

October 2019

# Guide to the building and facility maintenance management system and documentation

This guide sets out the procedures for the compilation of documentation for the maintenance of buildings and facilities. It addresses the philosophy behind the creation and development of the AUS-SPEC maintenance system based on quality, competitive principles and programmed maintenance. It reflects the execution by competitive maintenance contracts, either by the Principal's own business units or private contractors.

Prepared by

**NATSPEC**

[www.natspec.com.au](http://www.natspec.com.au)



**CONTENTS**

- 1 Introduction ..... 3**
  - 1.1 Referenced documents ..... 3
- 2 AUS-SPEC maintenance system ..... 4**
  - 2.1 A proactive approach ..... 4
  - 2.2 Roles and responsibilities ..... 4
  - 2.3 Procurement..... 4
  - 2.4 Types of work..... 5
- 3 Components of the building and facility maintenance system ..... 5**
  - 3.1 General requirements ..... 5
  - 3.2 Quality requirements and maintenance plan ..... 6
  - 3.3 Classification categories of buildings and facilities ..... 9
- 4 Application of a building and facility maintenance plan ..... 10**
  - 4.1 Trial contracts..... 10
  - 4.2 Implementation phase..... 10
  - 4.3 Daywork rates ..... 11
  - 4.4 Data collection..... 11
  - 4.5 Benchmarking ..... 12
- 5 Compilation of contract documents..... 12**
  - 5.1 General ..... 12
  - 5.2 Volume 1 – Conditions of contract ..... 14
  - 5.3 Volume 2 – Technical specifications ..... 14
  - 5.4 Volume 3 ..... 15
  - 5.5 Volume 4 – Tender submission documents ..... 15
  - 5.6 Associated documents ..... 16

# GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

## 1 INTRODUCTION

This TECHguide describes the philosophy and components of the AUS-SPEC maintenance system and sets out the contract documentation procedure for building and facility maintenance contracts. The AUS-SPEC maintenance system is based on quality management, competitive principles and programmed maintenance. It reflects the move from predominantly direct control, responsive maintenance and operations to the proactive approach outlined in the National Sustainability Frameworks for Asset Management for Local Government and developed in the *International Infrastructure Management Manual (IIMM)* and the *Australian Infrastructure Financial Management Guidelines (AIFMG)*. Operations studies previously carried out by State and Local Government form the foundation of AUS-SPEC documents. See NATSPEC GEN 017 for guidance on using AUS-SPEC for asset management. IPWEA-NAMS.AU Practice Note 3 provides further details on condition assessment of buildings, estimates of remaining useful life, risk analysis, reporting, work schedules and financial planning.

The AUS-SPEC maintenance system allows asset owners to balance the level of service and the maintenance and operations budget and prepare documentation for in-house and/or private maintenance contracts. It includes records of asset inspections, defects, programmed and prioritised works and monthly works completed reports. These records and reports improve the maintenance history and asset inventory and provide a defence against possible litigation.

AUS-SPEC provides a professional and best practice approach to responsibly maintaining the community's assets within the budgetary constraints of the owner of the asset.

### 1.1 Referenced documents

The following documents are incorporated into this TECHguide by reference:

#### **TECHguides**

*AUS-SPEC TG 102 Guidelines for Principals – Standard contracts*

*AUS-SPEC TG 103 Guidelines for Principals – Period supply and service contracts*

*AUS-SPEC TG 404 Guide to adapting asset delivery documentation to building and facility maintenance*

#### **Worksections**

*0122 Information for tenderers*

*0123 Conditions of tendering*

*0124 Tender submission documents*

*0147 Conditions of contract*

*1501 General requirements - building and facility (Maintenance)*

*1502 Contract schedules - building and facility (Maintenance)*

*1503 Building and facility maintenance plan (BFMP)*

*1504 Annexures to building and facility maintenance plan (BFMP)*

#### **Standards**

AS 2124-1992 General conditions of contract

AS 4000-1997 General conditions of contract

AS/NZS ISO 9001:2016 Quality management systems - Requirements

GC 21-2016 New South Wales Government General conditions of contract (Edition 2)

NPWC3-1981 National Public Works Contract - General conditions of contract

NCW4-2019 General conditions of contract for construction

#### **Other publications**

*Australian Accounting Standards Boards*

AASB 116-2019 Property, plant and equipment

*Institute of Public Engineering Australia (IPWEA) NAMS.AU*

AIFMM-2015 Australian Infrastructure Financial Management Manual

IIMM-2015 International infrastructure management manual. 5th edition

IPWEA-NAMS.AU Practice Note 3-2016 Building condition and performance assessment guidelines.

*NATSPEC*

NATSPEC Maintenance reference

## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

NATSPEC GEN 017 Using AUS-SPEC for asset management

NATSPEC GEN 018 Using AUS-SPEC for asset maintenance

## 2 AUS-SPEC MAINTENANCE SYSTEM

### 2.1 A proactive approach

The main objective of a maintenance strategy is the maintenance of assets at an appropriate level of service and structural integrity at the optimal cost to the asset owner and users. Maintenance aims to preserve an asset, not upgrade it, and includes regular checking, repairs and minor improvements to remove the cause of any defects and avoid excessive repetition of maintenance effort. Regular maintenance is less costly than reconstruction, which becomes necessary if maintenance is neglected. Delayed maintenance also has other indirect costs, e.g. increased operating costs due to poor equipment performance and poor service levels.

The AUS-SPEC building and facility maintenance system conforms to a quality management model with the following characteristics:

- A systematic approach: Each project is subdivided into a number of defined activities.
- Simple clear checklists: For in-the-field recording, as evidence of conformance with requirements.
- Conformance: Designed to encourage the service provider to identify and correct process faults and thereby assure the purchaser of good quality and productivity. If some aspect of the work does not conform and cannot be corrected, a non-conformance report is required.

The AUS-SPEC maintenance system can be used for parks and recreations areas, buildings and facilities, and road reserves. See NATSPEC GEN 018.

### 2.2 Roles and responsibilities

#### Principal's roles and responsibilities

Under the AUS-SPEC building and facility maintenance system, the Principal/Asset owner/Council:

- Classifies each building and facility to define the level of risk aligned to the Asset Management Plan and strategy.
- Determines the likely maintenance activities and documents the performance requirements and standards.
- Assesses the quality capability of the Contractor/service provider to deliver the required level of quality.

#### Contractor's roles and responsibilities

Under the AUS-SPEC building and facility maintenance system, the Contractor/service provider:

- Controls the processes and methods, verifies conformance and provides only quality products and services.
- Inspects the buildings and facilities regularly, and records and reports on performance parameters such as defects to be rectified.
- Prepares and implements the maintenance work program.
- Repairs defects which have reached the documented recording level within a defined period.
- Verifies conformance to the specified performance standard.
- Provides the Principal with data on the condition of the building or asset to facilitate the currency of building and facilities condition records. This data is the basis of the Contractor's claim for payment.

#### Superintendent's roles and responsibilities

Under the AUS-SPEC building and facility maintenance system, the Superintendent:

- Audits the maintenance system, methods and end product during the course of the Contract.

### 2.3 Procurement

Maintenance may be procured in the following ways:

- Outsourced to private contractors by competitive tender.
- In-house service agreements, e.g. Council's own business units.
- A combination of in-house service agreements and external contracts.

## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

The AUS-SPEC system is adaptable for use with any of these procurement methods. AUS-SPEC buildings and facilities maintenance worksections cover repairs, routine, periodic and urgent maintenance and cleaning of buildings and facilities. AUS-SPEC design and construction worksections can be incorporated into the documentation for projects requiring rehabilitation.

### 2.4 Types of work

#### Maintenance and operations

The types of work specified in AUS-SPEC building and facility maintenance cover:

- Maintenance activities.
- Operational activities, including cleaning and urgent, unplanned miscellaneous activities.

The process of maintenance and operations tasks reflect the following:

- The level of distress, breakage and nature of component damage involved with maintenance work.
- The urgent nature of miscellaneous (unplanned) works.
- The cyclical nature of cleaning work.

#### Capital renewals and replacement

Renewal is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original capacity. For asset renewal and rehabilitation for buildings and facilities, use the NATSPEC *Building Basic* package and a combination of AUS-SPEC Construction worksections.

## 3 COMPONENTS OF THE BUILDING AND FACILITY MAINTENANCE SYSTEM

The main components of the AUS-SPEC building and facility maintenance system are a series of *Templates* for processes that can be edited to suit a particular project and reflect the asset maintenance management policy of the asset owner. These *Templates* include:

- General requirements.
- Contract schedules.
- Quality requirements/Maintenance plan.
- Maintenance worksections defining performance requirements for classes of buildings and facilities with reference to the *NATSPEC Maintenance reference*.
- Classification categories of buildings and facilities.

### 3.1 General requirements

#### Building and facility maintenance

The *1501 General requirements – building and facility (Maintenance)* worksection is applicable to the general requirements of the Principal/Council for building and facility maintenance contracts. It includes plan requirements, contract period, work by others, environmental protection, safety plan requirements, emergency response, accidents and damage and measurement and payment. Edit this *Template* to create a master document for use on all building and facility maintenance contracts. Include project specification information in the BFMP, Activity specifications and the contract schedules, as appropriate.

#### Maintenance schedules

The *1502 Maintenance schedules – building and facility* worksection should be read in conjunction with *1501 General requirements – building and facility (Maintenance)* worksection. It provides a series of worksheets including:

- Instructions for using maintenance worksheets.
- Maintenance activity/Work cost review.
- Routine maintenance schedule.
- Building and facility data sheets.
- Activity frequency schedule.
- Schedule of Lump Sum components
- Bill of quantities.
- Daywork rates schedule.

## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

- Sample activity frequency schedule.

### 3.2 Quality requirements and maintenance plan

#### Building and Facility Maintenance Plan (BFMP)

A Building and Facility Maintenance plan (BFMP), required under the *1501 General requirements - building and facility (Maintenance)* worksection, is necessary, whether the Works will be performed by in-house employees or private contractors. A BFMP outlines the procedures to provide assurance that the materials and processes conform or will lead to performance conforming to the documented requirements. It provides the Principal with information regarding day to day execution of the maintenance works and the ways in which the Contractor/service provider will record and report information to the Superintendent.

AUS-SPEC requires the various cleaning and miscellaneous maintenance activities to be performed for each building, room or facility to conform to a documented cycle. The items will require cyclic frequencies of inspection and/or maintenance. Programmed maintenance for building components will be based on the results of scheduled inspections.

The *1503 Building and facility maintenance plan (BFMP)* worksection is based on the structure of a Quality manual and Quality plan. However, the simplified format does not require third party verification or extensive documentation by the Contractor/service provider. The BFMP is prepared by the Principal and completed with input from the Contractor/service provider.

The asset owner should review the BFMP regularly, e.g. when triggered by changes to the organisational objectives, asset requirements, regulation/ legislation, community views.

#### BFMP Structure

The BFMP is divided into two parts to allow a Tenderer, in the case of an external contract or to submit a conforming BFMP with minimum documentation at the time of tender. Additional information is added to the BFMP by the successful Tenderer during the course of the project. The parts are as follows:

- BFMP Part 1 is a description of the broad scope of the contract management requirements and includes the Activity specifications. The Principal edits the AUS-SPEC *Template* to suit the particular project and includes it as part of the Request for Tender (if a Request for Tender is being sought). Each Tenderer is required to supply details in the pro forma document. This allows tenders to be easily compared and assessed. Before letting the contract out, the Principal may negotiate adjustments to the proposals or details provided by the Tenderer.
- BFMP Part 2 comprises additional information for completion by the Contractor and submission to the Superintendent during the contract establishment period. BFMP Part 2 is supplied to inform the Tenderer of the method and extent of the reporting procedures required under the terms of the contract and is not for submission with the tender documents. BFMP Part 2 is developed within the establishment period as part of executing the contract and requires the Superintendent's approval. Part 2 includes information on:
  - Maintenance procedures: Includes maintenance records, a safety statement, an environmental management plan, an emergency response plan, training and non-conformance management.
  - Maintenance planning: Includes monitoring performance/service level, inspections, Superintendent's surveillance, work plan, recording of defects (Lump Sum or Dayworks), work program and reporting.

#### Maintenance management forms

*1504 Annexures to buildings and facility maintenance plan (BFMP)* should be read in conjunction with *1503 Building and facility maintenance plan (BFMP)* worksection. It provides a series of forms and worksheets to control the process of management and payment of work including:

- Instructions of using the BFMP proformas.
- Defect notice
- Defects notice register.
- Notice of non-conformance.
- Non-conformance report.
- Preventative action request.
- Corrective action request.
- Community complaint form.
- Work order/Work variation form

## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

- Maintenance worksections and *NATSPEC Maintenance reference*.

### List of AUS-SPEC Activity specifications and related NATSPEC reference worksections.

Activity specifications describe the work that has to be done under the contract.

AUS-SPEC Activity specification	Activity code	Maintenance component code	Relevant NATSPEC Maintenance reference worksections
<b>Structure</b>			
1530 External works	E	TM	0184m Termite management
		AC	0272m Asphaltic concrete
		SB	0273m Sprayed bituminous surfacing
		CP	0274m Concrete pavement
		SM	0275m Paving – mortar and adhesive bed
		SS	0276m Paving – sand bed
		LM	0259m Landscape maintenance
		TM	0343m Tensioned membrane structures
		FD	0383m Sheet flooring and decking
		WE	0411m Waterproofing – external and tanking
		MF	0552m Metalwork – fabricated
		CT	0612m Cementitious toppings
		TI	0631m Ceramic tiling
		HR	0892m Hydraulic repairs
1531 Floors	F	TM	0184m Termite management
		TT	0185m Timber products, finishes and treatment
		SR	0333m Stone repair
		LS	0342m Light steel framing
		LT	0382m Light timber framing
		FD	0383m Sheet flooring and decking
		AF	0541m Access floors
		JO	0551m Joinery
		CT	0612m Cementitious toppings
		TE	0613m Terrazzo in situ
		WW	0621m Waterproofing – wet areas
		TI	0631m Ceramic tiling
		ST	0632m Stone and terrazzo tiling
		RF	0651m Resilient finishes
		CA	0652m Carpets
		AT	0655m Timber flooring
		FS	0656m Floor sanding and finishing
1532 Walls	W	AS	0181m Adhesives, sealants and fasteners
		FS	0182m Fire-stopping
		MT	0183m Metals and prefinishes
		TM	0184m Termite management
		BB	0331m Brick and block construction
		SR	0333m Stone repair
		LS	0342m Light steel framing
		SF	0346m Structural fire protection system



## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

AUS-SPEC Activity specification	Activity code	Maintenance component code	Relevant NATSPEC Maintenance reference worksections
		LT	0382m Light timber framing
		CC	0431m Cladding – combined
		GG	0461m Glass and glazing
		GB	0463m Glass blockwork
		TI	0471m Thermal insulation and pliable membranes
		LI	0511m Lining
		PC	0520m Partitions – combined
		CS	0525m Cubicle systems
		RD	0527m Room dividers
		SD	0581m Signs and display
		PL	0611m Rendering and plastering
		TI	0631m Ceramic tiling
		ST	0632m Stone and terrazzo tiling
		WP	0642m Wallcoverings
		PA	0671m Painting
1533 Doorways and windows	D	AS	0181m Adhesives, sealants and fasteners
		MT	0183m Metals and prefinishes
		LS	0342m Light steel framing
		LT	0382m Light timber framing
		WI	0451m Windows and glazed doors
		DL	0453m Doors and access panels
		DH	0455m Door hardware
		GG	0461m Glass and glazing
		GB	0463m Glass blockwork
		LI	0511m Lining
		PC	0520m Partitions – combined
		RD	0527m Room dividers
		JO	0551m Joinery
		PL	0611m Rendering and plastering
		TI	0631m Ceramic tiling
		RF	0651m Resilient finishes
		WP	0642m Wallcoverings
		PA	0671m Painting
1534 Ceiling	C	AS	0181m Adhesives, sealants and fasteners
		FS	0182m Fire-stopping
		MT	0183m Metals and prefinishes
		LS	0342m Light steel framing
		LT	0382m Light timber framing
		TI	0471m Thermal insulation and pliable membranes
		LI	0511m Lining
		SL	0531m Suspended ceilings – combined
		PA	0671m Painting
1535 Roofing	R	AS	0181m Adhesives, sealants and fasteners



## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

AUS-SPEC Activity specification	Activity code	Maintenance component code	Relevant NATSPEC Maintenance reference worksections
		MT	0183m Metals and prefinishes
		SF	0342m Light steel framing
		TM	0343m Tensioned membrane structures
		TF	0382m Light timber framing
		WP	0411m Waterproofing – external and tanking
		RO	0421m Roofing – combined
		TI	0471m Thermal insulation and pliable membranes
<b>Services</b>			
1571 Mechanical systems	M	MM	0792m Mechanical maintenance
		MR	0793m Mechanical repairs
1572 Hydraulic systems	H	LM	0259m Landscape maintenance
		HM	0891m Hydraulic maintenance
		HR	0892m Hydraulic repairs
1573 Electrical systems	E	AF	0541m Access floors
		SD	0581m Signage
		EM	0991m Electrical maintenance
		ER	0992m Electrical repairs
<b>Operation - building</b>			
1581 External building surveillance	-	-	-
1582 Accident repairs (Recoverable)	ORR	-	-
1583 Emergency call out	OCO	-	-
1584 Storm damage response	OEB	-	-
1586 Internal cleaning		-	-
1587 Sanitary cleaning	OSA	-	-
1588 Window cleaning	OWI	-	-
1589 Cleaning –blinds and fire proofing of curtains	OCB	-	-

### 3.3 Classification categories of buildings and facilities

#### General

Not all buildings and facilities will require the same frequency of cleaning, maintenance or performance requirements for the same activities. The classification of each building and facility allows Council the flexibility to assign different levels of service to different categories, which is generally related to estimated usage. However, some organisations may use other criteria, this may affect the frequency in the “response time” section of the performance requirements.

#### AUS-SPEC building classification categories

AUS-SPEC has adopted a functional classification based on the use of generic building or room categories as set out below. Each has a unique set of maintenance requirements:

- Offices: All business offices, whether in a metropolitan or rural area, in an operational or administrative setting, have the same basic maintenance and cleaning performance requirements.
- Auditoriums, halls, larger meeting rooms (> 50 seated), Senior Citizens Centres: All larger (> 50 seats) functional areas that can be used for large meetings, functions and performances.
- Commercial and office kitchens: All kitchen facilities in halls, function rooms and those associated with offices (e.g. tea rooms).

## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

- Sports centres, multi-purpose centres: Large purpose-built buildings used for indoor recreation, and sporting activities such as basketball, indoor cricket and soccer, and gymnastics. Also includes halls for band practices, martial arts, ballet practice.
- Foyers, hallways, public general purpose areas, libraries: All circulation areas, such as entrance areas to buildings and access hallways and related public areas used for displays, e.g. art display.
- Meeting rooms, Council chambers, board rooms (< 50 seated): Rooms for meetings and small functions ( $\leq 50$  seats).
- Park/shopping centre toilets: Toilet blocks in parks and open spaces and in shopping areas and malls.
- Health centres, clinics, surgeries: Specialised areas requiring high level cleaning and maintenance. Includes any area used for general public health purposes at the local government level, e.g. immunisation clinics, blood donor centres, baby health centres. This category specifically excludes any activity associated with doctors' surgeries and hospitals.
- Machinery workshops, works depots, utility buildings: Purpose-built utility buildings for work, maintenance and repair of plant and machinery, including plant sheds, pump and machinery rooms. The primary objective is cleaning for safety related matters, e.g. neutralising the effect of oil spills.
- Special use buildings/rooms, e.g. childcare centres: Purpose-built buildings dedicated to a single activity.

### Excluded activities

Maintenance of major service components of buildings and facilities have been excluded from AUS-SPEC as the execution of these activities includes very specialist applications and varies according to each Council's approach and method of operation.

These specialist activities include the maintenance of:

- Medical facilities.
- Facilities for medical or scientific research.
- Waste incinerators and sewerage plants.
- Olympic pools/aquatic centres.
- Fire protection performance testing.
- Telecommunications performance testing.

## 4 APPLICATION OF A BUILDING AND FACILITY MAINTENANCE PLAN

### 4.1 Trial contracts

It is recommended that Principals embarking on the development of the competitive provision of buildings and facilities maintenance, appoint a project manager to first apply the AUS-SPEC maintenance system to trial maintenance contracts using in-house staff for the following reasons:

- To determine the correct level of work involved and investment required to meet the requirements built into the BFMP.
- To allow staff to learn the maintenance process and become familiar with a competitive contract environment.
- To progressively collate key buildings and facilities asset information necessary to quantify typical maintenance resource requirements.
- To test the quality of the ongoing asset management data produced by the BFMP.
- To quantify realistic budget allocations to the components of maintenance activity in the network so that budgetary control will persist with the advent of a contractual rather than resource driven program.

### 4.2 Implementation phase

#### Present AUS-SPEC maintenance system to the Principal's works group or business unit

Explain the process and documentation, and form committees to review the Activity specifications, and General requirements for local application.

The Principal needs to review the AUS-SPEC documentation and adjust definitions, performance criteria and method of payment to suit circumstances. For example, during implementation, the Principal may adopt a

## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

greater number of activities for schedule of rates payment rather than Lump Sum payment due to a lack of historical data on both inventory and previous expenditure patterns.

### List the implementation tasks

Define the tasks and time scale for implementation and the required resources including:

- Review of Activity definitions and performance criteria.
- BFMP documentation.
- Reporting system establishment.
- Resources for initial inventory surveys and inspections.
- Develop the trial buildings and facilities network definition information.

Define the trial buildings and facilities network using schedules and base maps. Use the work done during the AASB116 asset management data capture and also Maintenance Management System (MMS) data.

Alternatively, use the Core and advanced flow charts in IPWEA-NAMS.AU Practice Note 3 for a conditional assessment of the building assets, depending on the level of detail required.

### Establish a test group for a virtual trial of the process

Amend the *Templates* to suit the Principal's requirements, making sure the documented process is efficient and effective. Inspections will be done by the provider and the **Maintenance Defect Register (MDR)** will be created by the Project Manager. When a defect is detected, it is entered into the MDR and a response organised in conformance with the appropriate Activity specification and ACR. In order to allow the Project Manager to monitor effort and costs assigned to the AUS-SPEC activities and network segments, a costing code system will need to be developed for the implementation trial. This localised network information will be invaluable at completion of the trial when the business unit or tenderers quantify lump sums and unit rates.

### Allow the test crew/work gang to identify areas for improvement

Allow the test crew/work gang to identify Activity specifications, and management processes that need improvement and allocate resources to implement these improvements. Also involve all administrative staff (in particular financial staff) to make sure the appropriate independent reporting and financial systems will be available, and these systems will be resourced to allow them to be carried out efficiently and with probity.

### Instigate a full-scale implementation trial of six months

When most processes, systems and resources are in place, allow a realistic implementation phase to proceed. This may cover a geographic zone within a Council area or the entire Council area. During the trial period, it is recommended that existing cost and production reporting systems are maintained in parallel with the trial. Timesheet and employee payment systems are not affected by the implementation of the AUS-SPEC maintenance system.

### Recommend adjustments to performance requirements/service levels

This will be possible as the level of the building and facility maintenance budget is monitored relative to the effectiveness of work done and the condition of the network.

### The end of the implementation phase

The Principal should aim to have documentation which is clear in its requirements and consistent in its format. The Principal can then choose to either test its maintenance delivery proficiency in the open marketplace or operate an internal contract awarded to an in-house business unit.

At conclusion of the implementation phase, it is anticipated that sufficient asset inventory and historical expenditure data will be available so that the payment methods will more closely reflect the Lump Sum listings in the AUS-SPEC *Templates*. The implementation period will vary from organisation to organisation.

## 4.3 Daywork rates

Work that is designated for payment on a Daywork rates basis can only be instigated by the issue of a Work Order with an estimate of cost provided by the contractor and approval of the superintendent. The organisation may keep control of expenditure by issuing works orders in an orderly manner.

## 4.4 Data collection

Maintenance requires an inventory of all assets. The form and type of data required by the AUS-SPEC maintenance system is consistent with other management systems, and as a result, the data can be used to assist with the generation of reports to improve the development of future works programs and to assist with buildings and facilities management.

## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

The data collected facilitates increasing accuracy for costing on a building/facility basis and assists with the efficient and effective management of the network. The Maintenance Defects Register also provides records which may be required as a defence against litigation.

IIMM Section 2.4.4 provides more information on data collection processes and Figure 2.4.4 illustrates the information strategy to collect, store, analyse, report and maintain the asset data. Collected asset data can be maintained and improved in accordance with IIMM section 2.4.5.

### Specialised technology for data collection

Consider the use of specialised systems and technology, e.g. GIS, digital photography, GPS equipment and satellite navigation, mobile communications and electronic data acquisition equipment. These systems provide several benefits for efficient and improved means of data collection for maintenance purposes.

IIMM Section 4.3 provides more detail on information systems and tools for recording and maintaining asset data. For buildings, electronic data collection improves data accuracy and ongoing data maintenance. IPWEA-NAMS.AU Practice Note Section 16, Toolkit provides various options for mobile applications directly linked to a software application to provide a data collection tool that is integrated with analysis and reporting.

## 4.5 Benchmarking

Benchmarking is possible with other organisations using the AUS-SPEC maintenance specification system, as the work process and the outcome are effectively the same.

Following implementation, the system progressively improves, and this provides the asset owner with the control and historical data that allows the organisation to competently improve the management of the assets.

## 5 COMPILATION OF CONTRACT DOCUMENTS

### 5.1 General

Documentation for maintenance contracts generally follows the production and procedures outlined in AUS-SPEC TG 102 and TG 103 with appropriate amendments.

Standard contract documentation is in two sections:

- Section A Tender documents: If the maintenance contract will be with an external Contractor, assemble the *0122 Information for tenderers* and *0123 Conditions of tendering* worksection separately.
- Section B Contract documents: Assemble contract documents, free from discrepancies and omissions, in 4 volumes as described in the **Contract documentation volumes table**.

**GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION**

**Contract documentation volumes table**

Contract volumes	Include the following AUS-SPEC worksections and related documents	Notes
<b>Volume 1</b> CONDITIONS OF CONTRACT (General workgroup)	<i>0147 General conditions of contract.</i>	This worksection outlines the general conditions of contract AS 2124, the annexures to the contract and the special conditions of contract. The General conditions of contract (e.g. AS 2124) is included in the contract documents by reference in the <i>0147 Conditions of contract</i> worksection.
	Annexure to General conditions of contract.	These are pre-printed forms of Annexure Part A and B for standard contracts.
	Special conditions of contract.	Refer to AUS-SPEC TG 404 for guidance on adapting general conditions of contract to building and facility maintenance
<b>Volume 2</b> TECHNICAL SPECIFICATIONS	Technical specification: <i>1501 General requirements – building and facility (Maintenance).</i>	This worksection is applicable to the General requirements of the Principal/Council for building and facility maintenance contracts.
	<i>1502 Maintenance schedules - building and facility</i> includes schedules of routine general maintenance	Project specific information provided by the Principal.
	Quality: <i>1503 Building and facility maintenance plan (BFMP)</i>	Procedure for conformance. Includes list of specification activities
	Building and facility maintenance <i>Activity specifications.</i>	For maintenance activities use AUS-SPEC worksections <i>1531 – 1573</i> . For operational activities use AUS-SPEC worksections <i>1581 – 1589</i> .
	<i>1504 Annexures to building and facility maintenance plan (BFMP).</i>	Non-conformance management forms, Work Order form, community complaint form and damage report forms. It also includes completed sample forms for guidance. Provided for information only.
	<i>NATSPEC Maintenance reference.</i>	
<b>Volume 3</b> BUILDING AND FACILITY DEFINITION INFORMATION (Separate compilation – referenced in this Guide) the building and facility and within the scope of the contract	Map(s) of buildings and facilities Network.	
	Building and facility data sheet: <i>1502 Maintenance schedules – building and facility.</i>	Includes schedule of Activity frequency.
	Other schedules and details of assets.	Detail plans.
	Standard drawings.	
<b>Volume 4</b> TENDER SUBMISSION DOCUMENTS (General workgroup)	<i>0124 Tender submission documents.</i>	This worksection outlines the tender submission documents required for the contract such as: <ul style="list-style-type: none"> <li>• Tender forms.</li> <li>• Tenderer’s particulars – current commitments.</li> <li>• Declarations.</li> </ul>
	<i>1502 Maintenance schedules - building and facility (Maintenance).</i>	This worksection includes schedule of Lump Sum, Bill of quantities and Daywork rates.
	<i>1503 Building and facility maintenance plan (BFMP) Part 1.</i>	BFMP Part 1 is completed by the Contractor for tender submission.
ASSOCIATED DOCUMENTS	Council’s WHS policy and induction package.	
	Building and facility maintenance history.	

## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

### Binding

Volumes: Bind volumes separately.

Exhibit copies: Spiral bind to fix editions for legal and contractual reasons.

Working copies: Assemble in ring binders.

Associated documents: Bind separately without volume status to indicate their exclusion from the formal contract documents.

Alternatively use the electronic records management system.

Responsibility: Assign the responsibility of supervising consistency across all Council/Owner contracts, to one Council/Owner officer or manager, in conformance with an appropriate Contracts policy.

## 5.2 Volume 1 – Conditions of contract

### Select the General conditions of contract

The AUS-SPEC maintenance system can be used as a fully outsourced contract maintenance regime or as a service agreement governing services provided by an in-house business unit. Some business units may act as a head contractor and subcontract selected operations as minor contracts.

Commonly used General conditions of contract include NCW4, NPWC3 (NSW), GC21, AS 2124 and AS 4000. Other specific documents generated by individual consultants may also be used.

### Complete the Annexures to the General conditions of contract

These are pre-printed forms of Annexure Part A and Part B for standard contracts.

### Prepare any special conditions of contract

Refer to AUS-SPEC TG 404 for guidance on issues which impact on normal contract requirements and need to be provided as supplementary clauses for contract documentation. This is provided in a checklist format.

## 5.3 Volume 2 – Technical specifications

### Technical specifications

Components: Three parts as follows:

- 1501 *General requirements – building and facility (Maintenance)*.
- 1503 *Building and facility maintenance plan (BFMP) and 1504 Annexures to building and facility maintenance plan*.
- Activity specifications (maintenance and operations specifications) and *NATSPEC Maintenance reference*.

### Compilation process

Extent: All parts require customising by the Principal with project specific information.

- 1501 *General requirements – building and facility (Maintenance)*: Complete the prompts in the main body of text and complete the Annexures as follows:

#### Define the extent of work

Select the maintenance activities to be provided in the building and facility maintenance contract from the list in the 1503 *Building and facility maintenance plan* worksection.

#### Compile the schedule of work by others

Schedule routine general maintenance work, to be performed by others, under Council's rolling works program during the Contract period, in the 1502 *Maintenance schedules – building and facility* worksection.

#### Review Principal supplied items

Review the materials and services to be supplied by the Principal, edit the 1501 *General requirements – building and facility (Maintenance)* worksection, as appropriate, and complete or delete the schedule in the 1502 *Maintenance schedules – building and facility* worksection.

#### Review mandatory resources and key staff

Review the minimum mandatory resources required to be provided by the Contractor and document these in the 1503 *Building and facility maintenance plan* worksection.

#### Edit Templates where necessary

Edit the AUS-SPEC *Template* clauses by deletion or addition of text to suit specific local requirements.

#### Complete Principal supplied information

Complete the details identified with a (P) in the 1502 *Maintenance schedules – building and facility* and 1503 *Building and facility maintenance plan* worksections. The Principal defines the content of the BFMP, which includes a complete set of Activity specifications for the contract.



## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

### Review Activity specification requirements

Review the default template response times and compulsory intervention levels and method of payment in line with the Principal's asset management strategy.

### Environmental management training

In addition to the compilation of Volume 2, the Principal should prepare, or arrange for, a training course in environmental practice appropriate to the requirements of the Environmental Management Plan documented in the *1501 General requirements – building and facility (Maintenance)* worksection.

### Heritage considerations

Include heritage considerations in the *1501 General requirements – building and facility (Maintenance)* worksection, prepare a separate plan if required, for the maintenance of heritage assets.

- Maintenance plan.
- *NATSPEC Maintenance reference.*

## 5.4 Volume 3

### Buildings and facilities definition information

General: Depicts the area of responsibility in which the contractor will perform the defined maintenance activities of the contract. It is equivalent to the drawings in a construction contract.

Components:

- Building/facility data sheets including the building features, relevant activity code and the maintenance frequency.
- Drawings of each building and facility.
- Schedules of:
  - . PC items.
  - . Special events.
  - . Major inclusions.
- Special security measures – checklists.

### Compilation process

Compile the buildings and facilities definition information components.

Complete the building/facility data sheet located in the *1502 Maintenance schedules – building and facility* worksection.

The use of the building/facility asset system allows for the ordered collection, storage and retrieval of project related maintenance data which is then able to be coordinated with other asset systems and the relevant Australian Accounting Standards Board publications, e.g. AASB116 available from <http://www.aasb.gov.au/>. Australian Infrastructure Financial Management Manual provides further information to link technical and financial aspects of managing infrastructure assets.

## 5.5 Volume 4 – Tender submission documents

### Select appropriate forms and declarations for tender submission

The tender forms and declarations required for a building and facility maintenance contract are essentially the same as for a combined Lump Sum, schedule of rates contract for a construction contract (by selecting the appropriate worksection from the *General* workgroup), with the addition of a schedule of Daywork rates.



## GUIDE TO BUILDING AND FACILITY MAINTENANCE MANAGEMENT SYSTEMS AND DOCUMENTATION

Draft schedules for:

- An Inventory supporting the Bill of quantities for each building/facility and
- Daywork rates are provided in contract schedules for building and facility maintenance. A Bill of quantities is to include the total lump sum for all buildings and facilities in the Contract and a format is also included

### **Draft schedules for method of payment**

Draft schedules for Lump Sum components: Schedule of rates components and schedule of Daywork rates, based on the schedule templates provided in the *1502 Maintenance schedules – building and facility* worksection.

### **Prepare BFMP Part 1**

The Contractor is required to complete BFMP Part 1 as part of the tender submission. This will include a list indicating which, if any, Activity specifications have amendments proposed by the Contractor. A full copy of the Activity specifications and Activity contract requirements containing the Tenderer's proposed changes will be included in the tender submission.

## **5.6 Associated documents**

### **Compile building and facility maintenance history**

Wherever possible, provide historical information of building maintenance, to the Tenderer. This information should indicate the amount spent and/or quantity of materials used on each maintenance activity, on each section of building or facility, for as long a period as possible, preferably over the past 3 years as a minimum.

The information provided does not form part of the Contract, is not guaranteed, and any tenders submitted must be based on the Tenderer's own investigations and determinations. A statement to this effect should be required from the Tenderer to protect the principal.