-conforming product until deficiencies or unsatisfactory conditions have been corrected.
- To assess the project resource requirements.
- Liaise with the Regional Business Management Systems Coordinator on issues concerned with the management system.

3.4.3. Site Manager / Foreman

The responsibilities of the site manager / foreman are as follows:

- Responsible to the site superintendent for all on-site construction operations.
- Direction of sub-foreman and Leading Hands as well as the direct labour force.
- Communication to the workforce.
- Assisting with review and subsequent awarding of subcontractors, supply agreements and plant hire agreements.
- Monitoring and maintaining construction programs which have been set by the project manager or project engineer.
- Directing and monitoring of subcontractors, suppliers and plant hirers.
- Direction and monitoring of project survey resources.
- Under direction from the project engineer, assist site engineers in monitoring and maintaining relevant process control plans.
- Assist with assessment of project resource requirements including the training of staff and engaging specially qualified personnel.
- Reporting of all project non-conformances and suggestion of recommendations for corrective and preventive action.

- Assist in the preparation of project variations including work processes, cost estimates and contract variation negotiations.

3.4.4. Leading Hand / Worker

The responsibilities of the Leading Hand / Worker are as follows:

- To assist project management staff in carrying out the quality objectives of the project.

3.4.5. Digital Manager/Surveyor

The Project Surveyor coordinates with the Project Engineer/Site Engineer / Supervisor, and is responsible for the

set out of key control points and grids, level and quantity verification, set out of localised control points for individual

structures / work areas, as-constructed survey and calibration and checking of survey equipment.

- Establish and manage the DE/BIM process, protocols, procedures and project culture
- Provide a focal point for all data/information management issues on the project
- Responsible for facilitating a consistent approach to modelling of graphical (3D) data and inclusion of non-graphical data across the project, including consistent and appropriate technologies are in use
- Coordination through interface checking.
- Enable reliable information exchanges through a common data environment and assure delivery of information exchanges.
- Confirm supplier ability to deliver information requirements.
- Maintain and receive information into the Federated Model.
- Configure information for project outputs.
- Populate the information exchange format for the information model Create and manage the BIM Management Plan (Construction) to address overall requirements of the Administrator.

3.4.6. Subcontractor

The responsibilities of subcontractors are as follows:

- To assist project management staff in carrying out the quality objectives of the project.
- Perform works in accordance with the contract requirements.
- Complete the applicable BMD inductions and comply with system requirements.
- Provide the relevant documentation and/or records, as required.

3.5. Project Quality Representative/s

The Project Quality Representative (PQR) is responsible for ensuring that the quality requirements outlined in the [IPMP](#) and associated management system procedures are implemented and maintained on the project.

The PQR has the authority to take whatever actions are necessary to fulfil this responsibility. The PQR will be

a full-time member of the project management team. The minimum required qualifications and experience for the PQR are:

- A Degree in Civil Engineering; and,
- Three (3) years' experience.

Katie O'Donohue are the PQR's for this project. Copies of each Curriculum Vitae's (CVs) is available upon request. The PQR's for the project have gained significant previous industry experience.

If the resource level appears to be insufficient for the effective implementation of the IPMP, the project manager and/or PQR will raise their concerns with regional management. Regional management will then assign other resources as appropriate to the circumstances. If the principal or principal's representative is concerned as to the appropriateness of resource levels, the first point of contact is the project manager. The PQR and/or regional management may be contacted if the principal considers it appropriate.

3.6. Group Business Systems Manager

The Group Business Systems Manager (GBSM) has the authority and responsibility for ensuring that the requirements of the Management System are implemented and maintained. The GBSM is Patrick Pearl, available on telephone 0419 728 118 or e-mail Patrick.pearl@bmd.com.au. The GBSM will ensure that periodical audits of the project are scheduled, and conducted, to ensure that the systems are complying with the standards and legislation that affect the project. Monthly reports will be forwarded from the project manager to the Business Management Systems Coordinators for reporting to regional and systems management, the GBSM will report accordingly at the Senior Leadership Group (SLG) meeting.

4. Planning and Process Control

4.1. Construction Program

A construction program will be developed to help plan and monitor the progress of the project. This program will generally be held with the project manager who will track the progress of the project and make amendments to the program as required. The Principal will receive a copy of the amendments as they are prepared.

4.2. Construction Method Statement

Where activities have been identified as complex or high risk by the project team, a Construction Method Statement (CMS) will be generated. This is to be done at the discretion of the project team as CMS's are not a requirement for every project. The CMS's shall be developed in consultation with the project manager, engineering team, field supervision and HSEQ representatives.

A Construction Method Statement (CMS) shall consist of, but not limited to:

- methodology
- timing
- plant and equipment

- risks and hazards, introduced and inherent
- chain of responsibility requirements
- commercial risk
- resources
- safety
- legal compliance
- environmental
- training
- materials
- associated WMS and BMD Core Operating Procedures.

Hazards and aspects identified on the Construction Method Statement will be recorded in the project risk register.

4.3. Construction Procedures

Construction Procedures will be developed for activities as required by the Contract. A schedule of Construction Procedures for this project can be found in [Appendix C](#).

5. Identification and Traceability

5.1. Lots

All items of work are to be subdivided into Lots or discrete work areas. A Lot will consist of any part of the works, which BMD considers to be a continuous portion of homogenous and/or representative material or end product produced under essentially constant conditions. The project manager or project engineer will determine the extent of each Lot. Clearly marked drawings may be used, where considered appropriate, by the project manager or project engineer.

The bounds of each Lot will be determined before sampling and will be set so that each Lot is represented by a single tested sample, except where statistical methods, which require several tested samples to represent a Lot, are used. Each acceptance criteria may have different Lot boundaries.

Work on a Lot will not commence until the Lot identification has been established and is understood by relevant staff.

Discrete portions of a Lot which are visually non-homogenous and/or non-representative will be excluded from the Lot and will either be treated as separate Lots or reworked to the satisfaction of the principal. The principal has the right to reject a Lot that is visually non-homogenous and/or non-representative.

Where the non-conforming Lot is reworked and subjected to a fresh compliance testing program or is subdivided into smaller Lots, a new Lot number, or numbers, will be allocated to the reworked/subdivided Lot(s).

A Works Notification shall be submitted to the Administrator early each working day a list of all lots on which work commenced on the preceding working day, including sufficient information of the relevant lot numbers

and lot identification system. The notification should also include all lots which were physically completed on the preceding working day.

5.2. Lots Management System

The Lots Management System in the project site will be used to track the status and record details of each Lot. Each Lot will be given a unique Lot number. Each Lot number will start with a specific series number in relation to the type of activity; new Lots will be assigned the next sequential number to identify the elements that make up the Lot.

Any items related to a particular Lot shall be linked and referenced against each individual database entry. This includes, but is not limited to: Request for Information (RFI) correspondence; transmittals; Inspection and Test Plans (ITPs); test requests and results; Hold/Witness Points; non-conformance; corrective or improvement actions.

5.3. Revised Lot Numbers

Where the non-conforming Lot is reworked and subjected to a fresh compliance testing program or is subdivided into smaller Lots, a new Lot number, or numbers, will be allocated to the reworked/subdivided Lot(s).

5.4. Lot Identification

The CQR will develop a system of Lot identification which will clearly identify the bounds of each Lot. The Project Engineer may use clearly marked drawings where considered appropriate by the CQR.

All Work and/or activities must be able to be readily identified with a particular Lot. The Lot number will be used as

an identifier on all records.

Work on a Lot will not commence until the Lot identification has been established and is understood by relevant

staff. All records of Lots will be recorded within the Lot Register.

5.5. Completed Lots

Information relating to a conforming Lot will be submitted to the principal at the completion of works via a [Lot Conformance Report](#) and supporting documentation. Where a Lot is subject to delayed testing, these Lots shall be submitted to the principal with preliminary results. The final test results will follow as they become available. Non-conforming results will be processed in accordance with the Non-Conformances section of this document.

If a Lot does not achieve the specified characteristic value, the project engineer or appropriate delegate will investigate the Lot with a view to determine why the characteristic value was not obtained. This process may involve a review of test results to determine if it is a material problem (e.g. excess or deficient moisture), and/or checking with the foremen and operators as to the actual process and circumstances applicable to that Lot. A corrective action will be raised in the project site NCR system and either an internal or contract,

depending on criteria previously defined, will be filled out and the procedures for non-conforming product and corrective action then followed.

The project manager will ensure all Lots are closed out and signed off.

5.6. Traceability

All materials, samples and test results will be identified by a Lot number and field location to which they relate; records will be stored in the Project Site Lots Management system.

6. Inspection and Testing

6.1. Inspection and Test Plans

[Inspection and Test Plans](#) (ITPs) will be prepared for all manufacturing and construction activities. ITP's will include controls for receiving, in process and final inspection, and testing. The sequence of all activities identified in an ITP will be concisely described in technical procedures or by a process flow diagram. Refer [Appendix B](#) for a copy of the ITP Register.

Unless otherwise specified, the foreman will be responsible for arranging all inspections and tests on work in progress. This may be coordinated through the project engineer for soil tests, etc. ITP's are to be progressively signed off as works are completed, signed and closed out.

ITP's shall include:

- the work process and associated inspection and test points
- the allocation of responsibilities for carrying out the inspections and testing
- the required frequency of the inspections and testing
- the methods to be used for measurements and tests
- the criteria for acceptance
- measurements or tests which involve use of calibrated equipment, and
- all Witness and Hold Points.

6.2. Sampling and Testing

The project manager or delegate will be responsible for arranging tests of materials at source or in stockpile. Inspection and testing status for a particular Lot can be determined by reference to the checklist for the Lot.

Tests shall be arranged using the Test Requests System in the project site.

Conformance testing will be undertaken by a NATA accredited authority.

A copy of the NATA scope of accreditation for the Contractors compliance testing laboratories to the Quality Plan in [Appendix A](#) and provided to the administrator prior to undertaking any compliance testing.

6.3. Frequency of Testing

Appropriate frequencies for inspection and testing will be detailed on the ITP. Frequencies will be in accordance with the specification or applicable Australian Standard.

The Project Quality Representative (PQR) will review the appropriateness of the frequency of testing nominated in the ITP's. Such review will take into account the frequency of non-conformity detected, including non-conformities remedied by simple reworking.

A Reduced Testing Level may be adopted as stated in the relevant Technical Specification after no nonconformances have occurred in four consecutive lots and it has been demonstrated that the Contractor's processes are under control and consistent. When operating at the Reduced Testing Level and a nonconformance occurs for any requirement for a lot, testing shall immediately revert to the Normal Testing Level for all standards and requirements.

6.4. Inspection and Test Status

The inspection and test status of any Lot may be determined by reference to the Lots Management System, completed or partially completed checklists, and associated measurements or test results. Items required to have inspection or test status labelling include:

- Storm-water pipes/culverts delivered to site for inclusion in the permanent works will be clearly labelled by the manufacturer to identify class and grade.
- Structural steel including bolts, nuts and washers will be labelled with a batch number for traceability to test certificates.
- Precast items including deck units, girders and piles will be appropriate labelled with a compliance status and ID.

6.5. Inspection and Test Records

Records for each Lot will clearly show or reference the actual results obtained for any inspection and/or test and demonstrate conformity with the specified requirements. Records will include the frequency of testing (or number of tests) required and the actual frequency of testing (or number of tests) to confirm that the required frequency has been achieved.

Records will be made available for evaluation by the principal at the completion of a Lot.

6.6. Measuring and Testing Equipment

Measuring and test equipment shall include measuring equipment for production purposes such as a concrete batching plant.

The project engineer shall identify all inspection, measuring and test equipment (other than laboratory equipment) maintained and calibrated by subcontractors, which is used or proposed to be used for work on the contract. For all onsite activities where inspection, measuring and test equipment is maintained and calibrated by a subcontractor, the project engineer will ensure that the subcontractor holds a valid calibration certificate, or a copy of the subcontractor's equipment register showing the calibration status of the equipment. This documentation will be stored electronically as per the [Project Filing Structure – Constructions](#) and a hard copy held at the location where the subcontracted work is being carried out.

Measurements for specific environmental compliance criteria such as noise levels, dust levels, vibration levels, water pH, etc. will be taken as applicable. Equipment used for such measurement will be of suitable precision, in good working order and recorded in the HSEQ Monitoring Equipment Register.

6.7. Hold Points/Milestone/Witness Points

Work shall not proceed past a **HOLD POINT** or **MILESTONE** until the Administrator has released that Hold Point or Milestone; nor shall works progress past a **WITNESS POINT** unless the required notice has been provided to the Administrator. Works may progress past a Witness Point without the Administrator's signoff only once the period of notice has expired or as otherwise directed by the Administrator. Approval of Milestones will be treated as per approval of Hold Points.

The foreman and/or project engineer will ensure that the principal is given adequate advance notice of Hold Points. The required notice period shall be included in the ITPs.

Hold Points will be released by:

- via the electronic Hold Points system on the Project site
- written release on the relevant ITP
- separate written Hold Point Release
- written site instruction etc. approving the release.

All Hold Points, Witness Points and Milestones are to be recorded in the SharePoint Project Site electronic Hold Points system.

BMD will record details against the Witness Point if the Administrator is notified but chooses not to attend. Where the Administrator is in attendance approval shall be recorded per one of the above methods.

Where a verbal release is given, but there is no written record provided by the principal, the foreman or project engineer will ensure that written confirmation of the Hold Point Release is sent or given to the principal at the earliest opportunity. Such confirmation will include: details of the date; time; location; item and stage of work; what was approved; who approved it; and, who was present from BMD and/or BMD's subcontractors.

6.8. Samples

BMD will submit sufficient samples to identify the range and mean of variation, as required. BMD will notify the principal's representative that the sample is available for inspection at BMD's site office. Samples will be matched throughout the works. Prototypes and samples will be either the first item of the relevant kind or, items additional to the works and subsequently disposed of. Procedures will be established to ensure correct ordering of materials, to verify conformance on delivery and ensure conformance of the works.

Sample submissions, where required, will be coordinated as to not cause delays by making late submissions or submitting inadequate samples. A sample of each designated item will be submitted with supporting documentation. Ancillary items such as fasteners, flashings, seals, colour, etc. will be included. All samples will be kept in good condition onsite until completion.

The samples that have any variance in texture or colour will be rectified immediately and reported to the principal's representative.

6.9. External Quality Audits

The principal's representative and/or the administrator may, from time to time, undertake an external audit of BMD's quality system. All audit records should be entered into the [Audits database](#), as per the [Audit Management Standard](#).

7. Purchasing and Subcontract Controls

7.1. Products and Materials

7.1.1. Product Selection

Products and services will be selected on the quality of the product or service, past experience with BMD or associated companies, those materials required by the specification and the product or services' risk to health and safety, and/or the environment. Written approval by the Administrator will be obtained for all materials prior to being supplied to or used in the works via Hold Point signoff, or other formal correspondence.

7.1.2. Material Supplied by the Client

Material supplied by the client shall be inspected and stored to prevent undue damage or deterioration. The principal will be informed of any defects noticed at the time of inspection.

7.1.3. Materials Handling

All precautions shall be taken to protect products from abuse, misuse, damage, deterioration and unauthorised use.

The foreman shall ensure that all employees are adequately trained for safe execution of activities assigned to them. The foreman shall provide any safety equipment or personal protective equipment to workers to safely carry out the task.

Materials subject to segregation and/or contamination, for example road base gravel, shall be handled to prevent segregation or contamination, namely materials will be stockpiled on prepared slabs and suitably separated.

The project manager is responsible for ensuring that all lifting equipment is properly maintained and rated for the loads placed on them. This requirement also applies to equipment used by BMD's subcontractors and hired machinery.

7.1.4. Materials Storage

Materials subject to deterioration, or likely to be damaged if left unprotected, shall be stored in containers, sheds or in other secured storage areas in accordance with client and supplier specifications and/or recommendations.

All chemicals and waste materials shall be handled and stored in a manner that ensures potential hazards or environmental damage is avoided, as defined in this document and relevant [Material Safety Data Sheet](#) (MSDS). To detect deterioration, the condition of material being stored shall be assessed by the foreman or the appropriate delegate at regular intervals or as nominated in the contract.

The project manager, foreman, site supervisor, project engineer or appropriate delegate shall have authority to receive goods into, or dispatch goods from, secure storage areas.

7.1.5. Use of Purchased Product

The foreman will ensure that materials and purchased products that are handled, stored and combined with other products, are installed and used in accordance with the manufacturers' recommendations. The foreman and/or the project engineer will ensure that the materials are compatible with the other products and works.

Material in storage will be checked by the employee responsible for the work prior to installation for signs of deterioration. The site foreman shall be notified of any material subject to deterioration for the appropriate corrective action.

Any supplier product non-conformities will be recorded in the Project Site NCR system and managed as per the Control of Non-Conformances Section of this document.

7.1.6. Purchase and Use of Products with Recycled Content

Recycled content products and materials may be used where these are cost and performance competitive and where their environmental performance is at least equivalent to the non-recycled product(s). The cost competitiveness of a product or material will be assessed by the project manager on a project lifecycle basis, considering issues such as impacts on construction practices, future maintenance and disposal requirements.

7.2. Subcontractors

7.2.1. Subcontractor Engagement and Supplier Pre-Award Evaluations

Subcontractor engagement is completed in accordance with the [Subcontractor HSEQ Management Standard](#) and is initiated with an invitation for tendering. Tender review meetings are held with prospective tenderers to discuss the scope of works, contract requirements and project specific requirements. Tender comparison spreadsheets are developed and rated based on the tenders and tender review meetings. A preferred tenderer is identified and approval for expenditure as per BMD's [Delegation of Authority](#) (DOA) is undertaken. Upon approval, subcontractors are engaged under the appropriate contract arrangement.

BMD are to submit correspondence to the Administrator requesting approval to use subcontractors for any works over \$50,000. Upon approval the subcontractor engagement process can be finalised.

Prior to commencing onsite, a subcontractor and supplier evaluation must be undertaken utilising the [BMD Subcontractor Pre-award Evaluation](#) and [Supplier Pre-Award Evaluation](#) forms and uploaded to the BMD [Company database](#), as stated in the [Subcontractor HSEQ Management Standard](#). This will be used to determine if the contractor is operating under the project's, or their own, HSEQ systems.

Where the subcontractor or supplier has approval to use their own HSEQ system, it is also acceptable for their own documentation to be used. Records must be retained and produced upon request.

Where a client pre-qualified subcontractor is required by the specification, BMD will ensure that pre-qualified subcontractors are used and their health and safety, environment and quality system implemented. To ensure the subcontractor meets the requirements of the contract and relevant State legislation, BMD will conduct an audit of the subcontractors' management plans.

7.2.2. Quality Control

Sub-contractors for the Project are selected using several criteria including meeting Project quality requirements. Consideration may include but not limited to demonstrated experience, previous quality, cost and time performance, technical capability, previous project size and complexity experience, availability of experienced personnel, suitable plant and specified materials. Issues identified may not exclude Subcontractor engagement but may be managed through further controls and supervision.

Subcontractors requiring the principal's approval will include the subcontract requirements given in the contract as applicable. Applications for approval of subcontractors shall include that part(s) of the proposed subcontract document showing the applicable subcontract requirements, and, when requested, BMD's evaluation of the subcontractor's ability to meet subcontract requirements. This is in accordance with the BMD [Subcontractor HSEQ Management Standard](#).

7.2.3. Surveillance of Subcontracted work

A series of unplanned surveillance inspections will be completed throughout the construction phase of the Project. These are undertaken by the CQR (or authorised delegate) at a frequency appropriate to the risk and duration of the work and will consider eligibility of each subcontractor and activity over the course of the project. The inspections will include a check sheet and a review that the activity is being carried out as per the relevant ITP. This surveillance of Subcontracted work also extends to Suppliers. BMD will ensure that offsite suppliers of large volumes of permanent products will be subject to surveillance audits at a frequency appropriate to the risk. The development and maintenance of the Project audit schedule will confirm that materials are being processed and stored in accordance with their quality plan.

7.2.4. Subcontractor Close-out Evaluations

A Subcontractor Close-out Evaluation is to be completed for all subcontractors and suppliers whose value was greater than \$150,000 or whose work was deemed high risk. It is also to be completed for any subcontractors and suppliers who have performed very well, very poorly or who have had incidents, corrective actions or other issues onsite. The evaluation should be completed together with the supplier / subcontractor, however if they are unable to be present, the evaluation is still to be completed. Once saved the evaluation will be available in the [Company Database](#). This evaluation may include, but is not limited to:

- commercial performance
- timeliness
- work ethic
- HSEQ performance
- general project compliance.

8. Design Controls

8.1. General

Design works that are subject to control include design in respect of:

- lifting devices for manufactured items requiring transport;
- concrete mixes for structures and asphalt mixes for permanent Works;
- Staging and Temporary Works (including but not limited to temporary traffic management and temporary retaining walls, and erosion & sediment control plans).
- permanent Works where the design control is nominated in the specifications such as RSS Walls, Noise Walls, VMS foundations, and Accommodation Works – Reconnection of Services.

8.2. Design Plans

Design plans will include the activities of all consultants or subcontractors engaged for the design work. Where a consultant or design subcontractor does not have a quality system conforming to the contract requirements, the method of control and verification of the consultant/design subcontractor's activities will be included in this document. Design plans will be included as appropriate.

All design plans, including amendments, will be assessed to ensure that the risk profile for the project and site has not changed. Where this is not the case, the [Risk Register](#) will be updated and necessary mitigation controls will be circulated to relevant employees and subcontractors.

9. Control of Non-Conformances

9.1. Conformance Reports

Conformance Reports will be prepared for each Lot accompanied by the following where applicable:

- Inspection and Test Records (ITPs and associated documents/approvals)
- Analysis of the results to demonstrate compliance with the relevant Technical Standard where there has been an engineering variation to the design, as determined by the Administrator, during the construction or manufacturing process, the variation shall be captured in a design revision drawing certified by the Registered Professional Engineer Queensland (RPEQ)
- As Constructed survey

9.2. Indicative Conformance

Where a lot is subject to any of the following requirements:

- surface evenness (Road Roughness)
- moisture content (Degree of Saturation)
- moisture content (General Earthworks)
- testing of concrete on the basis of slump or spread and/or strength
- testing stabilised pavement materials on the basis of strength, and
- insitu air voids in asphalt.

The Administrator may approve the use of Indicative Conformance procedures for testing and/or analysis. An Indicative Conformance report for the construction lot may be submitted before the listed testing and/or analysis is carried out.

Where BMD is seeking Indicative Conformance, a separate Indicative Conformance report shall be prepared for each lot. Each report shall contain:

- a statement acknowledging that test results are not yet available for confirmation of
- conformance, and
- a statement accepting risk of rework upon conformance reporting.

The Conformance Report shall be processed as soon as possible after the test results become available.

Notwithstanding Indicative Conformance being achieved, the lot shall still be subject to rework should it subsequently fails to comply with the specified requirements.

9.3. Non-Conformances

Where conformity can be achieved by simple reworking or repair, without reference to the principal, the non-conformity details will be recorded in the project site NCR system as an internal non-conformity. Where conformity cannot be achieved by simply reworking with the original process, the project engineer will notify the principal.

All non-conformances will be recorded in the project site NCR system. Any non-conforming product reports issued by the principal shall be dealt with in the same manner as if the non-conformity had been identified by BMD.

Any supplier product non-conformities will be recorded and tracked in the BMD project site NCR system. The supplier may be notified verbally of this non-conformance, however, a formal record will be created in the electronic system and transmitted to the supplier. This system allows all correspondence, documents and records relating to this non-conformance to be stored in a central location and available to relevant parties on request.

Notification shall be provided to the Administrator of each nonconformance within one working day of its detection where:

- there is potential for progress of the work to be seriously affected
- the proposed action to correct the nonconformance will result in work not complying with the
- requirements of the Contract

- the Contractor has failed to comply with the time requirements of the Contract
- the nonconformance may cause a health and safety hazard
- the nonconformance has resulted from a deficiency in the drawings or Technical Specification
- client supplied product is involved
- the Administrator has directed that specific types of nonconformances be notified
- material or serious environmental harm has occurred
- items of cultural heritage significance are discovered, or
- contaminated land or contaminated materials delivered to the Site are identified.

Each such notification by the Contractor shall include details of the action proposed for correction of the nonconformance or the arrangements made for its disposition and the amendments to its Quality System to mitigate recurrence of the nonconformance.

Works shall not proceed to cover up or otherwise incorporate the nonconforming work or materials before the Administrator has approved of the proposed action in writing.

9.4. Corrective Action

Work involving non-conforming items will not be authorised to continue unless the corrective action has been approved by the principal and implemented by BMD or the relevant subcontractor.

Any Corrective Action Request (CAR) raised by the principal will be actioned, completed and returned within seven (7) days of the CAR being issued to BMD.

The corrective action will be entered in the [Corrective and Improvement Action database](#).

A corrective action request issued by the Administrator requires BMD to issue a non-conformance report within one working day to the Administrator. Any such non-conformances constitute Hold Points and consequently shall not be covered or progressed without release from the Administrator.

9.5. Preventive Action

Suitable analysis of the non-conformance and the implemented corrective action will be undertaken by site management to determine appropriate measures that could be implemented to prevent a repeat of the non-conformance.

9.6. Review of Non-Conformances

Each non-conformance and the corrective measure implemented to control the non-conformance will be reviewed at a suitable time, where possible no more than 14 days after the non-conformance has occurred. Only after a suitable review of the non-conformance has been carried out can the CAR be considered closed out.

9.7. Corrective Action Database

The [Corrective or Improvement Action database](#) will track the status of the non-conformance and implemented corrective action. The project manager will ensure all actions are closed within one month of raising.

10. Document Control

10.1. Submission of Documentation

The design of temporary works and nominated permanent works design shall be submitted in accordance with SC001 – Staging and Temporary Works.

10.2. Control of Project Documents and Records

All documents and records will be managed as per the [Document and Records Management](#) standard and stored in accordance with the [Project Filing Structure – Constructions](#).

Any formal project documents, internal or external, are to be issued via the Transmittal System within the project site. This system records: a unique identification number for each transmittal; the reason for the transmittal; the date issued; document title, description and revision of each file; the recipients of the documents; and, who issued the transmittal. Any amendments to documents will be redistributed to the relevant recipients.

10.3. Control of Contract Plans and Records

Changes or amendments to this document and/or the Management System will be implemented as soon as practical if this document and associated Management System documents:

- do not adequately address the specification requirements;
- are causing non-conformity;
- must be changed as a result of an audit;
- must be changed as a result of variations to the contract;
- no longer represent the current and/or appropriate practice.

When whole documents are superseded, the project manager or delegate will ensure that all superseded documents are destroyed, recalled and/or clearly marked as 'SUPERSEDED'.

The project manager or delegate will ensure that relevant project personnel who are not holders of a controlled document are advised of any changes to this document and/or the management system either verbally or in writing.

Any Contract Plans that have been revised will be submitted to the Administrator.

10.4. Drawing Management

All drawings shall be uploaded to the drawing's library in the SharePoint project site. Each file shall be uploaded individually in accordance with the [Project Filing Structure – Constructions](#).

The drawings library requires the following data to be recorded against each file:

- File Name *
- Title
- Discipline *
- Category *
- Stage *
- Document Number *
- Revision *
- Date *
- Retired
- Comments

Note: * denotes a mandatory metadata field in the library.

SharePoint will store every occurrence of a document as a separate version of the file and allows each of the versions to be viewed and restored where necessary.

Drawings that are printed and circulated must have the date received clearly marked on the drawing. When a drawing is superseded, the project manager or delegate will ensure that the printed hard copy is destroyed, recalled and/or clearly marked as 'SUPERSEDED'.

10.5. Change Control Documentation, Request for Information and Minutes

Where BMD requests to depart from the approved scope of works, approval will be sought from the principal's representative prior to commencing the departure. This will typically be communicated through the Request for Information (RFI) system. Where the principal directs a change to the works under the contract, BMD will respond as to whether the change can be affected, in accordance with the contract documentation.

Throughout the course of the project, regular meetings will be held between the principal's representative, the design representatives and BMD. It is anticipated that the principal's representative will keep minutes and distribute for the regular meetings. These minutes will then be saved and collated by BMD and made available if requested by the principal.

11. Records

Records will be stored in an electronic format within a SharePoint Project site environment, unless otherwise agreed by the Business Unit General Manager and Group Business Systems Manager. The file naming convention and location for these records will be saved in accordance with the [Project Filing Structure – Constructions](#).

Records which will be kept by BMD and its subcontractors as applicable include, however, are not limited to:

- commercial components
- records of quality compliance
- test results

- technical specification(s)
- drawings
- environmental and safety monitoring/inspection reports
- internal audit reports
- external audit reports
- correspondence
- reports of health and safety, environment and quality incidents, non-conformances, complaints and follow-up actions
- minutes of management review meetings
- evidence of action taken as a result of such meetings/events
- induction and training records
- Records of monitoring by Subcontractors against compliance limits.

At the completion of the project, all site records will be managed in accordance with the [Documents and Records Management](#) Standard.

Notwithstanding any other nominated timeframe, prior to the issue of the Final Certificate, BMD shall have handed over to the Administrator the following records, or certified copies thereof:

- the lot register that clearly allows forensic location of a lot as described in this Technical Specification
- test results, analyses, reports, measurements and observations as defined in the Contract or as nominated by the Administrator
- all conformance and nonconformance reports
- As Constructed drawings and surveys for Work under the Contract.

Quality Records retained by the Contractor pursuant to the requirements of the Contractor's Quality System and the Contract shall be available for evaluation by the Administrator up to and including the time of issue of the Final Certificate.

12. Survey Management

Survey works will be conducted and managed in accordance to with the [External Survey Requirements](#) and [Internal Survey Requirements](#) Core Operating Procedures.

All survey equipment used onsite must be calibrated and within test date. Copies of calibration certificates must be available upon request with details recorded in the project HSEQ Monitoring Equipment Register.

13. Monitoring and Review

13.1. Audits

Audits will be conducted, stored and circulated as stipulated in the [Audit Management](#) Standard.

13.1.1. Audit Schedule

The [Project Audit Schedule](#) will be developed and maintained by the project manager, or delegate, in conjunction with the systems representative.

Audits will be undertaken in accordance with the minimum frequency requirements stipulated in the [Audit Management](#) Standard, with additional audits conducted upon request of the client.

Audits will also include the activities of all key subcontractors engaged on the project.

Adjustment to Audit Schedule

The audit schedule will be adjusted when one (1) or more of the following conditions exist:

- when the results of previous audits indicate the need for a higher/lower audit frequency
- when significant changes are made to functional areas of the quality system, including reorganisations and revisions to procedure(s)
- when safety, performance or reliability of the product is in jeopardy, or suspected to be in jeopardy, due to non-conformity in the quality system
- when necessary to verify that the required corrective/preventive action has been taken
- when required due to changes in BMD's construction programme.

13.1.2. Unplanned Audits

Specific components of the management system may be audited more frequently where the general manager, group business systems manager, project manager or systems representative determines that:

- deterioration in performance of the system may occur rapidly if not audited more frequently
- any deterioration in functioning is found to have significant effect on work output
- significant system modification warrants particular attention to its performance.

The group business systems manager or management systems coordinator may also initiate unscheduled audits where non-conformances suggest that a special review of a segment of the Management System is warranted.

13.2. Project Review

A management review will be conducted by the project manager and relevant project stakeholders annually or at least once during the project life cycle.

On completion of the project a formal review will be carried out by the project manager to evaluate the effectiveness of the health and safety, environment and quality measures onsite. The review shall also address construction techniques, subcontractors, materials, costs and staff performance with minutes kept providing a record.

14. As Constructed

14.1.1. Preparation and Submission of As Constructed Drawings

The BMD are responsible to provide to the Administrator marked up final revision drawings and generate AutoCAD electronic as constructed drawings.

As Constructed drawings shall be provided to the Administrator in accordance with the requirements of Supplementary Specification SS001.

- one original set plus two copies of A3 size marked-up drawings showing clearly the as-built changes to the contract detail drawings in revision clouds. With the relevant RPEQ initial in blue ink in the revision area on the original hard copy set of as-built drawings including their RPEQ number.
- AutoCAD electronic drawings updating the supplied electronic detailed design version of the electronic drawings. As-built drawings shall conform to the Department of Transport and Main Roads "Drafting and Design Presentation Standards Manual", (Referenced As Constructed in manual).
- Survey Data in electronic format shall be provided in 12D ASCII file format as described in the Department of Transport and Main Roads' "Drafting and Design Standards Presentation Manual" and in accordance with the "Department of Transport and Main Roads Survey Standards V1.2" manual. The survey must be exported to .IFC file and MapInfo files formats for incorporation in the Digital Engineering Federated Model and GIS Database. The as-built survey data must capture the horizontal and vertical locations of all constructed features, facilities and services within the site boundaries including any works outside the site such as signage installation and for utility service works managed by the Contractor. Utility services included in the model shall be attributed with quality levels to AS5488-2013 and other attributes in line with those provided in the Design Utilities Model. The survey data must also contain survey models for the earthwork subgrade profile interfacing with the existing survey terrain and subsequent pavement layer profiles. Location shall be described by coordinates and reduced height. As-Constructed attributes shall be populated as required in the Construction Digital Engineering Execution Plan.
- All services verified via physical sighting and/or potholing and exposing all services within 3m of any excavations required under SS005–Public Utility Plant shall be surveyed prior to backfilling as required to achieve Quality Level B in accordance with AS5488-2013. All attribute data including diameters (or dimensions), whether invert or obvert and construction material shall be captured along with quality levels to AS5488-2013 and other attributes in line with those provided in the Design Utilities Model.
- For Rate 2 lighting installations, the Contractor is to provide two (2) "as constructed" copies of the works plan, along with the test results and checklists, to the ENERGEX Contracts Department upon completion of the associated works. The same information shall be provided to the Principal for Rate 2 and 3 works. As-Constructed attributes shall be populated as required in the Construction Digital Engineering Execution Plan.

14.1.2. As Constructed documents for structures

For each structure in the contract a 'Structure As Constructed Handover Pack' shall be prepared, for submission to the Deputy Chief Engineer Structures.

Structure construction handover documentation shall include at least:

- As Constructed drawings complying with Clause 12.3 of this document.
- RPEQ certification of all design changes.
- Records as detailed in the relevant TMR specifications.
- Construction records, including all associated non-conformance reports (NCR) or requests for information (RFI) whether completed, closed out or otherwise.

Further details of the precise requirements for As Constructed documents can be found in the relevant Transport and Main Roads' Specification.

14.1.3. BIS Inspection

When as part of the contract the contractor is required to undertake a BIS Level 2 (or 3) inspection then the results of this inspection shall be presented in a format capable of being uploaded into the Bridge Information System.

14.1.4. Timing

As constructed documents shall be delivered progressively as major elements of the works are completed. All documents shall be delivered not later than four weeks after Practical Completion.

As-Built survey provides construction record data and shall proceed concurrently with the progress of works. Construction survey records shall be transmitted to the Administrator within one (1) week of the survey being carried out.

BMD shall mark up their As-Built drawings on a regular basis to be submitted to support payment claims and the time interval between such 'mark ups' shall not exceed one calendar month. Marked-up drawings shall be kept in the site office and made available for review by the Administrator when requested.

The complete set of marked-up "As-Built" drawings and the electronic AutoCAD files shall be submitted to the Administrator as a condition precedent to the issue of the Certificate of Practical Completion in hard copy and electronic formats. The Administrator shall review the records for their completeness. The Administrator shall advise the Contractor within 14 days of receipt of "As-Built" drawings of their completeness or otherwise for revision and resubmission by the Contractor.

14.1.5. Survey

As Constructed Surveys are to be undertaken where specified in the contract documentation. Deliverables including Survey Control Register, Conformance and all As Constructed Survey data is to be provided as per Clause 6.7.8 of the TMR Surveying Standards, Part 2 February 2016.

14.1.6. BIM

BIM elements are required for this project and is covered in the BIM Management plan.

Appendix A – NATA Compliance

Appendix B – ITP Register

Refer to [ITP Register](#) saved on SharePoint for the live register. Below extract dated 28/09/2020:

Current Document			
ITP Number	Description	Revision Number	Prepared by
4239-ITP-010	Clearing and Grubbing	1	Submitted
4239-ITP-015	General Demolition	1	Submitted
4239-ITP-020	Strip Topsoil	1	23/10/2020
4239-ITP-030	Ground Surface Treatment	1	23/10/2020
4239-ITP-040	Excavation	1	Submitted
4239-ITP-041	Structural Foundation Excavation	1	Submitted
4239-ITP-050	Embankment Fill to Subgrade	1	Submitted
4239-ITP-055	Backfill to Structures	1	Submitted
4239-ITP-056	Verge	1	23/10/2020
4239-ITP-060	Subgrade Layer in Cuttings	1	23/10/2020
4239-ITP-070	Subgrade Layer on Embankments	1	23/10/2020
4239-ITP-080	Stormwater Drainage	1	Submitted
4239-ITP-085	Installation of Box Culverts (Excl. Base Slab)	1	13/11/2020
4239-ITP-105	Pavement Class A1 Full	1	13/11/2020
4239-ITP-110	Unbound Pavements	1	13/11/2020
4239-ITP-115	Lightly Bound Improved Layer	1	13/11/2020
4239-ITP-121	Conduit and Pit Installation	1	13/11/2020
4239-ITP-125	Subsoil Drainage	1	13/11/2020
4239-ITP-170	Kerb and Channel	1	13/11/2020
4239-ITP-180	Signage Installation	1	13/11/2020
4239-ITP-185	Line Marking	1	13/11/2020
4239-ITP-191	Extruded Concrete Barrier	1	13/11/2020
4239-ITP-200	Fabrication of Structural Steel	1	13/11/2020
4239-ITP-201	Installation of Structural Steel	1	13/11/2020
4239-ITP-205	Steel Beam Guardrail	1	13/11/2020
4239-ITP-206	Traffic Signal and Road Lighting Footings	1	13/11/2020
4239-ITP-220	Reinforced Concrete	1	23/10/2020
4239-ITP-224	Installation of Noise Walls	1	13/11/2020
4239-ITP-225	Supply of Bridge Bearings	1	13/11/2020
4239-ITP-226	Supply and Install of Bridge Pile Liners	1	23/10/2020
4239-ITP-230	Prestressed Girder Installation (Including Bearings)	1	13/11/2020
4239-ITP-900	Temporary Road Surface Delineation	1	13/11/2020

Appendix C - Construction Procedure Schedule

Refer [MRTS Construction Procedures](#) for the live register. Information below is dated 28/09/2020.

Construction Procedure Title	MRTS Ref	MRTS Title
Culvert construction	MRTS03	Drainage, Retaining Structures and Protective Treatments
	CL. 12.3.1	
Stone columns	MRTS03	Drainage, Retaining Structures and Protective Treatments
	CL. 30.2	
Installation of soil nails	MRTS03	Drainage, Retaining Structures and Protective Treatments
	CL. 55.4.3	
Installation of rock dowels	MRTS03	Drainage, Retaining Structures and Protective Treatments
	CL. 56.4.3	
Installation of rock bolts	MRTS03	Drainage, Retaining Structures and Protective Treatments
	CL. 57.4.3	
Earthworks Construction	MRTS04	General Earthworks
	CL. 5.2	
Acid Sulphate Soil Management Plan	MRTS04	General Earthworks
	CL. 10.3	
Spoil Disposal Plan	MRTS04	General Earthworks
	CL. 11.2	
Subgrade design verification	MRTS04	General Earthworks
	Appendix B2	
Unbound Pavement Construction	MRTS05	Unbound Pavements
	CL. 5.2.2	
RSS wall construction	MRTS06	Reinforced Soil Structures
	CL 9.5.1	
Plant Mixed Pavement layers stabilised using foam bitumen	MRSS09	Plant Mixed Pavement layers stabilised using foam bitumen
	5.2	
lightly bound pavement works	MRTS10	Plant Mixed Lightly Bound Pavements
	5.2	
Bitumen Products	MRTS11	Sprayed Bituminous Surfacing
	CL 5.2	
Application of Binder	MRTS11	Sprayed Bituminous Surfacing
	CL. 5.2	
Bitumen Products	MRTS12	Sprayed Bituminous Elusions Surfacing
	CL 5.2	
demolition of road furniture	MRTS14.1	Road Furniture
	CL 5.2	
removal of road furniture for reinstatement	MRTS14.1	Road Furniture
	CL 5.2	
Installation of new signs	MRTS14.1	Road Furniture
	CL 5.2	
Landscape and Revegetation Works	MRTS16	Landscape and Revegetation Works
	CL. 5.2.1	
Aggregate production	MRTS22	Supply of Cover Aggregate

Construction Procedure Title	MRTS Ref	MRTS Title
	CL. 6	
Precoating of aggregate	MRTS22	Supply of Cover Aggregate
	CL. 7.1.4	
Asphalt Quality Plan	MRTS30	Asphalt Pavements
	CL. 5.2	
Nominated Recycled Material Blend (NRMB) Construction and Handling	MRTS35	Recycled Materials for Pavements
	CL. 5.3.3	
Strip Filters	MRTS38	Pavement Drains
	CL. 5.3	
Application of pavement markings	MRTS45	Road Surface Delineation
	CL. 7.5	
Demolition of existing bridge	809029	Demolition
	Demolition Note 8	
Embankment Construction against bridge	MRTS62	Bridge Substructure
	CL. 13	
Construction of piles in dry conditions, including sealing and cleaning, inspection and certification.	MRTS63	Cast-In-Place Piles
Modified procedure for wet piles, including inspection and certification	CL. 6.2	
Procedure for placing concrete underwater with a tremie including continuous supply of concrete.	MRTS63	Cast-In-Place Piles
	CL. 13.4.3	
Construction of piles including cleaning, inspection and certification	MRTS63A	Piles for Ancillary Structures
	CL. 6.2	
On-site batching and mixing of concrete	MRTS70	Concrete
	CL. 14	
Hot weather concreting	MRTS70	Concrete
	CL. 16.1	
Underwater concreting	MRTS70	Concrete
	CL. 19.2	
Thermal Monitoring	MRTS70	Concrete
	CL. 19.5	
Curing	MRTS70	Concrete
	CL. 24.1	
Steam curing	MRTS70	Concrete
	CL. 24.4	
Handling transport and storage of girders	MRTS75	Supply and Erection of Prestressed Concrete Girders
	CL. 5.4.1	
Erection of girders	MRTS75	Supply and Erection of Prestressed Concrete Girders
	CL. 7.1	
Placement of concrete in deck	MRTS77	Bridge Deck
	CL. 11.8	
	MRTS77.1	Bridge Deck

Construction Procedure Title	MRTS Ref	MRTS Title
Precast/In-situ Concrete Barrier/Kerb Interface	CL. 4.2	
Weld Procedure Specification	MRTS78A	Fabrication of Structural Stainless Steel
	CL. 6	
Weld procedure sheet	MRTS79	Fabrication of Aluminium Components
	CL. 6.4.3	
Finger Type Bridge Deck Expansion Joint Installation	MRTS82A	Finger Type Bridge Deck Expansion Joints
	CL. 4.2	
Cold Milling Bridge Deck Wearing Surface Installation	MRTS84A	Cold Milling Bridge Deck Wearing Surface
	CL. 4.2	
Paint Application Procedure Abnormal Weather Conditions	MRTS88	Protective Coating for New Work
	CL. 8.3	
Installation of Conduits and Pits	MRTS91	Conduits and Pits
	CL. 5.2	
Submission of designs	MRTS93	Traffic Signals
	CL. 7.1	
Modification of controller	MRTS93	Traffic Signals
	CL. 12.2	
Laying of cables	MRTS93	Traffic Signals
	CL. 13.2	
Removal, transport and storage of existing equipment to be salvaged	MRTS93	Traffic Signals
	CL. 15.1	
Compliance testing	MRTS93	Traffic Signals
	CL. 16.1	
Testing Fibre Optic Cables	MRTS234	Communications Cables
	CL. 6.2	
Installation of switchboards and ancillary equipment	MRTS228	Electrical Switchboards
	CL. 8.2	

