

Master Specification

Part PC-PM 1 to 5

Project Management

September 2024



Government of South Australia
Department for Infrastructure
and Transport

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PC-PM1 Project Management and Reporting

1 General

This Master Specification Part sets out the requirements for the Contractor's project management system, processes and reporting, including:

- a) the documentation requirements, as set out in section 2;
- b) the requirements for Project Plans, as set out in section 3;
- c) the requirements for project meetings, as set out in section 4;
- d) the requirements for project reporting, as set out in section 5;
- e) the evaluation of Contractor's performance requirements, as set out in section 6;
- f) the prequalification, certification and accreditation requirements, as set out in section 7;
- g) the requirements for recording of activities, as set out in section 8;
- h) the requirements for lessons learnt, as set out in section 9; and
- i) the Hold Point and Witness Point requirements, as set out in section 10.

2 Documentation

2.1 Project management system and Project Management Plan

- a) The Contractor must establish and implement a project management system.
- b) The Contractor must establish, implement and maintain a project specific Project Management Plan to identify and document how the Contractor will manage and control the delivery of the Contractor's Activities within the project management system, which must detail the:
 - i) project management system required by section 2.1a);
 - ii) approach to management;
 - iii) management processes and systems to be employed;
 - iv) management team structure, organisational chart, roles, resources, capabilities and experience;
 - v) interface between each Project Plan;
 - vi) management procedures, processes, systems and resources which are not otherwise included in the other Project Plans;
 - vii) process for the review and improvement of the Project Plans;
 - viii) procedures for:
 - A. the monthly updating and submission of the monthly project report required by section 5; and
 - B. the updating and re-submission of the Contract Program when required in accordance with the requirements of PC-PM2 "Contract Program"; and
 - ix) strategies and processes to collaborate with the Principal and other Authorities.

3 Project Plans

3.1 General

- a) The Contractor must:
 - i) perform the Contractor's Activities in accordance with, and otherwise implement, the Project Plans;
 - ii) prepare, submit, update, continuously improve and audit the Project Plans in accordance with this Master Specification Part; and
 - iii) document and maintain detailed records of inspections and audits undertaken as part of any Project Plan.
- b) The Principal owes no duty to the Contractor to review any Project Plan or any draft submitted by the Contractor for errors, omissions or compliance with the Contract Documents.
- c) The Contractor will not be relieved from compliance with any of the Contract Documents obligations or from any of its liabilities whether under the Contract Documents or otherwise according to Law as a result of:
 - i) the implementation of, and compliance with, the requirements of any Project Plan;
 - ii) any Direction by the Principal concerning a Project Plan or the Contractor's compliance or non-compliance with a Project Plan;
 - iii) any audit or other monitoring by the Principal, Independent Design Certifier or Construction Verifier (as applicable) of the Contractor's compliance with a Project Plan;
 - iv) any release of a Hold Point or Witness Point, review of, comments on, rejection of or failure to reject any Project Plan or any draft of it by the Principal; or
 - v) any failure by the Principal, Independent Design Certifier or Construction Verifier (as applicable), or anyone else acting on behalf of the Principal, to detect any defect in or omission from a Project Plan including where any such failure arises from any negligence on the part of the Principal, Independent Design Certifier, Construction Verifier or other person (as applicable).
- d) The Contractor must provide to the Principal and, where applicable, the Independent Design Certifier and Construction Verifier, any additional information in connection with the Project Plans reasonably requested by the Principal and, where applicable, the Independent Design Certifier and Construction Verifier.
- e) The Contractor may combine and integrate various Project Plans for the specific project, provided all requirements pertaining to individual plans must be addressed in the combined or integrated plan(s) and with the approval of the Principal, which will constitute a **Hold Point**. The relevant Project Plans must not be combined or integrated until this Hold Point is released.

3.2 Submission of Project Plans

- a) The Contractor must prepare and submit the Project Plans specified in the Contract Documents.
- b) Each Project Plan must:
 - i) where an initial plan exists (including where contained in the Contract Documents or submitted as part of the Project proposal, as relevant), be based upon that initial plan and not reduce the level of commitment set out in the initial plan; and
 - ii) regardless of whether an initial plan exists, be prepared and further developed in accordance with this Master Specification Part.
- c) Each Project Plan, for the initial submission must:

- i) be submitted within the time period specified in Contract Documents, or where no time period is specified within 20 Business Days of the Commencement Date; and
- ii) contain all relevant content as required by the Contract Documents for the relevant Project Plan,

which will constitute a **Hold Point**. The Contract Documents specify the relevant activities that must not occur prior to the Hold Point being released.

3.3 Obligation to comply, update and submit Project Plans

- a) The Contractor acknowledges and agrees that:
 - i) an intended purpose of each Project Plan is for the Contractor to provide a detailed description of how the Contractor intends to carry out the Contractor's Activities in accordance with the requirements of the Contract Documents with respect to the subject matter of each Project Plan; and
 - ii) it must undertake ongoing development, amendment and updating of the Project Plans throughout the duration of the Contractor's Activities taking into account and reflecting:
 - A. any defects in or omissions from a Project Plan, including where:
 - I. the Project Plan does not adequately address the requirements of the Contract Documents;
 - II. is causing non-conformity;
 - III. has to be changed because of an audit; or
 - IV. no longer represents current or appropriate practice (whether identified by the Contractor, the Principal, the Independent Design Certifier or the Construction Verifier);
 - B. relevant changes in technology and work methods for opportunities to improve its processes, particularly processes which affect safety; and
 - C. continuous improvement of the performance of the Contractor's Activities.
- b) The Contractor must promptly and without undue delay submit each Project Plan as it is further developed, amended or updated to comply with the requirements of section 3.3a), which will constitute a **Hold Point**. The updated version of the Project Plan must not be implemented until this Hold Point has been released.
- c) Without limiting the Contractor's obligations in relation to Non-Conformances, if the Principal, Independent Design Certifier or Construction Verifier believes, acting reasonably, that any Project Plan does not comply with the Contract Documents, the Principal, Independent Design Certifier or Construction Verifier (as applicable) may, by written notice, request the Contractor to further develop, update or amend the Project Plan specifying:
 - i) the reasons why such amendment is required; and
 - ii) the time within which a compliant Project Plan must be re-submitted,and the Contractor must:
 - iii) further amend the Project Plan in accordance with the written notice provided under this section 3.3c); and
 - iv) submit the further amended Project Plan in accordance with section 3.3b).
- d) Compliance with each Project Plan must not in any way lessen or affect the Contractor's liabilities or responsibilities or the Principal's rights whether under the Contract Documents or otherwise according to Law.
- e) The Contractor must comply with the version of the Project Plan that has had a Hold Point released in accordance with sections 3.2c) or 3.3b) (as applicable).

3.4 Audit, monitoring and verification

- a) Where specified in the Contract Documents, compliance with each Project Plan must be audited, for every period as set out in the Contract Documents from the initial submission of the Project Plan until the Completion and Handover.
- b) Representatives of the Principal, the Independent Design Certifier and the Construction Verifier (as applicable) must be invited (with no less than 5 Business Days notice provided) to be present during all audits.
- c) Copies of each audit report prepared in accordance with section 3.4a) must be delivered to the Principal within 5 Business Days of undertaking the audit, which will constitute a **Witness Point**.

4 Project meetings

- a) The Contractor must establish and convene project meetings in accordance with the Contract Documents.
- b) The general purpose of meetings is to facilitate full co-operation between all concerned parties on the project, as well as checking progress of the Contractor's Activities and providing the opportunity for general discussion.
- c) The Contractor acknowledges and agrees that the minutes or record of any meeting held do not form part of the Contract Documents and are for information only.

5 Project reporting

- a) The Contractor must provide the Principal a consolidated monthly project report that satisfies all requirements of the Contract Documents, within 7 days after the end of each month.
- b) The Contractor must ensure that the consolidated monthly report includes the following:
 - i) a "dashboard" summary of the items in section 5b)ii) to 5b)xv);
 - ii) an executive summary in the form of an A3 dashboard report summarising the progress of, and highlight issues related to, the Contractor's Activities as at the date of the report;
 - iii) health and safety details in accordance with the Department Contractor Monthly Safety Performance Reporting Form;
 - iv) financial status analysis including:
 - A. Variations submitted, approved, rejected or under review, including summary of the number and cost;
 - B. cashflow forecast versus actual including reasons for variance;
 - C. percentage complete by time versus percentage complete by cost; and
 - D. where applicable, early warning notice status and likely time, cost and quality impacts;
 - v) a quality report including:
 - A. Non-Conformance Notice, Non-Conformance Report and Corrective Action Request summaries and closure rates;
 - B. Work Lot closures rates;
 - C. clarifications to Construction Documentation, including the status of submissions this period, to date and outstanding;
 - D. evidence of training and inductions;
 - E. audit and surveillance activities; and

- F. Hold Point and Witness Point details, including status of submitted, released, outstanding and split between documentation and construction quality;
- vi) a program status report including:
 - A. key and interim milestones and contract dates baseline, current and forecast;
 - B. design progress planned versus actual at each stage of the design review process (where applicable);
 - C. procurement status and progress;
 - D. construction progress, including key metrics and quantities for planned, actual and remaining;
 - E. production graphs of key design and construction activities showing planned versus actual;
 - F. any Variations and extensions of time claimed, approved and outstanding;
 - G. an explanation where works are not meeting scheduled progress; and
 - H. an explanation for impacts and changes to the critical path;
- vii) an environmental performance report;
- viii) a community engagement report in accordance with PC-CS1 “Community Engagement and Media Management” (as applicable);
- ix) workforce industry participation including:
 - A. any subcontracts let valued in excess of \$100,000;
 - B. employment hours worked versus target;
 - C. progress of any initiatives to employ or train, including the long term unemployed, local region and aboriginal people;
 - D. total hours worked by people of Aboriginal or Torres Strait Islander descent versus target; and
 - E. progress compared to the Industry Participation Plan;
- x) key issues and opportunities with mitigations and actions and likely impacts;
- xi) the status of Approvals;
- xii) information on the status of completion of the Contractor’s Activities;
- xiii) sustainability progress in accordance with PC-ST1 “Sustainability in Design” and PC-ST2 “Sustainability in Construction” (as applicable);
- xiv) a summary of traffic management issues; and
- xv) any other matter that the Contractor may deem relevant, or which is otherwise requested by the Principal.

6 Evaluation of the Contractor’s performance

- a) At any time, the Principal may undertake an evaluation of the Contractor’s performance and compliance with the Contract Documents using the Contract Evaluation Procedure.
- b) The evaluation of the Contractor’s performance may be forwarded to the Contractor by the Principal including any reasons for poor or non-compliant scores.
- c) If the Contractor disagrees with the evaluation, it may forward a request to the Principal for review.

- d) Without limiting the Principal's rights, where the evaluation of the Contractor's performance identifies any non-compliance to the Contract Documents, the Principal may issue a Corrective Action Request.

7 Prequalification, certification and accreditation

- a) The Contractor's Activities (including the activities of all Subcontractors) must be in accordance with the prequalification, certification and accreditation requirements and categories as set out in the Contract Documents, including all relevant prequalification requirements (available from https://www.dit.sa.gov.au/contractor_documents/prequalification).
- b) Where the Contractor intends to self-perform any of the Contractor's Activities requiring prequalification, the Contractor must achieve all relevant prequalification requirements.

8 Recording of activities

- a) The Contractor must record its activities in an electronic information management system or, where agreed by the Principal, on a daily diary form which at a minimum includes:
 - i) work completed each work day, including Work Lot number and location;
 - ii) plant and labour used on each Work Lot;
 - iii) safety information;
 - iv) Site conditions and Site issues;
 - v) where required by the Contract Documents, visual records and progress photos of the Works and Temporary Works; and
 - vi) any other relevant information.
- b) Each day's records must be signed by the Contractor or confirmed by the Contractor in an electronic information management system and made available to the Principal as soon as practicable, and in any event within 3 Business Days.
- c) At any time, the Principal may check the records compiled in accordance with this section 8 and in the event that in the Principal's reasonable opinion the records do not reflect the actual activities undertaken, the Principal may record the discrepancy on the daily diary form or within the information management system (as appropriate).
- d) Where the Principal has recorded a discrepancy in the records in accordance with section 8c), the Contractor must update the record as the actual record.

9 Lessons learnt

- a) Where requested by the Principal, to assist with the Department's continuous improvements, the Contractor must provide "lessons learnt" from the Project, including:
 - i) inconsistencies in the Principal's specified requirements;
 - ii) suggested improvements to the Master Specification to reflect Best Industry Practice and encourage innovation; and
 - iii) other items identified by the Contractor to assist the Department in continuous improvement.
- b) Where requested by the Principal, lessons learnt sessions are to be undertaken at times within the project lifecycle appropriate to the specific project scope (such as completion of planning, design, construction, etc.), including a final session within a reasonable period following the date of Completion.

- c) All lessons learnt required by the Principal in accordance with this section 9 must be complete as a condition precedent to Completion, except for the final session following the date of Completion.

10 Hold Points and Witness Points

- a) Table PC-PM1 10-1 details the review period or notification period, and type (documentation or construction quality) for each Hold Point referred to in this Master Specification Part.
- b) Table PC-PM1 10-2 details the review period or notification period, and type (documentation or construction quality) for each Witness Point referred to in this Master Specification Part.

Table PC-PM1 10-1 Hold Points

Section reference	Hold Point	Documentation or construction quality	Review period or notification period
3.1e)	Integration and combining Project Plans	Documentation	5 Business Days review
3.2c)	Initial Project Plan reviews	Documentation	10 Business Days review
3.3b)	Further Project Plan reviews	Documentation	5 Business Days review

Table PC-PM1 10-2 Witness Points

Section reference	Witness Point	Documentation or construction quality	Review period, or notification period
3.4c)	Audit report	Documentation	5 Business Days review

PC-PM2 Contract Program

1 General

This Master Specification Part sets out the requirements for the Contract Program including:

- a) the Contract Program information requirements, as set out in section 2;
- b) the Contract Program baseline requirements, as set out in section 3;
- c) the Contract Program revision to the baseline requirements, as set out in section 4;
- d) the Contract Program update requirements, as set out in section 5; and
- e) the Hold Point requirements, as set out in section 6.

2 Contract Program information

- a) The Contractor must prepare and maintain a Contract Program to record the baseline project program and record actual progress of the Contractor's Activities to the baseline program.
- b) The Contract Program must record all Contractor's Activities, including (where applicable):
 - i) procurement and manufacture;
 - ii) design development for all Design Packages including design review and acceptance;
 - iii) installation and construction activities;
 - iv) provision of manuals and training;
 - v) testing and commissioning (including the requirements set out in PC-CN1 "Testing and Commissioning", and
 - vi) handover activities.
- c) The Contract Program must detail sufficient information to demonstrate the Contractor's Activities, including:
 - i) showing the title, revision number and date;
 - ii) all milestones and Completion dates;
 - iii) unique activity description, duration and identifier organised according to work activities and the agreed work breakdown structure;
 - iv) dependencies with each activity must have at least one predecessor and one successor;
 - v) the critical path must be clearly identified using critical path analysis methods with each activity logically linked (to enable analysis by the Principal);
 - vi) showing the baseline program (bar) for each activity;
 - vii) details of any proposed occupations or defined closure periods of roads including clearly identifying the area of work and the duration;
 - viii) wet weather allowance and risk allowance (program float);
 - ix) all calendars used being set in days and incorporate relevant holiday periods, approved working hours and weekend works;
 - x) details of the transportation and erection of structural members;
 - xi) early start and early finish dates, late start and late finish dates and total float; and
 - xii) contain all resource and cost information required to undertake earned value analysis.

- d) The Contract Program output must be supplied in the native file format (such as Primavera P6 or Microsoft Project) and PDF format.
- e) The Contract Program must incorporate activities undertaken by the Principal, Third Parties, Authorities or other contractors (such as supply of materials, adjacent works or services) that may impact the Contract Program, including the following:
 - i) the activity description, activity owner and duration;
 - ii) dependencies of the activity with the Contract Program and critical path; and
 - iii) the activity owner's risk allowance (program float) prior to the activity impacting the Contract Program.

3 Contract Program – baseline

No later than 30 days following the Commencement Date, the Contractor must prepare and submit to the Principal a baseline Contract Program and a basis of program report, incorporating all the Contract Documents requirements, including the requirements of section 2, which will constitute a **Hold Point**. The Works and Temporary Works must not commence until this Hold Point is released.

4 Contract Program – revision to the baseline

- a) The Contractor must ensure that the baseline Contract Program approved in accordance with section 3 is not updated or amended without the Principal's approval.
- b) For any revisions to the baseline of the Contract Program, the Contractor must:
 - i) only amend the baseline program for the specific section(s) affected by the change;
 - ii) show the last approved baseline program (bar) for all activities; and
 - iii) prepare and submit a revised baseline Contract Program and updated basis of program report to Principal for approval, which will constitute a **Hold Point**.
- c) The Contractor must not amend the baseline Contract Program for any activities and milestones already completed.
- d) The Contractor must retain all previous baseline Contract Program data for records management, including all baseline revisions and the reasons for the baseline revisions in the baseline maintenance register.

5 Contract Program updates

- a) Each month the Contractor must submit to the Principal for review a status updates for the Contract Program, including a revised Contract Program Gantt chart and a supporting status information summary report (in accordance with section 5e)).
- b) Within 10 Business Days after receiving the Contract Program status update in accordance with section 5a), the Principal will:
 - i) provide comments on the Contract Program; or
 - ii) confirm that the Principal has no comments on the Contract Program.
- c) If the Principal provides comments on the Contract Program in accordance with section 5b)i), the Contractor must amend the status update of the Contract Program to address the comments and re-submit it to the Principal within 5 Business Days of receipt of comments, in which case the review process in section 5b) will re-apply (however the 10 Business Day review period will be shortened to 5 Business Days).
- d) The Principal may request a revised Contract Program update at any given time, in which case the Contractor must within 7 days of the request submit a status update of the Contract Program, in accordance with section 5a), including a revised Contract Program Gantt chart

and a supporting status information summary report (in accordance with section 5e)) and the requirements of sections 5b) and 5c) will apply.

- e) The Contract Program supporting status information summary report must describe the Contract Program updates including:
- i) actual progress of the Contractor's Activities against the program baseline;
 - ii) the reasons for any delay;
 - iii) the mitigation measures that the Contractor proposes to undertake to reduce the impact of the delay;
 - iv) analysis of the updated Contract Program to determine any change in critical path and potential impact to milestones and Completion dates;
 - v) a list of the measures taken, and the measures proposed, to prevent recurrence of the event which caused the delay and similar such events in the future; and
 - vi) risks, mitigations and the time contingency within the Contract Program to address the major areas of risk.

6 Hold Points

Table PC-PM2 6-1 details the review period or notification period, and type (documentation or construction quality) for each Hold Point referred to in this Master Specification Part.

Table PC-PM2 6-1 Hold Points

Section reference	Hold Point	Documentation or construction quality	Review period or notification period
3	Contract Program baseline	Documentation	10 Business Days review
4b)iii)	Revised baseline Contract Program	Documentation	10 Business Days review

PC-PM3 Contractor's Personnel and Training

1 General

This Master Specification Parts sets out the requirements for personnel competency and training including:

- a) the competency requirements, as set out in section 2;
- b) the requirements for management of Key Personnel, as set out in section 3;
- c) the training requirements, as set out in section 4; and
- d) the Hold Point requirements, as set out in section 5.

2 Competence

- a) The Contractor must ensure the management and supervision of the Contractor's Activities are undertaken by competent personnel with relevant qualifications and experience commensurate with their role, responsibilities and authority.
- b) The competence of the personnel must meet the minimum requirements as detailed in the Contract Documents.

3 Management of Key Personnel

- a) This section 3 only applies where an alliance form of contract with a concept of NOP Key Personnel does not exist.
- b) Where the Contract Documents do not define the Key Personnel, the Contractor must formally advise the Principal of its nominated Key Personnel within 20 Business Days of the Commencement Date, which will constitute a **Hold Point**. The notification of the Key Personnel will not be accepted until this Hold Point is released. The relevant Key Personnel must not perform any Contractor's Activities until this Hold Point is released.
- c) The Contractor must provide supporting information to demonstrate the competency of each Key Personnel within 20 Business Days of the Commencement Date, which will constitute a **Hold Point**. The competency of the Key Personnel will not be accepted until this Hold Point is released. The relevant Key Personnel must not perform any Contractor's Activities until this Hold Point is released.
- d) In the event the Contractor requires to change Key Personnel the Contractor must advise the Principal of the reason and nominated replacement, which will constitute a **Hold Point**. The relevant replacement Key Personnel must not perform any Contractor's Activities until this Hold Point is released.
- e) The Principal may instruct the Contractor to immediately remove from the Site, or from any of the Contractor's Activities, any person, who in the reasonable opinion of the Principal has not demonstrated the required competencies or has been negligent, guilty of misconduct or failing to diligently undertake their duties.
- f) The Contractor must within 4 weeks of the instruction in accordance with section 3e) provide replacement for relevant Key Personnel with equivalent competencies.

4 Training

- a) The Contractor must provide all training for all employees and persons engaged to perform the Contractor's Activities.
- b) The Contractor must provide all employees and persons engaged to perform the Contractor's Activities with training (and keep a record of such training), including:

- i) inductions and work health and safety training;
 - ii) inductions on environmental systems;
 - iii) induction on community engagement and media management;
 - iv) training to achieve the competencies required to carry out the Contractor's Activities; and
 - v) training to address gaps or deficiencies in competencies.
- c) In addition to the requirements of this section 4, the Contractor must undertake training required by the Contract Documents, including in accordance with PC-CN2 "Asset Handover".

5 Hold Points

Table PC-PM3 5-1 details the review period or notification period, and type (documentation or construction quality) for each Hold Point referred to in this Master Specification Part.

Table PC-PM3 5-1 Hold Points

Section reference	Hold Point	Documentation or construction quality	Review period or notification period
3b)	Notification of Key Personnel	Documentation	5 Business Days review
3c)	Competency of Key Personnel	Documentation	5 Business Days review
3d)	Changes to the Key Personnel	Documentation	5 Business Days review

PC-PM4 Risk Management

1 General

- a) This Master Specification Part sets out the requirements for risk management including:
 - i) the Risk Management Plan requirements, as set out in section 2;
 - ii) the risk management system requirements, as set out in section 3;
 - iii) the risk register requirements, as set out in section 4; and
 - iv) the Hold Point requirements, as set out in section 5.
- b) Risk management must comply with the Reference Documents, including AS 31000 Risk Management.

2 Risk Management Plan

- a) The Contractor must establish, implement and maintain a project specific Risk Management Plan to identify and document how the Contractor will manage and control the risk of the Contractor's Activities, which must:
 - i) detail the risk management system in accordance with section 3;
 - ii) include the risk management methodologies and processes;
 - iii) describe how the Risk Management Plan integrates with other Project Plans;
 - iv) include the method of review, audit and update of the Risk Management Plan and risk register in accordance with section 4; and
 - v) include a methodology for managing records generated from the risk management process, including the status of risk treatments.
- b) The Risk Management Plan must be prepared, submitted and updated in accordance with the requirements of PC-PM1 "Project Management and Reporting".

3 Risk management system

The Contractor must establish a risk management system for the Contractor's Activities in accordance with AS 31000 Risk Management.

4 Risk register

- a) The Contractor must establish, implement and maintain a project specific risk register to record the risk identification, analysis, evaluation, treatment and management responsibility in regards to:
 - i) design and construction activities;
 - ii) safety, quality and environment;
 - iii) climate change and natural hazards;
 - iv) commissioning, asset management and operations; and
 - v) contractual requirements.
- b) The Contractor must submit the initial risk register that complies with this section 4 within 20 Business Days after the Commencement Date to the Principal, which will constitute a **Hold Point**.

- c) Climate change risks must be assessed and treated in accordance with the Reference Documents, including the Department Climate Change Adaptation Guidelines and Department Sustainability Manual.
- d) The risk register must record all residual risks that remain following completion of testing and commissioning and prior to Handover.
- e) The Contractor must regularly review the risk register and submit updates to the Principal at intervals as approved by the Principal, with each submission constituting a **Hold Point**.

5 Hold Points

Table PC-PM4 5-1 details the review period or notification period, and type (documentation or construction quality) for each Hold Point referred to in this Master Specification Part.

Table PC-PM4 5-1 Hold Points

Section reference	Hold Point	Documentation or construction quality	Review period or notification period
4b)	Initial risk register	Documentation	20 Business Days review
4e)	Risk register updates	Documentation	10 Business Days review

PC-PM5 Information Management

1 General

- a) This Master Specification Part sets out the requirements for the transmission, storage and retrieval of Documents, including:
 - i) the Information Management System Plan requirements, as set out in section 2;
 - ii) the requirements of the Information Management System, as set out in section 3;
 - iii) the document management requirements, as set out in section 4;
 - iv) the requirements for archiving the Information Management System, as set out in section 5;
 - v) the requirements for training and support of the Information Management System, as set out in section 6;
 - vi) the requirements of the Lead Document Controller, as set out in section 7; and
 - vii) the Hold Point requirements, as set out in section 8.
- b) The Contractor must:
 - i) unless otherwise detailed in the Contract Documents, transmit all Documents required by the Contract Documents to the Principal via the Information Management System; and
 - ii) submit all Documents required by the Contract Documents in accordance with this Master Specification Part.

2 Information Management System Plan

- a) The Contractor must establish, implement and maintain a project specific Information Management System Plan to identify and document how the Contractor will manage and control documentation for the Contractor's Activities, which must detail:
 - i) how the Contractor plans to comply with the Contract Documents, including this Master Specification Part;
 - ii) the operating processes and management protocols for the Information Management System;
 - iii) a process to ensure the plan is consistent with digital engineering in accordance with PC-EDM5 "Digital Engineering";
 - iv) how a drawing and model register will be managed and maintained;
 - v) an outline of the information technology services related to information technology and security, including compliance with the *Privacy Act 1988* (Cth); and
 - vi) the approach to document management and how access will be made available.
- b) The Information Management System Plan must be prepared, submitted and updated in accordance with PC-PM1 "Project Management and Reporting" and within 2 weeks of the Commencement Date.

3 Information Management System

3.1 General

- a) Where the Contract Documents do not require an online Information Management System, the Contractor must obtain the Principal's approval for appropriate protocols for the management of information.
- b) The Contractor must operate and manage the Information Management System in accordance with this Master Specification Part.
- c) The Contractor must have an operational Information Management System in use within 2 weeks of the Commencement Date, which must continue operating until the later of:
 - i) 12 months past the date of Completion; or
 - ii) the date of release of the final security.
- d) The Information Management System must be used by both the Principal and the Contractor as the sole source for all Documents in relation to the Contractor's Activities and as the sole conduit for the exchange of all Documents between the Contractor and the Principal, including claims, certificates, requests for information and all other correspondence.
- e) The Contractor's Information Management System must adopt one of the following software:
 - i) Aconex;
 - ii) iTWOCX; or
 - iii) Ineight Document.
- f) The Contractor must submit details of the proposed Information Management System to the Principal at least 28 days prior to the commencement of the Contractor's Activities, which will constitute a **Hold Point**.
- g) The Contractor must provide the Principal, the Independent Design Certifier (where relevant), the Construction Verifier (where relevant) and any other party nominated by the Principal, including Third Parties, with ongoing and uninterrupted access to the Information Management System to locate all Documents, material, metadata and configuration within the Information Management System.

3.2 Security of information management

- a) All data on the Information Management System must be hosted and backed up in accordance with the South Australian Cyber Security Framework (SACSF), SACSF Ruling 2, General Disposal Schedule No. 30 and PC 012 Information Privacy Principles Instruction.
- b) The Information Management System must satisfy the requirements of the South Australian Cyber Security Framework, including:
 - i) being accessible for use by the Contractor, the Principal, the Independent Design Certifier (where relevant), the Construction Verifier (where relevant) and authorised Third Parties and Authorities when reasonably necessary;
 - ii) ensures all users of the Information Management System are allocated their own unique and secure login credentials with appropriate secure two-factor authentication;
 - iii) storing all metadata and Documents securely and encrypted in accordance with section 3.2a);
 - iv) ensuring all data at rest and in transit is encrypted;
 - v) maintaining a full audit log of:
 - A. all access to Documents including additions, deletions, edits and views;

- B. all additions, changes and deletions to the security access of all Information Management System users; and
 - C. version control of all Documents;
- vi) only using transport layer security TLS1.2 and above;
- vii) maintain a full audit log of:
 - A. all access to Documents including additions, deletions, edits and views;
 - B. all additions, changes and deletions to the security access of all Information Management System users; and
 - C. manage version control of all Documents;
- viii) allows users to be included or removed on the Information Management System within 1 Business Day of notification; and
- ix) allows all nominated staff from the Principal simultaneous access within 2 Business Days of notification by the Principal.

4 Document management

4.1 Naming and version control

The Contractor must ensure that:

- a) all Documents added to the Information Management System adopt the naming convention in accordance with the Information Management System Plan;
- b) drawings are titled in accordance with the Department Road Design CAD Manual; and
- c) the Information Management System manages version control of all Documents, including the following requirements:
 - i) each document must be assigned a unique identifier, and all revisions of the document must maintain the same unique identifier as the original document;
 - ii) a single version of each Document, being the latest version, must be available to authorised users; and
 - iii) previous versions of the Document must be accessible by authorised users.

4.2 Document metadata

The Contractor must ensure that all Documents added to the Information Management System include the following metadata:

- a) Document unique identifier and title;
- b) date and time of creation;
- c) date and time registered into the Information Management System;
- d) author's name;
- e) name of the user who registered the Document; and
- f) comments regarding the Document.

4.3 Document formats

4.3.1 General

Without limiting the requirements of section 4.3.2, any manuals, plans, drawings, programs, reports or associated information, or any updates or revisions of such manuals, plans, drawings, programs,

reports or information required to be submitted must be submitted as an electronic copy, in accordance with the Information Management System Plan.

4.3.2 Format of submissions

- a) Where Works will be returned to a Third Party, the Contractor must comply with the relevant Third Party Agreement and consult with that Third Party to identify any specific requirements for asset handback documentation and must comply with those requirements to the extent reasonably practicable.
- b) The relevant documents listed in Table PC-PM5 4-1 must be submitted, in the form identified in Table PC-PM5 4-1 and in accordance with section 4.3.2a).

Table PC-PM5 4-1 Document submission formats

ID	Submission	Document type ⁽¹⁾
1	Project Plans	a) Portable Document Format type A (PDF / A) b) Original native format
2	O&M Manuals	a) Portable Document Format type A (PDF / A) b) Original native format
3	Training Manuals	a) Portable Document Format type A (PDF / A) b) Original native format
4	Design Documentation	a) Portable Document Format type A (PDF / A) b) AutoDesk / Bentley / 12D (where applicable) c) Original native format
5	Digital Model files	a) Original native format b) Industry foundation class (IFC) c) Navisworks (NWD, NWF, NWC) d) Any other agreed with the Principal
6	Construction Documentation	a) Portable Document Format type A (PDF / A) b) Original native format
7	As-built drawings	a) Portable Document Format type A (PDF / A) b) AutoDesk / Bentley / 12D c) Original native format
8	As-built drawings table of contents	a) Portable Document Format type A (PDF / A) b) Microsoft Excel c) Original native format
9	Quality Management Records	a) Portable Document Format type A (PDF / A) b) Original native format
10	Reports, including design reports	a) Portable Document Format type A (PDF / A) b) Microsoft Word c) Original native format
11	Contract Program	a) Portable Document Format type A (PDF / A) b) Original native format
12	Traffic control plans associated with a WTMP	a) Portable Document Format type A (PDF / A) b) AutoDesk / Bentley / 12D c) Original native format
13	Video files	a) MPEG-4 / MP4 b) Original native format
14	Images	a) Portable Network Graphics (PNG) b) Joint Photographic Experts Group (JPEG)

Table notes:

(1) Where more than one document type is specified, all the specified formats for each type of document must be included in the relevant submission.

5 Archiving

- a) The Contractor must provide the Information Management System, including all Documents, data and information (and associated metadata), to the Principal at the later of:
 - i) 12 months past the date of Completion; or
 - ii) the date of release of the final security.

- b) At the expiry of the Defects Liability Period and as a condition precedent to the issuing of the Final Certificate, all project documents and data must be archived by the Contractor and provided to the Principal in a suitable format.

6 Training and support

The Contractor must:

- a) provide training and written guidelines in the use of the Information Management System to users of the Information Management System;
- b) provide ongoing support in the use of the Information Management System to all users; and
- c) appoint a single contact for the raising and follow-up of operational issues relating to the Information Management System.

7 Lead Document Controller

- a) The Contractor must nominate a representative of the Contractor as Lead Document Controller to provide project specific support and remain dedicated to the role until all Documents have been provided to the Principal at the later of:
 - i) 12 months past the date of Completion; or
 - ii) the date of release of the final security.
- b) The Lead Document Controller as a minimum must:
 - i) demonstrate an understanding of the principles and practices of document control on major construction projects;
 - ii) have certification training of the nominated Information Management System; and
 - iii) demonstrated experience in document control on projects of a similar nature or proven ability and knowledge to perform the Lead Document Controller role.

8 Hold Points

Table PC-PM5 8-1 details the review period or notification period, and type (documentation or construction quality) for each Hold Point referred to in this Master Specification Part.

Table PC-PM5 8-1 Hold Points

Section reference	Hold Point	Documentation or construction quality	Review period or notification period
3.1f)	Proposed Information Management System	Documentation	10 Business Days review